PROADAS

PROMOTION OF ACTIVE DIGITAL AGEING SKILLS

European University Cyprus

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Xenios Polis.
Culture, Science and Action

Address: 1 Athens-Lavrion Av. 19500, Lavrion, Athens, Greece

Telephone number: 0030 22920 69188

E-mail address: info@xeniospolis.gr

Website: www.xeniospolis.gr

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Προλογικό σημείωμα

Το πρόγραμμα *proADAS – Promotion of Active Digital Ageing Skills* – (Erasmus+ KA204-046895) αποσκοπεί στην ενίσχυση του ψηφιακού γραμματισμού των ανθρώπων ώριμης ηλικίας. Μέσα σε αυτό το πλαίσιο η «Ξένιος Πόλις: Πολιτισμός, Επιστήμη και Δράση», ως υπεύθυνος φορέας υλοποίησης, σε συνεργασία με τους φορείς European University Cyprus (Κύπρος), E-Seniors Association (Γαλλία), Erasmus University College Brussels (Βέλγιο), Center for Social Innovation (Κύπρος), Diciannove Società Cooperativa (Ιταλία), Adriatic Ionian Euroregion (Κροατία), παραδίδουν στο αναγνωστικό κοινό το επιστημονικό βιβλίο του προγράμματος. Το εν λόγω εγχειρίδιο έχει ως απώτερο σκοπό την ευρεία παρουσίαση και διάδοση των αποτελεσμάτων που επιτεύχθηκαν κατά τη διάρκεια του προγράμματος και συνάμα την προώθηση αυτού και την εφαρμογή από κάθε ενδιαφερόμενο. Παραθέτουμε τις εγκάρδιες ευχαριστίες μας σε όσους συνέβαλαν στην υλοποίηση αυτού του βιβλίου με υπομονή και επαγγελματισμό, επιφέροντας την εξασφάλιση ενός επιτυχημένου αποτελέσματος.

Αθήνα, 15/07/2020

Η ομάδα της Ξένιος Πόλις

Preface

The *proADAS – Promotion of Active Digital Ageing Skills* – (Erasmus+ KA204-046895) aims to enhance the digital literacy of senior citizens. In this context "Xenios Polis. Culture, Science and Action", as the lead partner for the proADAS Book and in cooperation with European University Cyprus (Cyprus), E-Seniors Association (France), Erasmus University College Brussels (Belgium), Center for Social Innovation (Cyprus), Diciannove Società Cooperativa (Italy), Adriatic Ionian Euroregion (Croatia), presents to the reading audience the scientific book of the program. The ultimate goal of this book is the wide presentation and dissemination of the results achieved during the program and at the same time its promotion and implementation by any stakeholder. We heartily thank those who contributed to the creation of the book with patience and professionalism, ensuring a significant result.

Athens, 15/07/2020

Xenios Polis' staff

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INTRODUCTION

ACTIVE AGEING AND DIGITAL SKILLS

Vassilis Bokolas[1]

Dimitra Sitareniou[2]

[1,2] Xenios Polis. Culture, Science and Action

If one year can be a milestone for the topic of this volume, this is the year 2012. It was then when the European Union (EU) in its Official Journal (Decision No 940/2011/) declared 2012 the European Year for Active Ageing in order to signal the relevant awareness and the promotion of measures creating more and better opportunities for the elderly to remain active and independent.

Today, eight years later, the World Health Organization (WHO) has called the next period the "Decade of Healthy Ageing" (2020-2030). It is a movement leading to the development of joint actions by governments, civil society organizations, international organizations, health professionals, academia, the media and the private sector in order to improve the life quality of older people (WHO, 2020a).

The generative basis of all the above developments lies in the phenomenon of demographic ageing of the population. The cause of this global phenomenon is mainly the low birth rate (Vollset et al., 2020). However, other various factors contribute to the strengthening of this dynamic situation, such as the improvement of living conditions, medical progress and the high level of health services, the increase of pensions earnings, healthy eating, good education and improved working conditions. All of the above continue to favor an increasingly old age while at the same time they reduce the risks during the fourth age as well (Besimo et al., 2020, see details below). At the level of public policy, the demographic challenges posed by global ageing as well as the significant cuts on public spending are jeopardizing the balance of pension and the social protection and insurance systems (European Commission, 2020).

Demographic trends for the next three decades show that the global number of adults aged 65 and over will be double, to about two billion by 2050 (WHO, 2015). In this context, Active Ageing has become recently the focus of research in Europe as it is related to the corresponding dramatic increase in the proportion of the elderly population in EU Member States. According to the European Commission (2017), in the total population of the Union the elderly are estimated to increase from 18.5% (approximately 95 million) in 2014 to 28.7% (approximately 150 million) in 2080.

However, the old age is a period of human life, which is also a complex situation accompanied by biological, psychological and social dimensions. The "World Assembly on Ageing" (Vienna, 1982), following the decision of the United Nations General Assembly (UN), set the age of 60 and over as the age limit for the elderly belonging to third age. The literature also refers to the Fourth Age, which includes people older than 75 years, often referred to as “advanced elderly” (Orimo et al., 2006). Often, an elderly person can be defined as a person who stops his / her working life for biological reasons (Karathanos et al., 2015). Ageing is also badly associated with poor health and disability; on the contrary, the majority of the elderly are relatively healthy and without any disability (Sixsmith et al., 2013).

The beginning of this period and its qualitative characteristics differ from person to person. In any case, the “preparation” for entering the “old age” creates special emotions and often stress. Adaptation strategies are personal in nature, as it is the individual who makes the decisions in the process of seeking a fulfilling life. They are also the ones who choose whether to resort to the help of third parties or whether to turn to specialists (Christodoulou & Kontaxsakis, 2000).

The concept of “good ageing” has been formed on the basis of the search for personal satisfaction during this period of human life. Regarding the terms used to describe the concept of human ageing under good conditions (“ageing well”) there are a variety of terms such as successful ageing, active ageing, healthy ageing, positive ageing, productive ageing and satisfactory ageing (Foster & Walker 2015). The term that seems to be most accepted is that of Active Ageing, which due to the WHO concerns*: “the process of optimizing opportunities for health, participation and safety, in order to improve the quality of life as people age”*. Active Ageing is also associated with maintaining the independence, autonomy and quality of life of older people (WHO, 2002). The concept of quality of life is closely linked to the subjective perception of individuals about their position in life, within the cultural characteristics and value system of the society in which they live and depending on their personal goals, expectations, models and their concerns (Theofilou, 2015). The European Commission (2018) defines active ageing as *“the effort of people to remain responsible for their lives as much as possible as they grow up and, where possible, to contribute to the economy and society”*, adding to this “equation” the factor of productivity and the economic contribution of the elderly to the economies of their countries.

Active ageing seems to be emerging as a universal term, while also emerging as a global strategy in managing the ageing population. It combines models of demographic, economic and social gerontology (Del Barrio et al., 2018). Gerontology, as a science, studies all the dimensions of

ageing and its consequences (Taylor et al., 2002) while active ageing is presented as a complete and consistent strategy that correlates key policy areas such as employment, pensions, retirement, health and citizenship (DelBarrio et al., 2018).

Central to the development of this strategy are the "digital media" (Kokkonis, 2010), often referred to as "New Media" or Information and Communication Technologies (ICT) (Johnson et al., 2014). As digital media become more widespread, they subsequently affect the way of life, communication, daily routines as well as the fields of care, counseling and generally the support of vulnerable groups (Amanvermeza, 2015).

The use of digital media at all levels of professional and social life is a challenge for more and more citizens of all ages, while the so-called "digital exclusion" has set a kind of 'threat' to people who do not have the opportunities, resources or knowledge/skills to follow the evolution of technology, with the elderly people being the most common example (Mouzakis, 2011, Olsson et al., 2019).

Today, however, seniors can easily carry out many daily activities from their personal space, such as shopping and banking. They have the opportunity not only to communicate but also to expand their interpersonal relationships, to be entertained but also to be trained through the activation of a variety of options. They also have the opportunity to monitor the course of their health, prevent unpleasant situations (such as falls and cardiovascular disease) and receive counseling - and not just support - from specialized professionals such as psychologists, nurses, social workers, educators, etc.

These professionals, called caregivers as well, when using specialized digital tools they can directly support the elderly and/ or their patients, be informed about possible changes in health issues or deal with emergencies that may arise and require immediate intervention. All of the above presuppose - for both the elderly and their caregivers - an increasing interaction with technology and the development of relevant digital skills (Rantz et al., 2013, Hobbs, 2017, Ferreira, 2018, Kougioumtzis, 2019).

Sixsmith (2013), considers that the acquisition of digital skills by the elderly has significant social, economic and health benefits, such as:

- increased connection with family and friendly environment
- access to e-services, such as e-commerce, personal finance, medication and employment
- improved health, wellness and preventive care
- improved health and safety through teleworking services
- benefits for society -in general- through savings not only from health care but also from the continued participation of older people in the workforce of countries.

However, the study of the literature has shown that not all older people have the required education and familiarity with the use of technologies, digital applications and even the internet. Absence or even lack of relevant training is also observed in their care givers capacity or even in the families members of the elderly. Therefore, not everyone can use digital tools and applications to their advantage. Framed education of (untrained) seniors is the most essential step for them in order to become familiar with new technologies. More specifically, this can be achieved through specially designed educational programs that teach the elderly how to use digital media (Roupa et al., 2010).

The relevant field research brings together and highlights a sufficient number of such projects from all over Europe. Initially these projects were developed as online consulting and digital consulting services (Amanvermez, 2015, nor Zainudin & Yusof 2018). These relate to *"any provision of mental health services, including -but not limited to- treatment, counseling and psychoeducation, from a professional to a client in a non-living environment, through remote communication technologies such as telephone, asynchronous messaging, synchronous messaging and video conferencing"* (Mallen et al., 2005). Respectively, in the field of digital health, there were also developed digital platforms (Nsoesie et al., 2020), smart devices for the care of the elderly (Ramanathan, 2020) and electronic consulting and communication services with their providers and care organizations (Hackett, 2019).

In recent years, however, programs, good practices and digital tools have been developed throughout Europe aimed-on the one-at helping to strengthen active ageing policies and- on the other- at bridging the gap between older people and their carers with the required digital skills. They are interested in the research and mapping of the field, identifying the needs of the elderly and their carers and then in designing and creating appropriate digital tools, which are framed by the establishment of an appropriate educational method.

Such programs -based on the literature- should take into account quality factors related to ageing, such as ethnocultural -and not only- diversity of individuals, the role of gender, religion, living environment (city, countryside, etc.), sexual orientation as well as health issues (e.g. motor disabilities or mental health problems) (Mehrotra, Wagner 2018). The above factors (co)shape not only the daily, functional needs of the elderly but also the most special educational needs of them.

It is worth noting that, at the time of writing, the COVID-19 pandemic has broken out worldwide. Although all age groups are at risk for the disease, older people are at greater risk due to physiological changes coming with ageing and possible underlying diseases (WHO, 2020b). Although the mortality rate of the disease is still under investigation, it is clear that adults 65 and older are at greater risk than children or younger adults (Gardner et al., 2020). For the above reasons people are

forced to stay at home to prevent its spread (Krengli et al., 2020, Mandavkar, 2020); and in this case the utilization of digital tools has already provided many solutions and it is expected to give even more ones.

Based on the guidelines and context of the European Strategy, a dynamic situation has been developing, where countries, institutions and people are interested, they make researches and act nationally and internationally in order to support older people, towards their financial independence, their autonomy, their participation in social life (Diakoumakou, 2019). The main tool shares the digital media as well as the required digital literacy of the elderly and their caregivers. *ProADAS, Promotion of Active Digital Ageing Skills*, constitutes this effort, which aims to contribute to a catholic plan taking into account demographic challenges and at the same time recognizing the rights and respecting the needs of our elderly citizens.

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1

SOCIAL BENEFITS OF ACTIVE AGEING IN A TRANSFORMING WORLD

Stavros Parlalis

Department of Psychology and Social Sciences,

Faculty of Education and Social Sciences, Nicosia, Cyprus

Abstract

It is evident that we are currently living in a transforming world. During the last years our world faces continuous changes in all aspects of life, such as changes concerning people's daily life (e.g. the Internet of Things), the environment (e.g. natural disasters all around the world), the health sector (e.g. pandemic of COVID-19) and the labour market (e.g. loss of millions of jobs). Under these conditions, special focus should be given by governments on vulnerable populations, such as infants, children, older people, people with disabilities and other groups of people in need of specialized support. Since the number of people aged over 60 years is growing faster in comparison with other age groups, this chapter focuses on older people and the changes occur in various aspects of their life. Focus is placed on how the concept of active ageing is perceived and which are the benefits for older people.

Overall, this chapter aims to present, describe and discuss the social benefits of active ageing in nowadays, through the lens of new technological developments. Some of the major social benefits of active ageing can be summarized to the following points: 1) Establishment of elderly-friendly communities, 2) Improved social networks, 3) Improved social participation, 4) Improved civic participation, and 5) Extended workforce participation. Due to the fact that these are major changes for a person's life, it is inevitable to offer support and guidance to older people from a multi-disciplinary and multi-professional group of experts. The overall outcome by offering such support could be the improvement of various daily life indicators and also the improvement of older people's quality of life. Finally, local authorities and national governments have to introduce new policies regarding active ageing, in order to achieve the outcomes being described in this chapter.

Keywords

active ageing, transforming world, elderly-friendly communities, social networks, social participation, Internet of Things.

1. Introduction

The world's population is expected to increase by 2 billion persons in the next 30 years, from 7.7 billion currently to 9.7 billion in 2050 and could peak at nearly 11 billion around 2100 (UN, 2020). According to Eurostat data, the population over 75 years is expected to increase by 64% from 2015 to 2040, changing dramatically the proportion of the dependent population (over 65 and below 15) (Eurostat, 2017). Based on the most recent data in 2019 there were approximately four people in working age (15-64) to support an older (United Nations, 2019). However, in most developed societies, this proportion is expected to change significantly, reaching three people by 2025 and two by 2050. In Europe, the proportion of the dependent population is also expected to increase significantly by 2080, when it is expected that all of the EU Member States will have more than 74 dependents per 100 working-age persons (Eurostat, 2017).

Population ageing has been among the major demographic trends for the past decades. Changes in population size might generally attract the most attention, but changes in population structure, particularly age structure, are equally important (Brown and Eloundou-Enyegue, 2016). The number of people aged over 60 years is growing faster in comparison with other age groups. This is a consequences of the growing average life expectancy and declining fertility levels, which more often does not provide a simple replacement of generations (Zdunek et al., 2020). Since 1998, the World Health Organization (WHO) has stated that ageing is one of the most crucial socio-economic challenges of the 21st century. In 1999, the United Nations dedicated the year to the elderly, and in 2012 the European Union declared it as the Year of Active Ageing. The consequences of the constant ageing of the population are expected to appear at national, community and individual level (Kudo et al., 2015); national governments must be prepared to confront the emerging demographic trends.

In addition, 60 or 65 year-olds are very different from their counterparts half a century earlier and are likely to be very different from what they will be like half a century in the future (International Institute for Applied Systems Analysis, 2020). Part of this new reality described above is the fact that there is a gradually growing global population of older people, who are not considered to be as "passive" as used to be in the past. In the contrary, older people nowadays are still active citizens and ready to enjoy the rest of their life; they are generally fitter and healthier than ever before and live longer. Also, older people require and demand better quality of life in all aspects of their daily life, such as health services, leisure, education, etc.

WHO published the 10 Priorities for a Decade of Action on Health Ageing, which provide the concrete actions that are needed to achieve the objectives of the WHO Global strategy and action plan on ageing and health. These are: 1) Build a platform for innovation and change, 2) support

country planning and action, 3) collect better global data on Healthy Ageing, 4) promote research that addresses the needs of older people, 5) align health systems to the needs of older people, 6) lay the foundations for a long-term-care system in every country, 7) ensure the human resources necessary for integrated care, 8) undertake a global campaign to combat ageism, 9) make the economic case for investment in Healthy Ageing, and 10) Develop the Global Network for Age-friendly cities and communities (WHO, 2020a).

As a consequence of the above developments, active ageing is considered nowadays not only a philosophical theory but a reality presenting both challenges and opportunities. Active ageing increases the demand for primary health care and long-term care, requires a larger and better trained workforce and intensifies the need for environments to be made more age-friendly (WHO, 2020b). In addition, the use of new technological means (e.g. 3D printing), the use of the Internet of Things and the progress of the Sciences (e.g. medicine) have led to a whole new reality; people's life continuously changes and transforms. For example, the Internet of Things (IoT) will change dramatically the way people use the internet and various devices; many people use internet for access the web page, multimedia services and using social networking web sites but the next decade the internet will be connected to physical devices and explore new way of working, interacting, entertainment and living (Tyagi and Kumar, 2017). People will have a new world of opportunities, since it will be possible to connect millions of smart heterogeneous devices and sensors to the internet; such devices might be a thermostat, a coffee maker, a mixer, a refrigerator, the house lights or even a car. It is estimated that 64 billion IoT devices were installed around the world by 2016 (Meola, 2019).

Through these new technologies, people will be able to "talk" to all these connected appliances/devices. People will be able to tell their refrigerator what groceries they want, also the refrigerator could also tell them how much milk, eggs, and ice cream they have left, or even auto-order them from their favorite stores (taking advantage of the best weekly price offers) for pick-up or delivery (Herron, 2016). Similarly, there are various IoT applications for different groups of people. For example, an elderly woman has a fall; her family, friends and neighbors can be instantly messaged on facebook. Also, there are specialized applications and software that allow elderly people to communicate with caregivers and loved ones through video chat; these application help keeps the brain active to fight dementia. Technology that enables communications can be vital, particularly for people who have difficulty getting out of their homes (Kunkle, 2019).

Under these new conditions, there is a growing list of benefits for older people such as a) active participation in the labour market, b) participation in society, c) more opportunities for

independent living, and d) additional time for rest, education and leisure (Punyakaew, 2019). This chapter attempts to present the social benefits of active ageing, through the lens of new technological developments. Some of the major social benefits of active ageing can be summarized to the following points: 1) Establishment of elderly-friendly communities, 2) Improved social networks, 3) Improved social participation, 4) Improved civic participation, and 5) Extended workforce participation.

Further to the above aims, the findings of a study which was implemented in 2011 by the author and his research team are partially presented in this chapter. That study (Papadakaki et al., 2011) was implemented in Crete at an Open Center for Older Persons (OCOPs) and focused on identifying older people's needs regarding their social life, their health and emotional condition. A quantitative research was conducted, in which a semi-structured questionnaire was used and random sample was collected. Also, data was collected regarding the activities they undertake in their free time, the reasons they joined OCOPs and their participation in activities organised by OCOPs. References will be made throughout this chapter, in order to offer a comparative view between older people's perceptions and needs in 2011 and nowadays.

2. Social benefits of active ageing

As it was underlined above, this chapter attempts to present the social benefits of active ageing, through the lens of new technological developments. Some of the major social benefits of active ageing can be summarized to the following points: 1) Establishment of elderly-friendly communities, 2) Improved social networks (communication, company, active members of the society), 3) Improved social participation, 4) Improved civic participation, and 5) Extended workforce participation.

2.1 Establishment of elderly-friendly communities

In literature there is a growing volume of studies searching the necessity for finding the most effective ways of identifying seniors' activities in a town or city, with an emphasis on activity preferences. The aim is to identify the benefits of setting up "elderly-friendly" communities in the context of urban space. Infrastructure and public facilities solutions will give seniors an opportunity to actively engage with the local community across the entire urban space; following this pattern, old age will not be universally associated with stagnation, isolation, exclusion and loneliness (Dawidowicz et al., 2019). Also, studies stress the fact that successful ageing requires the active involvement of

society and the concomitant self-responsibility for keeping healthy in old age; resilience, both at the individual and community level, is an important component of successful ageing (Chye Fung, 2020). Yuen (2019) have examined residents' willingness to age in place and the determinants of age-friendly housing, which included good location, house ownership, accessible services, senior-friendly features within homes and ease of home maintenance. Therefore, it is necessary to underline that local authorities and/or national governments are currently facing a challenge to accurately identify existing active ageing places in order to be able to pursue a sustainable pro-elderly policy and finally manage to plan and provide appropriate facilities for seniors in a given location (Dawidowicz et al., 2019).

Also, it has to be considered that the IoT manages to connect the urban infrastructure and offer many benefits to older people through the establishment of a smart city. For example, smart parking space search is already a reality (e.g. in the city of Santander, Spain), a system which direct motorists to the next available parking space (T-Systems, 2020). Other examples of IoT applications include monitoring of traffic lights, traffic congestion, smart waste bins call for collection and other more specialized services which could be useful for elderly people, e.g. navigate their route from their house to any given point in their community or incorporate the latest technologies in wearable fitness trackers and monitor health data. The key to make smart cities work for the elderly is a) for planners to put themselves in these people's shoes, and b) for IoT application designers to create and offer intuitive and easy to use applications (IoT for all, 2019). As a result, the establishment of elderly-friendly communities could be advanced by improving and redesigning the neighborhood environment to enable greater ease of mobility among the older population (Yuen et al., 2020), the use of new technology and the creation of smart cities; what is actually required is political decision either at local or national level in order to proceed to such developments.

Needless to say that there were no any reference regarding "elderly-friendly communities" in the study implemented by the author and his research team, in 2011. At that time, the creation of an elderly-friendly community or even a smart city was a totally new concept.

2.2 Improved social networks

Personal social networks can be considered the interpersonal niche of an individual, contributing to his/her sense of identity, and providing multiple types of social support, including emotional, instrumental and financial support; also, social networks are frequently associated with various personal benefits, life satisfaction, well-being and health outcomes (Guadalupe and Vicente, 2020). Findings reported in the literature show smaller networks, mostly composed of long-term ties,

usually kin relations, and less social participation. An extremely interesting study in Sweden revealed that the responsibility for reducing loneliness is, apart from the discourse on senior organisations, designated to those working with older people (Agren and Cedersund, 2020).

Older adults have been the least likely to use ICTs, and even when they do use ICTs, they are less active in their use (Harper et al., 2020). Just as for other age groups, once older adults start to use ICTs, they incorporate these technologies into their everyday lives for communication and information. They engage in a variety of activities according to the kinds of networks they are involved in, their digital skill level, and their comfort with these technologies (Harper et al., 2020). In addition, social networking sites might be important tools to boost older people's well-being, strengthening and creating social connections in old age. Despite of its potentialities, there is relatively little knowledge on the impact of social networking sites use on older people's well-being, especially in Europe. Gaia et al., (2020) found a positive association between social networking sites use and life satisfaction in old age, association that persists after controlling for a number of possible confounding effects. Also, studies concluded that older individuals with cognitive impairments perceive ICTs as useful when these contribute to the satisfaction of social and emotional needs in terms of relationships, hobbies or daily activities (Blok et al., 2020).

The study employed by the author and his research team in Greece in 2011 revealed that older people in OCOPs had very strong bonds with their families. Their families, meaning their children’s families and their grandchildren, had very frequent communication and visits between them, since they live either in the same neighborhood or in a very close distance. It was only a small percentage (10%) of the sample which stressed its loneliness and its need to extend its social network. The study concluded that special consideration has to be given to older women, since it is more often for women of this age to face loneliness and lack of a supportive network.

2.3 Improved social participation

The concept of social participation is highly valued in old age. Older person’s social participation ranges from marginalisation and exclusion to comfort-zoning alone, seeking consistent social interactions, expanding one’s social network and social engagement (volunteering and helping others) (Yuen et al., 2020). International research has suggested that social participation helps to strengthen wellbeing, prevent social isolation and reduce death risk among older adults (Carver et al., 2018), while other studies revealed (Dehi and Mohammadi, 2020) that the defining attributes of the concept of elderly people’s social participation included emphasis on community-based activities and interpersonal interactions, based on resource sharing, active participation and individual satisfaction.

Therefore, it is inevitable for societies to place their focus on creating opportunities for greater social engagement of older people, in order to help them meet people and stay connected with the community.

One of the most popular policies that enhances older people's social participation are the Universities of the Third Age (U3As). The Universities of the Third Age can be defined as sociocultural centers where senior citizens may acquire new knowledge of significant issues or validate the knowledge which they already possess, in an agreeable milieu and in accordance with easy and acceptable methods, with the objective of preserving their vitality and participating in the life of the community (Formosa, 2019). U3As are credited to provide learners with a sense of purpose, autonomy, self-acceptance and personal growth; they help older adults remain integrated in society and form their own social environment, while contributing to their intellectual potential and spiritual development (Formosa, 2011). Similarly, in many countries around the world there are opportunities for older people to take courses at various universities, polytechnics and institutes of technical education, which range from health and wellness, IT and science, ageing and life skills, humanities, finance and business, and media, arts and design (Yuen et al., 2020).

The study employed by the author and his research team in Greece in 2011 revealed that older people did not participate in the activities organized by OCOP; also, they did not refer to any other activities in which they were involved in. Due to the fact that this is a common reality in Greece and Cyprus, local authorities and/or national governments have to strengthen and enhance their active ageing policies and practices for the majority of older people in their region.

2.4 Improved civic participation

Civic participation, in particular, has been highlighted for its social and community benefits and its impact on elders' health and well-being. Civic participation of older people can be seen through difference views. Walsh et al., (2017) determined civic participation through a scoping literature review as voting, volunteering, community responsibility, political and participation, citizenship, general civic activities, local governance participation, expectations for volunteering in later life and citizenship. To date, however, most studies have explored volunteering; other types of civic activities, such as political participation, are largely overlooked. The literature on political participation and civic engagement that focuses on older people and social movements also points out that the spectrum of political activities in which older people can engage, and the variations in how older people engage with such movements is larger than we often seem to take for granted. Studies showed (Serrat Fernandez et al., 2017) that politically active elders obtained higher scores on

generative concern than comparison group individuals. However, we have to bear in mind that the literature on civic participation, volunteering and political participation draws attention to the fact that social class, education and ethnicity are all relevant to how people choose to participate, volunteer and participate politically (Torres et al., 2017). In addition, dimensions that restrict social citizenship and civic participation and serve as the basis for inequality in addition to class can be found between gender, ethnicity, disability, illness, deep old age, rural isolation, living alone (Torres et al., 2017).

Therefore, national governments have to put in place policies that could improve greater inclusion among the oldest, more vulnerable, or institutionalized old; such policies could include legislation, standards and regulations, statutory oversight bodies, third sector organizations of older people and professional advocacy and support.

An exceptional case can be considered to be the Organisation of Senior Volunteers in Singapore. This is an institution of public character and the national center of excellence for senior volunteerism focusing on building relationships, innovation, integrity and service to others as well as sharing experiences (Yuen et al., 2020). The vision is to make every senior a volunteer through a variety of activities. Some of its volunteering projects include cases where volunteers befriend the socially isolated older adults, mental health patients, mentor schoolchildren and those that were recently discharged from hospitals (Yuen et al., 2020).

The study employed by the author and his research team in Greece in 2011 revealed that older people didn't participate in any volunteering activities. This is a very common attitude between men in Greece (and Cyprus, too), according to which men spend many hours of their daily routine at coffee shops. Of course, this is in contrast to what is described in this section of the chapter and how civic participation is perceived – or should be perceived – in nowadays.

2.5 Extended workforce participation

As populations age, extending the working life appears to be widely accepted and promoted by governments (OECD, 2018). Extended working life policies are therefore a reality both within Europe and in wider international settings (Ogg and Rašticová, 2020). The EU has developed numerous policy documents in order to address the ageing challenge such as the European Innovation Partnership for Active and Health Ageing and the Active Ageing Index (European Commission, 2018).

The social benefits of keeping older people in labour market after their retirement can be summarized to the following points: a) Support older people to keep them active members in their

communities, through their participation in various activities, e.g. under the framework of employment counselling, b) Improve the quality of older people's life by motivating and involving them in new activities, through which they can stay active and be able to continue to offer to their local communities, c) Older people day centres and local authorities multi-functional centres will be able to offer new activities and challenges to their service users, d) Older people day centres will be challenged to motivate their services users to be more active and offer empowering services, e) Retain older people active and consequently the improvement of quality of life, f) Retain and allow the continuation of local vocational methods, practices and skills for a number of traditional occupations, and also g) Promote the creation of new knowledge regarding the methods of matching mentors (older people) to mentorees (youngsters).

The study employed by the author and his research team in Greece in 2011 didn't collect data regarding older people's involvement in employment. However, it has to be stressed that it is common, especially for men, to extend their working life for a number of reasons, such as 1) the need for extra income, 2) the lack of experienced workers to replace them and lastly 3) the lack of other interests, activities and hobbies.

3. Conclusion

This chapter presented, described and discussed the social benefits of active ageing in nowadays, through the lens of new technological developments and changes occur in our world. Due to the fact that these are major changes for a person's life, it is inevitable to offer support and guidance to older people from a multi-disciplinary and multi-professional group of experts. The overall outcome by offering such support could be the improvement of various daily life indicators and also the improvement of older people's quality of life. Finally, local authorities and national governments have to further introduce new policies regarding active ageing, in order to achieve the outcomes described in this chapter.

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2

THE ELDERLY, SOCIAL EXCLUSION AND THE VALUE OF COUNSELING

Lamprini Maria Xiarchi[1],

Georgios A. Kougioumtzis[2],

Maria Sofologi[3]

[1] Caring Science, Human Perspective in Care, University of Borås, Sweden

[2] Aging and Chronic Diseases Management, Hellenic Open University, Patras, Greece

[3] Department of Early Childhood Studies, University of Ioannina, Greece

Abstract

This paper studies the importance of social exclusion in the elderly, as well as the value of counseling in eliminating the difficulties that arise for this vulnerable population[1]. Initially, we managed to describe the theoretical and conceptual context of social exclusion and some directly related concepts, such as social isolation and loneliness. Consequently, we make a review of the risk factors and implications of social exclusion in the elderly as well as some relevant recent research findings. Finally, there is a presentation of literature that refers to the importance of counseling against social exclusion of the elderly and on other therapeutic interventions that are able to help coping with the effects of this multidimensional phenomenon on humans.

Keywords

Social exclusion, social isolation, elderly, counseling, interventions, (psycho)therapy

1. Introduction

Aging is a process of constant change and adaptation of the individual to society and vice versa through the creation of new needs and living conditions for the elderly. Nowadays, due to the increase in life expectancy and reduced birth rates, in line with advances in medicine and current socio-economic developments, most Western countries are increasingly challenged when facing the rise in aging of the population, and whatever that process may entail.

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In addition to natural aging and reduced resistance, elderly people are prone to become lonely due to the loss of close relationships (Holwerda et al., 2012). Age has been negatively correlated with the size of social network, the proximity to network members and the number of links that are unrelated to the primary group. It has also been positively correlated with the experience of loneliness. Loneliness has been recognized as a clinically important factor of weakness in the elderly, which is related to psychosocial problems, mental disorders such as depression, and physical problems (Holwerda et al., 2012; Toepoel, 2012).

The issues of social isolation and loneliness are extremely important for the elderly. In the UK, about nine percent of older adults report that they are often alone (Shankar, McMunn, Demakakos, Hamer & Steptoe, 2017). According to recent findings in people aged 50 and over, those who live alone (13%) are more likely to experience long periods of detachment from society (Hawton et al., 2011). In addition, social isolation that affects health, well-being, and quality of life of many older people appears highly prevalent and is expected to increase, based on the world's growing elderly population. The prevalence of social isolation among the elderly is estimated to be between three and twenty-five percent (Pullum & Akyil, 2017), which highlights it as a key issue and subject of study, in order to understand the underlying mechanisms and the impact that the aging person is expected to bring to society. The majority of the dimensions of social exclusion of the elderly concern poverty, health, life expectancy, fear of crime, poor housing, and lack of independence (Jose & Cherayi, 2017).

2. Social exclusion in the elderly

2.1 Defining social exclusion

According to Frétigné (as reported in Van Regenmortel et al., 2018), social exclusion derives from the French notion *les exclus*, which is used to describe people who are not protected by social insurance. Then the concept obtained various definitions and interpretations: According to Pullum & Akyil (2017), social exclusion means a "dynamic" process of partial or complete deprivation of social, economic, political and cultural platforms that allow the integration of the individual into society (Popovic & Masanovic, 2019). In general, social exclusion as a phenomenon seems to affect both quality of life of individuals and equality and consistency of society in its whole (Van Regenmortel et al., 2018; Walsh, Scharf & Keating, 2018). Health issues resulting from isolation and loneliness lead to increased use of health and social care services as well as to a larger number of emergency visits and physician meetings (Cotterell, Buffel & Phillipson, 2018).

Academic and political literature often refers to the term "social exclusion" in order to identify the individual disadvantages faced by people in their late adulthood. Dominant approaches consider social exclusion as a multidimensional and dynamic process that may have negative results at a socioeconomic, a political and a cultural level (Walsh et al., 2018; Jose & Cherayi, 2017).

2.2 Social isolation and loneliness as interdependent concepts

The lack of social connection has been described in practice as a subjective feeling of loneliness or as the objective concept of social isolation (De Koning, Stathi & Richards, 2017). References to the concepts of social isolation and loneliness are common in the literature. It is widely known that social isolation and loneliness are interconnected but describe different concepts, without overlapping each other (Gardiner, Geldenhuys & Gott, 2018; Bull & Wagner, 2018; Poscia et al., 2018; Pullum & Akyil, 2017).

The distinction between the objective nature of the concept of social isolation and the subjective elements that govern loneliness is significant. While social isolation refers to the objective absence or lack of contacts and interactions between a person and a social network, which can be measured quantitatively, loneliness refers to a subjective sense of existence separated from others and is considered as the existing mismatch between desirable social contacts and real social contacts (Gardiner et al., 2018; Beller & Wagner, 2018; Kotterell et al., 2018). Similarly, it has been found that while many socially isolated individuals do not feel alone, many people who are integrated into society have a strong sense of loneliness (Pullum & Akyil, 2017; De Koning et al., 2017). In a similar view, social isolation has been characterized as an objective lack of meaningful and stable communication, mainly during COVID-19 (Plagg, Engl, Piccoliori, & Eisendle, 2020), while loneliness refers more to the way people perceive and experience the lack of interaction (Poscia et al., 2018).

Social isolation and loneliness are associated with many negative consequences among the elderly, including health issues and psychological processes. While isolation and loneliness do not have a direct link, many similar factors are related to both concepts. These include lonely living, not being married or being widowed, advanced age and poor health conditions (Pullum & Akyil, 2017).

However, social isolation and loneliness as separate concepts, although related to the weakening of health and quality of life, appear to have different effects on different aspects of health. Loneliness has been shown to have a greater impact on mental health, while social isolation impacts cognitive and physical health (Poscia et al., 2018; Beller & Wagner, 2018). Similarly, it has been found that the contribution of loneliness to mortality is largely explained by the influence of

loneliness on depression, while the mechanisms of social isolation that contribute in mortality are of more complex nature (Beller & Wagner, 2018).

2.3 Measuring social isolation

While there are many published scales measuring social isolation, the following are of broader ranges and operate on multiple levels of structures: Beck, UCLA, HRQoL. The "friendship scale", on the other hand, is a scale designed to measure social isolation with proven validity and reliability and is easily applicable to the elderly (Pullum & Akyil, 2017).

In case a person is considered to be at high risk of social isolation, further information may be collected using approved assessment tools, such as the Lubben scale of Social Network, the Duke Social Support Index and the Social Disconnection Scale, which measure the size, the proximity, and the frequency of contact between the individual and its social networks (Cotterell et al., 2018). However, research findings have shown that techniques for building a scale for social exclusion have failed to fully evaluate the complexity and severity of the risk of social exclusion (Van Regenmortel et al., 2018).

2.4 Risk factors in the elderly

Age itself is not a dimension of social exclusion. Characteristics associated with late adulthood such as disability, cognitive decline, low income, widowhood, labor market characteristics, economic decline, and crime in the surrounding areas as well as age discrimination are risk factors associated with the social exclusion of older people (Prattley, Buffel, Marshall & Nazroo, 2020). The elderly generally present a high level of social exclusion, in terms of extremely limited social participation, declining access to social rights, poor social integration, and increased levels of material deprivation (Jose & Cherayi, 2017). Also, at a wider level, social isolation may arise as a result of the interaction between multiple factors at four levels: individual, interpersonal relationships, community, and society level (Cotterell et al., 2018).

Another important factor is gender, which significantly affects social exclusion, since older women (especially widows) are likely to face a more severe level of social exclusion than older men (Jose & Cherayi, 2017). However, a significant difference is that men who feel lonely may be more prone to developing an unhealthy lifestyle or suicidal behavior (Holwerda et al., 2012).

2.5 Health impacts

Loneliness and social isolation represent major problems for those in the late adulthood, and are associated with adverse effects on mental and physical health (Gardiner et al., 2018). People who are socially isolated have been shown to have higher levels of morbidity and mortality, in comparison with those who are more socially integrated, and are at a higher risk of developing cardiovascular disease, stroke, depression, dementia, and premature death (Cotterell et al., 2018; Beller & Wagner, 2018; Pullum & Akyil, 2017; Shankar et al., 2017). Although many of the above findings are related to the impact of objective features of an individual's shrinking social network, such as contact with friends and family or participation in social activities, similar findings have been reported on "perceived isolation" or loneliness (Shankar et al., 2017).

The mechanisms underpinning the effect of social isolation on health remain unclear but are considered to be related to various health behaviors, sleep, exhaustion, and social connection (Cotterell et al., 2018). In particular, older people experiencing a lack of supportive social networks are prone to negative behaviors, such as excessive alcohol and tobacco consumption and sedentary life, along with an increased risk of malnutrition (Pullum & Akyil, 2017). Additionally, poor physical health, limited mobility, and limitations in daily activities have proved to be correlated with social isolation (Hawton et al., 2011).

An additional factor that affects social isolation and its impact is the financial background of the individual. It has been reasonably established that the wealthy have better access to health care and other preventative measures, and therefore may be less dependent on unofficial sources of support. Social networks, on the other hand, may consist a major source of information helping those who have fewer material resources (Shankar et al., 2017).

2.6 Functionality

Studies that evaluate the correlation between social relationships and functionality for older individuals present largely mixed findings. The findings of a Shankar et al., (2017) study, show that both isolation and loneliness were important factors for slowing down the speed of walking over a six-year period, especially while levels of socio-economic disadvantage increased. Loneliness, but not isolation, was associated with an increase in reported difficulties in daily activities during this time, while these effects were independent of depression and other health-related factors. Loneliness was also associated with self-reported disability: Earlier research has shown that variables such as

neuroticism, low self-efficacy, and low sense of control, which are closely related to loneliness, are also linked to subjective measures of functional status in the elderly.

2.7 Mortality

It is no surprise that loneliness, social isolation, and interaction represent important factors in predicting mortality. A recent Beller & Wagner survey (2018) found that loneliness and social isolation have a combined effect on mortality: The greater the social isolation, the greater the loneliness effect on mortality, while higher levels of loneliness cause a greater effect of social isolation. On the other hand, socially isolated but not lonely individuals along with lonely but socially associated individuals, report comparatively lower mortality risks.

2.7.1 The case of Japan

In an aging society, a variety of problems such as the neglect and exploitation of the elderly, have been reported in various regions of the world. For example, in Japan, in recent years the number of lonely home deaths among the elderly has increased significantly.

Several study findings (Nomura, McLean, Miyamori, Kakiuchi & Ikegaya, 2016) indicate three factors that make it difficult to assess the cause of death in the elderly. These include reduced communication within the community and with family members, as well as the increased prevalence of the nuclear family. According to a survey conducted for seniors who lived in a household, there was an increased chance of being found by a family member. However, even in the case of old people who lived with their families, the findings have shown that there was an increased chance of being found after three or more days after death, suggesting that there was reduced communication between family members and limited attention to the elderly relatives (Nomura et al., 2016). The above findings indicate that even living with family members may not always guarantee that the elderly receive the essential help when facing critical situations. Therefore, the question of neglect and isolation concerning even the elderly living within a household has come to the forefront (Patyan, Golubeva, Szeman & Robert, 2020).

3. Therapeutic interventions

3.1 Intervention concerning social exclusion

It has been found in previous research that social health is just as important as mental and physical health. Social health is defined as a concept that depends on social consistency, as well as on the extent to which communities appreciate diversity and support, and provide opportunities for every individual to participate in social life. It is also determined by the number and quality of social support and relationships that a person maintains (Toepoel, 2012). It is a key challenge for policy-makers and social welfare people to address the role of social isolation as part of a wider approach for the general promotion of a successful aging of the elderly; and to examine the impact of social environment on health and well-being of the elderly. Insofar in the United Kingdom strategies to promote successful aging have become an important element of the country's government policy (Hawton et al., 2011).

The complex nature of social exclusion in the elderly requires the implementation of various interventions as well as prevention campaigns, since it is not possible to tackle social exclusion by all policies adopted (Van Regenmortel et al., 2018). Correspondingly, results of research on interventions show that policy and practice need to target people at risk. Those who are "at risk of social isolation" represent an important group in therapy that needs to be identified early and treated with appropriate interventions before health and quality of life losses occur (Hawton et al., 2011).

3.2 Psychosocial interventions

Different strategies have been proposed from time to time to meet the challenges faced by older people with one of the most promising being the so-called 'healthy aging', which means the process of developing and maintaining functional capacity that allows well-being in the elderly (Poscia et al., 2018). Social inclusion is a prerequisite for successful aging because it provides people with built-in rules, control and trust systems, access to information, and social support. The existence of many ties with other people provides alternative paths to valuable resources such as information, social support, financial coexistence or cultural links through contacts with experts (Holwerda et al., 2012; Tooepoel, 2012).

An important role in intervention is represented by social and personal activation of socially isolated individuals along with related lessons for improving social skills and psychotherapy (e.g. to

confront loss) (Holwerda et al., 2012), while community involvement and altruistic actions, such as volunteering, make social contact integral, and have been found to be related to increased psychological well-being and reduced mortality (De Koning et al., 2017).

Leisure activities are a seemingly simple but effective way of intervening to improve quality of life of the elderly. Local communities have the potential to increase social support through public announcements, advertisements, projects of their own or of different generations or special events that can bring the elderly together with their close social contacts and thus provide a means for the development of social relations (Toepoel, 2012). Leisure activities provide a variety of options and can include gardening programs, computer use, internet surfing, volunteer work, holidays and sports activities, while computer-based interventions appear to be the most effective (Cotterell et al., 2018).

Consequently, contribution of technology as a different approach in tackling social exclusion of older people is highlighted. According to Poscia et al. (2018), it has been found that a variety of approaches appear beneficial, such as computer aiding, robot partner interactions and Care TV, while interventions such as social management and personal reminders seem to provide high-quality services, by covering various possibilities and ways of engagement. In addition, it has been reported that the Internet, social networking sites, and smartphone technologies increase the number of social connections opportunities with others, while improving quality of life and relieving loneliness in older people (Cotterell et al., 2018). However, while new technologies are a promising tool against social isolation and loneliness among the elderly, adapting them to meet the specific needs of the elderly and providing adequate training in these practices is vital in order to achieve better performance (Poscia et al., 2018).

As for the particular case of the elderly's isolation within the family life, it is necessary to promote appropriate interventions to protect the elderly from critical situations. Promoting safe and uninterrupted living for the elderly requires a system to monitor the safety of individuals at a distance (Gulbrandsen & Sheehan, 2020), a setup of mutual groups among the elderly to take care of each other, and visits by social workers within the family context (Nomura et al., 2016).

3.3 The Value of Counseling - Related Findings

Apart from psychosocial interventions in the community and unquestionably therapeutic adjustments in daily life of older people, the contribution of psychology, coupled with other interventions, can bring a positive impact, helping the individual not only to integrate socially, but also to improve on a personal inside level. Relevant findings have characterized this category of

intervention as the most reliable to date, which is based on therapeutic approaches by trained therapists or health professionals. Therapy of humor, sensitization and stress reduction, and memory therapy in groups have shown to significantly reduce loneliness levels and have had a positive effect on a number of other effects, such as social support, happiness, and life satisfaction (Cotterell et al., 2018).

In addition, psychological interventions have been used to enhance individuals' ability to cope with negative emotions and cognitive biases that promote them, so that people reconnect with their social networks. Such interventions include "one by one" interventions, which usually involve pairing a person with a professional or volunteer, who regularly come in contact with each other, as well as group interventions, which usually gather people around a common interest and may include social, educational or physical activities, group discussions or group therapies (Cotterell et al., 2018). In particular, with regard to group interventions, they have beneficial effects creating a sense of security and inclusion, while the real impact of the intervention lies in the nature of coexistence within a group and thus in the strengthening of a social bond (Poscia et al., 2018).

Collaborative interventions in the context of psychological therapies are friendly interventions, which are characterized as a form of social facilitation, aiming at forming new friendly relations. Their difference lies in the fact that they often involve the participation of volunteers, while their main objective is to support the lonely individual rather than to promote a mutually beneficial relationship - although this may be a significant secondary consequence (Cotterell et al., 2018).

In general, advisory interventions aim to encourage older people to share their experiences and continue to produce as much as possible, even at an older age, which is an important factor not only because of the contribution to society and economy, but also because it strengthens their social integration process (Pullum & Akyil, 2017).

4. Conclusions

Social exclusion is a major issue for the elderly as it has important implications for both health and functionality, as well as for social life and overall quality of life of older people. It is also a concept with many individual parameters, combined with the effects that a person shows, as well as the psychosocial processes that occur inside or around it. Moreover, according to dominant theories, social exclusion as a phenomenon seems to determine both quality of life of individuals and equality and cohesion of society. In addition, it is a multidimensional and dynamic process that has a negative impact on the socio-economic, political and cultural aspects of the social groups (Walsh et al., 2018; Jose & Cherayi, 2017). The approach to combating social exclusion should act at different levels,

given the nature of the phenomenon, as its complexity requires implementation of different interventions each time, combined with launch of prevention campaigns (Van Regenmortel et al., 2018).

In conclusion, the importance of the contribution of counseling psychology, combined with other existing interventions (psychosocial, communal), is evident in order to enable self-improvement and confrontation of the internal conflicts of the socially isolated person. The desirable target is to achieve the reactivation and reintegration of the older person into active social life in order to experience a higher quality of life and to realize the benevolent and dynamic process of successful aging.

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3

ICT IN THIRD / FOURTH AGE AND DISTANCE COUNSELING

Georgios A. Kougioumtzis[1],

Eleni Dimopoulou[2],

Stavros Kotsakis[2],

Theodora Dellaporta[2],

[1] Aging and Chronic Deseases Management,

Hellenic Open University, Patra, Greece

[2] School of Pedagogical and Technological Education,

Programme of Specialization in Counseling and Guidance, Athens, Greece

Abstract

Distance Counseling[2] using telecommunications technology and the Internet is increasingly applied today. This is due to the modern technological developments and the advantages that the counseling process itself presents, both from the counselor's side and from the consultee's side. However, it is a fact that it also has some restrictions which mainly concern the means of communication, the relationship of those involved and the process. In order to overcome these restrictions, it is necessary to follow a set of ethical principles so that the safety of the counselor and the consultee is ensured, as well as the effectiveness of the counseling intervention. Distance ICT counseling is a challenge for seniors in the 21st century.

Keywords

TeleCounseling, seniors / third age individuals, online counseling, Gerontechnology

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1. Introduction

Modern post-industrial societies are characterized by rapid developments in the field of technology, which have also influenced the field of counseling. In order to meet the increased needs of people, this sector included distance counseling with the use of telecommunication technology and the Internet. This change has induced great concern, disagreements, controversies, as well as the need to describe the defining elements that govern it.

Also, the increase in life expectancy, the increase in the number of seniors, as well as the tendency for their independent living and active aging brought about the need to use technology so that society can cope with modern demographic and economic challenges (European Commission, 2008; WHO, 2017). Gerontechnology, which has developed as a field over the last twenty years, seeks to adapt technology to promote the health and well-being of seniors so as to ensure a better quality of life (Rada, Du & Wimmer, 2018). Distance counseling for seniors is part of this process.

This text attempts to investigate how Distance Counseling can be practiced, using Information and Communication Technologies. First, its terms, forms and aims are clarified. Following, the advantages, as well as the restrictions, conditions and rules are presented so that it may be effective and contribute as much as possible to the solution of problems faced by those who choose to use the services it offers, with emphasis on the factors concerning people of late adulthood.

2. Conceptual clarifications

2.1 Counseling - Distance Counseling - New Technologies in Counseling

According to the American Psychological Society (1999), counseling is defined as the process which implements cognitive, emotional, and systematic intervention strategies to improve individuals' personal condition and pathology and to guide them professionally, taking into account the basic principles of human development (Papanis & Balasa, 2011). Also, based on the approach of the Hellenic Association for Counseling, it is a counselor-consultee interaction relationship, so that people can process issues that concern them in order to live a more satisfying and multifaceted life, in their opinion, as individuals, as well as members of a wider society (Ouzounoglou, Rakatzi, Serleti & Kougioumtzis, 2016). Seniors are a group that requires special treatment on behalf of the counselor in order to deal with physical, developmental and psychosocial problems due to its vulnerability, which is caused by the occurrence of diseases, disability, financial hardship and social isolation (Olphert, Damodaran & May, 2005).

The traditional counseling process is carried out in a direct, natural, “face to face” presence of the counselor and the consultee (Face-To-Face Counseling, f2f), an element which does not exist in the case of distance counseling, tele-counseling. In the literature, distance counseling appears in a variety of terms: e-counseling, web-counseling, online counseling, email-counseling, internet-counseling, cyber-counseling, distance counseling, and telecounseling, when practiced online. Moreover, psychological support is provided by phone through respective lines run by various organizations, governmental or non-governmental, and for various problems (Ouzounoglou et al., 2016). It seems that in Greece seniors prefer the use of helplines over other means, because it is immediate, accessible and manageable, and also because of the difficulties they face in using new technologies. A typical example is the National Line SOS 1065 and the European Line 11623 for the psychological support of the elderly, their children and their carers. The line of the Hellenic Society for the Fight against Rheumatism, the SOS Line for dementia and several others offer counseling for the management of the respective diseases.

Of particular interest, however, is the use of new information and communication technologies, either in the form of mobile phones or the Internet, which facilitates office work and the use of new psychometric criteria, provides the counselor with access to information, but mostly offers a new possibility of practicing distance counseling (Dimitropoulos, 2006). In addition, a large number of technological means that facilitate the counseling process and communication, in general, are also at the consultee’s disposal. In particular, new innovative technology products aimed at seniors often appear, and they do so to such an extent that we have reached the point to talk about a “silver industry” (European Commission, 2015). Ambient Assisted Living Tools, such as fall detection sensors, alarm systems, health indicator detectors and more contribute to the individual’s independent living in the home. Computer applications and programs, such as memory and perception games aim to maintain the perceptual skills of the elderly and to creatively, actively manage their time. The Internet gives seniors access to information, telecare, direct contact with relatives and care staff, immediate emergency notification (red button), telecounseling (Levy & Simonovsky, 2016; Manarolis, 2016; Gule, 2012).

In the literature, there is also a collision between face-to-face counseling and distance counseling. In reality, however, this is not an antithesis, nor an alternative proposal, but a new practice that is applied in specific cases and with clear limitations (Dimitropoulos, 2006) and / or a way of reinforcing any face to face counseling services provided (Spanea & Tsergas, 2008). Distance counseling, therefore, does not replace traditional counseling, but forms a new experience of

intervention which is user-friendly, economical, immediate, fast and effective (Papanis & Balasa, 2011), and can save lives in case seniors face health emergencies (Gupta, 2020).

2.2 Forms of distance counseling using ICT

Distance counseling may be online or asynchronous. According to the US National Board of Certified Counselors, which describes it as "Technology-Assisted Distance Counseling", it is divided into the following forms:

- Individual counseling using e-mail.
- Individual, couple or group counseling using chatrooms.
- Individual counseling, couple or group counseling using teleconferencing (via skype or other programs) (Ouzounoglou et al., 2016; Dimitropoulos, 2006).

Conversations take place by exchanging messages in a forum or in real time and / or through voice messaging with the help of the Internet (Theodoropoulou & Prodromou, 2015). A distinction is also made between systems which offer interaction and systems which give access to sources and information, as well as to virtual experiences (Tait, 1999, as cited in Spanea & Tsergas, 2008).

3. Aims - Objectives - Groups and issues of distance counseling intervention

3.1 Aims and objectives of distance counseling

Distance counseling raises a new dynamic in the counselor-consultee relationship and differentiates individual elements of the entire counseling process, most notably the lack of physical presence (Campos, 2009), which is eventually replaced by other forms of communication: symbolic, written or vocal, visual and / or auditory.

The main aim is to provide quality counseling services to all those people who do not wish or cannot have a face-to-face meeting with a counselor or therapist.

3.2 Population groups

Potential groups which can receive distance counseling are:

- People living in remote areas.
- Professionals who are constantly on the move.

- Groups - often minorities - that do not have the same kind of access to services as the rest of the population.
- People with mobility problems and special needs.
- People with a particular sexual orientation.
- Those who work long, irregular hours.
- Prisoners.
- Lonely people, without sociability.
- Couples living in different geographical areas.
- People who live, study or work abroad and seek counseling from someone who speaks their mother tongue and understands their culture.
- Adolescents who are familiar with the use of computers and the Internet in communicating through messages or emails.
- Seniors, third or fourth age (Theodoropoulou & Prodromou, 2015; Wagner, Horn & Maercer, 2013; Koutsonika, 2009; Boy, 2008; NBCC, 2003; Murphy & Mitchell, 1998).

3.3 Issues of counseling intervention

Both the U.S. National Board of Certified Counselors (NBCC) and the findings of various surveys converge on the view that distance counseling is not appropriate for all cases of counseling or therapeutic intervention. It is considered unsuitable for cases of sexual abuse, violent relationships, eating disorders, psychiatric disorders, suicidal or murderous thinking, and substance abuse. On the other hand, it is considered suitable for educational, professional, financial issues, accessibility to health services, housing problems, adaptation problems, relationships, interaction with the legal and institutional system, as well as for the mentally ill, as long as there has been face to face communication and there is no opportunity for a permanent and face to face meeting with the therapist (Lewis & Coursol, 2007 and Shaw & Shaw, 2006, as cited in Koutsonika, 2009).

Health issues and pain relief are a priority for seniors. Therefore, distance counseling for immediate relief, for emergencies or for chronic illnesses is carried out by specialists, doctors, nurses, psychologists, social workers by phone, via emails, instant messages or teleconferences. The elderly turn to hotlines for counseling on issues of neglect, abuse, financial exploitation, psychosomatic violence, managing relationships with their children. Often, they wish to discuss family, financial and

social problems or even legal issues (Griffiths et al., 2020). Finally, seniors sometimes turn to counselors to reduce their loneliness, lack of communication and social isolation.

4. Advantages and restrictions

4.1 Advantages

ICT implementation in the field of counseling has brought about many changes both in its methodology and in its practice, which facilitate the consultee, the counselor and the whole counseling process. Thus, the benefits to the consultee are the following:

• Immediate, fast and economical access: It removes geographical restrictions and allows people living in areas where there are no counseling centers or options are minimal and / or do not cover them, to seek specialized counseling help. It eliminates social discrimination for people who are excluded from the system of traditional counseling, due to origin, perceptions or financial difficulties (Papanis & Balasa, 2011; Tsergas, 2008). Counseling is also provided when the person needs it and without waiting or leaving messages on an impersonal answering machine (Derek, 2008). People with mobility problems, especially seniors or the elderly who suffer from chronic diseases and cannot move, are served by telecare and telecounseling. Therefore, distance counseling offers immediacy, ease of access, at a relatively low cost and without time constraints (Campos, 2009).

• Anonymity-Confidentiality: The consultee's choice to keep their anonymity also facilitates their self-disclosure (Tsergas, 2008). Additionally, a visit to a counseling center is often framed by stereotypes and prejudices that often deter the person concerned. Distance counseling reduces personal inhibitions and protects the individual from "stigmatization" (Derek, 2008).

• The therapeutic benefit of writing: The use of written language - via email or text messages - promotes self-knowledge and introspection (Ross, 2014; Mishna, Bogo & Sawyer, 2013; Spanea & Tsergas, 2008). Externalizing the problem is the beginning of the individual becoming aware of it and a sign of their readiness for action. As they see and re-read their problem on the screen, they essentially distance themselves from it, process it, begin an internal dialogue, and thus begin the process of resolving it (Murphy & Mitchell, 1998).

• Distance counseling can be beneficial to those who do not feel comfortable to speak spontaneously or feel shy or anxious about direct interpersonal communication (Derek, 2008; Murphy & Mitchell, 1998). It also provides a high level of security and calmness, especially to the

elderly, when they know that a health emergency can be addressed immediately and quickly, through online applications (Dequanter et al., 2019).

Next, the benefits to the counselor are:

• They are given the time to organize their counseling intervention (Tsergas, 2008).

• The cost is lower, as it does not require any special equipment and space, so there is the opportunity of providing services to people of a lower socio-economic profile (Papanis & Balasa, 2011).

Finally, the benefits of the consulting process are that:

• Counselor and consultee have their session records available, therefore they can review the process, compare results, check the effectiveness of the intervention and verify what they have written. Also, the consultee can identify the problem-solving techniques and use them and / or re-read their counselor's encouraging comments at the end of the process and associatively reproduce the positive emotions that these comments evoked (Papanis & Balasa, 2011; Murphy & Mitchell, 1998).

• Forum counseling interventions, as well as the categorization of discussions give all members the opportunity to be helped by the personal experiences of others. The beneficial effect of the participation of older people suffering from chronic diseases, anxiety or depression in online support groups is particularly mentioned (Levy & Simonovsky, 2016).

• Distance counseling may serve as the first step in people seeking further personal counseling services (Derek, 2008).

• Counselor and consultee interact from their own personal space, with the comfort it offers and do not leave behind any of their daily habits. Still, the counseling relationship remains stable, despite any changes in the consultee's life, such as moving to another city (Speyer & Zack, 2003).

4.2 Restrictions

Despite its multiple advantages, distance counseling also exhibits some inhibitory elements, which need to be taken into account and have to do with the counseling relationship and process, as well as with the specifics of the means of communication (PC, Internet).

Thus, the restrictions of the counseling relationship are:

• Lack of non-verbal communication: Grimaces, gestures, body movements, silences, which accompany spoken word, are not recorded in writing (Papanis & Balasa, 2011), although its proponents suggest the written description of emotions as an alternative practice (Murphy & Mitchell, 1998). Limited understanding of emotions may lead to misconceptions and misunderstandings (Ouzounoglou et al., 2016; Tsergas, 2008). This is not the case with video conferencing, as long as there is audiovisual communication, but camera stress may occur.

• Impersonal relationship: Anonymity is a breeding ground for malicious people to deceive or use a false identity either as counselors or as consultees, therefore counselors need to ensure the authenticity of their status.

The following are restrictions regarding the counseling process:

• No corrective actions can be taken immediately.

• Possible lack of knowledge of computer use (digital illiteracy), which excludes those who do not know the means, especially seniors, who face cognitive and comprehensive difficulties in learning a new means, which is characterized by relative complexity. In case the elderly request the intervention of third parties for distance counseling, then the confidentiality of the process is disturbed and the degree of dependence on the caregivers increases (Levy & Simonovsky, 2016; Kampakaki, 2015; Kosmidou-Hardy, 2008; Tsergas, 2008).

• Possible lack of knowledge on the part of the counselor: The question that arises is whether the specialists who provide counseling services are trained, have the ability to use new technologies or use the tools of telecounseling in the best way (Ouzounoglou et al., 2016).

In addition, possible restraints concerning the means are the following:

• Possible leakage of information from electronic media (emails, chatrooms). For the elderly, the literature emphasizes the need for confidentiality and respect for privacy, as consolidated in the European Charter of the Rights and Responsibilities of Older people (European Commission, 2010).

• Keeping record: The presence and any actions on the Internet, such as registering on websites, exchanging messages, participating in forums, leave the user's electronic imprint, thus multiplying the chances of disclosing personal information.

• Problems of compatibility of the software used by the counselor with that of the consultee, existence of appropriate electronic equipment, difficulties in connection, delays in receiving the mail, large volume of information.

• Product advertising and promotion through some counseling services websites.

• Lack of knowledge and digital skills (digital literacy), especially of the elderly, as well as lack of information about the benefits of online applications which concern them. Technophobia is also mentioned as a deterrent to the use of computers by seniors. The data of the Hellenic Statistical Authority on the use of the internet by seniors are indicative: 50% of people aged 55-64 do not use the Internet, whereas at the age of 65-74 this percentage reaches 78%. Therefore, it is necessary to continuously train older people in ICT, a goal that is also a goal of European Union policies (European Commission, 2016; European Commission, 2008).

• The cost of purchasing and operating the equipment: It is observed that not all people and especially low-paid and low income pensioners can benefit from New Technologies, due to their inability to cover the cost of purchasing and operating such equipment (ESA, 2017; Levy & Simonovsky, 2016; Kampakaki, 2015; Papanis & Balasa, 2011; Kosmidou-Hardy & Papadopoulou, 2008; Spanea & Tsergas, 2008; Speyer & Zack, 2003).

The difficulties which arise from the use of electronic means do not mean that they should be rejected altogether. There is a strong need to define safety, a code of conduct and ethics so that online distance counseling may offer the corresponding benefits.

5. Principles of code of conduct

The ethical dilemmas, which have arisen during the implementation of online counseling services, have led to the adoption of ethical principles and rules by all Mental Health Organizations worldwide, in order to ensure a high level of services. Specifically, the ethical principles governing codes of conduct are:

• Confidentiality defined as the ethical responsibility of a professional counselor to maintain information concerning their client as something sacred and inviolable (Gladding, 2001, as cited in Sidiropoulou-Dimakakou, 2008). Clients have the right to the confidentiality of their personal data and professional counselors have the responsibility to take appropriate measures to ensure the encrypted transfer of information to the counseling relationship, such as using a password (Ross, 2014).

• The client's certification of identity, which will help the counselor to determine whether online counseling is appropriate or not. Counselors who provide services using new technology have to determine if their clients are mentally, emotionally and physically able to use this type of service

and whether this service is appropriate for their needs. In addition, this research is necessary in cases of seniors who may have dementia or other similar communication problems (National Board for Certified Counselors, 2005; American Psychological Association, 2003; International Society for Mental Health Online, 2000).

• The counselor's identity: A counselor has the obligation to clearly state their identity, their certifications and degrees, their license to practice, as well as the professional associations to which they belong (Shaw & Shaw, 2006).

• The "informed" consent: The client, before consenting to the provision of counseling services, has the right to know all the information about the online counseling process, the benefits, the measures taken concerning their safety, as well as the alternative options they have to online services (National Board for Certified Counselors, 2005; International Society for Mental Health Online, 2001).

• Legal basis: The counselor must take into account any local or national legislation governing the use of the Internet and the protection of their clients, especially minors and seniors (National Board for Certified Counselors, 2007).

• Respect for the client: The counselor should facilitate the communication and safe access of the client, respecting his / her particularities, for example, people with disabilities or cultural differences (Sidiropoulou-Dimakakou, 2008). Also, a relationship of tolerance exhibited by the counselor to the consultee allows the consultee to understand themselves to such an extent that they can make changes (Ouzounoglou et al., 2016).

Rapid development of new technologies requires the frequent revision of the criteria for the ethically correct implementation of an online counseling process (American Psychological Association, 2017; National Board for Certified Counselors, 2016).

6. Conclusions

"After the first contact with my online counselor, I knew I had made the right decision. He wrote to me in a style so familiar to me that I immediately felt comfortable and the inhibitions I might have had were gone. I could share thoughts and feelings with him that I would not dare to express in a face-to-face session. It was like writing to an old friend, to a real, wise friend who knows when to challenge you and when to support you. I never thought anyone on the other side of the computer could mean as much to me as my online counselor."

“My last correspondence with my online counselor was a week ago. I have printed every sentence we exchanged and I cannot say how many times I have returned to these letters to re-read every word. The whole experience was more than I had expected. I would definitely recommend it.”

The words of consultees (Speyer & Zack, 2003) who have had the experience of counseling via emails are indicative of its value and, under certain conditions, may apply to other online counseling experiences of visual or audio form. Thus, for people who cannot or do not wish to have face-to-face counseling or for those who have this ability but still have some inhibitions, distance counseling using New Technologies can be very helpful.

In any case, the choice, conduct and effectiveness of online counseling depends on the readiness, temperament, character and skills of the consultee, as well as on the counselor’s flexibility, skills and psychosocial experiences. A prerequisite is to implement the specified rules of safety and code of conduct in order to safeguard the whole process. Finally, seniors need to familiarize themselves with the means and be trained in its use and informed about the possibilities it provides if they are to benefit from the process. In this way, older people will be able to utilize New Technologies so as to ensure a quality, independent and creative living in the new economic, social conditions that are being formed in the 21st century.

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4

ADDRESSING DIGITAL HEALTH LITERACY DEFICITS IN CYPRUS: THE 'I-HEAL' PROJECT.

Panayiota Constanti[1]

Glykeria Kalamata[2]

[1,2] Center for Social Innovation – CSI, Cyprus

Abstract

Digital health literacy among citizens over 50 years old has only recently become a popular issue in Cyprus, revealing the lack of official policies and the need for the creation of online learning tools and applications (European Commission, 2010). A good example is the project 'i-Heal', which aims to offer senior citizens training opportunities in crucial digital skills, such as online safety, reliability of online information, social media, applications for health promotion, and health data management.

Keywords

digital health literacy, senior citizens, i-Heal, health promotion

1. Introduction

In the era of technology, the use of computers, tablets, and smartphones for educational and health purposes is gaining more and more popularity, while people of all ages are becoming even more familiar with online applications and learning platforms (European Association for the Education of Adults, 2018). With respect to Cyprus, however, digital health literacy has become an emerging topic only in the last few years.

Despite the extended use of technology among children and adults, citizens over the age of 50 are not yet familiar with processes like online banking, online health aid, and online learning. Senior citizens are neither aware, nor able to access online services, and in many cases they do not have the necessary skills to use them (Eteocleous et al., 2015).

Therefore, obtaining and/ or strengthening digital health literacy for citizens over 50 years old will effectively improve their health, life quality, and social inclusion. A recent initiative developed for this purpose is provided in the framework of the Erasmus+ project 'i-Heal', which aims to define the needs of citizens over 50 years old and the obligations of the Cypriot State and private sector, in

order to form the basis for the acquisition of efficient and successful digital health literacy, achieving better life quality for senior citizens.

2. Previous research results

As it is shown below, the total population of Cyprus will increase from 1,198,198 inhabitants in year 2018 to 1,394,748 by 2048, with the population aged over 50 years old increasing from 31.3% in 2018 to 46.5% by 2048, thus becoming almost half of the island's population. The data clearly show that the Cypriot population is ageing, mainly due to the decrease of fertility and mortality rates.

Source: https://www.populationpyramid.net/cyprus/

At the same time, the latest European Commission Flash Eurobarometer on European Citizens' Digital Health Literacy Results for Cyprus shows important information on digital health literacy in Cyprus. The research is based on a sample of 501 Cypriot citizens and 26,566 citizens from 28 other European countries.

According to the first two charts of the research, almost half of the citizens (45%) in Cyprus do not use the Internet to search for health-related information, or they rarely do (21%). In case of an online search, most of the Cypriot citizens (58%) search for general information on health-related topics or ways to improve their health.

Source: http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_404_fact_cy_en.pdf

The next two charts of the barometer analyse the quality of information and perception of the Internet. Most of the citizens state satisfied with the quality of information found on the Internet, expressing the usefulness of the information (78%), the level of easiness to understand (56%) and find such information (58%), and the relativity (47%) and depth (44%) of that information. Furthermore, more than half of the Cypriot citizens (55%) agree or tend to agree (28%) that the Internet is a good tool to help improve knowledge of health-related topics.

Source: http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_404_fact_cy_en.pdf

When asked about their understanding of online health-related information, most Cypriots expressed their knowledge on how to navigate the Internet to find answers to their health-related questions (73%) and stated that their research on the Internet helps them improve their knowledge on health-related topics (70%). The majority thinks that there is enough information on health-related topics available on the Internet (56%) and that they know where to find reliable health-related information. Additionally, most of them agree (19%) or tend to agree (38%) that online information is trustworthy so as to help them make health-related decisions.

Source: http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_404_fact_cy_en.pdf

On charts 3 and 4 above it is shown that Cypriots expressed lack of need to search for health-related information (21%) or lack of access to the Internet (32%), as the main reasons as to why they do not do online health-related research. Lastly, the main reasons for their dissatisfaction on the health-related information found on the Internet were unreliable sources of information (43%), unclear/not understandable information (45%), lack of visual information (38%), and lack of information tailored to their specific needs (35%).

In summary, the increased number of citizens over 50 years old, together with the lack of digital skills and health literacy skills, consequently lead to the raise of emergent needs of this target group. These needs create the necessity for new legislation by the State, innovative projects, and creative practices by the public and private sector, with a focus on digital health literacy and social inclusion. For this reason, the 'i-Heal' project was developed and is currently implemented.

3. The 'i-Heal' project

In the framework of the 'i-Heal' project, online surveys, as well as focus groups were carried out with citizens over 50 years old and stakeholders (health specialists and adult educators). According to the online surveys that were carried out, it is difficult for the majority of citizens over 50 years old to use digital technologies, mainly due to the constant update of services or websites, as well as due to the difficult, unclear or confusing content and information of services or websites. In particular, the participants in the survey mentioned that they face difficulties in finding information, while they are also afraid of e-commerce scam, interception of personal information, and misleading information.

When it comes to the importance of digital health literacy, the responders stated that digital literacy is important to them for gaining information, news reading, health related news and information, communication tools (Skype, social media etc.), searching for music, movies and videos, receiving professional support and information about medication through digital technologies.

On the other hand, they did not find important using the Internet for cooking recipes, history, access to their personal information, managing their bank accounts, managing their health conditions through digital technologies and medical archives. When it comes to digital health literacy, most responders stated that they do not considered themselves as digitally literate, while they claimed that they were not informed or trained on how to use digital technologies for health-related matters, neither they felt capable of using digital health services safely or making an e-appointment with their doctor. Lastly and very importantly, when responders were asked on their ability to handle health-related situations and issues, most of them responded that they do not feel confident to obtain

information about the health condition, treatments, emergency information, medical definitions, identify symptoms and side-effects, find out about side-effects of a medication, search for medication, and identify reliable/ unreliable information.

Furthermore, the main findings from the focus groups showed that Cypriot citizens over 50 years old have poor digital literacy and lack digital health literacy. This target group considered themselves digitally illiterate, while they felt that they lacked training, information, awareness, and education on how to use digital technologies for health-related matters, even though they felt confident that they would be able to obtain information and manage digitally health-related matters. Stakeholders came to complete the current picture in the country, by highlighting that the most important opportunities that citizens over 50 should have in order to increase their digital health literacy are specialised trainings, focused on digital health literacy, safety and security skills on health matters, skills on finding information through the Internet and the social media, as well as critical thinking.

It can be concluded that there is a need for a more efficiently developed institutional structure, which will provide formal and informal specialized training programs on health literacy and digital health literacy, so as to equip specialists with the necessary knowledge, skills and competences to respond to the needs of the Cypriot citizens over 50 years old and set the path for better health, life quality, and inclusion for our target group.

The project 'i-Heal', co-funded by Erasmus+ KA2 Strategic Partnerships in the field of adult education, offers a training programme to facilitate elderly people's access to electronic health services. The project involves the development of an innovative information technology tool, its associated services, and the dissemination of results on pedagogical practices for quality lifelong learning. The project provides an inclusive, interactive and user-friendly digital platform to equip and improve digital health literacy for European citizens over 50 years old. The educational online platform, supported by an application, is distinguished by its attractiveness and high accessibility through the internet. The consortium's background and experience with digital health literacy learning and action, communication, creativity, problem-solving, collaboration, visioning, experimentation as well as the cutting-edge information technology experts sustains the design and development of this transformative, participatory learning environment as well as expands the prospects of digitally mediated social interaction for sustainable learning in the future.

The free online learning platform includes eight Modules, which users carry out in order to gain valuable digital health literacy skills. Some of the topics covered are online safety, reliability of online information, social media, applications for health promotion, health data management etc.

More information about the project as well as access to the online platform, can be found on the project's website http://iheal.eu/.

4. Conclusion

The absence of any legislation on digital health literacy for elders highlights the great importance of this field as an essential one to be developed and promoted in Cyprus. Moreover, currently, there is no comprehensive policy on digital health literacy at the national level, neither any policies are planned for the next years at the national or local level focusing on this subject. Additionally, existing practices on digital literacy and digital health literacy for elders in Cyprus are very limited and do not provide adequate knowledge and skills as to equip potential trainers with the necessary competences in this field. For this reason, the application of projects like 'i-Heal' is valuable for the improvement of digital health literacy, non-communicable disease prevention, and medication adherence among senior citizens.

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5

NEW CHALLENGES IN NEUROREHABILITATION: FROM THE HEAD PROJECT TO THE S.CA.UNI.TO.ASPHI PROJECT

Patrizia Ginri

Psychologist

Head of Rehabilitation Programs and Projects of the San Camillo Healthcare Centre in Turin

Abstract

This article presents a planning experience in the field of methodological and technological innovations in the rehabilitation field based on the experience gained from a previous project (HEAD) recently concluded and successfully implemented by a large partnership, in which the San Camillo Healthcare centre of Turin played an important role.

Keywords

rehabilitation, HEAD project, partnership

1. Background - the HEAD project

The HEAD project (Human empowerment ageing & disability) was created to reduce complications and cognitive-motor difficulties related to neurological pathologies and to improve the quality of life of elderly people. To this end, rehabilitation activities involving technological devices have been created and they can be carried out at home to recover and maintain the cognitive and motor functions in order to allow these people a better social participation. This project was born from the collaboration with the Asphi Foundation and thanks to the experience in the field of rehabilitation of the San Camillo Healthcare centre in Turin, the Villa Beretta Nursing Home in Como, the Don Gnocchi Foundation in Milan and the Rai Centre for Research in Turin. The project involved the creation of a sustainable telerehabilitation model allowing to continue at home the rehabilitation treatment started during the hospitalisation. The project focused on patients with neurological pathologies such as brain stroke, Parkinson's disease and traumatic brain injury and promoted the use of low-cost technologies, remotely controlled by therapists. In this way, clinicians can support people in carrying out their daily life activities; they can strengthen the relationship with the family environment by directly involving caregivers in the rehabilitation process and encourage social-work

reintegration. The integrated multidisciplinary and professional work of clinicians, such as neuropsychologists, physiotherapists and occupational therapists, guarantees the complete multifunctionality of the proposed rehabilitation. The project fostered the use of advanced technologies in line with the latest medical-scientific research, which respond precisely to the specific needs and requirements of patients. Among these devices, the new Israeli prototype Neurosky Biosensor (Yi-Hung, Chien-Te, Wei-Teng, Yu-Tsung, Po-Ming, Jyh-Tong, 2015) through the detection of brainwave patterns, together with other physiological index detectors such as the modern Empatica (see references), allows to evaluate and observe online the level of attention reached by the patient while carrying out some cognitive tasks, such as the creation of problem solving situations. The use of these devices is fully in line with the innovative spirit of the project, which fits in an original way on the path of classical neurocognitive rehabilitation (Motoi, Egashira, Nishimura, Choi, Matsumoto, Watanuki, 2014, Wyczesany, Ligeza, 2015).

Another original element is the use of videos selected from Rai archives, which with their emotional baggage of past and family memories can motivate, stimulate and involve the patient in a new way. The focus on the patients' wellbeing, their involvement and the continuity of the therapeutic process after leaving the clinical centre are the elements at the core of the project that have inspired the construction and implementation of a multifunctional and user-friendly telerehabilitation platform (Hatamikia, Maghooli, Nasrabadi, 2014).

2. To a new rehabilitation project

The history and success of HEAD pushes us today to propose a further rehabilitation project even more advanced, which can adapt to the user's specific needs and requirements defined by the clinician in charge of the patient. The project focuses on neurological and orthopaedic patients and in general on situations of frailty through:

i) a multi-functional neurorehabilitation technology platform that guarantees the personalised sensorial-motor-cognitive treatment through playful activities for rehabilitation interventions that use new technologies and telerehabilitation, that should be carried out in the clinical centres, at home and in gathering places.

The technology platform on the "cloud" is a "synthesis tool" that unites and puts on the same level the multiple platforms existing on individual machines; it is "scalable" and allows to group all the technology tools (portable robots, software, etc.) in one place!

It is a public WEB system that uses the most advanced responsive technologies in order to allow access to content from any device connected to the Internet, adapting to the type of device

(smartphone, tablet, computer, etc.) without the need for dedicated or difficult to find tools, for a project that uses the most popular digital entertainment technologies at home.

The platform therefore functions as a “virtual library” and as an archive of the already standardised tools on the market and the rehabilitation software created specifically to complete the rehabilitation offer and allow its continuous updating.

The platform is structured to be as general as possible in order to include both software solutions created ad hoc and commercial products already existing or to be implemented in the future. Obviously, the integration of third-party products (portable robots, software, etc.) will necessarily have to include technical/commercial agreements with their manufacturers. This effort is justified by the ambitious objective of collecting in a single database the results of all rehabilitation techniques applied to the patient, in order to provide clinicians with an overall picture that allows on the one hand a diagnosis as accurate and complete as possible and on the other hand provides the possibility to monitor the patient during the rehabilitation process by assessing the progress based on objective data.

Moreover, the platform will have to obtain and process data from the users’ performance collected by the different machines used to treat the patients’ specific deficits. It must be able to file the clinical evaluations (medical records) carried out by the different professionals participating in the rehabilitation project. The objective is to support clinicians through artificial intelligence tools that, according to the objective data collected, can suggest a series of personalized rehabilitation scenarios.

It will have to work at full capacity based on the Hub & Spoke model (where Hub is the platform and Spoke are the devices and the peripheral professionals) in relation to the network that participates in the telerehabilitation.

ii) At present, we can say that the proposals involving the use of devices for motor rehabilitation are sufficiently well represented and could be uploaded to our future platform relatively easily. On the contrary, the proposals that have to respond more specifically to mainly cognitive and behavioural deficits (e.g. deficits in working memory, language and executive functions, etc.) are insufficient and the existing ones respond only partially to the rehabilitators’ needs. We can mention as an example patients with a stroke who in 23-55% of cases in the sub-acute phase present sequelae of cognitive alterations while the motor situation is preserved.

In the light of this reflection, an innovative solution should be developed, one that differs from other products currently available on the market, which simply ask the user to perform a task without supporting him or her in learning again the lost ability.

We are talking about a simple and user-friendly proposal, with a visually appealing interface

that uses contextualized inputs in environments that are as close as possible to everyday settings. We are talking about a tool designed by clinicians for clinicians, which differs from the others because it is not pre-configured and allows a fine modulation of the tools thus enabling the patient to successfully reach the goal at all times.

3. Conclusion

The rehabilitation proposal is therefore specific for each patient and adjustable according to the health conditions and the severity of the deficit to be recovered during telerehabilitation. Everything we described represents a health rehabilitation process also designed to involve patients and their caregivers allowing, on the one hand, the individualisation and the consequent increase in adherence to the treatment, and on the other hand to continue the rehabilitation also through self-administered exercises at home after a short training at the hospital. The care of the patient thus becomes comprehensive and continuous from the acute to the sub-acute phase up to the reintegration at home involving the entire family system. The project also involves the LINKS Foundation, SAN srl and ASPHI, as well as the University of Turin.

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Intellectual Outputs

IO1 Review paper & Research paper, E-Seniors (ed.)

Executive summary

The Erasmus+ project ***"proADAS: promotion of Active Digital Ageing Skills"*** is financed by the European Commission and implemented by a consortium of partners from 6 European countries – Belgium, Croatia, Cyprus, France, Greece and Italy. ProADAS project aims at tackling the gap between ageing population and digital literacy and strengthening and reinforcing the stakeholders, experts and practitioners in the fields of adult education and lifelong learning.

The first output of the project - "The Review & Research Paper" belongs to the preliminary/foundation phase of the project. Despite all the knowledge and information, the seven partners have in the context of the project's subjects, they also find very important to update and access accurate information within the scope of the project. This paper is an initial cornerstone giving the further directions and mainly contextualizing the next intellectual outputs.

The Review & Research Paper derives from a dual focus: a) the existing situation along with relative survey on previous practices available in the participating countries, b) the multidimensional research within the relative institutions, third age centres, NGOs and with the seniors training providers, elderly experts and the elderly themselves concerning specific needs & characteristics.

This report is based on a blended research and presents the main findings from the partner countries: 1) Findings from the survey on good practices and 2) Analysis of the field-based research.

Part 1 of this report presents the main analysis from the survey on good practices in the field of adult education in the 6 partner countries with a detailed description of 20 programs or initiatives provided by different organizations and institutions. Those good practices can benefit proADAS project by inspiring partners with their experience and good results. The proADAS project can bring an added value from its side by filling the missing gaps in the field.

Part 2 contains the results of the field-based research among stakeholders in partner countries. A specially elaborated questionnaire was submitted to the relevant stakeholders (adult educators, elderly expert, NGOs, and seniors themselves) concerning specific needs, characteristics and requirements. In total, 718 persons have been reached through this questionnaire. This part gives an overview about the profile of the respondents, the usage of technologies, the most important learning needs for seniors and their choice for the learning methods and tools as well as their opinion on the main obstacles in ICT learning and the most important skills for adult educators.

Finally, this report proposes a set of recommendations based on the results gathered through this combined research. The outcomes and information obtained will be exploited for the design of the innovative curriculum.

1. Analysis of the survey on existing good practices in the field of adult digital education in partner countries

The project consortium carefully selected in total 20 good practices in the field of adult digital education. Each partner country chose between 3 and 4 examples based on an in-depth research on different types of resources that proADAS project can valorise in the next two years of the project. Those practices could take different forms such as programs, organisations, tools etc.

Each good practice presented in this report has been detailed in a survey country report developed by each partner country. Those reports were based on a template created by E-Seniors in which different information about the good practices has been identified in the first part: name, date of creation and brief history, location and level of intervention, short description, main objectives, value for the project, and contact.

The description of each good practice is detailed by country in the tables proposed below.

1) Belgium

In Belgium, policy-making institutes, advisory councils, educational institutions and senior-organisations were contacted to gather good practices conducting to a selection of 4 initiatives having an innovative approach and an outreach to seniors.

Name	Date	Location & level	Objectives	Description	Value?	Contact
Digi-ateljee	2016	Initiative from the local senior council & service centre in Blankenberge	Digital access for everyone in the city of Blankenberge	DIGI-HULP (help from older volunteers) & DIGI-CLUB (workshops)	Senior volunteers Free of charge and accessible	https://digi-ateljee.weebly.com/
'iPad, da's straffe koffie' & 'Digitale hulp aan huis'	2014	Regional project created in Bruges	Improving the digital skills of vulnerable and lonely seniors & their social inclusion	Learning to use an iPad & to receive support	Enhancing social inclusion Tackling loneliness	https://mediawijs.be/praktijken/ipad-das-straffe-koffie
Senior Surfers	2017	Initiative from a senior-organization FEDOS at different levels	Getting seniors started with a tablet, from basic skills courses to more complex problems	Learning to use a tablet & IT-CAFE for problems with the tablet	Senior volunteers	https://www.fedos.be/clubs/senior-surfers/

'Op stap met je smartphone/ tablet' course	-	Local course created in an adult education centre based in the north of Brussels	Learning to use the smartphone or tablet outside of the home, or outside the familiar environment	Learning to use IT mobile devices in the city and shops	Structured environment of a school with a certificate & digital skills in daily practice	https://www.cvomj.be/nl/informatica/tablets/opstapmetjetel.php

2) Croatia

In Croatia, the 3 initiatives proposed in this report are taken from European projects for bringing seniors closer to new technologies.

Name	Date & history	Location & level	Objectives	Description	Value?	Contact
SWEEP – Select Waste for the EU Eco-system Protection	2018	Project at European level	Training seniors to use digital tools and technologies related to the recycling/reuse of waste through an e-learning model	Interactive online learning platform & e-learning courses	Approaching elderly people to digital use of an e-learning platform	secretariat@adriaticionianeuroregion.eu
SKILL-IT	2017	Project at European level	Addressing the issues of low levels of digital literacy and competency amongst adults who are disadvantaged and at risk of exclusion	Providing an online and CD format toolbox which can be accessed freely to relevant stakeholders	Addressing the existing gap between old people and technology	https://www.aklub.org/en/skill-it/
ELINET – European literacy Policy Network	2014	Project at national level in Croatia	Improving literacy policies	Producing a set of reliable, up-to-date and comprehensive reports on the state of literacy	ELINET's goal is to increasing participation, inclusion (and equity) of elderly people	http://www.eli-net.eu/fileadmin/ELINET/Redaktion/user_upload/Croatia_Long_Report.pdf

3) Cyprus

In Cyprus, 3 multidisciplinary services have been selected as the best practices for elderly care in the country. The first is a rehabilitation center offering all inclusive support for chronic patients with disabilities, including specialized needs such as artificial feeding, mechanical ventilation and wound care / burn and ulcer repair management. The second is a modern assisted living service allowing the involvement of the family of each patient in an individualized care plan, including significant opportunities for social interaction and integration. Finally, the third and last option chosen refers to

the only NHS – compatible hospice service in Cyprus, operating via the initiative of an NGO that is essentially a volunteer organization consisting of active citizens and health professionals covering a very rural and remote part of the island of Cyprus.

Name	Date & history	Location & level	Objectives	Description	Value?	Contact
"Saint John Lampadistis" Rehabilitation & Physiotherapy Centre	1994	Center based in Aglantzia, near Nicosia	Providing specialized services at the Rehabilitation Centre, either as in-patients or as out-patients	Professionals help patients who need medical monitoring or nursing care, therapy and physical rehabilitation	PROADAS will use the center as a validation source for the pilot testing of its training tools for carers and professionals	http://lambadistis.com
Storgi Health Care ltd	1999	Local level in Nicosia	Offering medical examination, nursing, specialized nutrition, physiotherapy, art therapy, music therapy	Healthcare provider focusing on the needs of elderly individuals	Developping recommendations and standards for uniform care across the network	www.storgi.com storgi@cytanet.com.cy
The Friends' Hospice Paphos	-	Philantropic organization at national level	Using technological devices in order to communicate, with others in the same field	Establishment of a congenial peer group	-	-

4) France

In France, 4 good practices have been chosen among non-governmental organizations working in the field of adult education and proposing digital help to vulnerable or isolated people with a special focus on an intergenerational approach.

Name	Date & history	Location & level	Objectives	Description	Value?	Contact
Emmaüs Connect	2013	National level	Ensuring that digital technology also benefits vulnerable people	Designing educational resources & offering digital workshops	Supporting vulnerable people making digital services accessible to everyone	https://emmaus-connect.org/ standard@emmaus-connect.org
Les Astroliens	2015	Local level in urban area (Paris) & rural	Helping vulnerable elderly people discover digital	The organisation pairs volunteer young students with	Intergenerational inspiration for ProADAS project	http://astroliens.strikingly.com/

		area (Yvetot)	technology with intergenerational support	seniors at home		contact@astroliens.org
Geekzie	2017	National level	Promoting digital inclusion and reinvent home help	Classes take place at the residence of the senior with young people	Valuable example while creating comprehensive and intergenerational content	http://www.geekzie.fr/
E-Seniors	2005	Local level in Paris	Fighting digital exclusion by offering ICT trainings to seniors	Providing ICT classes on different topics with collaboration of social centers & city hall	Providing IT knowledge to seniors and e-excluded population	http://e-seniors.asso.fr contact@eseniors.eu

5) Greece

In Greece, several institutions promote programs for the training of senior citizens in order to acquire digital skills and to improve their quality of life.

Name	Date & history	Location & level	Objectives	Description	Value?	Contact
50+Hellas	2005	Local level in Athens	Triggering the activation of people aged 50 and over at social, economic, cultural and educational level	Programs for the information, awareness raising and education of seniors	Experience and training of 50plus Hellas in programs related to active aging and digital ageing skills	https://www.50plus.gr/en/ info@50plus.gr
Koi.S.P.E. "Faros"	2006	Local level in Patras	Developping business activities for improving quality of life of people with mental health problems & promoting social integration	Participation in programs and activities about employment of people with psychosocial problems & in transnational programs	Experience in European programs and involvement in active ageing & digital literacy fields	https://www.koispe-faros.gr koispeachaias@yahoo.gr
Athens Network of Collaborating Experts (ANCE)	1996	National level	Raising awareness of EU citizens on the problems of the developing world and combating social exclusion	Promoting seniors' social & psychological well-being and improving their digital skills	One of the most important organizations promoting research and innovation	www.ance-hellas.org ance@ance-hellas.org

6) Italy

In Italy, 3 good practices have been selected and they are representative of different contexts / methods on the topic. The first is a project of development of the suburbs of a large city like Turin. The second is the local version (on a provincial scale) of a project conducted by an organization with national dimensions (one of the pensioners' unions). The third is conducted by a foundation that operates on a national and also international scale with different projects and is territorially independent.

Name	Date & history	Location & level	Objectives	Description	Value?	Contact
Zenith Cooperativa Sociale – Prometeo: Internauti	2016	Local project developed in Turin	Learning digital skills through intergenerational exchange	Support of minority and disadvantaged groups of inhabitants of the urban outskirts	Exchange between generations at the local level	https://prometeozenith.it/prometeo-club/ https://www.cooperativazenith.it/index.php/prometeo/
SPI-CGIL Se non sai non sei	2006	Local branch of a trade union body	Creation of computer labs for elderly + smartphone workshops	Computer labs for the elderly allow groups of seniors to approach some basic IT procedures	Free of charge & access to online services	http://www.senonsainonsei.org/
Fondazione Mondo Digitale	2001	Different levels of intervention in Italy and abroad	Promoting the sharing of human knowledge, social innovation, and social inclusion	Intergeneration learning model	Free of charge Creation of a digital literacy kit	http://www.mondodigitale.org/en

Finally, the initiatives proposed in this analysis come from different organizations, institutions or projects involving elderly people and working in different fields such as elderly care, adult education, or social innovation and inclusion. The experiences acquired in European projects, diverse programs from public, private or non-governmental organizations give an interesting overview of the situation in Europe and will benefit proADAS project's implementation.

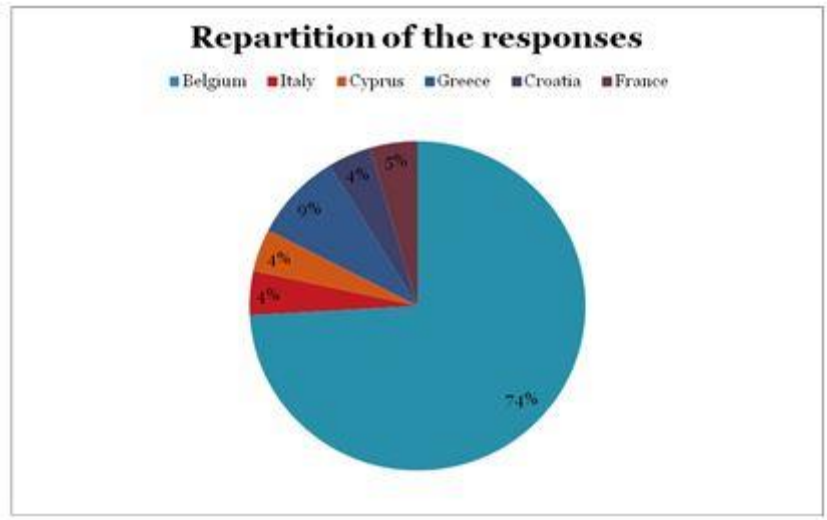
1. Analysis of the field-based research (questionnaires) among stakeholders in partner countries

In parallel to the surveys realized in all partner counties, a field-based research has been done in all countries for understanding the main reasons of gaps between seniors and new technologies. This questionnaire has been distributed among stakeholders involved in elderly care, adult education and also seniors themselves in order to gather seniors' needs, motives, interests, obstacles, experiences, or expectations towards the learning of new technologies.

1) Responses by country

Countries	Number of respondents
Belgium	532
Italy	31
Cyprus	30
Greece	62
Croatia	30
France	33
TOTAL	718

Table summarizing the number of respondents in partner countries



Repartition of the responses in percentage by country

In total, 718 respondents answered to the questionnaire proposed in the 6 partner countries in Europe. However, 74% of the respondents are located in Belgium whereas the other countries have

around 30 to 60 responses. Greece represents the second most represented country with 9% of the respondents followed by France, Cyprus, Croatia and Italy.

2) Gender repartition

Regarding the gender repartition of the respondents, the percentages are quite well balanced. The percentage of women is higher in Croatia (60%) and in Greece (63.9%) whereas in other countries the percentage is between 51 to 54%.

Countries	Men %	Women %
Belgium	50.2%	49.8%
Italy	45.2%	54.8%
Cyprus	46.7%	53.3%
Greece	37.1%	63.9%
Croatia	40%	60%
France	48,5%	51,5%

Table of gender repartition by country

3) Age repartition

Furthermore, the age of the respondents varies between countries. In Belgium, most respondents are aged between 65 and 75 and in Italy around 68 years old. In France as well, the great majority of respondents is aged over 60 years old. In Croatia the average age is 53.6 years old. In Greece, the most represented age group is 40 to 60 years old with 85.5% of the total number of respondents. In Cyprus, the largest age group with 76.7% of the respondents is comprised between 20 and 29 years old.

4) Current situation

In Italy, France and Belgium, the majority of the respondents are already retired whereas in the other countries like Cyprus and Greece, the respondents are mostly still employed with partial or full-time contracts. In Greece, the full-time employed people represent around 73% of the respondents and in Cyprus, it represents 53%. The part-time employed people are significant in Cyprus and Croatia with 36% of the total number of respondents in their respective countries.

5) Relationship with digital tools

To the question “Which kind of technological devices and how often do you use?”, most of the respondents in all countries use laptops and smartphones on a daily basis whereas the tablets are not

very popular (except in Croatia). This is relevant in countries where respondents are younger, as well as in countries where the average age is higher. For communicating on a regular basis, regardless of age, everyone use the same devices, which means that even older people have an interest in using those tools nowadays.

Learning skills	Countries
Basic IT skills	BE, IT, FR, CY, GR, CRO
Internet	BE, IT, FR, CY, GR, CRO
E-mail	BE, IT, FR, CY, CRO
Communication via digital tools	IT, FR, CY
Social networks	CRO
Photo & video editing	
E-administration	
Online shopping	CRO
Online banking	BE, CRO
E-health services	IT, GR

Table summarizing the learning skills by country

To the question, "what are the most sought/burning needs for seniors in learning new technologies in your country?" respondents from all countries agree on the fact that learning basic IT skills and learning to use the Internet are most appropriate for seniors. The third most appreciated learning skill is how to send an email. This skill is underlined in almost all countries except in Greece. The photo and video editing as well as e-administration are considered as the less popular. Due to their high number of still working persons, respondents in Croatia highlight their interest in social networks, online shopping and online banking skills. For e-health services, they are underlined as the important ones in several countries and especially in Greece and Italy.

6) Learning methods

As for the preferred learning methods, regardless the age or current professional situation, all respondents appreciate face-to-face learning in group. Also the second most popular category is considered face-to-face individual lessons in Belgium, France, Cyprus and Croatia. Both seniors and still active participants also appreciate learning with the help of family or friends. Finally, we can notice that e-learning as well as learning from peers are not considered as relevant learning methods.

7) Favourite formats

All countries agree on the fact that seniors need to learn through traditional formats such as handouts, handbooks, guidelines for better ICT learning. Indeed, seniors prefer to have a manual with

didactic tools and images for a better understanding and visualizing the content. Regarding the digital formats, opinions are divided. Video and audio files are quite appreciated in the most of partner countries. Tutorials are underlined as a good format of ICT learning in France, Cyprus, Italy and Croatia. Nevertheless, PPT formats as well as e-books are not very popular in all countries. As for the interactive formats, Croatia, Cyprus and Greece agree on the efficiency of the e-learning platforms. In those countries, as earlier underlined, there is a high number of still working and younger respondents which results in such answer. The same can be noticed in webinars and blogs formats among Cypriot participants. As for the seniors' answers in France, we can see that they really appreciate various interactive formats such as mobile applications, MOOCs and open resources

8) Main obstacles observed in learning digital skills

The main obstacles underlined by respondents, regardless their age or professional status, are lack of knowledge and skills and lack of motivation and interest. In Croatia and Italy, they also mention that there is a lack of competent persons in adult education as well as a lack of adapted teaching methodology. In Croatia in particularly, the respondents also mention the health issues as an obstacle in ICT skills.

9) Needed skills for adult educators

The most important skills for an adult educator detected in all partner countries are patience and communication skills regardless of respondents' age or profession. In Cyprus where there is an important number of respondents under 30, they underline the importance of creative and practical skills. In Greece, practical skills and tutoring skills are necessary for an adult educator. As for France, Belgium and Italy, the older participants highlight the importance of motivational skills, basic IT skills and tutoring skills.

Conclusions and recommendations

An important number of the respondents shows that there is a large interest in the ICT training among the target group, and that there is a need for more information on the topic. All respondents agree on the fact that new techolologies are essential in seniors' daily life. Taking into account numerous good practices already existing in the field of all partner countries, it can be noticed that this is the sector that is being developed a lot but there is still a wide range of actions for improving ICT training for older persons.

The following recommendations can be made to ensure that the proADAS curriculum and resources are relevant and useful to the target groups:

- ICT learning for seniors requires appropriate tools and trainings for both older persons and trainers, due to existing linguistic, generational and cultural gaps;
- There are social and personal competences that this report has identified that are essential for adult educators such as patience, motivation, communication and the abilility to have basic IT skills. Moreover, practical skills (time management and organizational skills) are not underestimated as well;
- Learning by talking with other people and having face-to-face trainings are commonly suitable for each target groups of proADAS project;
- Due to age and cultural reasons, video and other media supports working with images have to be used to support understanding and the learning acquisition;
- Traditional media format for learning content (usually printed materials, i.e. handbooks, guidelines, handouts) need to be used during the training in combination with new, modern ones (digital tools, open educational resources, e-learning platforms) depending on the individual features and level of ICT.

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- Long term care and community nursing care in Cyprus: https://ec.europa.eu/social/main.jsp?catId=1105&intPageId=5002&langId=en
- Private elderly home care service for Cyprus: https://www.mccareathomecyprus.com/about.html
- Lambadistis Rehabilitation Center: http://lambadistis.com/el-gr/
- Storgi Care Home: http://www.storgi.com/en/main.html

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- http://scholar.google.it/scholar_url?url=https://www.researchgate.net/profile/D_Bouwhuis/publication/7184620_Older_Adults%2527_Motivated_Choice_for_Technological_Innovation_Evidence_for_Benefit-Driven_Selectivity/links/0c96053ba5092c0a84000000/Older-Adults-Motivated-Choice-for-Technological-Innovation-Evidence-for-Benefit-Driven-Selectivity.pdf&hl=it&sa=X&scisig=AAGBfm129ext8mZM1r6vlGTCEeXihGdMaA&nossl=1&oi=scholarr
- Milella M. (2014), Ricordarsi del futuro, l'educazione all'intergenerazionalità, in Cosmopolis. Rivista di filosofia e teoria politica, 2.

IO2 Curriculum,
European University of Cyprus (ed.)

Introduction· Curriculum proADAS

The *Curriculum proADAS* constitutes the specific curriculum for digital literacy and active ageing; it is constructed on a distinguishing methodology and pedagogical approaches concerning the target groups of seniors. The *Curriculum proADAS*, as a totally new methodology, is designed exclusively according to the directives of the triangle 'seniors-digital literacy-active ageing'. Thus, it will provide the essential context for the effective training of the seniors, built upon the different levels and various starting points of seniors, and tailored to their needs and characteristics (e.g. health issues, various intellectual demands, specific emotional conditions, psycho-physical disorders). This curriculum is designed to be flexible and to act as predictor for the specificities of the 'learners', since it addresses a specific population with particular needs, learning styles or gaps.

The objectives of *Curriculum proADAS* are as follows:

- Direct impact on the digital skills acquisition and their use for the quality of life, social participation independency, active ageing

- Capacity building addressed to relevant professionals and arming them for successfully dealing with ageing

- Key-reference for the organizations, professionals, trainers, seniors, covering a wider audience and proving its transferability to the European context.

Module 1
Prevention of physical, psychological and social frailty, Italy - Belgium

1

Introduction

The aim of this module 1 is that carers, families and health professionals can identify frailty in older adults and know how to act when in contact with these older adults.

Identifying frailty is important, because elder can seem to be in a good condition, but their condition can change very rapidly in a very negative way because of their frailty. It is important that a person knows how to prevent frailty.

Next, the carers, families and health professionals will be able to assess the physical, psychological and social dimensions of frailty in the elder via multidisciplinary assessment instruments.

Finally, the module aims to empower healthy and productive ageing by enabling active participation and supporting autonomy and functionality. The professionals learn how to actively include frail older adults in ICT activities.

2

Module Objectives

Upon completion of this module participants should be able to:

1. Recognize the needs and challenges of elderly, from a multidisciplinary point of view;
2. Identify the causes and signs of frailty in the elder, in order to set an early diagnosis and prevention;
3. Assess the physical, psychological and social dimensions of frailty in the elder via multidisciplinary assessment instruments;
4. Apply modern learning techniques, explore the actual offer in ICT tools and devices to train the elder, their family caregivers and their health professionals.

3

UNIT 1

Identifying physical, psychological and social frailty in the elderly

Module Objectives

4

Purpose of this Unit

Upon completion of this unit participants should be able to identify frailty and to explain the most important aspects of physical, psychological and social frailty.

Questions pre unit

1) Are all older people physically fragile? No

2) Is frailty in the elderly person caused by several different components? Yes

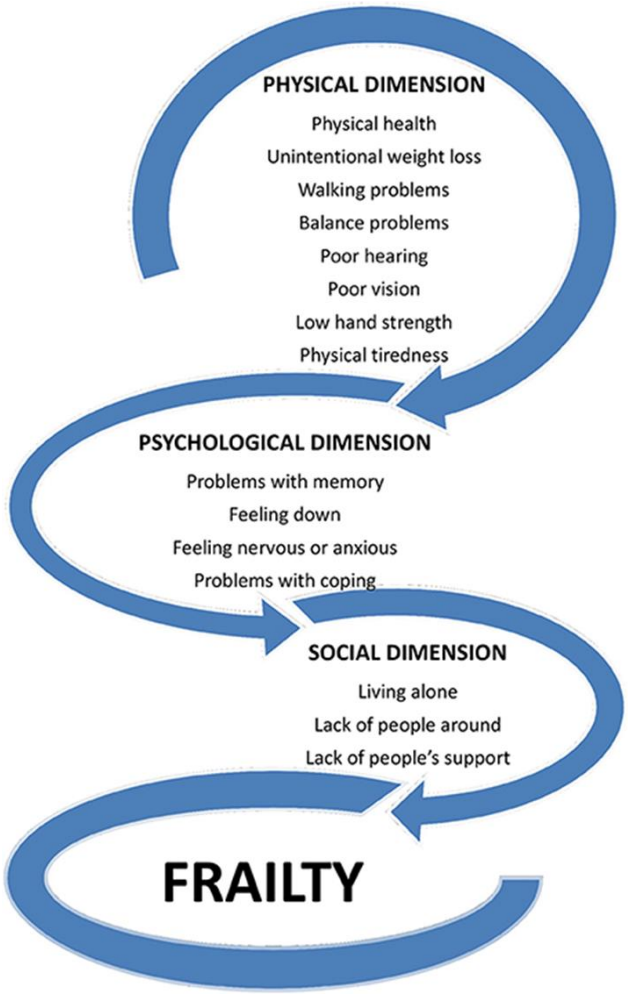
3) Can fragility be linked to the environmental characteristics in which the elderly person finds himself? Yes

4) Is psychological well-being independent of fragility? No

5) Social relationships can be a help factor and contrast the fragility? Yes

What is Frailty?

- Frailty = the collection of (biological) factors which reduces the capacity of the elder to bear negative tensions or stress
- Frailty can be a combination of different dimensions, on the level of physical, psychological or social condition of the elder
- For each condition, we give a description on how to identify (unit 1) and how to prevent (unit 2). We give also tools on how to asses frailty (unit 3) and how to include frail elder (unit 4).



The physical dimension of frailty

- When people age, physical discomforts can appear. This can be for example difficulty to hear, difficulty to walk, arthritis, cardiovascular problems, … → This can augment the physical frailty.
- The risk of being physical frail ascends with an ascending age, but not all older people are physically frail.
- Moreover, there is also a significant group of older adults that is in good condition and has an active life style.

The physical dimension of frailty

Characteristics of physical frailty are:

- Less power
- Being easily exhausted
- Difficulty to walk
- Less energy
- Less physical activity
- Difficulty to accomplish daily activities
- Older people can continue to do physical activities for as long as they have the capacity to do so. If they lose the physical capacity, they can try to compensate the physical loss.
- The physical frailty can also be related to the environment where one lives in:
- If the older adult lives in a house that is not adapted to their changed needs, the older adults can become frail and vulnerable.
- Moving towards a long term caring facility can be an option, when the house or the environment isn't adapted to their changed needs.
- In practice most elder prefer to stay in their own familiar environment.

The psychological dimension of frailty

- Psychological wellbeing is an important factor in healthy ageing.
- When ageing, people are often confronted with different situations of loss: death of their partner, brothers, sisters or friends from the same age. Also moving to a long term caring facility and leaving their home can be perceived as a loss.
- It is normal that people mourn and grieve, when confronted with situations of loss and sorrow.

When ageing, people can be confronted with different psychological issues:

Problems in sleeping

Fear

Depression or depressive feelings

Cognitive problems or impairment

- Depression is one of the most common complaints in older adults.
- Cognitive impairment means a decline of the abilities to think, remember, reason and plan. These functions are important and necessary for living independent. Cognitive impairment is not dementia. Some older people – but not all – gain dementia in later life.

The psychological dimension of frailty

- For psychological frailty, we see that complaints often occur together with other ways of frailty (for example: loneliness and depression often go along, as well as physical disabilities and fear of falling).
- Further, there is a connection between cognitive impairment and physical, social and psychological frailty.
- Finally, there is a strong biological connection between cognitive impairment and physical frailty, for example diabetes or cardiovascular diseases can be a trigger for both.

- A social network can also be an important barrier against distress, stressful situations and frailty.
- The network of older adults consists of different relationships with family, friends and neighbours.
- These relationships can be an important source of informal help, when the older adults is in need because of illness or disability.
- The amount of social relationships can have a positive influence on their happiness and psychological coping strategies.

The social dimension of frailty

- When growing older, social networks can change and become smaller, for example due to retirement or death of peers and relatives. This can be a reason for loneliness and sorrow.
- But a smaller network isn't always necessary a reason for being unhappy. A small amount of meaningful and positive relationships can be enough for being happy.
- Older adults without meaningful social relationships are more sensitive for emotional loneliness, and other conditions of frailty.

- In addition the direct environment is important for the quality of living and the risk of social frailty.
- A sufficient amount of places to sit and rest outside has a positive influence on the social relationships of the older adults.
- Having access to shops, services, support in the direct environment also has a positive influence on the ability to keep living independently in their own environment.

Conclusion

- Frailty often is a combination of different dimensions on the level of physical, psychological or social condition of the elder.
- The physical, psychological and social condition of the elder are in interaction with each other and influence each other.
- Furthermore, external factors for example the environment can have an influence on the frail status of the elder.

Questions post unit

1) how many main types of frailty can we recognize in the elderly? One two THREE

2) What social factors can be decisive for the frailty of the elderly? The richness / LACK OF REFERENCE SOCIAL NETWORKS / the occurrence of diseases typical of old age

3) are cognitive difficulties causing psychological fragility in the elderly? Yes, always / no, never / YES, IF LACK OF SUPPORT AND NETWORK OF SOCIAL RELATIONSHIPS

4) Are movement difficulties always a cause of frailty in the elderly? Yes, always / ONLY IF THERE IS A LACK OF OTHER TYPES OF HELP, INTEREST, SUPPORT / only if the environment in which they live is characterized by architectural barriers that limit access to places

5) Is psychological fragility an independent factor? No, it depends on age / yes, it is often related to the onset of mental illnesses / NO, IT IS IN RELATION TO THE PHYSICAL DIMENSION AND THE SOCIAL DIMENSION, AS WELL AS WITH EXTERNAL ENVIRONMENTAL FACTORS

The right answer is write in CAPITAL LETTER

Unit 2

Prevention of physical, psychological and social frailty

Purpose of this unit

Upon completion of this Unit participants should be able to identify actions in order to prevent frailty in the elderly.

Questions pre unit

1) Are there organizational level actions that can help prevent the fragility of the elderly? YES

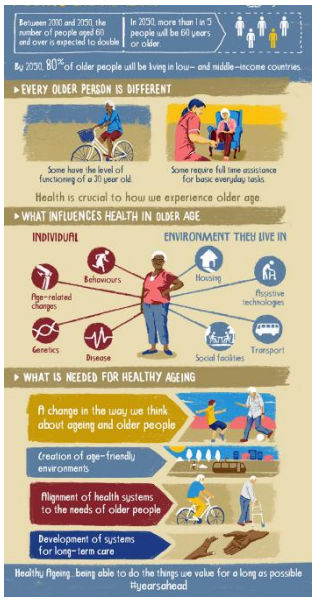
2) Is early detection of cognitive impairment necessary to slow down the frailty process in the elderly? YES

3) The elder can't try to compensate the abilities that they lose, so they can't accept ageing and cannot thrive for psychological wellbeing. NO

4) Starting and keeping to follow courses or educational projects do can help in prevention of social frailty? YES

5) Do technology can support the prevention of frailty in elderly? YES

Prevention of frailty



- The advice is to prevent frailty in order to age actively and healthy.
- The prevention of elder is an indivual challenge.
- There are several actions that the elder or their network can perform in order to prevent frailty.
- Further, there are actions on organisational level, where the policy can support the prevention of frailty.

Prevention of physical frailty

- Problems related to physical frailty can be:

- The elder starts to avoid activities that cost more time and energy, with a decrease of physical activity.

- Avoiding physical activities can augment the risk of falling.

- Elder can perceive social barriers to go out, when a disability is visible and the elder is ashamed for the disability.

Advise to prevent physical frailty:

- Keep on moving and doing activities; ICT can be a useful tool here.

- Do physical exercises.

- Optimise management of chronic diseases.

- Control of vascular risk factors.

- Control of medication use and review side-effects or interactions.

- Use an adequate diet.

Prevention of psychological frailty

- Advise to prevent psychological frailty:

- Early detection of cognitive impairment is necessary to slow down the process

- Keep doing activities; ICT courses can help to keep the brain active.

- Prevention:

- A well-known structure in their daily life can help and prevent psychological problems, for example a daily routine augments the control over their life and augments feelings of safety.

- Detection and adequate treatment in psychological problems is necessary.

The elder can try to compensate the abilities that they lose; that way they can accept ageing and thrive for psychological wellbeing.

Prevention of social frailty

- Advise to prevent social frailty:

- Start following (and keep following) courses or educational projects; ICT courses can be recommended here.

- Join activities in the neighbourhood, as they are more accessible, and give the opportunity to build a social network

Conclusion

- Prevention of frailty should be a combination of actions on physical, psychological and social level.
- These preventive actions should adapted to the condition of a diverse range of elder, and therefore should be accessible at low cost, in different languages, …
- Technology can support the prevention of frailty in elder.

Questions post unit

1) How do a well-known structure in daily life can help and prevent psychological problems? Repetitiveness is harmful / A DAILY ROUTINE AUGMENTS THE CONTROL OVER LIFE AND FEELINGS OF SAFETY / One can never rest easy, there are always problems to be addressed

2) Which of these behaviors can help in the prevention of physical fragility? Eat little and be withdrawn / KEEP MOVING AND DO MANY ACTIVITIES / Seek help from neighbors and relatives

3) Why is it important that older people try to compensate for the skills they have lost? Because they can only get by on their own / Because otherwise they become useless to society, and represent a burden / BECAUSE IN THIS WAY THEY CAN ACCEPT AGEING AND COMMIT THEMSELVES TO THEIR PSYCHOLOGICAL WELLBEING

4) Prevent frailty in the elderly is a personal challenge and is also a matter of:
maintain productivity /HEALTHY AGING /
decrease the social costs of unproductive people

5) Is it preferable to participate in activities that take place nearby? why?

No, it would be better to find specialized facilities / If you are sick, depressed, and you feel old, maybe it's better not to be seen too much around / BECAUSE IN THIS WAY THE NEIGHBORHOOD SOCIAL TIES ARE STRENGTHENED AND THERE ARE MORE OPPORTUNITIES TO BUILD ONE'S OWN SOCIAL NETWORK

The right answer is written in CAPITAL LETTER

Unit 3

Assessment of frailty in the elderly

Purpose of this unit

Upon completion of this unit participants should be able to assess frailty in the elderly by using multidisciplinary assessment instruments.

Questions pre unit

1) Is it possible to use innovative technologies to assess the frailty of the elderly? YES

2) Are there examples of technologies designed specifically for the self-assessment of the frailty of the elderly? YES

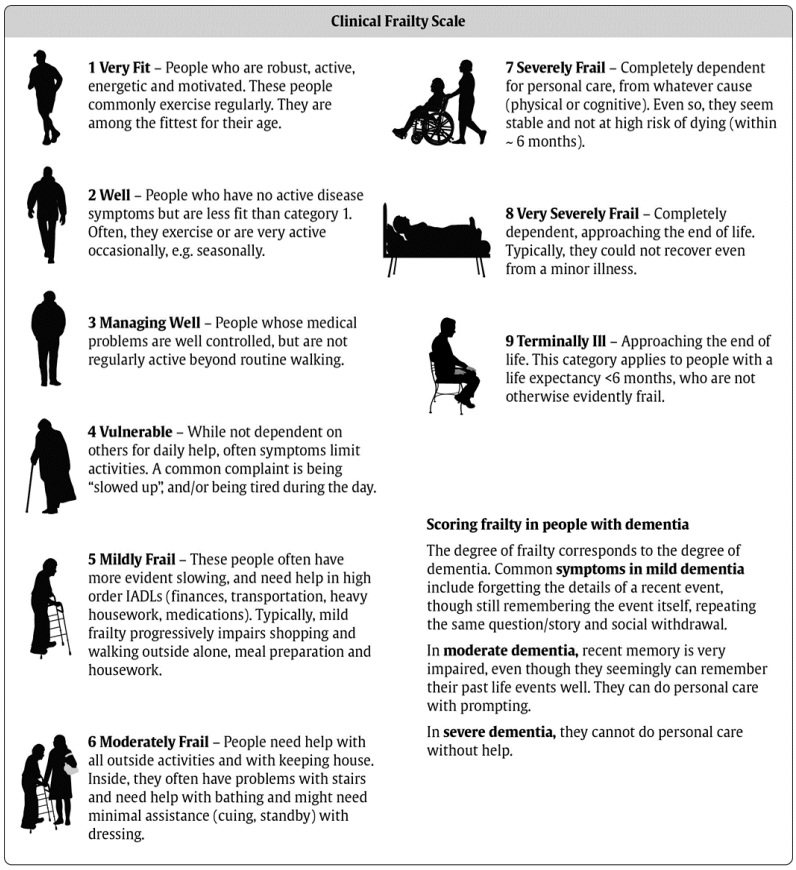
3) Is it true that good examples of representation and analysis of the different levels of frailty of the elderly are completely lacking? NO

4) Self assessment instruments don't requires any training. NO

5) Is the evaluation of the frailty of the elderly exclusively a matter for specialists? NO

FRAIL SURVEY

- Frail survey is a free mobile app for self-assessment of frailty
- The app exists is different languages and can be used easily by different stakeholders.



Use of innovative technologies in assessing and preventing frailty

We give some examples to integrate IT in prevention of frailty:

- Virtual reality games for cognitive stimulation and physical activation
- Mobile phone and wearables for measuring strength performance
- Apps and devices to improve the social contacts between relatives

Conclusion

- Different apps and scales are available to support the elder and their network.
- Depending on the aim, one can chose for a certain scale or instrument.
- For this choice, it is important to bear in mind that frailty is a condition that combines physical, psychological and social factors, so that is also important to assess these different dimensions.

Questions post unit

1) Which of the following is an existing technology for assessing frailty in the elderly? VIRTUAL REALITY GAMES FOR COGNITIVE STIMULATION AND PHYSICAL ACTIVATION / role play games /heart rate monitor

2) Frailty is a condition that combines different factors: physical and psychological / SOCIAL, PSYCHOLOGICAL AND PHYSICAL / social and psychological

3) The self assessment of frailty by older people is a very important factor because it allows: to have a scientifically validated picture of the status of people / TO BE ABLE TO EVALUATE HOW TO REACT, HOW TO IMPROVE ONE'S QUALITY OF LIFE/ to reduce social costs

4) What are the best solutions offered by technology for self-assessment of frailty in elderly people?THERE ARE NO BETTER SOLUTIONS, BUT A WIDE RANGE OF ALTERNATIVES / there are specific apps, like Frailsurvey / there are only assessment tools that can be used by professionals

5) In how many different levels are the clinical assessment scales of fragility usually divided? in three levels: good health, uncertain health, illness / IN NINE LEVELS, FROM VERY FIT TO TEMINALLY ILL / in four levels: fit, vulnerable, moderately frail, very severely frail

The right answer is written in CAPITAL LETTER

Unit 4

How to include frail elder in ICT activities

Purpose of this unit

Upon completion of this unit participants should be able see how include frail elder in ICT activities.

Questions pre unit

1) Do you think that architectural barriers have no relevance in organizing an ICT course? NO
2) Is it important to provide correct information and help even at home for the elderly in the use of ICT devices? YES
3) Can online exercise programs help elderly people with limited mobility? YES
4) When organizing ICT courses, is it important to take into account the possible different level of cognitive or mental difficulty of older people? YES
5) Can it be useful to involve the elderly in the discussion on how to make the ICT course more accessible by listening to their point of view? YES

For elder with limited mobility

- Reading can be an interesting activity for elder with impaired mobility: It can also improve memory, reduce stress, improve sleep, and delay cognitive decline. They can use e-readers, audiobooks or online information.

Advise: Provide help at home to use the ICT devices or provide support to go towards and from the activity.

- Physical exercises are important, especially for older adults with limited mobility.

Advise: Online exercises programs can be helpful when the elder aren't keen on doing physical activities in group or in a sport center.

- When ICT courses are organised: pay special attention to the (phycical) accessibility of the location:

- Can one acces in a wheel chair of with a walker?
- Are the computer tables accessible?
- Are the computer screens large enough to provide large fonts?
- Is the location known by the elderly? And do they know how to get there?

For elder who need mental support

- When ICT courses are organised: pay special attention to the support of elder who are challenged on mental or cognitive level:
- During the course: provide an explanation on large screen and a step-by-step guideline for each computer.
- Combine a ICT class with a social event: the possibility to sit and talk after the course
- When you provide information, it is important that elder understand the information. Use the teach-back method by asking them what they understood of a certain explanation, to check in that explanation was clear.

For elder with limited social network

- A pet can help elder to go outside, for example for dog walks. This will support social talks with people in the neighbourhood. A gps-app on the smartphone can motivate to discover new walks in the environment.
- Include elderly themselves in discussing how to make the course more accessible for different profiles.
- Provide ICT support for free or in low cost, to reach out to as many elder as possible.

Conclusion: tips for an accessible activity

- When you provide information, it is important that elder understand the information.
- Pay attention of psychical accessibility. Go sit in a wheel chair and check for yourself how accessible your activity is.
- Activities for elder should be low-cost or free, to include a diverse range of elder.

Questions post unit

1) When you provide information in an ICT course, it is important that: the information is technically correct and expressed in the specialized language / the information is simplified, because the elderly generally do not understand / THAT THE ELDERLY UNDERSTAND THE INFORMATION

2) If you are an elderly person, what can be the advantage of knowing how to use a GPS on your smartphone? ALLOWS YOU TO SAFELY EXPLORE NEW ROUTES (WALKS, VISITS) / allow your relatives to know where you are / it is of no use

3) To ensure good physical accessibility to the location of an ICT course for elderly people, it is important to check that: COMPUTER SCREENS ARE LARGE ENOUGH TO PROVIDE LARGE FONTS / computers are new and with very high performance / the computers are old and with simplified programs

4) It may be useful to combine an ICT course with a SOCIAL EVENT, WHICH ALLOWS PARTICIPANTS TO DISCUSS AND GET TO KNOW EACH OTHER / skill competition, with personal scores / strict evaluation of the abilities of each, with differential classes

5) When organizing an ICT course for seniors, it is very important to select the participants on the basis: of the level of education and income / demonstrated technical skills, for example with an entrance exam / NEED FOR LEARNING AND LIMITATIONS IN MOBILITY, COGNITIVE LEVEL OR LACK OF SOCIAL NETWORKS

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Module 2
Falls prevention, Greece

1

Falls Prevention

MODULE 2

2

Expected Results

- Strengthen and reinforce the relative institutions and centers, stakeholders, experts and practitioners in the fields of seniors education & learning, digital education & promotion of active ageing competences; empower relative training providers adult's educators and older people's carers to successfully deal with seniors' training on a variety of cases and more concretely with falls prevention, all through the recruitment of digital skills
- Enhance seniors competences and skills -thus their social participation and quality of life-in the proper way so that they are positively included into society and preventing their isolation concerning the problems caused by the falls cases
- Deliver comprehensible methods and supportive packages with digital tools & Open Educational Resources towards trainers (carers) and trainees (seniors) needs
- Construct a real methodology and approaches gathered in a curriculum tailored to seniors characteristics and needs with educational practices and learning materials arising from and adapted to the variety and variability of the third age

3

CONTENTS

- **Unit 1:** Conceptual definitions & definitions of falls, Epidemiological data and incidence, History of falls
- **Unit 2:** Common causes & symptomatology and common types of falls
- **Unit 3:** Ways of management and interventions concerning falls
- **Questions & Answers**

4

Unit 1

Conceptual definitions & definitions of falls, Epidemiological data and incidence, History of falls

Introduction

- A **fall** is defined as a person coming to rest on the ground or another lower level; sometimes a body part strikes against an object that causes the fall.
- Typically, events caused by acute disorders (eg, stroke, seizure) or overwhelming environmental hazards (eg, being struck by a moving object) are not considered falls.

Why are falls prevention so important?

- Falls are the leading cause of injury-related death (CDC).
- Falls are also the most common cause of non-fatal injuries and of hospital admissions for trauma.
- In acute and rehabilitation hospitals, falls resulting in injury occur in 30% to 51% of patients.
- Falls are associated with increased lengths-of-stay, increased utilization of health care resources, and poorer health outcomes.
- Soft tissue injuries or minor fractures can cause significant functional impairment, pain, and distress. Even "minor" Falls can trigger a fear of falling in older persons, leading them to limit their activity and lose their strength and independence.

History and physical examination (a)

- When a more complete assessment of risk factors is needed, the focus is on identifying intrinsic, extrinsic, and situational factors that can be reduced by interventions targeted at them.
- Patients are asked open-ended questions about the most recent fall or falls, followed by more specific questions about when and where a fall occurred and what they were doing. Witnesses are asked the same questions. Patients should be asked whether they had premonitory or associated symptoms (eg, palpitations, shortness of breath, chest pain, vertigo, light-headedness) and whether consciousness was lost. Patients should also be asked whether any obvious extrinsic or situational factors may have been involved.
  The history should include questions about past and present medical problems, use of prescription and OTC drugs, and use of alcohol. Because eliminating all risk of future falls may be impossible, patients should be asked whether they were able to get back up without help after falling and whether any injuries occurred; the goal is reducing the risk of complications due to future falls.

History and physical examination (b)

The physical examination should be comprehensive enough to exclude obvious intrinsic causes of falls:

- If the fall occurred recently, **temperature should be measured** to determine whether fever was a factor.
- **Heart rate and rhythm** should be assessed to identify obvious bradycardia, resting tachycardia, or irregular rhythms.
- **BP should be measured** with patients supine and after patients stand for 1 and 3 min. to rule out orthostatic hypotension. Auscultation can detect many types of valvular heart disorders.
- **Visual acuity** should be evaluated with patients wearing their usual corrective lenses if needed. Abnormalities in visual acuity should trigger a more detailed visual examination by an optometrist or ophthalmologist.
- **The neck, spine, and extremities** (especially the legs and feet) should be evaluated for weakness, deformities, pain, and limitation in range of motion.

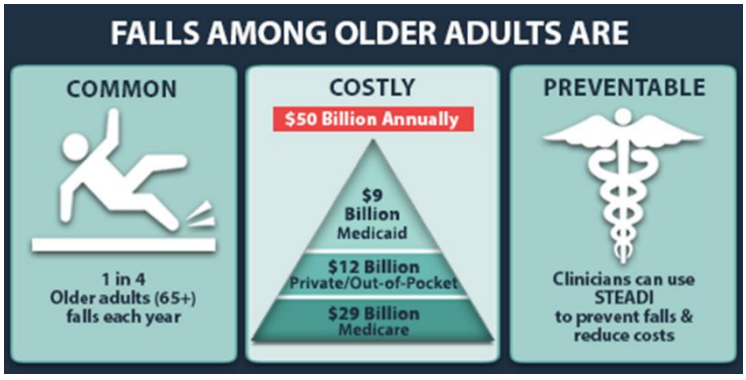
History and physical examination (c)

A neurologic examination should be done; it includes:

- testing muscle strength and tone,
- sensation (including proprioception),
- coordination (including cerebellar function),
- stationary balance, and gait.
- Basic postural control and the proprioceptive and vestibular systems are evaluated using the Romberg test (in which patients stand with feet together and eyes both open and closed). Tests to establish high-level balance function include the one-legged stance and tandem gait. If patients can stand on one leg for 10 sec with their eyes open and have an accurate 3-m (10-ft) tandem gait, any intrinsic postural control deficit is likely to be minimal. Physicians should evaluate positional vestibular function.

Facts of falling

- Function and quality of life may deteriorate drastically after a fall; at least 50% of elderly people who were ambulatory before fracturing a hip do not recover their previous level of mobility.
- After falling, elderly people may fear falling again, so mobility is sometimes reduced because confidence is lost. Some people may even avoid certain activities (eg, shopping, cleaning) because of this fear. Decreased activity can increase joint stiffness and weakness, further reducing mobility.



Mr Rohn is 72 years old. He said that he has no confidence on himself to be active and creative anymore.
However, he misses the time when he was able to do thinks by his own.
He is willing to attend a falls prevention program.

-Do you think falls in elderly is a common phenomenon? Yes/ No

-Do you think that it infects mental health as well? Yes/No

-Taking classes for prevention can improve this situation? Yes/No

Unit 2

Common causes & symptomatology and common types of falls

Laboratory tests

- There is no standard diagnostic evaluation. Testing should be based on the history and examination and helps rule out various causes:

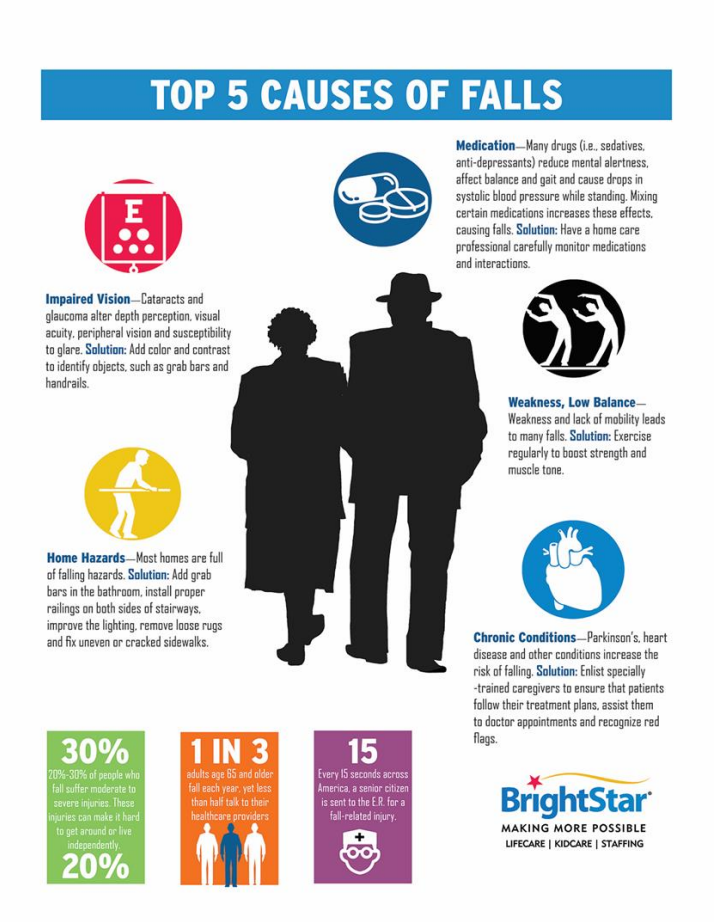
✓ A CBC for anemia or leukocytosis

✓ Blood glucose measurement for hypoglycemia or hyperglycemia

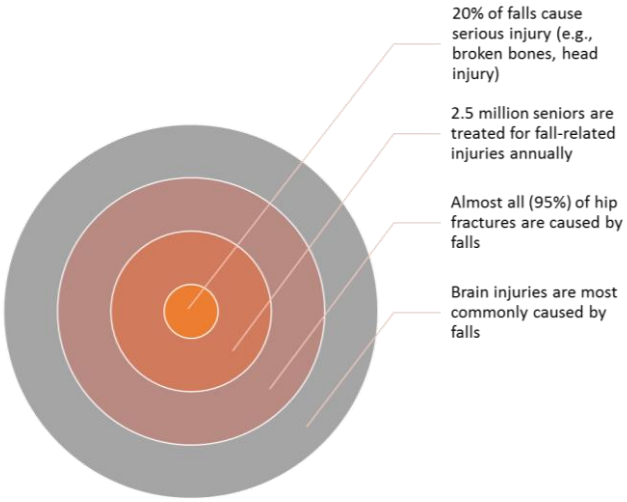
✓ Electrolyte measurement for dehydration

Falls in Elders

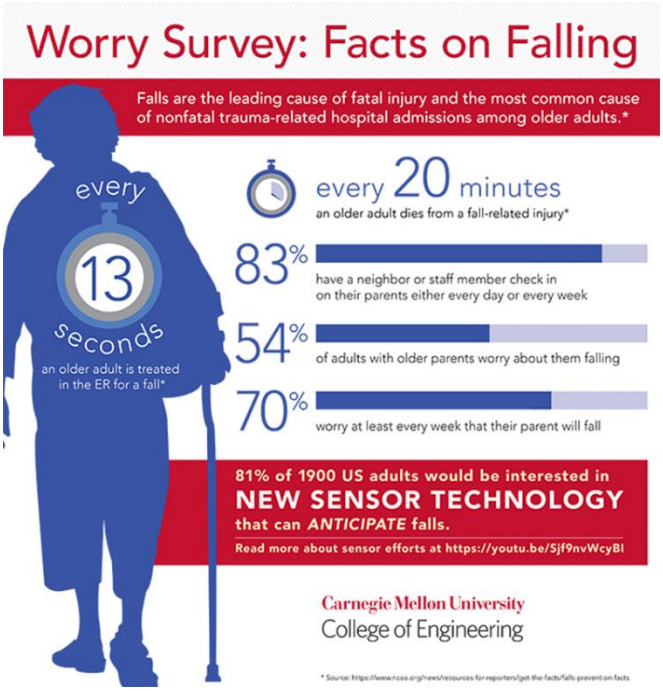
- Falls are a prominent cause of global injury in elderly. Studies have shown the magnitude of this problem and analyses have indicated that the prevalence of falls in community – dwelling elderly can be largely reduced by offering multifactorial falls prevention programs.



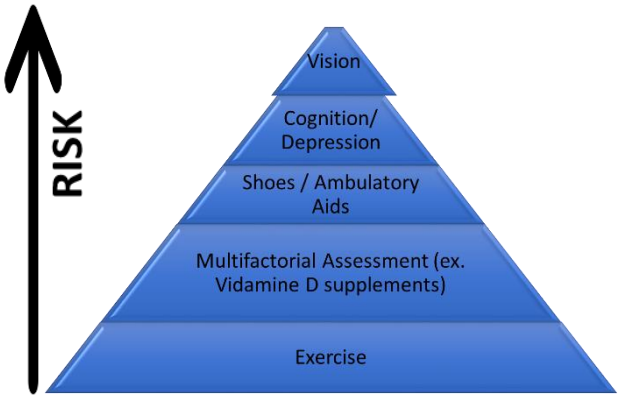
Falls are a big deal, especially in elderly populations. It's all in the numbers



What have surveys shown



Balance Problems and Fall Risks in the Elderly



Case study

Mrs. Smith is a 70 years old and she suffers from falls in her daily life. Martha, her caregiver, cannot always protect her from falls.

-Have you met people like Mrs. Smith before?

Yes / No

-What do you think are his most important needs and challenges?

To have sb to take care of her 24/24

To have a cell phone with her, in order to call her caregiver whenever she will need to

To have a smart watch that will send automatically to her caregiver an update of her current situation

To take care of her self

Case study

Mrs. Smith is often complaining that she is not given enough care although in fact her family and her caregiver are always there for her.

She is also afraid and uncertain to go out by her own and she doesn't get out of bed.

-What do you think are the reasons for her behavior?

too much fear

she has fallen many times

she isn't informed about the falling prevention classes and strategies

-What risk factors predispose for such symptoms?

(fill the gap-1 word)

√ .....

Unit 3

Prevention

- The focus should be on preventing or reducing the number of future falls and fall-related injuries and complications while maintaining as much of the patient's function and independence as possible. In the periodic physical or wellness examination, patients should be asked about falls in the past year and difficulty with balance or ambulation.
- Patients who report a single fall and who do not have problems with balance should be given general information about reducing risk of falls. It should include how to use drugs safely and reduce environmental hazards.
- Patients who report more than one fall or a problem with balance or gait should receive a fall evaluation to identify risk factors and opportunities to lower risk.

Prevention Strategies

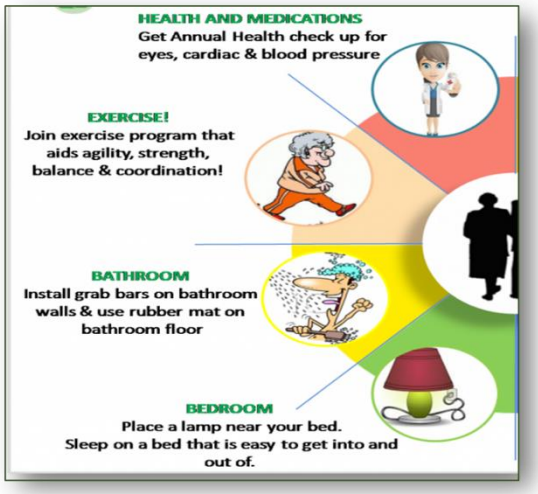
The best predictor of falling is a previous fall!!

However, falls in elderly people rarely have a single cause or risk factor. A fall is usually caused by a complex interaction among the following:

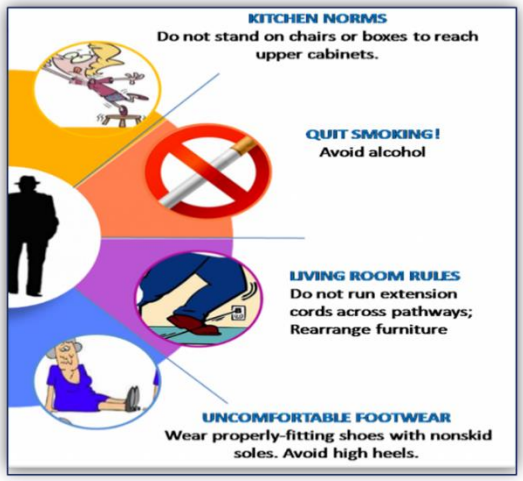
- Intrinsic factors (age-related decline in function, disorders, and adverse drug effects)
- Extrinsic factors (environmental hazards)
- Situational factors (related to the activity being done, eg. rushing to the bathroom)

Tips for Preventing Falls

DO'S



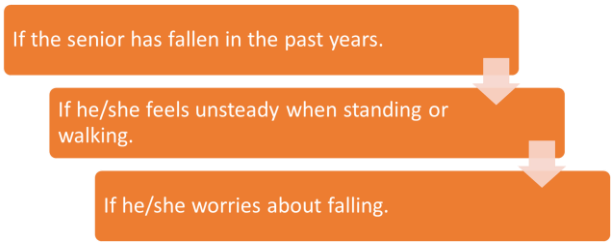
AND DON'TS



Problems and negative consequences (physical, psychological and social)

- Falls threaten the independence of elderly people and cause a cascade of individual and socioeconomic consequences. However, physicians are often unaware of falls in patients who do not present with an injury because a routine history and physical examination typically do not include a specific evaluation for falls.
- Many elderly people are reluctant to report a fall because they attribute falling to the aging process or because they fear being subsequently restricted in their activities or institutionalized.

What a healthcare provider should consider



- In the falls prevention programs the *professionals and physiotherapists* have the most important role.
- The fall prevention programs are based on international guidelines.
- These include medication monitoring, vision control and correction, mapping fall risks in and around the house, and screening for and supplementation of vitamin D.
- What is worth mentioning is the fact that the most important obstacle for elderly to participate in falls prevention programs is the lack of motivation. Maintaining independence is the most important positive incentive to participate.
- Some other methods for stimulating participation are health education and healthcare counseling and removal of financial barriers.

Examples and strategies

Some typical examples of fall prevention strategies are:

- mapping the fall history of the elderly
- a safe environment education of elderly people
- observation
- involvement of informal caregivers

The use of multimedia to prevent falls and support the elderly

- In the health sector, and more specifically in falls prevention in the elderly the use of ICT through information systems can bring many benefits to the lives of these people.
- They can be independent, prevent issues or/and deal with any health issues. Elderly guided by a digital program can learn how to prevent falls and accidents.

Scenario

Mr. Rohn is willing to attend a fall prevention program, but he refuses to quit smoking…

-Do you think that smoking would be a problem for improvement of falls?

From the list below, choose what can help him prevent the falls.

Case study a.

You are a caregiver and Mrs Smith, a 70 years old woman, doesn't want to participate in a falls prevention programs. What can you do to motivate her?

Case Study b.-

What can you do to motivate her?You can make a list with all the benefits existing

Talking about her feelings on Fall prevention program	Analyzing the benefits after the completion of the program	Making new friends
Having fun with interactive games – and simultaneously-exercise	Listening stories from others who have the same problems with Mrs Smith	Learning new things about falling prevention – knowledge is power!

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Module 3
Nutrition module content outline, Croatia - France

1

NUTRITION MODULE

ProADAS project

Erasmus+ 2018-1-CY01-KA204-046895

Responsible partners: ESE, AIE

2

Module overview

Module Nutrition refers to the **basic principles of nutrition in the elderly**, to describe nutritional practices both in terms of **food categories** as well as **nutrient content** and to present and allow the proper creation of a **healthy diet plan** for elderly individuals **with various clinical conditions**.

3

Structure of the module nutrition

- Unit 1: **Nutrition and the Ageing Process**
- Unit 2: **Nutrition and Disease**
- Unit 3: **Muscle Mass and Eating Behaviour**
- Unit 4: **Nutrition, Carers and the Community**

4

Unit 1:

Nutrition & Ageing Process

- **Section 1:** State of the art on the increase of older population. Explanation why nutrition for older person requires careful choice of products and vitamins.
- **Section 2:** Definition of the components of each food group in details. Definition of the role of macro- and micro- nutrients.
- **Section 3:** Existing new technologies to have balanced and rich in vitamins diet.

Unit 1:

Nutrition & Ageing Process

1) State of the art on the increase of older population

- Europe's ageing population is increasing, with more people living longer than ever before.
- Over the next 40 years, there will be a **10% increase** in Europeans aged 65+, with 29% of the population potentially belonging to this age bracket in 2060. A similar trend has been occurring in the 80+ age group.
- In 2010, this group represents 4% of the European population, but by 2060 this figure could reach 11%.

- Research clearly highlights that healthy ageing is linked **to what we eat.**
- This is because consuming a **healthy diet** protects against the risk of chronic disease, preserves vision immune function, digestive, bone and oral health, maintains muscle, health physical function and cognition, aids recovery from illness.

Seniors are extremely susceptible to malnutrition because of:

- Metabolism – and appetite – slows down with age
- Less caloric intake means less opportunity for nutrients
- The body's ability to absorb nutrients (especially specific important nutrients) decreases with age

Nutrition impacts health in several ways:

- **Organ function**: eyes, kidneys, liver, and digestion
- **Brain function**: memory and cognitive ability
- **Managing chronic illnesses** like high blood pressure, diabetes, cancer, and dementia
- **Strengthening the immune system** and promoting proper healing
- **Muscle and bone health**: preventing fractures and falls, maintaining mobility, strength, flexibility, and posture

Nutrition for Seniors - Important Health Information to Seniors and Caregivers: https://www.youtube.com/watch?v=1PtVPWwuxz8

Unit 1: Nutrition & Ageing Process

2) Definition of the components of each food group

- **Introduction to the Eatwell plate**

It allows to visualise how to achieve a healthy balanced diet, over the course of a day.

It shows each food group and how much a senior person should eat of these

- ***Attention:*** those recommendations are meant for the general population, so people with special needs should check it check with a medical professional, if they 're unsure about specific diet.

Unit 1: Nutrition & Ageing Process

2) Definition of the components of each food group

- **Macronutrients:** constitute the building blocks of all diets, these provide the body with essential nutrients. The main macronutrients, carbohydrates, fats and protein, can be eaten in large amounts. They provide energy to the body enabling it to function properly.
- **Micronutrients:** these consist of vitamins and minerals which must be derived from your diet. They are eaten in smaller amounts, but are vital for metabolic processes.

Let's have a closer look on those elements from EatWell Plate:

1. **Fruits and vegetables** - these are **very important** in making a diet healthy. Fruits and vegetables provide fibre, essential vitamins and minerals, and different fruits and vegetables contain different essential nutrients.
2. **Carbohydrates** - this food group includes bread, rice, pasta, potatoes and other starchy foods. Carbohydrates provide a good source of energy, so eating a variety should be encouraged.
3. **Milk and dairy products** - foods in this group provide calcium and vitamin D, which help keep bones healthy and prevent risk of fractures. Yoghurt, cheese and milk are all good sources of calcium.

4. Protein - meat, fish, eggs, beans provide us with protein which are needed for development and repair. Protein can help in maintaining muscle mass. These foods also provide other essential nutrients, such as iron, zinc, B vitamins, vitamin D. Eating oily fish, like tuna, mackerel will also provide omega 3 fatty acids.

5. Fats and oils - dietary fat is an essential part of the diet as it provides us with essential fatty acids and helps us to absorb vitamins such as vitamin A, D, K and E.

6. Fibre - to keep bowels healthy and prevent constipation, older adults should include an adequate amount of fibre in their diets.

7. Zinc - is required for the maintenance of a healthy immune system and is most commonly found in meat, shellfish, wholemeal bread and pulses.

8. Vitamin D - helps the body to absorb calcium thus slowing the rate of calcium loss from bones. Vitamin D is also important to maintain muscle.

9. Iron - is essential for maintaining healthy blood. Iron deficiency can be common in older adults due to blood loss, nutritional deficiencies, medications, cancer therapies, and poor absorption.

✻ Eating foods that support our health offers **benefits** throughout life - but, especially as we get older! Therefore, it's recommended that older adults consume **a varied diet** which incorporates protein, carbohydrates, fruits, vegetables and dairy products.

Unit 1: Nutrition & Ageing Process

3) New technologies for balanced and rich diet

YUKA Product scan (APP available on both Android and IOs Apple)

- *Yuka scans food & cosmetic products* to decipher their ingredients and evaluate their impact on your health.

It uses a simple color code to inform you of the product's impact on your health: excellent, good, mediocre, or poor.

- *600,000 Food products*

Every product is evaluated according to 3 objective criteria: nutritional value, additives, and the organic dimension of the product.

- *Best product Recommendations*

For any product with a negative score, Yuka will recommend a similar product that's better for your health as an alternative. Does your breakfast cereal contain dangerous additives and too much sugar? Yuka will recommend other cereals that are more natural and lower in sugar.

- **Nutrients - Nutrition Facts APP**

Nutrients (previously called Foodle) is nutrition at your fingertips! How much sugar is in an apple? How much potassium is in a banana?

- Discovers nutrition facts on tens of thousands of foods with all vitamins, minerals, amino acids, fats, fatty acids, sugars, sterols and more compounds like caffeine.
- Search in the database of nearly 200,000 foods without using any data (works also on-line).
- Allows to find foods highest in specific nutrients like vitamins and minerals. The nutrient browser sorts foods by the selected nutrient and food category.
- Keep a record of the foods you eat every day! Nutrients features a new and improved food journal with a complete breakdown of your daily nutrition and options to change specific daily values of each nutrient.

Numerous websites allowing eating well and clean and also suggesting a set of good healthy recipes:

- http://www.eatingwell.com/
- https://www.eating-better.org/
- National Nutritional Health Programme: http://www.mangerbouger.fr/PNNS (available in France)

Unit 1: Nutrition & Ageing Process

Quiz

1. What is the name of the healthy eating tool we recommended in this unit? Choose the correct answer from the list below:

a) Healthy Dish
b) Eatwell plate
c) Diet Planner

2. Fruits and vegetables provide essential vitamins and minerals?

a) True
b) False

3. Complete the following sentence with the correct piece of information. It is important for older people to include fibre in their diet in order...

a) To prevent heartburn
b) To prevent fatigue
c) To prevent anemia
d) To prevent constipation

4. ***Which of these foods are not essentials?***

a) Carbohydrates
b) Biscuits, cakes, sweets
c) Water

5. ***True or False: Is whole milk a good source of carbohydrate, protein and fat?***

a) True
b) False

Unit 2: Nutrition & Disease

- **Section 1:** Malnutrition in older adults & risks of diseases
- **Section 2:** Main conditions affecting seniors' health
- **Section 3:** Nutrition in mental health well being & physical conditions

Unit 2: Nutrition & Disease

1) Malnutrition in older adults & risks of diseases

Malnutrition in older adults is often **overlooked** or **underestimated!**

Definition: *when the body does not get the right amount of vitamins, minerals & other nutrients*

-over-nutrition

-under-nutrition

Varied causes: physical, social, mental and emotional

- Muscle weakness → loss of appetite
- Medication which affects taste & smell or digestion
- Cognition problems → difficulty to recognize hunger
- Isolation and loneliness may affect nutrition

Indicators of malnutrition

Weight loss

Tiredness

Loss of energy

Altered mood

Loss of appetite

TO DO:

- Seeking advice from a doctor
- Treatment plan (e.g. six small meals a day, whole milk or dairy products, oral nutritional, vitamin or mineral supplements etc.)
- Monitoring
- Social care (providing assistance)
- Nutrition education

Food choices over time definitely being an influencing factor for developing diseases!

Cancer
Did you know?
Processed meats, red meat and salt preserved foods can increase risk of cancer.
Fruits, vegetables and foods high in fibre can reduce the risk of cancer.
Treatment support
During treatment for cancer, some people may experience reduced appetite or taste changes. Older adults may lose weight without trying, which can put them at risk for malnutrition or other illnesses. Awareness of factors related to dietary intake or treatment is important.

Diabetes Type 2
Did you know?
Type 2 diabetes occurs when the pancreas does not make enough insulin
Elevated glucose levels in the blood can lead to diabetes.
Dietary advice
- Balance diet
- Regular meals
- Rich fibre content
- Minimising sugar
Diabetes M app: managing diabetes

Cardiovascular diseases
Did you know?
Associated with a build-up of fatty deposits or plaque inside the arteries → increases risk of heart attacks, strokes and hypertension (high blood pressure)
Dietary advice
- Providing a broad range of plant-based foods
- Encouraging intake of fish
- Reducing saturated fats
- Favouring vegetable and plant oils over butter
- Limiting salt intake
- Etc.

Unit 2: Nutrition & Disease

1) Malnutrition in older adults & risks of diseases

Osteoporosis
Osteoporosis is a degenerative condition affecting older adults. It causes bones to become brittle and more fragile.
Did you know?
- **Lifestyle factors** such as diet and exercise can influence bone health
- **Not getting enough calcium** is linked to low bone mass and high fracture rates
- **Diets rich in calcium** are recommended for aged 70 + to reach intake of 1200 mg/day
- **Vitamin D** is also required for the body to make use of the calcium

Frailty
Frailty is considered a **geriatric condition** which results from nutritional deficiencies and the accumulated effect of several conditions. Symptoms include unintentional weight loss, fatigue, poor appetite, low activity level and difficulty walking or getting out of a chair. An individual care and support plan is needed and should be provided by healthcare professionals.
Did you know?
- A **frailty index** exists to classify the extent of frailty and functional loss
- Frailty in older adults is not inevitable but often comes before a **sharp decline** in health
- A person is considered frail when they no longer have the **ability or strength** to 'bounce back' from an illness.

Dehydration

→ The risk of dehydration is more pronounced in older adults but for what reasons?

- **Dehydration occurs when there is not enough fluid in the body for it to function properly.**
- **Mainly due to three changes:**

Firstly the body composition changes - older adults have approximately 60% body water compared to 70% in younger adults which is partly due to muscle loss

Kidney function is also reduced, the kidneys play a vital role in fluid regulation

Sensation of thirst is diminished as we age

Other factors: disease states, medications, mental capacity, physical frailty

Dehydration
How recognising signs of dehydration?

- dry mouth and tongue
- muscle cramps
- sleepy or lethargy
- weak pulse - high heart rate (usually over 100 beats per minute)
- low blood pressure
- dizziness or irritability
- Weakness
- delirium, confusion or disorientation
- sunken eyes
- less frequent urination (no output for more than 12 hours)
- concentrated dark-coloured urine (some medications may also lead to colour changes
- palpitations - as a result of the heart trying to maintain blood pressure in a dehydrated state
- complaint of headaches
- low blood pressure
- cold hands and feet

2) Main conditions affecting seniors' health

Dehydration

→ **Maintaining adequate hydration is crucial!**

- Monitoring fluid intake and keeping note of fluid loss
- Adopting an encouraging approach for drinking more among carers, family members etc.
- Tips: making fluids available and within reach at all times, displaying reminders in different places, offering foods that have a high water content

Good hydration! Improving hydration for care home residents

→ https://www.youtube.com/playlist?list=PLWVg00myqsFZOBg7CSFeqGPRurVrppYWP

Dysphagia

It is the medical term for swallowing problems.

The main causes of dysphagia include stroke, dementia, Parkinson's disease, diseases that cause structural changes

Patients with dysphagia are also at risk of dehydration and malnutrition which in turn can increase muscle loss.

→ https://www.youtube.com/watch?v=KNYgbN9SIfk

Recommendations for managing dysphagia?

Dietary modifications - using textured modified foods and thickened fluids

Postural changes - clearance techniques and specific swallowing strategies

→ Follow recommendations from a health professional

Unit 2: Nutrition & Disease

3) Nutrition in mental health well being & physical conditions

What we eat may affect not just our physical health, but also our mental health and wellbeing!

- The importance of good nutritional intake at an early age is explored in multiple studies and is associated with feeling of wellbeing
- The food directly affects the structure and function of the brain and the mood.
- For more information: "Eating well for good health" http://www.fao.org/3/i3261e/i3261e02.pdf

A healthy, balanced diet should include: fruits and vegetables, whole grains, low-fat dairy, lean protein, limited amounts of sodium, saturated fat, and added sugar.

The **Mediterranean Diet** is also considered a beneficial diet for overall health and brain health. It focuses on eating a variety of nutrient-rich foods such as fish, fruits and vegetables, beans, and whole grains. It also limits high-calorie, low-nutrient foods.

Questions to ask your doctor

- How can I use food and nutrition to improve my mood?
- Do I need to change my eating habits to feel better?
- Should I follow a specific diet?

Unit 2: Nutrition & Disease
Quiz

1. Malnutrition occurs when the body:

a) receive an excess of food

b) does not receive an adequate amount of carbohydrates

c) does not receive an adequate amount of water

d) does not receive an adequate intake of vitamins, minerals and nutrients

2. To encourage weight gain, what are the recommendations:

a) providing full-fat versions of food

b) providing oral nutritional supplements

c) nutritional education

d) all the above

3. Older people are more prone to becoming dehydrated because...

a) their kidney function is reduced

b) muscle mass increases in older people

c) their sweat glands become overactive

d) the sensation of thirst is stronger in older people

4. True or False: Disphagia can leads to a risk of dehydration and malnutrition

a) True

b) False

5. ***In you opinion, which of the following are potential causes of malnutrition? Please select the ones that apply:***

a) Altered taste sensation

b) Isolation

c) Increase intake due to medication

d) Altered appetite due to decreased mobility

e) Reduced functionality (i.e. use of ustensils)

f) All the above, which should be marked in green

Unit 3:

Muscle Mass and Eating Behaviour

Section 1 Link between muscle loss and nutritional balanced intake

Sections 2 Main risks of muscle losses for older person

Section 3 How can we do to reduce muscle loss in older adults (Apps for selecting good recipes /the importance to eat organic products)

Unit 3: Muscle Mass and Eating Behaviour
1) Link between muscle loss and nutritional balanced intake

The Loss of muscle mass is a natural process that occurs with advancing age. The volume of the muscles tends to reduce starting from the age of 40, becoming increasingly evident in the third age.

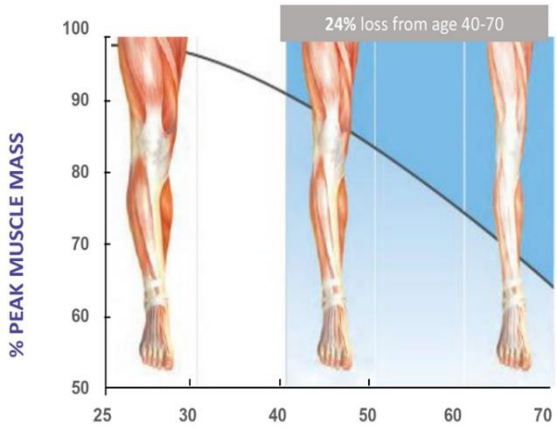
The result is poor physical tone, with a feeling of weakness and, in the most serious cases, limited mobility.

Unit 3: Muscle Mass and Eating Behaviour
1) Link between muscle loss and nutritional balanced intake

- Insufficient or inadequate nutrition can contribute to the loss of muscle mass;
- through a correct, healthy and balanced diet, we must be able to provide our body with adequate energy intake and the right amount of protein;
- a diet low in essential aminoacids affects the synthesis of muscle proteins.
- Vitamin D also plays a significant role in muscle function and the synthesis of new proteins
- So too are the levels of antioxidants, such as beta carotene, that protect the muscles from oxidative damage;
- Last but not least: the omega-3s that decrease the level of tissue inflammation.

Unit 3: Muscle Mass and Eating Behaviour
2) Main risks of muscle losses for older person

- The loss of muscle strength can be about 8% per decade from the age of 45, 20-30% between the ages of 50 and 70, progressively progressing to a loss of 30% per decade after age 70 ;
- at the same time there is an average loss of muscle mass of 1.5-2.5% per year starting from 60 years;
- A rhythm of impoverishment of the muscular heritage that involves halving it within 75 years of age.



Factors which contribute to the process of muscle loss:

1. Level of physical activity
2. Hormonal changes, in particular the decrease of testosterone in males and of estrogens in women
3. Several chronic diseases
4. Malnutrition

Unit 3: Muscle Mass and Eating Behaviour

2) Main risks of muscle losses for older person

The loss of muscle mass (sarcopenia), when it is particularly accentuated, becomes a pathological condition:

- it is the main cause of disability and weakness with impaired quality of life;
- causes unstable equilibrium, inability to climb or descend stairs or take home shopping;
- increases the risk of falls and their severity
- aggravates osteoporosis.

There are various measures that help to counteract and prevent the loss of muscle mass:

In particular, it is essential to adopt a balanced lifestyle, which includes **CONSTANT PHYSICAL ACTIVITY** and proper nutrition, or with the right amount of protein and nutrients.

Unit 3: Muscle Mass and Eating Behaviour

3) How can we do to reduce muscle loss in older adults

PHYSICAL ACTIVITY IS THE NUMBER ONE FACTOR TO KEEP MUSCLES IN HEALTH

The loss of muscle mass is accelerated by the lack of movement and, above all, by the absence of force loads on the muscle.

Strength training not only increases and maintains muscle mass, but also the mineral density of the bones, which is therefore useful for combating osteoporosis.

Therefore in order to slow down both the onset and the evolution of the detriment of the muscles, it is recommended to carry out a constant physical activity.

A FEEDING SUPERIOR OF NUTRIENTS HELPS TO PREVENT THE LOSS OF MUSCLE MASS

A correct diet, which, especially in old age, must provide the right amount of nutrients.

The most important nutritional factors in this regard are:

- Proteins: of which consumption is recommended from 1-1.2 up to 1.4 gr / kg / day;
- Vitamin D and B12: essential for muscle and bone health;
- Avoid an excessively acidic diet: excessive consumption of foods that produce acids (meat and cereals), without adequate compensation of basic foods (vegetables, fruit), increases decalcification and muscle deterioration.

Unit 3: Muscle Mass and Eating Behaviour

3) How can we do to reduce muscle loss in older adults

Recommended recipes

- Orange and lemon veal roast
- Greek lamb ribs
- Tuna steak with sesame seeds
- Chicken trunks with basmati rice
- Rabbit with apples
- Chestnut-filled capon
- Turkey meatballs with beer
- Chicken breast with aromatic herbs
- Pork and lime skewers with avocado
- Cake of provencal cod

Unit 3: Muscle Mass and Eating Behaviour

Quiz

1) When does the loss of muscle mass begin?

a) after 70 years

b) after 40 years

c) after 20 years

d) before 40 years

2) What are the factors influencing the loss of muscle mass?

a) level of physical activity

b) hormonal changes

c) malnutrition and several chronic diseases

d) all the above

3) True or false: Is the loss of muscle mass accelerated by the absence of physical activity?

a) true

b) false

4) Is the loss of muscle mass considered a pathology?

a) Yes

b) not

5) Select one of the options that you considered a good diet to prevent muscle loss:

a) frit juice, meat, sweet and vegetables

b) meat, cereals and vegetables

c) eggs, fish , vegetables, meat, fruit, milk

d) fruit, vegetables, snak, milk , eggs

Unit 4:
Nutrition, Carers and the Community
Section 1 Social care services and community services
Section 2 How to make mealtimes more sociable: nutritional tips and tool for carers
Section 3 Apps & existing technologies for caregivers (websites, digital resources)

Unit 4: Nutrition, Carers and the Community

1) Social care services and community services

In 2017, almost a fifth (19%) of the EU population was made up of people aged 65 and over.

It is expected that the percentage of people aged 80 or over will more than double in 2080 and equal to 13% of the total population.

- 80% of the total care activity provided in the European Union to non self-sufficient people is provided by relatives and friends, with a number of family caregivers amounting to double the number of operators in the social-health system.

- In total there are 100 million caregivers in Europe, of which 2/3 are women.

It is therefore necessary:

- recognize the value of the contribution of caregivers;
- helping caregivers reach their full educational and employment potential;
- customize direct support to caregivers and care recipients;
- helping caregivers stay healthy physically and in the mind.

Unit 4: Nutrition, Carers and the Community

2) How to make mealtimes more sociable: nutritional tips and tool for carers

It is essential that the caregiver, be it a relative or a caregiver, knows the various strategies to prevent the elderly going into malnutrition.

A nutritional model to refer to, even in the geriatric age, is certainly that of the Mediterranean diet.

However, this model in the elderly provides for additions.

In particular, the elderly must pay close attention to the consumption of water that must be maintained (despite the physiological reduction of the sense of thirst) around 1.5 l per day.

- cereals (bread, pasta, rice, spelled, barley ...): presence at each main meal (breakfast, lunch and dinner) (4-5 portions a day).
- fruit and vegetables: the choice should preferably fall on seasonal products, always 4-5 portions a day.
- meat (twice a week red meat and four times white meat 30
- eggs (2-3 times a week)
- fresh cheeses (2-3 times a week).

Alternatively it is possible to consume legumes two / three times a week combining them with cereals in the first dish (example: pasta and beans, rice and peas, pasta and lentils, pasta and chickpeas).

• kitchen salt: even foods without added salt contain enough sodium to cover the daily requirement);

• seasoning fats (olive oil, butter, margarine ...). Among the latter, extra virgin olive oil is preferable, whose presence is expected every day, during the two main meals (lunch and dinner).

Unit 4: Nutrition, Carers and the Community

3) Apps & existing technologies for caregivers (websites, digital resources)

Caring for a family member can be very tiring. Mobile portable devices (mobile phones and tablets) offer the possibility of accessing a wide range of useful apps and sites.

These resources can respond to the main needs of family caregivers and support them in the care activity.

Applications can deal with:

CAREGIVER WELL-BEING: resources dedicated exclusively to the caregiver to promote relaxation and stress management.
HEALTH: resources dedicated to providing information and advice on diseases and health problems common in elderly people, but also tools for controlling parameters (eg pressure, blood sugar, etc.) and for monitoring a therapy (reminder for drugs), as well as resources dedicated to nutrition and diet.
CONTACTS: collection of resources for finding services (eg pharmacies, associations) and useful contacts (eg toll-free numbers, caregiver groups).
SUPPORT: tools and information for disabled and elderly people with motor / physical difficulties.

About nutrition:

Mediterranean Diet App Mdiet :

https://play.google.com/store/apps/details?id= it.milkmaid. mdiet & RDID = it.milkmaid.mdiet

Informative app on the health properties of foods typical of the Mediterranean Diet. Includes a rich recipe section. The "My Diary" function allows you to record your daily, weekly and monthly food route and share it via email.

Drink water reminders:

https://play.google.com/store/apps/details?id= com.northpark.drinkwater&hl=it&rdid= com.northpark.drinkwater

Reminder for the correct intake of water throughout the day based on your body weight. The app sends notifications to remind the user to drink and allows you to monitor habits through graphs and activity logs.

Unit 4: Nutrition, Carers and the Community

Quiz

1) Most of caregivers are...

a) men

b) women

2) How many caregivers are in Europe?

a) 1 million

b) 30 million

c) 100 million

d) 50 million

3) Are digital media important for the elderly?

a) yes

b) not

4) In which way caregivers can help the ederly provide for themselves?

a) the caregivers go shopping for ederly

b) the caregivers help ederly to use new technology to satisfy their own needs and to include them in society

c) the caregivers provide to help ederly to buy and cooking healthy food, in this way they avoid ederly's malnutrition

d) all above

5) What do you think about the role of caregivers?

a) they are indispensable for the society

b) they are not indispensable

c) they already have so many rights, special rules aren't necessary

d) relatives and friends of the elderly are sufficient

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Module 4
Mental health disease in elderly, Cyprus

1

MENTAL HEALTH & Disease in Elderly

MODULE 4

2

Unit 1:

History of Mental Health & Management

3

LEARNING OBJECTIVES

- Upon completion of the course, the learner is expected to be able to:
- Analyze the factors that determine health and individual behavior in health
- Discuss theories and models concerning health promotion interventions in mental health
- Apply screening tools for mental health disease (depression and dementia) in the elderly
- Recognize the key symptoms and signs of mental health disease in the elderly
- Demonstrate communication techniques and individualized care strategies

4

Case study (for self-reflection)

Mr. Jones is a 75 years old and he has been living in a hospice since his wife died five years ago.

-Have you met people like Mr. Jones before?

-What do you think are his most important needs and challenges?

There is no "official" definition of mental health. Cultural differences, subjective assessments, and competing professional theories all affect how "mental health" is defined. In general, most experts agree that "mental health" and "mental illness" are not opposites. In other words, the absence of a recognized mental disorder is not necessarily an indicator of mental health.

Introduction

- “Mental health is a concept that refers to a human individual's emotional and psychological well-being”
- Before you read the content of the course press the button with the learning objectives to learn more
- Mental health definition is: "A state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life."

HISTORY OF MENTAL HEALTH

- By the end of the 17th century and into the Enlightenment, madness was increasingly seen as an organic physical phenomenon, no longer involving the soul or moral responsibility. The mentally ill were typically viewed as insensitive wild animals. Harsh treatment and restraint in chains was seen as therapeutic, helping suppress the animal passions.
- The turn of the 20th century saw the development of psychoanalysis, which came to the fore later. Kraepelin's classification gained popularity, including the separation of mood disorders from what would later be termed schizophrenia
- Asylum superintendents sought to improve the image and medical status of their profession. Asylum "inmates" were increasingly referred to as "patients" and asylums renamed as hospitals. Referring to people as having a "mental illness" dates from this period in the early 20th century

INTERACTIVE THERAPIES AND METHODS OF IMPLEMENTATION

- The twenty first century Psychiatrist moves freely from an understanding of the normal or abnormal mind/brain to thinking about disruption in neural circuits and neurochemistry
- Although the Psychotherapies do not use medications to effect change, they do cause biological changes in the brain/mind that are just as real as physical as those produced by medications.

INTERACTIVE THERAPIES AND METHODS OF IMPLEMENTATION

- Increasingly, Psychotherapists and other Neuroscientists recognize that Psychotherapies capitalized on the fact of brain plasticity and produce long term changes at the neural level. They do so by training the brain to form new connections.

Different types of illness

- Bulimia Nervosa
- Predominantly Compulsive Acts (Obsession Rituals)
- Agoraphobia
- Anxious (Avoidant) Personality Disorder
- Personality Disorders
- *Attention Deficit Hyperactivity Disorder (ADHD)*
- *Bipolar Disorder*
- *Eating Disorders*
- *Social Phobia*
- *Psychosis – Schizophrenia*
- *Dementia*
- *Depression*
- *Mood Disorders –Bipolar Disorder*
- *Personality Disorders*

Case Study

Mr. Jones is often complaining that he is not given enough food although in fact his food is always left untouched by his bedside.

He is also often seen crying during the night and not wishing to get out of bed next morning

-Do you think these are common issues?

-What do you think are the reasons for his behavior?

-What risk factors predispose for such symptoms?

Activity 1. Health promotion interventions

1. The definition of 'mental health' is likely to be affected by:

a. Subjective estimations and assessment results

b. Cultural factors

c. Both a and b

2. According to contemporary Psychiatric approaches, mental health disorders are attributed to:

a. Brain abnormalities

b. Neural disruptions

c. Abuse of medicine

3. Modern Psychotherapy aims at:

a. Training the brain to form new neural connections

b. Mitigating brain damage

c. Preventing mental health illnesses

4. The 3 D's of mental health disorders refer to:

a. Deficit of Attention, Depression, Delirium

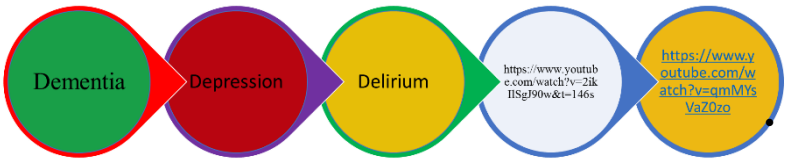
b. Dementia, Depression, Delirium

c. Delirium, Disorder of personality, Disorder of behaviour

Unit 2:

The 3Ds of old age

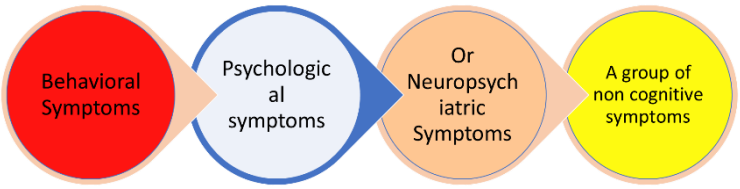
The 3D's Dementia -Depression -Delirium



Epidemiology of Dementia

- Estimated that 1.3% of the entire UK population, or 7.1% of those aged 65 or over, have dementia.
- An estimated number of 19,765 people living with dementia in Northern Ireland.
- A clinical syndrome includes a variety of underlying pathophysiological processes. Most common
- Alzheimer's disease (50-75%)
- Vascular dementia (20%),
- Dementia with Lewy bodies (5%)
- Frontotemporal lobar dementia (5%).
- The symptoms make people with dementia more dependent and vulnerable, both socially and in terms of physical and mental health, presenting evolving challenges to society and to our healthcare systems.

Symptoms of Dementia



Neuropsychiatric Symptoms of Dementia

Classification of Dementia

DSM-IV-TR and ICD-10 consists that dementia has features like gradual and multiple cognitive deficits (involving memory and at least one additional cognitive domain) not occurring exclusively during delirium and representing a decline from a previous level of functioning (American Psychiatric Association, 1994).

Dementia may code as Alzheimer disease, AD) in axis III and specific mental disorders (e.g., mood or psychotic disorder) in axis I American Psychiatric Association (1994).

Disturbances in emotional experience

Depression frequently masked by dementia, feelings of sadness, unhappiness, and preoccupation with depressing topics, hopeless (strongly associated with suicidal ideation) and loss of self-esteem (Prado-Jean et al., 2010).

anhedonia (lost of interest in previous pleasurable stimuli),

expression of somatic concerns and anxiety, a subjective unpleasant experience of fear manifested as apprehension, tension, panic, or worry associated with autonomic activation and observable physical and motor manifestations of tension. Apathy LACK of motivation with additional loss or diminished goal-directed behaviors, cognitive activities and emotions (Robert et al., 2009). Elated mood, ranging from hypomania to severe mania, cheerfulness, euphoria that is out of proportion to the circumstances often associated with a heightened emotional tone or emotional reactivity, irritability, hunger, sleepiness, and pain, rapid emotional shifts, within seconds or minutes.

Delusions and abnormal thought content

Delusional ideas (false believes strongly held, enduring, and irrefutable) The delusions are typically less complex and organized than those observed in non-demented psychotic patients and the usual content of delusional thoughts involves suspiciousness, abandonment, and misidentification (Jeste et al., 2006).

Examples include the conviction that: people are coming into the home and hiding/stealing objects, the newspaper is writing for him or the conviction that spouse is an impostor accusation of a conspiracy to abandon or institutionalize; conviction that spouse is unfaithful (Tariot et al., 1995).

When associated with severe depression, delusional thoughts can involve guilt, worthless, reference, and persecution.

Perceptual disturbances

Is difficult to ascertain whether the perceptual disturbance is an illusion or whether the patient is having a perception in the absence of sensory stimuli (hallucination).

Visual hallucinations are common in dementia with Lewy bodies (DLB). They are recurrent, and typically consist of well-formed images of animals or persons that the patient describes in detail (McKeith et al., 2005).

Disturbances in motor function

M*otor retardation* (slowed movements and speech, reduced body tone, and decreased number of spontaneous body movements, whereas *motor hyperactivity* is characterized by an increased energy level with more frequent movements and/or rapid speech).

Agitation- repetitive, purposeless behaviors, social inappropriate activities (tendency to disregard social and cultural norms and not restrain inner feelings, such as sexual drives) (Cohen-Mansfield et al., 2010) 4 categories of agitation are: (1) physically non-aggressive behavior; (2) verbally non-aggressive behavior; (3) physically aggressive behavior; and (4) verbally aggressive behavior.

Circadian rhythms & Appetite and eating behavior

Sleep pattern changes IS prevalent (hypersomnia, insomnia, sleep-wake cycle reversal, fragmented sleep, and rapid eye movement sleep behavior disorder, daytime napping and night-time awakenings associated with poor quality of sleep (Rongve et al., 2010)

Appetite changes (anorexia or hyperphagia) or (preference for particular foods associated or not to changes in taste).

Preference for sweets is particularly frequent in fronto-temporal dementia. Weight LOST due to hypermetabolism and inflammatory processes, in relation with hormonal disturbances.

ASSESMENT OF DEMENTIA

Non-pharmacological interventions

Cognitive/emotion-oriented interventions

(reminiscence therapy, simulated presence therapy, validation therapy)

Sensory stimulation interventions (acupuncture, aromatherapy, light therapy, massage/touch, music and environmental modification (Weitzel et al., 2011). (O'Neil ME et ., al 2011)

Behavior management techniques

Other psychosocial interventions such as animal-assisted therapy and exercise.

Individually psycho-educational interventions are long-lasting (Livingston et al., 2005).

Specialized nursing homes includes trained staffing, a modified physical environment, and family involvement (Lai et al., 2009).

Pharmacological interventions

Typical and atypical antipsychotics, shown efficacy in treating specific symptoms, such as aggression, psychosis, and agitation (Ballard et al., 2008; Gauthier et al., 2010)

Causes serious side effects, including extrapyramidal symptoms, sedation, tardive dyskinesia, gait disturbances, falls, anticholinergic side effects, cerebrovascular events, and increased mortality, antipsychotic are still widely used off-label (Azermai et al., 2011). Risperidone, olanzapine, and haloperidol appear to be more effective for managing BPSD (Azermai et al., 2011). A recent study on dementia patients reported a 1.5-fold increase in mortality associated with the use of haloperidol, compared to risperidone, olanzapine or quetiapine. The therapy should be time-limited and a careful individual evaluation is recommended due to increased risk of stroke and mortality.

Antidepressants for depression, with efficacy especially for the selective serotonin reuptake inhibitors (SSRIs, Gauthier et al., 2010).

Citalopram and sertraline could improve symptoms of agitation and psychosis in subjects with dementia (Gauthier et al., 2010, Seitz et al., 2011). Citalopram was effective in treating disinhibition, irritability and depression and also behaviors specific to FTD (Herrmann et al., 2011).

Benzodiazepines may be used at short-term for acute agitation or agitation associated with anxiety (Azermai et al., 2011).

Cholinergic inhibitors IMPOVE the behavioral symptoms apathy, depression, and aberrant motor behavior (Cummings, 2004).

Screening for Dementia Patient Assessment

- Lee Hyer Mercer University School of Medicine
- https://www.youtube.com/watch?v=_hRBPrfDQVI

Epidemiology of depression in Elderly people

- A survey in 997 elderly people that are living in the community found that the rate of:
- Significant dysphoric symptomatology was 14.7%.
- dysphoric symptoms only, 4.5%
- 3.7% had symptoms of a major depressive disorder,
- 6.5% had depressive symptoms associated with impaired physical health.
- The frequency of widowhood, impairment in social resources, and impairment in economic resources was greater for those with symptoms of a major depressive disorder).

- The most common diseases seen during elderliness is depression
- Depression and subsyndromal depressive indications are reported between 1 and 4% (approximately 3%) and 10 and 15%, respectively
- [Thomas AJ, O'Brien JT. Mood disorders in the elderly. Psychiatry. 2009; 8:56–60, Blazer DG. Depression in late life: review and commentary. FOCUS The Journal of Life Long Learning in Psychiatry. 2009;7:118–136]
- Depression might be a part of a unipolar depressive disorder it can appear for the first time in this period.
- The definition of late life depression is used for the major depressive disorder which appears for the first time at the age of 60 or later

The neurobiology of depression in later-life: clinical, neuropsychological, neuroimaging and pathophysiological features.*Naismith SL, Norrie LM, Mowszowski L, Hickie IB Prog Neurobiol. 2012 Jul; 98(1):99-143.*

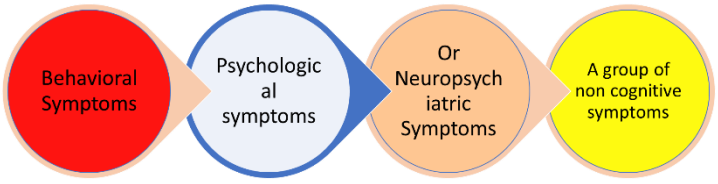
Causes of Depression in Elder age

- Advancing of age, being a female, living alone, divorcement, low education level, functionality disorder, comorbid physical illness, low level cognitive dysfunction, cigarette and alcohol use
- More often observed in females than in males
- The presence of brain white matter changes
- Is related to loss of life purpose, separation
- Health problems, self-care and economic problems.
- Existence of stress factors, and Medication
- Loss of the spouse followed by the existence of a chronic disorder
- Low life satisfaction, functionality conditions, reduction in intellectual skills, social inhibition and inversed emotional stability
- perception of low health increased depression risk, Physical Diseases like Cerebrovascular Diseases, Diabetes, Thyroid, Diseases, Parkinson Disease, Cancer

Basic differences between late onset depression and early onset depression

Variables	Late onset depression	Early onset depression
Rate of cardiovascular diseases	High	Low
Familial depression	Low	High
Comorbid psychiatric disease	Low	High
White matter abnormality	High	Low
Executive dysfunction	High	Low
Suicide	High	Low
Apathy and psychomotor changes	High	Low

Symptoms of Depression in elderly people



The usual Questions to recognize depression

- Have you lost interest in the activities you used to enjoy?
- Do you struggle with feelings of helplessness and hopelessness?
- Are you finding it harder and harder to get through the day?
- Depression can happen to any of us as we age, regardless of our background or achievements.
- But depression is far from an inevitable part of getting older.

Major Depressive Disorder (MDD) symptoms

- The main symptoms of major depressive disorder are:
- Depressive mood and loss of interest/desire and/or difficulty in enjoying life (anhedonia).
- Excessive or unsuitable feeling of guilt
- Retardation in emotions or thoughts (psychomotor retardation) or agitation

Tiredness, fatigue, loss of energy, suicide thoughts and attempts, decrease in attention and concentration, instability, change in appetite and sleep disorders Pessimism, hopelessness, anxiety, absence of sexual desire and somatic symptoms such as head and back aches can be found in depressive disorder.

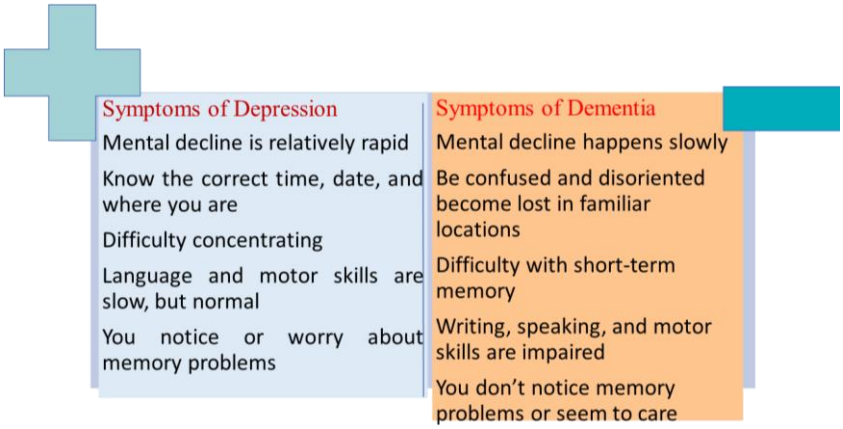
Depressive Disorder (MDD) symptoms

- Sadness or feelings of despair
- Unexplained or aggravated aches and pains
- Slowed movement or speech
- Fixation on death
- Memory problems

Medications that can cause or worsen depression

- Blood pressure medication (e.g. clonidine)
- Beta-blockers (e.g. Lopressor, Inderal)
- High-cholesterol drugs (e.g. Lipitor, Mevacor, Zocor)
- Tranquilizers (e.g. Valium, Xanax, Halcion)
- Calcium-channel blockers
- Medication for Parkinson's disease
- Sleeping pills
- Ulcer medication (e.g. Zantac, Tagamet)
- Heart drugs containing reserpine
- Steroids (e.g. cortisone and prednisone)
- Painkillers and arthritis drugs
- Estrogens (e.g. Premarin, Prempro)
- Anticholinergic drugs used to treat GI disorders

Is it Depression or Dementia?



- Whether cognitive decline is caused by dementia or depression, it's important to see a doctor right away.
- If it's depression, memory, concentration, and energy will bounce back with treatment.
- Treatment for dementia will also improve your quality of life.
- And in some types of dementia, symptoms can be reversed, halted, or slowed.

Activity 2. Screening tools for mental health disease

1. The symptoms of Dementia can be:

a. B _ _ a _ _ _ _ _ _ l

b. _ s _ _ _ _ _ o_ _ _ _ _

c. N _ _ _ _ p _ _ _ _ _ _ _ _ _c

d. N _ _ - C _ _ _ _ _ _ _ _

(Correct answers: Behavioural, Psychological, Neuropsychiatric, Non-Cognitive)

2. Depression can be diagnosed by assessing the patient's:

a. E _ _ _ _ o _ _ _ i _ _ _ _ b _ _ _ _ y

b. _ _ w s _ _ _ - _ _ _ _ e _

c. L _ _ _ of i _ _ _ _ _ s _

d. _ a _ _ _ g or s _ _ _ _ _ _ g d _ _ _ _ _ _ _ s

(Correct answers: Emotional instability, Low self-esteem, Loss of interest, Eating or sleeping disorders)

3. Non-pharmacological interventions to dementia and depression include:

a. C _ _ _ i _ _ v _ / e _ _ t _ _ _ - o _ _ _ _ _ _ d interventions

b. B _ _ _ v _ _ _ r m _ _ _ g _ _ _ _ t t _ _ _ n _ _ _ e _

c. _ s _ _ _ o - _ d _ _ _ t _ _ _ _ l interventions

d. Specialized n _ _ _ _ _ g h _ _ _ s

(Correct answers: Cognitive/ emotion-oriented interventions, Behavioural management techniques, Psycho-educational interventions, Specialized nursing homes)

4. Pharmacological interventions to dementia and depression include:

a. A _ _ _ - _ s _ _ _ _ _ _ c _

b. _ _ _ i – d _ _ _ _ _ _ a _ _ s

c. B _ _ _ o _ _ _ _ _ _ i _ _ _

d. C _ _ _ _ n _ _ _ _ c inhibitors

(Correct answers: Anti-psychotics, Anti-depressants, Benzodiazepines, Cholinergic inhibitors)

Unit 3:

Treatment options of 3Ds

BIOLOGICAL Factors (Biological Model)

Being physically fit	• Reduce or eliminate smoking eat balanced meals with decreased fat, salt, and Sugar, do not skip breakfast • Reduce or eliminate alcohol consumption • Exercise 3 times a week per 30 minutes • Obtain enough sleep (7-8 hours per 24 hours) • Spend time gardening • Exercise outside by hiking walking in a sun
Fight 0r flight syndrome	• Changing our perspective we can often perceive and accept more personal control for life and fight for the problems that we are facing • If you avoid the problem, (flight) the problem remains and we will find it again

Self-help for elderly depression - giving support

- It's a myth to think that after a certain age older adults can't learn new skills, try new activities, or make fresh lifestyle changes.
- Human brain never stops changing, so as an older adult, you're just as capable as a young person of learning new things and adapting to new ideas that can help you recover from depression.
- Overcoming depression involves finding new things you enjoy, learning to adapt to change, staying physically and socially active, and feeling connected to your community and loved ones.
- Of course, when you're depressed, taking action and putting self-help steps into action can be hard.
- DO Small steps THAT makes a big difference to how you feel
- Taking a short walk, for example, is something you can do right now—and it can boost your mood for the next two hours.
- taking small steps day by day, your depression symptoms will ease and you'll find yourself feeling more energetic and hopeful again.

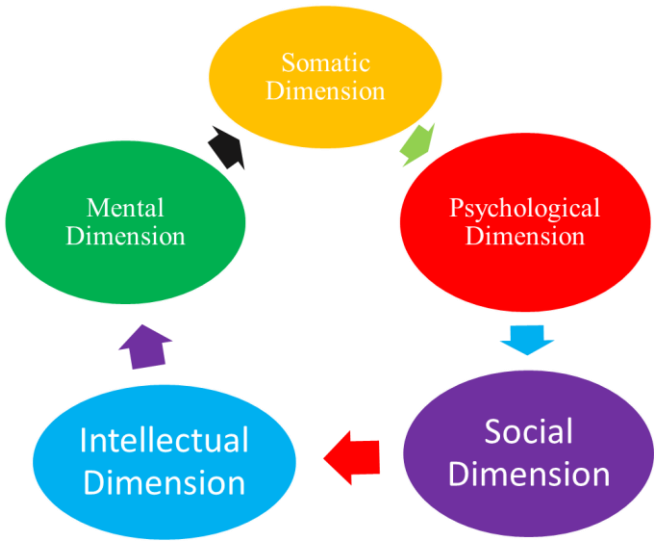
(Spirituality- Calm- Wellbeing)

Balance your Life (work-free time- Sleep)

Increase every day physical activity

Take the Brushes and paint your life as **YOU** wish

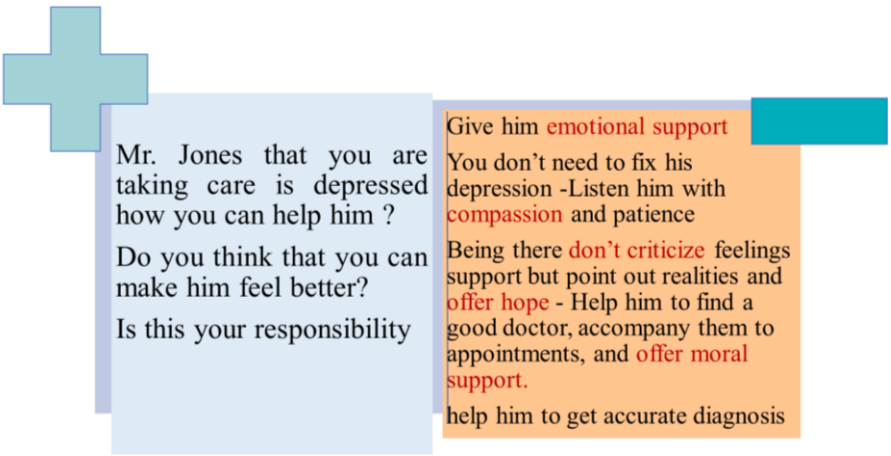
Implementation of coping response based on Individual Needs



Intervention – giving support to Depression

- Social support networking
- Everyone needs social support, which is a need of belonging, of being accepted, of being loved or of being needed. Social support can be provided by family members, friends, lovers and anyone who can give social support and can help and protect an individual from the negative consequences of depression.
- Make an effort to connect to others and limit the time you're alone. If you can't get out to socialize, invite loved ones to visit you, or keep in touch over the phone or email.
- it's never too late to build new friendships. Start by joining a senior center, a book club, or another group of people with similar interests.

Case study: – giving support



Types of psychosocial therapy

- Behavior therapy
- Cognitive-behaviour therapy (CBT)
- Individual therapy
  - Classical psychoanalysis
  - Psychodynamic psychotherapy
  - Insight-oriented psychotherapy
  - Relationship psychotherapy
  - Interpersonal psychotherapy
- Group therapy
- Marital therapy
- Family therapy
- Social skills training

Antidepressants

- The primary indication for antidepressants is the treatment of major depression.
- The effectiveness of anti-depressants is unquestioned, and approximately 65-70% of patients receiving an antidepressant will respond within 6 weeks.
- Although adverse effects appear within days of starting a drug, therapeutic effects may require 2-4 weeks to become apparent.
- Improvement should be monitored by following up target symptoms (e.g., mood, energy, appetite).
- Patients with heart rhythm disturbances should be given one of the newer antidepressants that does not affect cardiac conduction (e.g., bupropion, mirtazapine, or an SRI).
- A serotonin reuptake inhibitor (SRI) should be used initially tricyclic antidepressants (TCAs) and the other agents should be reserved for nonresponders.
- Doses should be carefully adjusted, and each drug trial should last 4-8 weeks.
- SRIs generally are given once daily. TCAs can be administered as a single dose, usually as bedtime. Monoamine oxidase inhibitors (MAOIs) usually are prescribed twice daily but not at bedtime because they can cause insomnia. Bupropion is administered in two to three divided doses to minimize its propensity to cause seizures.
- When possible, SRI should be tapered (except for fluoxetine because of its long half life) because they induce withdrawal syndromes in some patients. TCAs also should be tapered slowly (e.g., weeks to months) because of their tendency to cause withdrawal reactions.
- The co-administration of two different antidepressants does not boost efficacy and will only worsen side effects.

Case study

Mr. Jones is already taking a lot of different medication and he finds it difficult to take more. He is worried about the side effects. He is also feeling very uncomfortable and embarrassed with the prospect of talking to psychiatrist – psychologists

-Do you think these are common challenges in your country too?

-Can you think of ways to make Mr. Jones more positive towards receiving mental health care?

Antidepressant risk factors

- Older adults are more sensitive to drug side effects and vulnerable to interactions with other medicines they're taking.
- Studies have also found that SSRIs such as Prozac can cause rapid bone loss and a higher risk for fractures and falls.
- Elderly adults on antidepressants should be carefully monitored that's why healthy lifestyle changes, such as exercise, can be as effective as antidepressants, without the dangerous side effects.

Epidemiology of Delusion

- Elderly patients have increased risk to develop psychotic symptoms. Surveys reveal mental and behavioral disturbances in elderly residents (Larco et al., 1997)
- An Epidemiologic Catchment Area (ECA) study refer to a range of psychoses from 16% to 23% in an older population (Myers et al., 1984)
- Christensen and Blazer (1984) recognize paranoid symptoms in 4% of 997 older adults in their community survey
- Recent survey of over 5000 elderly residents (over age 65 years) in Utah identified behavioral disturbances in 61% of the patients with dementia (4 times greater than in age-matched, non demented community residents) (Lyketsos et al., 2000)
- A survey of a long-term care facility, 91% of 80 subjects had at least 1 psychiatric diagnosis & 50% had 4 or more behavioral problems (Tariot et al., 1993)
- The prevalence of delirium is reported to be 11% to 24% in elderly patients at the time of hospital admission, although it has been reported in a much higher percentage of postsurgical patients (Fann et al., 2000)

Coexistence of Psychotic symptoms

- The coexistence of psychotic symptoms usually occur in patients with moderate-to-severe memory disorder who may have other medical problems and can be taking several medications complicates an already fragile treatment situation in an older patient (Thorpe et al., 1997)
- More than 50% of patients with dementia of the Alzheimer's type manifest psychotic symptoms during the course of this progressive illness, and behavioral disturbance up to 70% (Lyketsos et al., 2000)
- Several prescribed medications can also produce psychotic symptoms in elderly patients

DSM-IV Diagnoses Associated with Psychoses in the elderly

Delirium
Schizophrenia
Delusional disorder
Mood disorder
Dementia (every type)
Substance abuse
Metabolic disturbances
Chronic medical conditions
Neurologic conditions
Drug-induced psychosis

Early recognition of Delirium

- Is important because its persistence can contribute to increased morbidity and mortality.
- Personality changes, irritability, distractibility, and loosening of associations may precede the changes in consciousness that tend to characterize delirious patients.
- Farrell and Ganzini [1995] reported that more than 40% of elderly patients evaluated for depressive disorder and actually had delirium.
- Cameron et al., (1986) refers that only 1 in 20 cases of delirium was actually recorded.

Delirium

Is an acute, reversible state of confusion characterized by:

- changes in cognition and consciousness that is frequently unrecognized or misdiagnosed in an elderly population.
- disorientation, an inability to focus or sustain attention, impaired memory, perceptual disturbances (delusions and hallucinations), psychomotor changes of hypoactivity or hyperactivity, labile mood, anxiety, impaired speech, sleep/wake impairment, and disruptive behavior.
- Delirium may be superimposed on other neuropsychiatric conditions such as schizophrenia, depression, or dementia, which can obscure its identification. However, the key distinguishing feature of delirium is reduced alertness (clouded consciousness) in which it is difficult for the patient to sustain attention.
- In elderly patients, the symptoms are most pronounced in the evening, yielding a "sundowning" syndrome characterized by incoherence and confused, illogical behaviors, which can lead to injury.
- Delirium in elderly patients: evaluation and management.

Management of Delirium

- Identify the underlying causative factors and treated
- Not add medications during delirium since it might further complicate the clinical picture,
- Low doses of atypical antipsychotics can be helpful in regaining behavioral control and reducing agitation.
- It is important to monitor the ongoing clinical status of the patient with delirium.
- Brief neuropsychological assessment tools may facilitate the serial monitoring of delirious patients.

DSM-IV Diagnoses Associated with Psychoses in the elderly

Delirium
Schizophrenia
Delusional disorder
Mood disorder
Dementia (every type)
Substance abuse
Metabolic disturbances
Chronic medical conditions
Neurologic conditions
Drug-induced psychosis

Delirium

Is an acute, reversible state of confusion characterized by:

- changes in cognition and consciousness that is frequently unrecognized or misdiagnosed in an elderly population.
- disorientation, an inability to focus or sustain attention, impaired memory, perceptual disturbances (delusions and hallucinations), psychomotor changes of hypoactivity or hyperactivity, labile mood, anxiety, impaired speech, sleep/wake impairment, and disruptive behavior.
- Delirium may be superimposed on other neuropsychiatric conditions such as schizophrenia, depression, or dementia, which can obscure its identification. However, the key distinguishing feature of delirium is reduced alertness (clouded consciousness) in which it is difficult for the patient to sustain attention.
- In elderly patients, the symptoms are most pronounced in the evening, yielding a "sundowning" syndrome characterized by incoherence and confused, illogical behaviors, which can lead to injury.
- Delirium in elderly patients: evaluation and management.

Management of psychosis in elderly

- Psychosis in the elderly is accompanied by behavioral disturbances including agitation and uncooperative behavior.
- The early recognition of emerging psychotic symptoms, will reduce morbidity and improve the quality of life for these patients.
- Atypical antipsychotic medications (clozapine, quetiapine, olanzapine, risperidone, ziprasidone) offers a group of drugs that are very effective in managing psychotic symptoms, yet have a low liability for the development of extrapyramidal symptoms (watching for orthostasis, dizziness, and sedation).

Pharmacological Treatment

- Psychotropic Medication
- Anxiolytic and Antidepressants Medication
- Anticonvulsant Medication
- Cholinergic Medication

Management of Hallucination

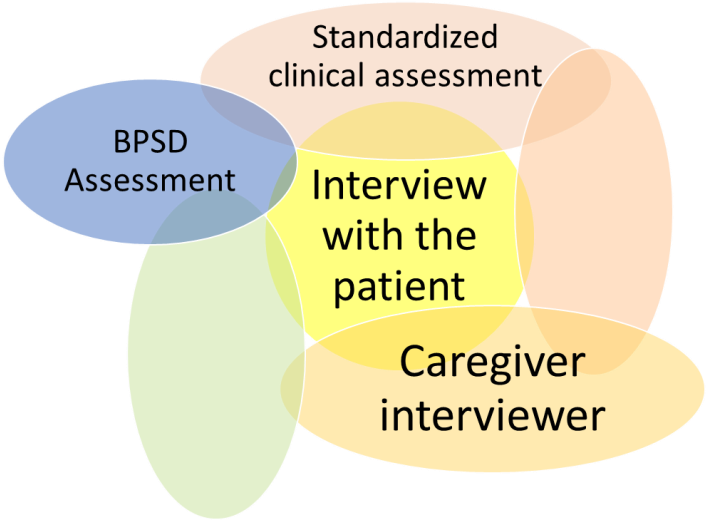
- See the video below and try to understand the symptoms that are usually the patient with hallucination have
- https://www.youtube.com/watch?v=cpV57QGdU7I

Dementia caregiving Delusion and Hallucination

- Recognize the symptoms of Delusion and Hallucination and understand the way that you can manage those symptoms
- https://www.youtube.com/watch?v=mUe8yCVJoUs

With the right support, treatment, and self-help strategies you can boost the way you feel, cope better with life's changes, and make your senior years a healthy, happy, and fulfilling time Ways to change- Ways to manage the ageing
USUAL INTERACTIVE THERAPIES AND METHODS OF IMPLEMENTATION FOR MENTAL HEALTH PROBLEMS IN ELDERLY PEOPLE

Clinical Assessment in Elderly people



Activity 3. Recognition of mental health disease

1. Match the following:
(Correct answers: Dementia: b, d, f, g, h. Depression: a, c, e, i, j)

a. Rapid mental decline	**Dementia**
a. Disorientation in time and space	
b. Worrying about memory problems	
c. Short-term memory problems	
d. Concentration difficulties	
e. Writing/ speaking/ motor impairments	**Depression**
a. Not noticing memory problems	
b. Slow mental decline	
c. Orientation in space and time	
d. Slow –yet normal- language and motor skills	

2 Match the following:
(Correct answers: Delirium: a, c, d, f, i. Psychosis: b, e, g, h, j)

a. Reversible confusion	**Delirium**
a. Agitation and uncooperative behaviour	
b. Paranoid symptoms	
c. Changes in cognition and consciousness	
d. Severe memory disorder	
e. Attention and memory deficits	**Psychosis**
a. Delusions and hallucinations	
b. Can be caused by severe medication	
c. Illogical behaviour, self-injury	
d. Metabolic disturbances	

Unit 4:

Psychosocial Support and Integration for the Elderly

BEHAVIOURAL THERAPY (BT)

- Derive from British empiricism, Pavlov's studies on conditioning, and subsequent research on stimulus-response relationships such as Skinner, Wolpe, and Eysenck.
- BT is based on the principles of learning theory, including operant and classical conditioning

- Operant conditioning is based on the premise that behaviour is shaped by its consequences; that is , if behaviour is positively reinforced it will increase, if it is punished it will decreased, and if it elicits no response it will be extinguished.
- Classical conditioning is based on the premise that behaviour is shaped by its being coupled with or uncoupled from anxiety provoking stimuli.

- Just as Pavlov's dogs were conditioned to salivate at the sound of a bell once the bell had become associated with meat, a person can be condition to fell fear in neutral situations that have come to be associated with anxiety.
- Uncouple the anxiety from the situation, and avoidant and anxious behaviour will decrease
- Behaviorists stress the importance of working with objective observable phenomena usually referred behaviour.

BEHAVIOURAL THERAPY (BT)

- In contrast to psychodynamic psychotherapies, behavioral techniques do not necessarily help the patient to understand his or her emotion or motivations.
- Instead of working on patient's feelings or thoughts the behavioural therapist work on ***what the patient does.***
- BT approaches are particularly effective for disorders that are associated with clearly abnormal behavioural patterns in need of correction.
- These disorders include alcohol and drug abuse, eating disorders, anxiety disorders, and particularly phobias and obsessive – compulsive behaviour.

Flooding

- **Teaching patients to extinguish anxiety produced by a feared stimulus through placing them in continuous contact with the stimulus and helping them learn that the stimulus does not in fact lead to any feared consequences.**
- **The patient with a fear of snakes may be requested to go to the zoo and stand in front of the snake cage until his or her anxiety in completely gone.**

BEHAVIOURAL THERAPY (BT)

- **Cognitive therapy.** Cognitive therapy is based on the theory that behaviour is secondary to the way in which individuals think about themselves and their roles in the world. Maladaptive behaviour is secondary to ingrained, stereotyped thoughts, which can lead to cognitive distortions or errors in thinking.

BEHAVIOURAL THERAPY (BT)

- Interpersonal therapy (IPT). IPT is a short-term psychotherapy, from 12-16 weeks, developed specifically for the treatment of nonbipolar, nonpsychotic depression. Emphasis is on strategies to improve the patient's interpersonal life.
- Group therapy. range from those that emphasize support and an increase in social skills, to those that emphasize specific symptomatic relief.

The most established forms of BT

- Relaxation training
- Systematic desensitization
- Flooding
- Behavioral modification techniques

Social Skills Training (SST)

- SST is a specific type of psychotherapy that focuses primarily on developing abilities in coping with the demands of daily life. It is used primarily for patients with severe mental illnesses, such as schizophrenia, which are often accompanied by marked impairments in social skills.
- Social skills training may be done initially on an inpatient basis, but the bulk of the effort is typically done with outpatients because the long-term goal of social skills training is to assist patients in learning to live in the real world.

Activity 4.

Communication techniques and individualized care strategies for mental health disease

1. *Fill-in the blanks:*

It is a _____ to think that after a certain age older adults can't learn new _____, try new _____, or make fresh lifestyle _____. Human brain never stops _____.

Overcoming depression involves finding new things you _____, learning to _____ to change, staying physically and socially _____, and feeling connected to your _____ and loved ones.

(Correct answers: myth, skills, activities, changes, changing, enjoy, adapt, active, community)

2. *Fill-in the blanks:*

_____ therapy is based on the theory that behaviour is secondary to the way in which individuals think about themselves and their _____ in the world. Maladaptive _____ is secondary to ingrained, stereotyped thoughts, which can lead to cognitive _____ or errors in thinking.

_____ therapy is a short-term psychotherapy, from 12-16 _____, developed specifically for the treatment of non-bipolar, non-psychotic depression. Emphasis is on strategies to improve the patient's _____ life and everyday skills.

(Correct answers: Cognitive, roles, distortions, Interpersonal weeks, interpersonal)

3*. Fill-in the blanks:*

_____ therapies range from those that emphasize support and an increase in social skills, to those that emphasize specific symptomatic _____.

_____ _____ training is a specific type of psychotherapy that focuses primarily on developing abilities in coping with the demands of daily life. It is used primarily for patients with severe mental illnesses, such as _____, which are often accompanied by marked impairments in _____ skills.

(Correct answers: Group, relief, Social skills, schizophrenia, social)

Interactive therapies and methods of implementation

References

- Introductory Textbook of Psychiatry
- By Andreansen, C. N., Black, D. W.
- Clinical Psychiatry, Prof. Madianos, M.
- Emedicine.com, Psychiatry ver:7.0.18/2004.12.14
- Pocket Handbook of Clinical Psychiatry by Kaplan H. I., Sadock, B. J.

The Handbook of Psychiatry, Senior Editor: Guze, B. Editors: Richeimer, S., Siegel, D. J.

Somatic treatments Psychopharmacology and other therapies

References

- Introductory Textbook of Psychiatry, By Andreansen, C. N., Black, D. W.
- Clinical Psychiatry, Prof. Madianos, M.
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Module 5
Cardiovascular health and disease in the elderly, Cyprus

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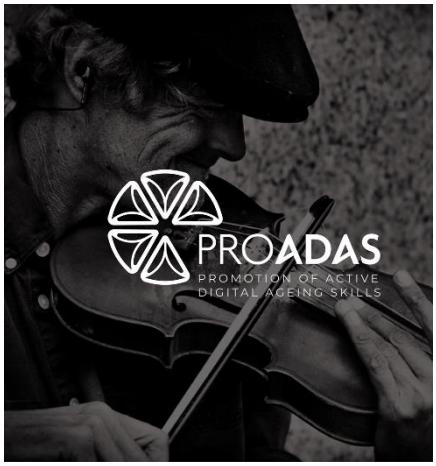


Cardiovascular Health and Disease in the elderly

MODULE 5

2

European University Cyprus

Cardiovascular Health and Disease

3

Learning objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk

4

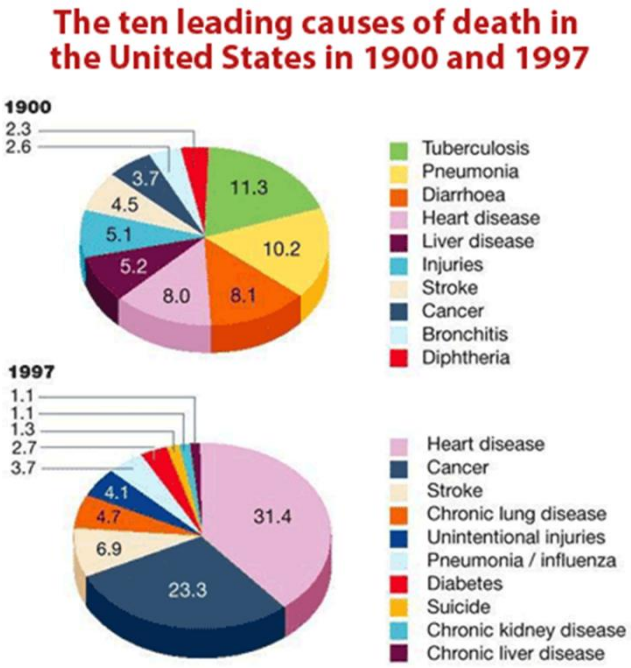
Unit 1

- Definitions – what is cardiovascular disease and why is it important?

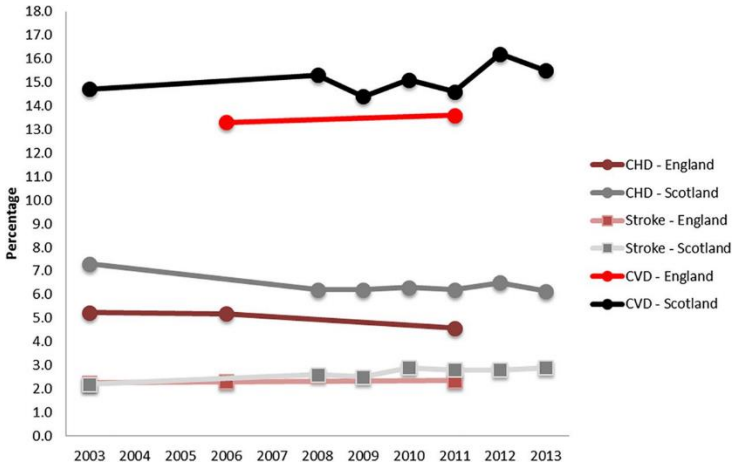
Learning objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk

Heart disease is the most common cause of death in USA, EU and other high income countries.

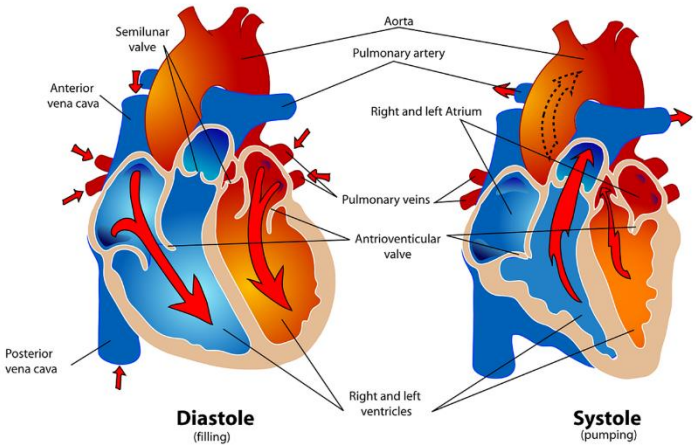


Despite technological improvements, it is still difficult to lower the risk of people over 65 that develop coronary heart disease, strokes or cardiovascular disease in general.



Cardiovascular system

- The system that pumps blood and therefore regulates oxygen flow to the tissues of the body
- All functions of the body require the function of the cardiovascular system
- The cardiovascular system consists of a pump (the heart) and the vessels the move the blood from the heart to the organs (arteries) and back to the heart (veins)
- Every minute the heart beats and the blood movers to the tissues and back to the heart 60-100 times, faster than once per second!!!
- Death is in fact defined by the irreversible / permanent stop in the function of the cardiovascular system



Aging and sensory defects

- Unfortunately, as we get older, all our senses tend to decline
- This is a very important cause of fragility / frailty in the elderly (see relevant module for details)
- Please have a look at the following short video for more information:
- https://www.youtube.com/watch?v=sTDhtdP10cI (6.42 minutes)
- While you study the video, consider these questions
- 1. Which physiological changes are “normal” while aging?
- 2. Are there ways / means to minimize the sensory loss due to aging?

Cardiovascular system and aging

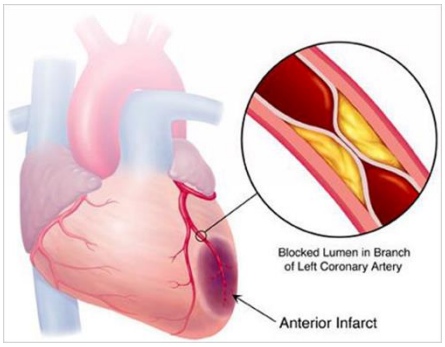
- As is true for all tissues, the cardiovascular system also changes as we age
- The vessels tend to become more stiff and less resistant to damage / injury than before – this is the reason why blood pressure slowly rises as we get older, resulting in the disease of **arterial hypertension**, which is very common in elderly people
- The heart also gets progressively weaker, meaning that it has less power to pump the blood to the rest of the body, a condition known as **heart failure**

Cardiovascular system changes in the elderly

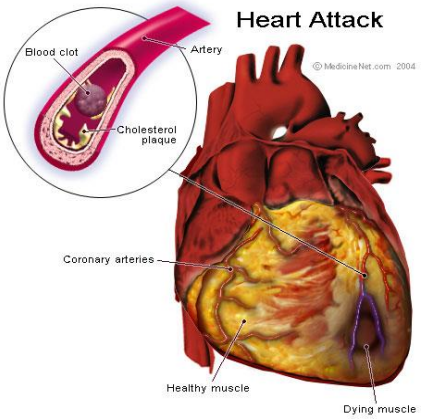
- Please have a look at the following video:
- https://www.youtube.com/watch?v=p3d5RmQ6uRA (11.3 minutes)
- While watching the video, please consider the following questions
- 1. In what ways is the cardiovascular system of the elderly different?
- 2. Are the age-related changes in the cardiovascular system the same for all people?
- 3. How do these changes relate to the development of disease?

Cardiovascular disease occurs whenever the flow of blood to an organ is obstructed, usually by a ruptured atheromatous plaque.

This can happen in any part of the body, including the heart (coronary disease / myocardial infraction), the brain (stroke), the lower limbs (peripheral arterial obstruction) and the eyes (acute blindness).

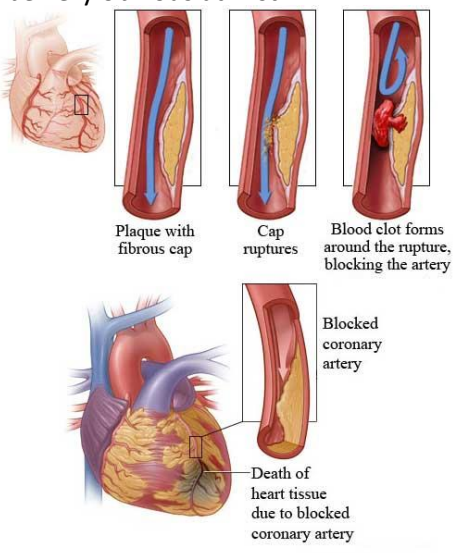


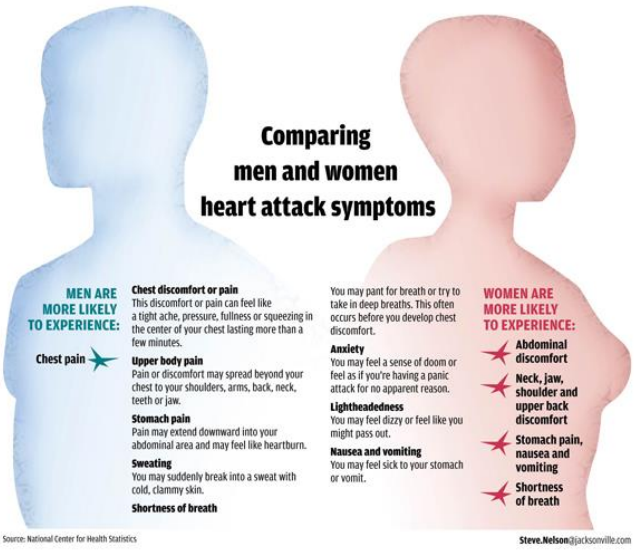
The heart takes blood from the left and right coronary artery. When one of them or a smaller branch is occluded this results in coronary heart disease / myocardial infraction



A sudden pain on the chest, especially combined with sweat and radiation to the upper limb or back is suspicious for a heart attack. An ECG and a rapid test can be performed by a doctor/nurse to confirm the suspicion.

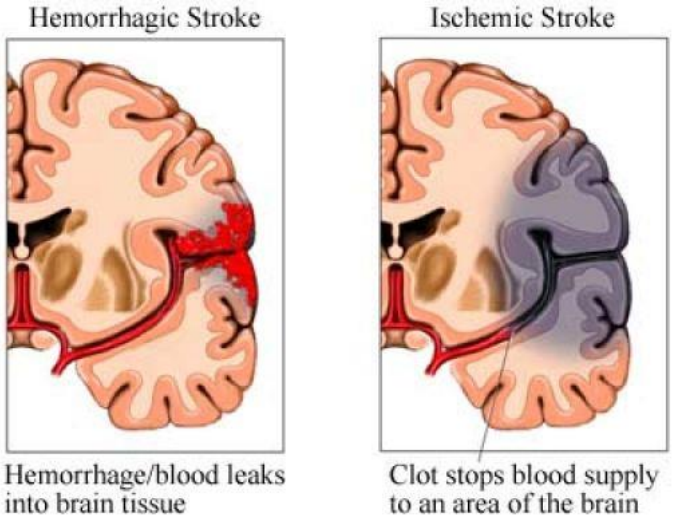
Once a coronary artery is occluded, the patient has only a few hours to take therapy, either by medication or balloon angioplasty. After 6 hours it is already too late as the heart tissue begins to die. Unfortunately, this is very common in elderly people, as symptoms, especially pain, may not be very obvious at first.





When there is no blood flow to the brain this results in a stroke

Usually this is a result of a plaque closing the lumen of the vessel (clot-ischemia) but it can also happen due to hemorrhage, which is even more dangerous.



- A stroke may cause difficulty talking, walking or feeling at the one side of the body. It may also cause sudden sleepiness, weakness, poor hearing or vision or even loss of consciousness / coma
- When many smaller episodes occur, stroke results in gradual loss of cognitive functions / dementia.

- Want to learn more about stroke prevention and management? Please watch the following video to find out!!!
- https://www.youtube.com/watch?v=kS1fXjPPIJ4 (26.44 minutes)
- As you watch, consider the following:
- 1. What are the most common causes of stroke?
- 2. What happens in the vessels of people before they get a stroke?
- 3. What are the most common problems that people with stroke face?
- 4. Can you think of ways to improve life after a stroke?

UNIT 1

Fill-in the blanks

1. The most frequent cause of death of people over 65 years old in Europe is c _ _ _ _ _ v _ _ _ _ _ _ r d _ _ _ _ _ e.

(Answer: cardiovascular disease)

2. By using modern technology, cardiovascular disease risk in Europe over the last 30 years has r _ _ _ _ _ _ d l _ _ _ _ _ y u _ _ _ _ _ _ _ d with some small i _ _ _ _ _ _ _ _ _ _ s in some d _ _ _ _ _ s.

(Answer: remained largely unchanged with some small improvements in some domains)

3. A regular heart beats around _ _ - _ _ _ times per minute.

(Answer: 60-100)

4. With regard to sensory loss in aging, it is _ x _ _ _ _ _ d and l _ _ _ _ _ y n _ _ _ a _ .

(Answer: expected and largely normal)

5. Regarding arterial hypertension and heart failure, they are both related to c _ _ _ _ _ v _ _ _ _ _ _ r d _ _ _ _ _ e and its r _ _ k f _ _ _ _ _ s.

(Answer: cardiovascular disease and its risk factors)

6.As a result of aging, vessels become s _ _ _ _ _ r

(Answer: stiffer)

7. S _ _ _ _ e, b _ _ _ _ _ _ ss, and m _ _ c _ _ _ _ _ _ l i _ _ _ _ _ _ _ _ n can be complications of atherosclerosis.

(Answer: stroke, blindness, and myocardial infarction)

8. A heart attack may present as pain on the b _ _ k, d _ _ _ _ e s _ _ _ _ _ _ g, pain of the u _ _ _ r limb and c _ _ _ t.

(Answer: pain on the back, disuse sweating, pain of the upper limb and chest)

9. It takes _ hours to develop non damage after a stroke without treatment.

(Answer: 6)

10. B _ _ _ _ y speech and a _ _ _ _ _ _ _ y of the face might be a symptom of stroke.

(Answer: Blurry speech and asymmetry of the face)

Unit 2

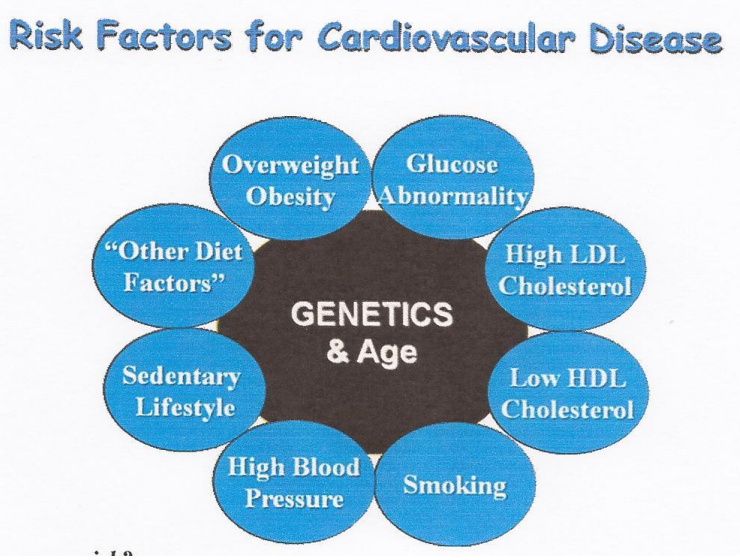
- Risk assessment – who is most at risk of cardiovascular disease?

Learning objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk

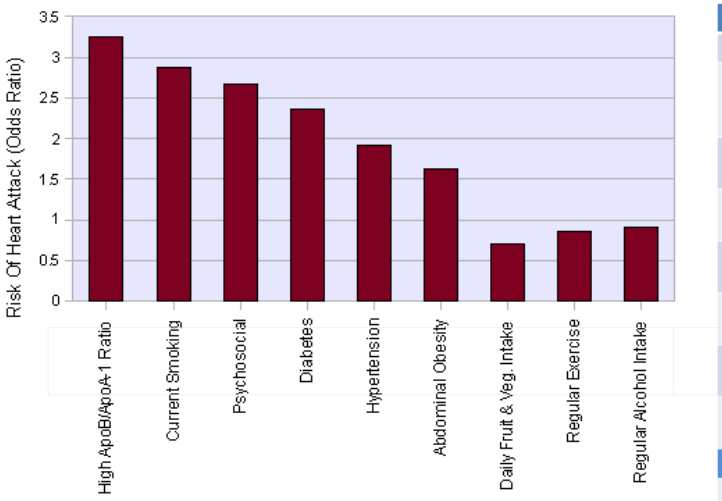
Risk factors

- A risk factor is something that increases the probability of getting a disease
- For example, smoking is a risk factor for coronary heart disease: if you smoke it is more likely that you will develop a myocardial infraction and heart failure compared to somebody that does not smoke
- This does not mean that everybody that smokes will develop heart disease, it just means that it is much more likely to happen compared to non-smokers



Of all known risk factors for CVD, high lipids have the maximum negative effect, followed by smoking and then stress – related factors

The Effect Of Selected Factors On The Risk Of Suffering A Heart Attack

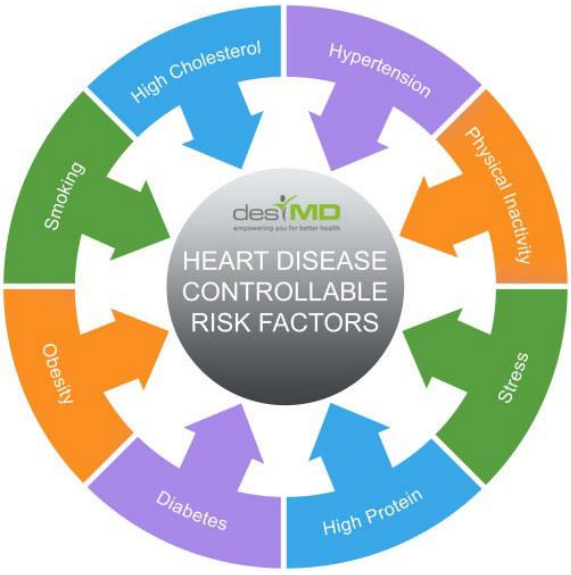


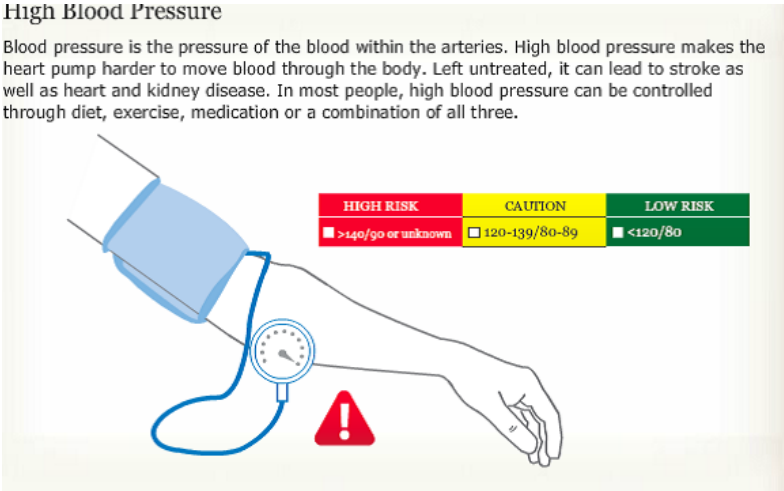
Source: Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study - The Lancet, 2004

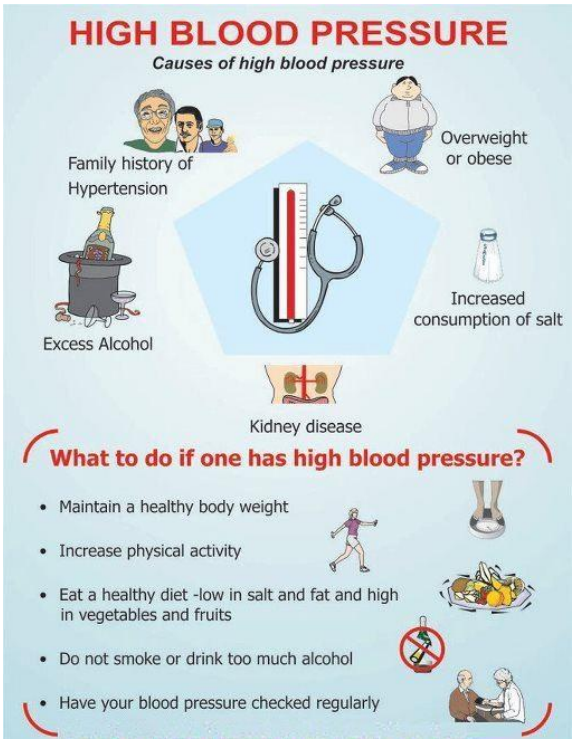
Risk Factor	Defining Criteria
Age	Men ≥ 45 yrs; Women ≥ 55 yrs
Family History	Heart attack, 'Bypass surgery', or sudden death before the age of 55 yrs for father/brother; or before 65 yrs for mother/sister.
Cigarette smoking	Current smoker, or have quit < 6 months, or is exposed to environmental smoke.
Sedentary lifestyle	Not participating in moderate (that makes you sweat) physical activity at least 3 days/week for 3-months.
Obesity	Body mass index ≥ 30 kg/m² *or* waist girth > 102 cm (40 in) for men and > 88 cm (35 in) for women.
Hypertension	Systolic Blood Pressure ≥ 140 mmHg and or Diastolic ≥ 90 mmHg, or taking medication.
Dyslipidemia	LDL ≥ 130 mg/dl, or HDL < 40 mg/dl, or taking medication. Or TC > 200 mg/dl
Pre-diabetes	IFG ≥ 100 mg/dl *or* OGTT ≥ 140 and ≤ 199 mg/dl confirmed by two different measurements.
Negative Risk Factor	
HDL	≥ 60 mg/dl

ACSM's Guidelines for Exercise Testing & Prescription. LWW, 2014 (p. 27).

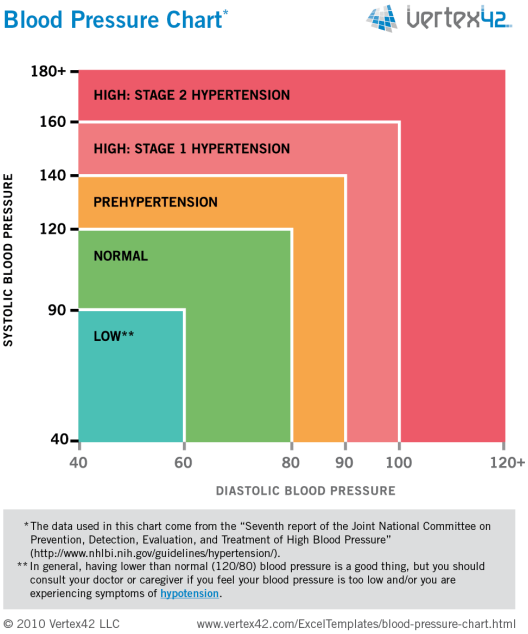
Likely, most of the cardiovascular risk factors are modifiable, which means they can be lowered by medication or lifestyle modifications

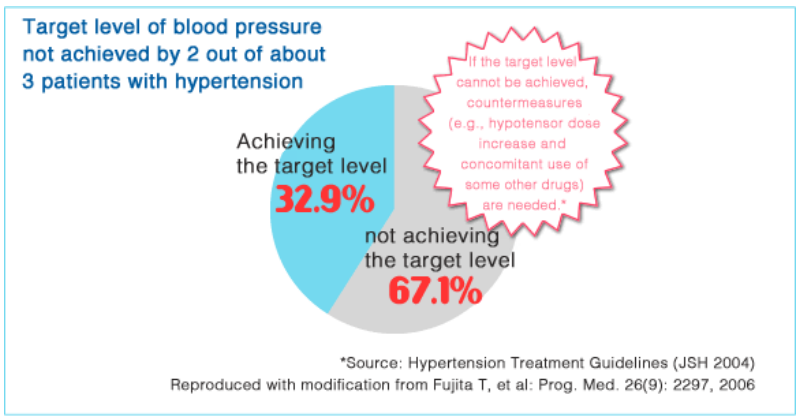




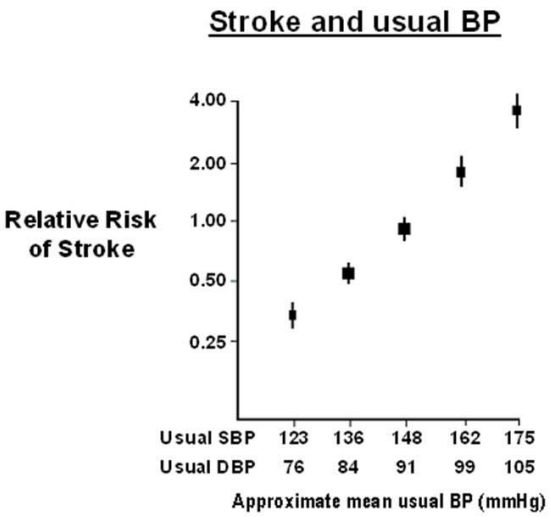


Hypertension is defined as systolic blood pressure above 140 mm Hg or diastolic above 90. However, anything above 120 / 80 is already not normal

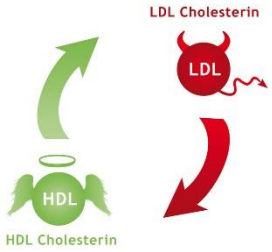


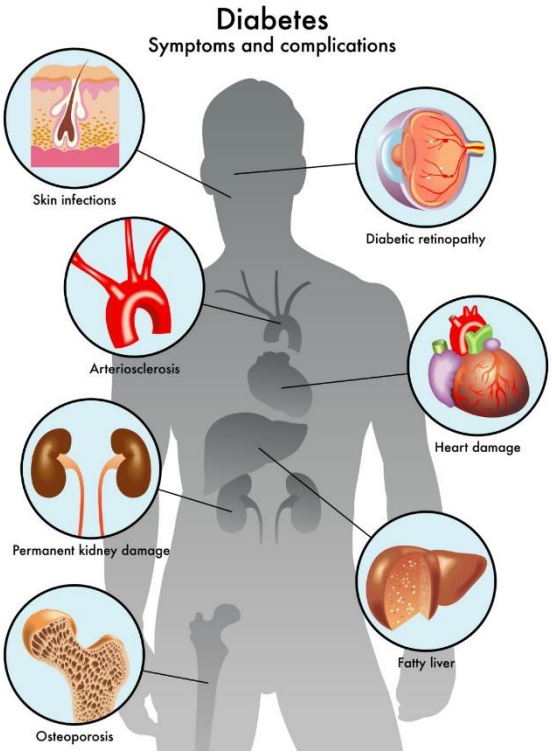


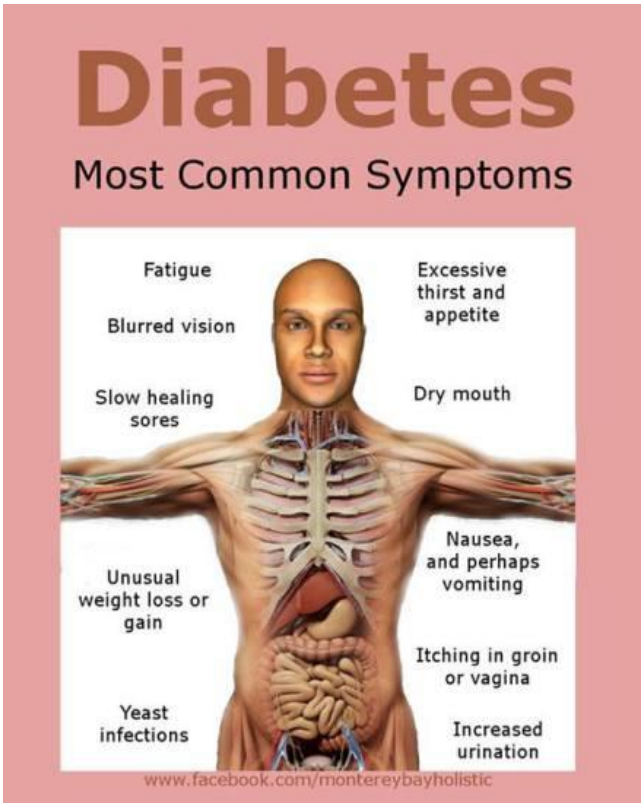
Regarding high blood pressure, there is a continuous increase of risk: the higher the blood pressure, the bigger the risk. This is also true within "near normal values": a BP of 125/75 is safer than 135/85

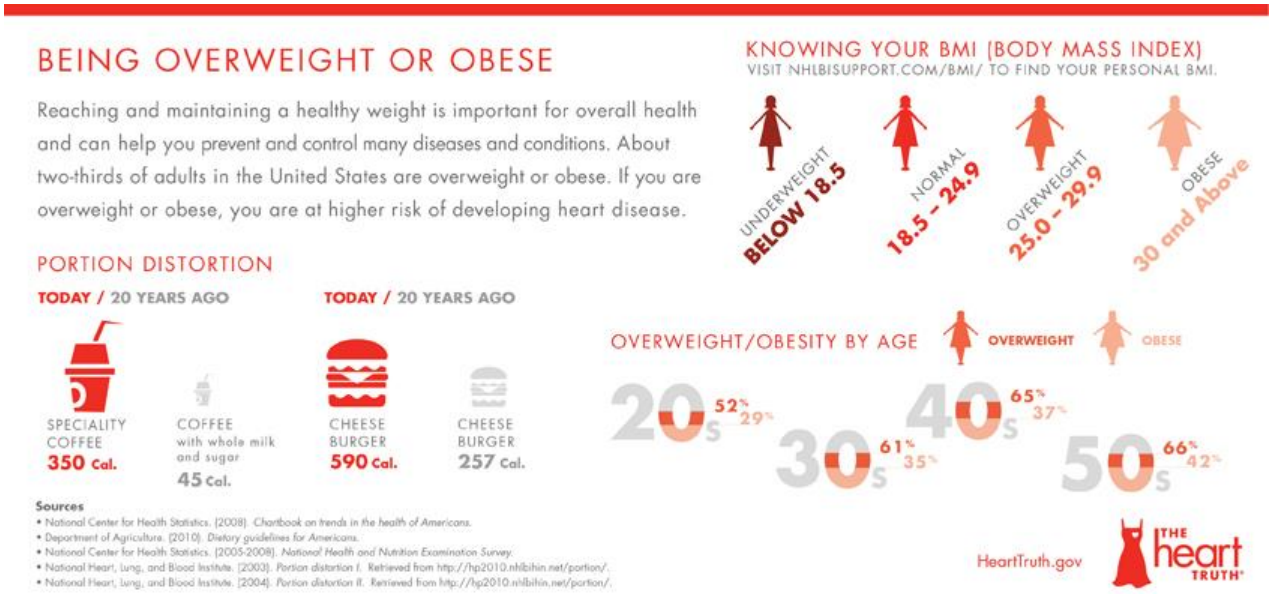


Cholesterol is a part of fatty food but is also produced in our body. There are 2 main types: HDL (high density lipoprotein) is the "good" type that removes fat from the vessels whereas LDL (low density lipoprotein) brings more fat in the vessels, increasing the atheromatous plaque and the risk of its rupture/clotting









Among the most common modifiable risk factors, the most important ones are high blood pressure, high lipids, high sugar (diabetes) and smoking cessation

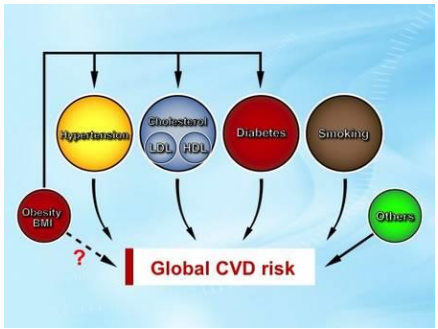


Table 2

Proposed Definitions and Criteria of Metabolic Syndrome

Clinical Measure	NHLBI/AHA (2005)	WHO (1998)	EGIR	IDF (2005)
Insulin resistance	None *Any 3 of the following:*	IGT, IFG, T2DM, or lowered insulin sensitivity *PLUS any 2 of the following:*	Plasma insulin >75th percentile *PLUS any 2 of the following:*	None
Body weight	Waist circumference: Men: ≥102 cm Women: ≥88 cm	Waist-to-hip ratio: Men: >0.9 Women: >0.85; and/or BMI >30 kg/m²	Waist circumference: Men: ≥94 cm Women: ≥80 cm	Increased waist circumference *PLUS any 2 of the following:*
Triglycerides	TG ≥150 mg/dL or Rx for TG	TG ≥150 mg/dL	TG ≥150 mg/dL	TG ≥150 mg/dL or Rx for TG
HDL-C	Men: HDL-C <40mg/dL Women: <50 mg/dL; or Rx for reduced HDL-C	Men: HDL-C <35 mg/dL Women: <39 mg/dL	Men or women: HDL-C <39 mg/dL	Men: HDL-C <40 mg/dL Women: <50 mg/dL; or Rx for reduced HDL-C
Blood pressure	≥130 mmHg systolic or ≥85 mmHg diastolic; or Rx for HTN	≥140/90 mmHg	≥140/90 mmHg or Rx for HTN	≥130 mmHg systolic or ≥85 mmHg diastolic; or Rx for HTN
Glucose	≥100 mg/dL or Rx for glucose (includes diabetes)	IGT, IFG, or T2DM necessary	IGT or IFG (not diabetes)	>100 mg/dL fasting glucose (includes diabetes)
Other	None	Microalbuminuria	None	None

NHLBI/AHA: National Heart, Lung, and Blood Institute/American Heart Association; WHO: World Health Organization; EGIR: European Group for the Study of Insulin Resistance; IDF: International Diabetes Federation; IGT: impaired glucose tolerance; IFG: impaired fasting glucose; T2DM: type 2 diabetes mellitus; BMI: body mass index; TG: triglycerides; Rx: prescription; HDL-C: high-density lipoprotein cholesterol; HTN: hypertension. Source: References 5, 6.

- In many cases, cardiovascular disease can be easily identified by some “red flags”, i.e. symptoms that may indicate that the disease is already present and still undiagnosed
- These red flags may refer to a variety of symptoms such as chest pain with progressively less activity / exercise, easy tiredness / weakness, difficulty to walk more than a few meters on a straight line or to walk up / down a ladder, swollen feet that do not improve by resting and shortness of breath on exertion

Symptoms of cardiovascular disease

- To learn more about the symptoms that may indicate cardiovascular disease presence please watch the following video:
- https://www.youtube.com/watch?v=tWSBCiZY-Mo (9.24 minutes)
- As you watch, please consider the following points:
- 1. Is it possible to detect cardiovascular disease early?
- 2. Have any of these symptoms appeared to you or someone close to you? If so, have you discussed this with a doctor?
- 3. Can you think of ways in which these symptoms might be improved?

UNIT 3

Choose the correct answer

1. A risk factor implies that people with this characteristic

a. Are less likely to have a specific disease

b. Are definitely going to develop a specific disease

c. Already have a specific disease

d. Are more likely to develop a specific disease

2. Which of the following risk factors in modifiable?

a. age

b. sex

c. smoking

d. family history of cardiovascular disease

3. Which of the following is the most important cardiovascular risk factor?

a. age

b. high lipids

c. high blood pressure

d. stress

4. The ideal / normal blood pressure limits are

a. 130/100

b. 140/100

c. 120/80

d. 100/60

5. Obesity is defined as a BMI more than

a. 30

b. 22

c. 25

d. 35

6. A high blood pressure results in damage to

a. lungs

b. kidneys

c. ears

d. bones

7. Of all people diagnosed with hypertension

a. 1/3 are well controlled

b. half are well controlled

c. 2/3 are well controlled

d. almost all are well controlled

8. Regarding the risk of stroke and its association to blood pressure which if the following is true?

a. a medium measurement is best

b. the lower the better

c. anything below 140/90 is normal

d. there is no association

9. The 2 types of cholesterol known as good and bad are officially called, respectively:

a. triglycerides and HDL

b. LDL and VLDL

c. HDL and triglycerides

d. HDL and LDL

10. Which of the following is not a red flag symptom for cardiovascular disease?

a. difficulty to walk up / down the stairs

b. shortness of breath on exertion

c. Difficulty concentrating / writing

d. None of the above

Unit 4

Protective factors– what protects against cardiovascular disease?

Learning objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk

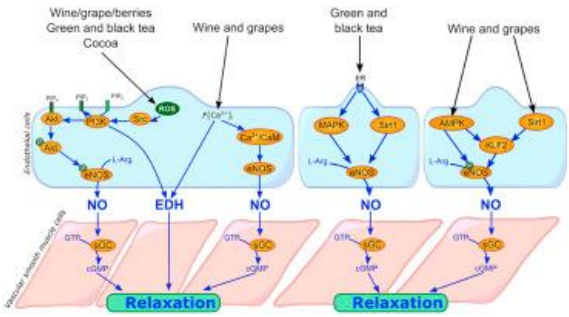
- Nutrition is an important defense against cardiovascular disease and stroke
- Please watch the following short video to find out more:
- https://www.youtube.com/watch?v=_ygM5emu-AY (4.23 minutes)
- While you watch consider the following:
- 1. Why is taking a lot of salt with food a problem?
- 2. Is there more salt in food than the one we add while cooking/seasoning?
- 3. Is there a specific kind of diet / food that is more normal for the body?

The so-called Mediterranean diet has been proposed as a balanced nutrition model that can lower the risk of cardiovascular disease

The name derives from the island of Crete, Greece, where this nutrition was first explored during studies in the 1970s

Mediterranean Diet Food Pyramid

- A number of foods and supplements, such as green tea and red wine are often considered to have a protective role on our vessels and heart, although the relevant research is still ongoing



- Physical activity is also protective against cardiovascular disease
- This is particularly true for aerobic exercise, i.e. exercise that is longer in duration but shorter in intensity
- Wherever walking is impaired, swimming / water sports can be a good solution to increase activity

- Back at home, flexibility can be improved by adding some series of stretching exercises
- These can include both upper and lower extremities and should be planned according to individual capacity and musculoskeletal health parameters (see module on fall prevention for more details)
- Mobility must be increased to a minimum of 45 minutes walking per day
- Whenever possible, higher impact exercise such as jogging can be attempted to increase benefit
- Alternatively, cycling can be used as a moderate activity which also allows bigger independence from home / residential environment

UNIT 5

True or False?

1. Salt intake with food results in lower lipid levels.

(Answer: F)

2. Salt in food may originate from use while cooking, seasoning on the plate, and salt content of specific food, such as bread and cheese.

(Answer: T)

3. Vegan type of diet is protective against cardiovascular disease.

(Answer: F)

4. The so-called Mediterranean diet takes its name from the Mediterranean island of Crete where it was first explored.

(Answer: T)

5. Among foods with a possible cardiovascular protective role we can include curcumin and superfoods.

(Answer: F)

6. Exercise can be cardio-protective even when it only includes low intensity aerobic / endurance activity.

(Answer: T)

7. Individual with walking impairment may increase cardiovascular protection via swimming / water sports.

(Answer: T)

8. Among outdoor activities for the elderly a cardiovascular protective role has been shown for cycling, walking 45 minutes a day, and jogging.

(Answer: T)

9. Push-ups can increase flexibility and lower the risk of falls.

(Answer: F)

10. Fish and dairies are the basic component of the Mediterranean diet.

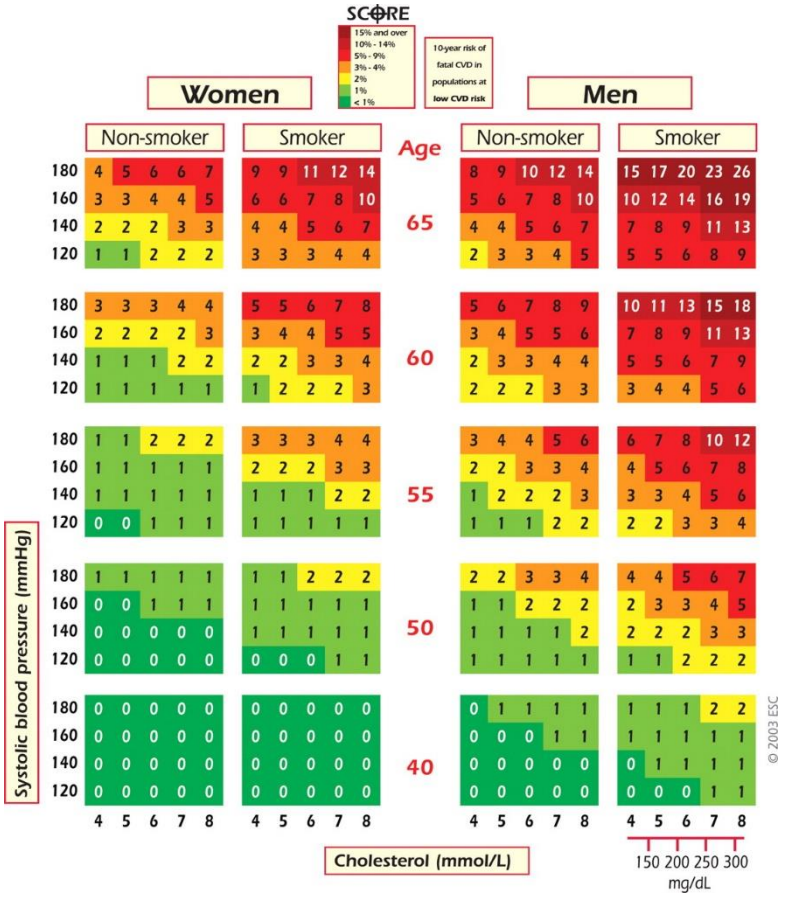
(Answer: F)

Unit 6

- **Measuring risk– how can I know my personal risk for cardiovascular disease?**

Learning objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk



- Depending on your country if origin, different European countries seem to have slightly different risk estimation and therefore double charts are provided
- This may be both due to genetic variation as well as some cultural specific differences, including diet and physical activity topics
- Use the low-risk charts in Andorra, Austria, Belgium*, Cyprus, Denmark, Finland, France, Germany, Greece*, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, The Netherlands*, Norway, Portugal, San Marino, Slovenia, Spain*, Sweden*, Switzerland and the United Kingdom.

- Use the high-risk charts in other European countries. Some are at very high risk and the charts may underestimate risk in these. These include Albania, Algeria, Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Georgia, Kazakhstan, Kyrgyzstan, Latvia, FYR Macedonia, Moldova, Russian Federation, Syrian Arab Republic, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
- Want to measure your individual cardiovascular risk?
- Please follow the links below and add you own information to get your result:
- https://www.mdcalc.com/framingham-risk-score-hard-coronary-heart-disease (Framingham risk score - USA)
- https://heartscore.escardio.org/2012/calc.aspx?model=europehigh&_ga=2.226672925.1209277252.1556700498-1164952307.1556700498 (Europe high risk countries)
- https://heartscore.escardio.org/2012/calc.aspx?model=europelow&_ga=2.196853804.1209277252.1556700498-1164952307.1556700498 (Europe low risk countries)
-
- In the UK, NICE (National Institute for Clinical Excellence) recommends that all people with a 10 year cardiovascular risk of more than 10% should receive intervention –treatment
- Please watch the following video to learn more about this policy:
- https://www.youtube.com/watch?v=JQBjE_4yCys (22.13 minutes)
- While you watch please consider the following points:
- 1. Is it possible to change some of the reasons that define your risk?
- 2. What limitations / obstacles exist when considering risk reduction?
- 3. What additional issues arise when considering elderly people in particular?

UNIT 7

Complete the sentence

1. _____ is the name of the cardiovascular risk assessment tool for USA.

(Answer: Framingham)

2. _____ _____ is a factor which is not taken into account when calculating cardiovascular risk score.

(Answer: family history)

3. _____ is one of the countries which are not considered as low risk for cardiovascular disease.

(Answer: Russia)

4. __ years of cardiovascular risk are predicted via the existing algorithms.

(Answer: 10)

5. The cut off for intervention according to NICE guidelines is a cardiovascular risk of __%.

(Answer: 10%)

6. According to SCORE risk tables the risk for ages 40 to 65 ranges between __ - __ %.

(Answer: 0-26%)

7. The SCORE tables can estimate risk based on lipid values in either __ / dl or ____ / l.

(Answer: mg / dl or mmol/ l)

8. A __ year old man, who is a _____ and has _____ levels 270 mg/ dl has a maximum cardiovascular risk.

(Answer: 65 year old, smoker, cholesterol levels 270 mg / dl)

9. Compared to a man of the same age, blood pressure and cholesterol levels the risk is higher for a

_____, rather than for a German, Dane or Swiss.

(Answer: Syrian)

10. Compared to the EUROSCORE, the Framingham score includes also ___ and use of medication to lower _____ _____.

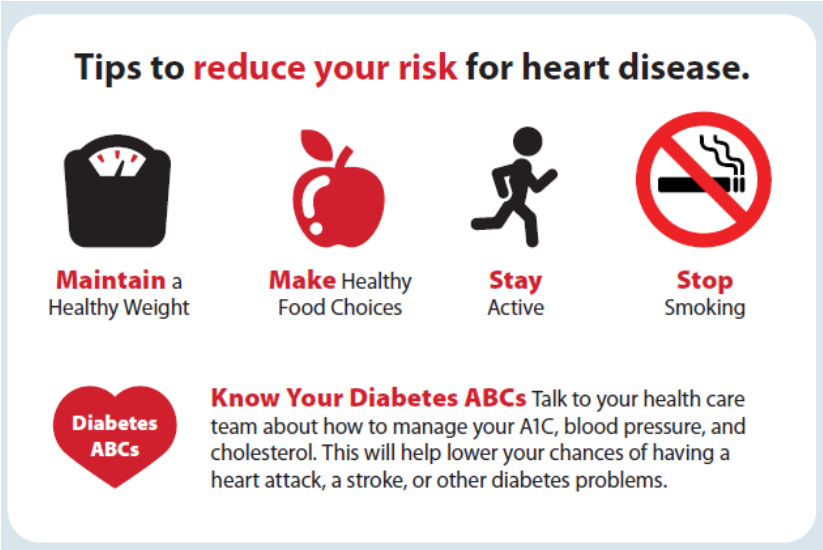
(Answer: HDL and use of medication to lower blood pressure)

Unit 8

- **Making changes– how can I lower my personal risk for cardiovascular disease?**

Learning Objectives

- Define cardiovascular disease, its types and its significance
- Define risk factors for cardiovascular disease
- Define protective factors for cardiovascular disease
- Explain ways to measure individual cardiovascular risk / screen for CVD
- Recommend measures to minimize cardiovascular risk



- Regular visits to your doctor / nurse are required
- Even if you feel fine you need to have a regular assessment including an overview of your weight, nutrition and hydration status, blood pressure and pulse
- In many cases, changes in these parameters can help prevent a serious disease such as a stroke or myocardial infarction or even sudden death
- More specifically, it is very important to visit a cardiologist for more specialized tests
- Over 65, an annual visit for an ECG (recording of electricity signal of the heart) and ultrasound of the heart (showing its structure and function) is recommended
- More visits are necessary for patients with known disease / multiple risk factors already present

- If your heart does not beat regularly your doctor might recommend implanting a device that will help it beat normally again. This is called a pacemaker and works with a battery placed under the skin and changed every few years
- If somebody's heart suddenly stops or gets a serious arrhythmia then they need to be transferred to hospital as soon as possible.
- While waiting for the ambulance, people close to the patient must help by pumping oxygen and blood using their hands and mask / mouth (CPR = Cardio Pulmonary Resuscitation)
- A basic training and certification for CPR for adults (including elderly cares) takes only 4 hours (BLS = Basic Life Support)
- In addition, all hospices / nursing homes must also have a machine that can restart the heart if severe arrhythmia exists called AED (Automatic External Defibrillator)
- Please watch the official demonstration video by the ERC (European Resuscitation Council) here:
- https://www.youtube.com/watch?v=fb29LCjX4-E (5.25 minutes)

UNIT 9

Choose the correct answer

1. Improvement of cardiovascular risk can result from better control of

a. body weight

b. diabetes

c. blood pressure

d. all of the above

2. Which of the following are good practices to lower cardiovascular risk?

a. Smoking cessation

b. Weight loss to normal range

c. both a and b

d. Lowering HDL

3. Adequate diabetes control lowers the risk of all except

a. depression

b. stroke

c. heart failure

d. blindness

4. A regular nurse visit for the elderly must include all except

a. blood analysis

b. blood pressure measurement

c. weight measurement

d. nutritional status assessment

5. Basic tests for cardiovascular screening in the elderly include

a. CT scan

b. ECG

c. ultrasound of heart

d. both b and c

6. In an uncomplicated asymptomatic elderly patient cardiovascular screening is recommended

a. false / never

b. once a year

c. every 3 months

d. every 6 months

7. In case of chronic severe arrhythmia the use of what device can stabilize the patient?

a. artificial heart

b. hemodialysis

c. pacemaker

d. defibrillator

8. The protocol that explains how to keep someone alive in case of heart arrest is called

a. ALS

b. CPR

c. CVD

d. CRP

9. The machine that can correct an acute severe arrhythmia and abort sudden death is called

a. artificial heart

b. hemodialysis

c. pacemaker

d. defibrillator

10. The number that one needs to call for an ambulance is

a. 100

b. 911

c. 118

d. 119

IO3 Handbook,

Erasmus Hogeschool Brussel (ed.)

Table of Contents *(for this section only)*

Responsible employees: Ann Claeys & Dennis Demedts

1. Introduction

This handbook is developed in the framework of the Erasmus+ project “ProADAS: promotion of Active Digital Ageing Skills” financed by the European Commission and implemented by a consortium of partners from 6 European countries – Belgium, Croatia, Cyprus, France, Greece and Italy.

The ProADAS project aims at tackling the gap between ageing population and digital literacy and strengthening and reinforcing the stakeholders, experts and practitioners in the fields of adult education & lifelong learning.

The third output of the project “ProADAS handbook” will provide more background to professionals, social workers, seniors citizens counsellors, adult educators and trainers, NGO’s and civil society organisations, third age universities and second chance schools about how to create an adequate and appropriate learning environment for seniors being trained on digital skills. Principles of gerontology, psychology, mentoring and coaching and pedagogy will be integrated in the handbook.

Owning a "smart package" of digital skills represents, today, an indispensable parameter for the inclusion: social, economic, cultural, relational inclusion of people.

In 2006, in this regard, Parliament and the European Council also included in their Recommendations the digital competence among the eight competences considered essential for "active citizenship".

In the digital era, therefore, the delicate boundary between citizenship in a formal sense and citizenship in a substantive sense must be redefined and replaced at the intersection of three essential elements: the possibility of accessing ICT - Information and communication technologies (Digital Inclusion); the possibility of learning its use (Digital Skills); the acquisition of discernment skills (Digital Competence) for an aware and responsible use of ICT.

The aim of the handbook is to give guidelines on how to train older adults, to support trainers in enhancing the social and cultural capital and to pursue a high value of transferability.

First the handbook will present guidelines about the topics of digital literacy and active ageing promotion.

Next, a collection of exemplary scenarios will be presented, aiming to empower the trainers at a practical level and to support the trainers in dealing with specific conditions or barriers.

2. Executive Summary

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Next, a collection of exemplary scenarios will be presented, aiming to empower the trainers at a practical level and to support the trainers in dealing with specific conditions or barriers.

After outlining each country's guidelines on digital literacy and active ageing, we can conclude that the European guidelines on digital literacy and on active ageing determine for a greater part the policies of the different European countries on this matter. In addition, each country gives specific accents to the European policy to adapt the general policy to the needs of the country's ageing population. Suggested scenarios and guidelines can help healthcare providers and adult education trainers to handle specific situations in training older adults on ICT skills.

3. Guidelines on digital literacy

This chapter will show an overview of guidelines at European level, in the six countries, thus Belgium, Croatia, Cyprus, France, Greece and Italy. These guidelines will show how digital literacy and active and healthy ageing is perceived in each country.

3.1 Recommendations in Belgium to obtain digital literacy in elder

Digital skills and digital literacy is a federal (national) authorization.

“Digital Belgium” is the action plan, which outlines the digital long-term vision for our country and translates this into clear ambitions. On the basis of five clear, specific priorities we would like to put Belgium more firmly on the digital map (Digital Belgium, sd).

The action plan outlines 5 priorities:

1. Digital infrastructure:

   Every year mobile traffic doubles, and internet traffic doubles every two to three years. Investment into digital infrastructure is necessary so that the digital economy can continue to grow. “Digital Belgium” is focussing on a state-of-the-art network infrastructure, which is ready to fully exploit the “internet of things” and “big data”.

2. Digital confidence and digital security

   In order to be able to grow, the digital economy needs confidence and security. That means respecting rights and strategically and effectively tackling illegal practices. Only when citizens and businesses have full confidence that their data is safe online, can the digital economy achieve its full potential.

3. Digital government

   Both citizens and businesses need to be able to conduct all communication with the government digitally by 2020 and to be able to do so using a user-friendly channel.

4. Digital economy

   According to calculations by the Lisbon Council, over the next few years digital innovations will be responsible for creating five new jobs for every two that disappear. Digitalisation encourages people to be entrepreneurial and brings new players into the field. The result is more robust competition, more innovation and increased quality of service.

   “Digital Belgium” supports an approach, which boosts the digital economy and expands the prospect of jobs and growth.

5. Digital skills and jobs

   In the future nine out of ten jobs will require digital skills. Governments then also need to monitor that as many citizens as possible, irrespective of their age and background, are able to take advantage of the necessary digital opportunities. Obtaining the minimum amount of digital skills is crucial for this.

In relation to the ageing population, especially the last priority is very important.
On digital inclusion, the action plan states that not everyone has the resources, the skills or the self-confidence to make the most of the many opportunities opened up by new digital technologies. By taking targeted measures, we want to eliminate the digital divide and ensure that no one is left behind. The Internet has the power to interconnect people. That is why we are also promoting the enormous opportunities, which the Internet opens up to connect people: to engage them in public debate, to put them in contact with a new employer or to stay in contact with family or carers from home (Kenniscentrum Mediawijsheid, sd).

Conclusion

Key actions on digital literacy and digital skills in Belgium are present, however older adults are not a primary target group in the current policy (until 2019).

3.2 Recommendations in Croatia to obtain digital literacy in elder

The demographic trend in Croatia resembles the recent trends throughout other European countries. In Croatia, the elderly aged 65 and over now makes up more than 17 percent of the total population. The share of this age group has been growing since the 1990s. This is consistent with the demographic phenomenon occurring in other European countries where the elderly aged 65 and over account for between 17 percent (EU-25) and 17.2 percent (EU-15) of the population. Similarly, the proportion of the very old, aged 80 and over has been increasing as well since the 1990s in Croatia.
The growing number of the ageing population will put pressure on the social care and health care systems and will lead to a reduced availability of care staff. To deal with these challenges ICT and

assistive technologies will play an important role to help people stay healthy and live independently at home for a longer time. Whilst it is encouraging that managers are generally positive about older hotel employees, older workers are still under-represented in many hospitality businesses.

Older workers make less use of ICT in their job, use less complicated applications and have more difficulties in using ICT. Elderly ICT's empowerment is not a matter of social skills, ICT skills, or complementary skills, but is more likely to result from their being interested in ICT and ICT-based activities. Learning activities in ICT-based activities and participation frequency were found to be predictors of both meaning and competence/self-determination dimensions. Despite increased Internet access and affordability, older people still face challenges in learning Internet skills. Country type, economic challenges and cultural beliefs need to be considered in minimizing the grey divide.

Governments recognize the importance of funding such teaching but evidence-based research must continue to inform policy to maximise funding and solve the many physical age and cultural issues affecting older people's access to Internet skills learning. Communication solutions could provide beneficial effects to keep in touch with family and friends. ICT systems can give aged people the possibility to feel less lonely by having regularly video-based talks to relatives, friends, neighbors or caregivers. In residential settings increased social support via ICT could lead to a decreased level of social isolation and depression in elderly and can have positive effects to health and satisfaction.

The European Union launched the Smart Specialization Strategies initiative (RIS3), a new approach to economic development that is anchored on targeted support for research and innovation. Development of the S3 for Croatia, a new EU member state, comes at a time of intensive national reforms and policy changes. A number of major strategies have recently been adopted or are in a process of elaboration and/or revision. The S3 seek to unify all the relevant aspects from the various sectoral strategies in a framework that has a long-term perspective (2020) and will be basis for smart growth.

The ICT skills gap between Croatia and the EU has a negative impact on the take up of e-commerce, e-government, e-practices in general. The current situation requires adopting concrete, clearly formulated and quantified measures for the 2014-2020 periods. New strategies and changes in national economic policies are necessary, especially in relation to the funding and management of education, research, innovation and support of business. Due to the limited resources and capacities, the strategy concentrates on a limited number of priority sectors that are defined based on strengths and R&D potential for innovation development with basis for export. Proposed measures in S3 are focused on avoiding fragmentation of research, on concentration of structural funds, public budgets

and private resources on priorities with competitive advantage and with the highest development potential.

The strategic foundation of ICT is strengthened by national documents in the field of education, science, technology, innovation and industrial development in which ICT was given a prominent role: Croatian Industrial Strategy 2014 – 2020 stated that this industry has great potential of growth and employment (especially engineers) 194; e-Croatia 2020 Strategy; National Cyber Security Strategy (NCSS) and the Strategy for Broadband Development in the Republic of Croatia 2016-2020. Recently founded National Council for Digital Economy aims to establish an active partnership of all relevant stakeholders in the development of the digital economy, through defining the objectives and priorities for the creation of a single digital market.

The Council has a role of an advisory body of the Croatian Government in the transformation processes of the economy of the development of digital technologies. Croatia tends to focus its investments for the purpose of supporting identified TPAs in following specific area, such as e-health solutions and related technologies and ICT-based services and applications for improving quality of life for persons with disabilities, including solutions for Alternative and Augmentative Communication .In the area of Internet-based services important RDI results are related to health and food. Various aspects of the application of ICT in health, assistance for old people and people with special needs are explored in a number of projects: UNIVERSAAL – Universal open platform and reference Specification for Ambient Assisted Living (FP7-ICT), eWall for Active Long Living (FP7-ICT), Carewell – Multi-level integration for patients with complex needs (CIP-ICT), ICT-AAC – ICT Competence Network for Innovative Services for Persons with complex Communication Needs (IPA SIIF), ICTGEN – Information and Communication Technology for Generic and Energy Efficient Solution with Applications in e/m-Health (ERDF), DIABICT – Technology Platform for New ICT Strategies in Diabetes Therapy and Control (ERDF).

Conclusion

Digital literacy is important as reading or writing skills, and includes digital skills and knowledge such as work with word processing software and spreadsheets, using web browsers, e-mail and Internet browsers, and the adoption of these fundamental digital skills for unemployed people greatly increases the opportunities for finding a job and making them more competitive in the labor market. As for the other European Countries, key actions on digital literacy and digital skills in Croatia - also

thanks to the UE Policies- are present, but older adults are not a primary target group in the current policy (until 2019).

3.3 Recommendations in Cyprus to obtain digital literacy in elder

The care of the elderly in Cyprus is divided between home-based and hospice based/ institutionalized care. In the first case, individuals can receive financial support from the state (Department for Social Inclusion of People with Disabilities, Ministry of Labor) in order to have access to a number of technological upgrades that will improve their daily living conditions. These may include, among others, non-slippery floor tiles, “clever” lighting that automatically responds to movement in order to prevent falls, addition of wall support to assist people with visual/ walking impairment as they attempt to move within the house, special provisions for mobility via walker or wheelchair, as well as adaptation of bathroom/ shower to accommodate people with various disabilities. In addition, seniors with various forms of disability receive financial aid aiming at either the partial reimbursement of family members acting as their informal carers or the formal employment of external carers/ home assistants.

With regard to training opportunities, unfortunately, there is no formal requirement for a minimum training for either the carers or the elderly themselves. However, both volunteer organizations and NGOs have tried to assist by organizing short training courses relative to fields such as language skills (as most external assistants are foreign and therefore cannot use the local language) basic computer skills and first aid. Among the organizations providing relevant certification, the most well known include the Cyprus branch of the Red Cross, St John Ambulance, the state adult education centers and the universities of Cyprus (especially the Cyprus University of Technology and the European University Cyprus/ Microsoft Innovation Center). The levels of certification and duration of training vary from a few hours only (e.g. Basic Computer Skills seminars ranging from 10 to 200 hours of theoretical and practical training) to full postgraduate courses, such as the EUC Master in Gerontology (90 ECTS).

3.4 Recommendations in France to obtain digital literacy in elder

In order to empower senior citizens’ digital literacy, there is a list of recommendations on how to approach them during trainings:

1) Evaluation of the participants ICT level

An online questionnaire can be created – not mandatory – in order to evaluate the level of the group. We recommend the following questions:

Do you own an ICT tool? How many times per week do you use it? What is the main activity you are carrying out with ICT? What is your favourite device (smartphone, tablet, laptop etc.)? Do you use social networks? etc.

The program should be flexible based on learners' skills and knowledge and readapted if necessary.

2) Teaching approach

The teaching approach should be individualized. For instance, if one of the participants is slower than the rest of the group, the trainer should focus on him/her and let the group test what was previously mentioned. It is needed to take time and the information should be repeated several times in order to make sure that it has been understood by everyone. Trainers, therefore, need to be patient and attentive. The training should be practically oriented and related to everyday life situations. Avoid technical jargon and borrowings from English. Make sure to provide digital presentations of what they have learnt in order to allow participants to train at home and practice their new knowledge/skills. You can also add, in their favorite websites, the useful links. Make sure to be available for any question that might rise, participants should feel comfortable enough to ask you anything related to the training's content (e.g. there is no stupid question). Planning classes mind possible age-related difficulties (memory, vision, hearing and mobility).

3) Supporting documents

Make sure to have the documents corresponding to the content of your session.

4) Recruitment

It would be good if the participants were on a more or less the same ICT level. The title/content of the workshop should be attractive and connected to their concerns/hobbies/points of interest. In order to do so, try to find topics that users feel close to. The minimum level to attend the training should be made clear before participants can register themselves. Participants should be available for the whole training not to be lost afterwards if they miss one session.

5) Size of the group

The group should not exceed 10 participants with 2 trainers. If the group is bigger, the number of trainers should be increased in order to keep a ratio of 1 trainer for 5 participants. This allows to provide a tailored training based on the needs of the trainees. It also permits to conduct training with a heterogeneous group in which all participants don't have the same ICT level.

6) Equipment

We recommend that participants bring their own material since users are accustomed to interact with their devices. But it is also important that the trainers provide devices to the participants who don't own any.

7) Exploitation systems

We recommend that participants work on the same exploitation system in order to ensure the homogeneity of the training. If not, an extra trainer is needed to help the ones working on a different system. In case a participant does not own yet an ICT tool, we advise that the trainer recommend Android/Windows since it is much more affordable.

8) Motivation

Don't hesitate to introduce former participants who have performed previous workshops in your organization and now have a fair ICT level.). Participants should know that they can become trainers themselves; they can teach to the group new skills they learnt. Give yourself the opportunity to organize special events in order to motivate your group. Create a community rather than a random group of co-learners. Make students feel that learning is just one of the natural ways of spending time together.

Make sure that progress made by participants can be measurable (try to teach a new skill each time. The trainer can provide a certificate, at the end of the whole training course, in order to certify the completion of the training by the participant.

9) Involvement of the participants

Participants should have a dedicated tool to share their opinions/feelings about the training. It can be just a document to be filled at the end of each session asking them what they liked the most, the least and what they would like to improve. They can create a blog, get involved in taking pictures and writing comments after each workshop.

3.5 Recommendations in Greece to obtain digital literacy in elder

In Greece (as in Europe), ICT are increasingly considered as a critical factor in aiding elderly in their personal matters, widening participation in social life, learning and lifelong learning, and establishing opportunities and conditions for a healthy and happy life for them. The main argument is that the elderly who can understand and effectively use digital means and facilities are significantly empowered and advantaged in terms of life opportunities and success, social and personal development, communication prospects, civic participation and many other aspects of their personal and social life (e.g. public and social services, cultural and everyday practices, online shopping, social networking, health and active ageing, etc.).

Considering the rapid demographic changes in contemporary Greece (e.g. a growing number of older people), ICT could offer solutions for the needs of older people to be constructive participants in modern society (e.g. easier access to social and healthcare services, contact with family and friends, avoid marginalization, opportunities to contribute to political, civic and social life). Due to the statistics, in Greece the elderly (above 65 years old) represent the 20,7 % of the general population and due to the predictions they will overcome the one third of population in the next decade.

On the other hand, Eurostat reports concerning digital literacy show that in Greece, the 65% of the sample refer no or a few digital skills and from them the senior citizens (ages 55-74) have less digital skills in comparison with the European average and they lack significantly in the fields of Digital Agenda as adopted in EU.

The Greek State has recognized the need for digital literacy in elderly and encourages activities for the digital skills education, digital inclusion, fight against digital exclusion of the elderly, recognizing at the same time that the training of the elderly in New Technologies improves their daily routine, makes them cognizant, leads them to a more efficient use of their leisure time. It has adopted in its Digital Agenda for the period 2014-2020 digital strategies and priorities in integrating digital skills and ICT use in everyday life and therefore there has been a horizontal and vertical strategy recruiting the relative authorities in digital literacy implementation for the seniors.

The Lifelong Institutions, the local societies, the educational organizations and non-profit bodies are urged to contribute by offering learning opportunities to the older people, in order to ensure a smooth integration into a demanding and ever evolving environment. The older people with little or no knowledge of the use of ICTs are at risk of social exclusion, and in the modern and competitive environment they are treated as digitally illiterates.

In the Greek context, there have been some significant initiatives which highlight and serve the need for the digital literacy practices for the elderly: Cosmote in cooperation with 50plus Hellas (program 'Access to the Digital World'), several educational centers for them in big municipalities of the Attica area, etc.

Conclusion

Summarizing all above, in Greece the need for digital literacy concerning the elderly is high: the existence of the growing number of seniors on the one, and on the other the low level percentage the Greek elderly people show with regards to the digital skills, constitute the context of the Greek situation. Additionally, Greece – due to the European recommendations and directives on digital literacy of the EU citizens and Active Healthy Ageing and national priorities as well- struggles to meet the needs for digital skills education in elderly through the public actions or the local initiatives, but there has been a lot to be done so that the elderly population in Greece obtains a satisfactory level which will provide them with all necessary skills for their personal and social development.

3.6 Recommendations in Italy to obtain digital literacy in elder

According to Istat data ("Indagine multiscopo sulle famiglie" – report annuali; "Multi-purpose survey on families" - annual reports) in Italy, in 2015 the elderly (65 - 74 years) who claim to use the Internet are 25.6% (+ 556.4% compared to ten years before), and those who use a PC are 24.4 % (+ 343.6% compared to ten years before). This datum photographs together two characteristic conditions of contemporary Italy: on the one hand a fast process of transformation in the habits and cultural competences of the elderly population; and on the other hand the difficulty of covering the gap with other countries due to starting conditions in which digital illiteracy is very strong. To date, the national digital literacy plan has not been completed and therefore there are no framework strategies within which the work of those who are training in this sense can be placed.

Within the framework of the European Digital Agenda, Italy has developed the Italian Digital Agenda, a national strategy to achieve the objectives indicated by the European Agenda.

The Italian Digital Agenda was developed in collaboration with the Conference of Regions and Autonomous Provinces, under the supervision of the AgID, the Italian Digital Agency (Agenzia per l'Italia Digitale).

As part of the Italian Digital Agenda, the “Italian strategy for ultra-broadband” and the “Strategy for Digital Growth 2014-2020” have been prepared for the pursuit of the goals of the Digital Agenda.
Within this last document, in the section dedicated to digital competences, the elderly are mentioned, as a "weak" population, in one of the programmatic objectives:

• increased use of the Internet by citizens in general and more "weak" groups in particular (elderly and southern Italy);

If we look at the older segment of the population, which is therefore probably the bearer of other difficulties or functional problems (illness, coordination and attention difficulties, fragility), people over the age of 74 who use the internet have gone from a paltry 4.4% in 2014 to 8.8% in 2018, so they have doubled in 4 years, while remaining a very low percentage.
So we repeat what we observed before: very discouraging starting conditions, despite a rather rapid increase in users. In this growth, some local organizations that have started ICT literacy programs and projects for the elderly have played a very strong role. Many of these came to an operational agreement in 2017, drawing in fact a national profile of their intervention (although not recognized within public programs or policies, always awaiting the National Plan for digital literacy).
In addition to this, it should be noted that in general, in digital education programs for the elderly, special situations (due to the specific difficulties of the elderly involved) are taken in low regard, favoring classical learning methods and taking little care of the transfer of skills to caregivers, be they professional or rather familiar or friends of the elderly.
Furthermore, the concentration is almost entirely focused on the use of the internet and the PC, much less towards other tools (smartphones, tablets ...) or to resources particularly interesting for the elderly themselves (apps, recovery / training programs, games to maintain the memory, etc …), with some significant exceptions. A qualifying point of digital literacy projects for the elderly in Italy is linked to the collaboration with the national school system, which mobilizes teachers but also students, who become tutors for the elderly.

4. In active ageing

4.1 Recommendations in Belgium to age actively and healthy

In all European countries people live longer and healthier. We see that the population is ageing. In response to these challenges and opportunities that this demographic evolution entails, the European Union wants to promote active ageing and solidarity between generations. It starts from

the definition of 'Active ageing' of the World Health Organisation. This is translated by the European authorities into the following objectives:

- Reducing early retirement: Older workers must be encouraged to continue working longer
- Reducing social exclusion of older people By stimulating active participation in society
- Improving the health of older people

This aim was translated by the European countries into national and regional policies on active and healthy ageing.

Active and healthy ageing is a regional authorization. Here below I focus on the action plan of the Flemish government (Vlaamse overheid, 2015).

The Flemish government aims at a policy on older adults that cooperates with other policy domains to work towards an age-friendly Flanders where elder can be as independent as possible. The policy works on 4 large domains: prevention, participation, living and care.

The aim is to keep people as active as possible, also after retirement. Active ageing includes also having a meaningful life and staying meaningful for the society. The policy makers define active ageing as having a reasonable contribution to the society one lives in; the older adult can do this by being the director of their own life and their own living circumstances.

Nowadays many persons become old on in good health. Even with one or more chronic diseases, older people manage to live comfortably, actively and independently. We also note that in Flanders an increasing number of older people are more educated, more vital and empowering. We also see a greater variety of socio-cultural diversity. This offers positive perspectives. The step towards retirement is likely to be extended by a few years, and the years after that still offer opportunities to stay active.

However, the policy gives special attention towards older adults that are lonely or that live in poverty. For these persons it is more of a challenge to age actively, for example because of social exclusion. Participation and involvement are important factors for active ageing.

Physical exercise is an important factor for ageing actively and also healthy.

Healthy ageing includes keeping their health status as positive as possible, and having access to care and support if necessary.

The policy makers set seven health objectives for the (older) population:

1. A decrease the use of tabaco, alcohol, drugs and medication: specific actions on alcohol in later life will be taken. Moreover, long-term care facilities have to work towards quality standard, also on the topic of medication usage.

2. A well-balanced diet and physical exercise leads to a healthy weight. For older adults this objective also lead to a decrease in the risk of falling.
3. Early screening of cancer, in order to improve the outcome. The policy aims at organising structured screening on cervical cancer, breast cancer and colon cancer.
4. A decrease of the number of suicide in Flanders. Older adults have a higher risk on suicide, so specific actions are necessary.
5. A sufficient rate of vaccination in elder: vaccination against influenza and vaccination against pneumococcus infection are priorities and need to be stimulated.
6. Actions on fall prevention stay necessary: actions for this topic are related to situations in home care, long-term care facilities and hospital care.
7. Actions for a healthier oral care are taken, in order to prevent problems in elder with diabetes and to prevent malnutrition.

Conclusion

Active ageing must be seen as a part of the entire life cycle. One can start to work on active and healthy ageing when one is still young.
This point of view should also improve the wellbeing and inclusion of older adults in the society.

4.2 Recommendations in Croatia to age actively and healthy

The aging process is normal physiological phenomenon.The elderly are a heterogeneous group that requires individual gerontological approach. The basis for the implementation of the program of healthy aging represent their own decisions about positive health behaviors,that are made at a younger age and interact with an effective health programs of preventive health measures. As part of evaluation of the implementation of the preventive program for is important to define negative health behaviour of the elderly and determine the risk factors of pathological ageing.
Primary prevention ensures not only prevention of death in early old age but also preservation of functional ability through health promotion in old age. The implementation of secondary prevention in health care of the elderly people results in timely diagnosis of disease which can stop its further development and help in its treatment, nursing care and rehabilitation. Tertiary prevention includes different health procedures that prevent physical andmental decline in a diseased old individual and develops the remaining functional capacity.

The Program of Health care Measures of Prevention for the Elderly is primarily carried out through active primary health care institutions within local, regional and national gerontological centres of the Institute of Public Health. Implementation of preventive programs for the elderly can avert the development of a number of preventable diseases as are diabetes mellitus, obesity, hypertension, cerebrovascular and cardiovascular diseases, cancer of the breast, ovaries, prostate, lungs, osteoporosis/fractures, incontinence, mental disorders, respiratory diseases.

In Croatia, the program promotes a healthy active aging, consisting of the "Guide for active healthy aging":

1. Constant physical activity

   To be started in youth and pursued until the very old age. It includes breathing exercises and pelvic floor muscle exercises, the latter being carried out to the effect of involuntary urination prevention.

2. Constantmental and ocupational activity

   Lifelong learning and acquisition of novel skills and competencies.

3. Proper mediterranean diet

   When it comes to the elderly over 65, this diet should be restrictive in its nature, in terms of a limited caloric intake (which should not surpass 1,500 cal a day due to the diminished basal metabolism typical of the elderly). The diet includes regular vegetable & fruit intake and regular consumption of fish and crust-free white meat; the intake of "5Ws" –white flour,white sugar,white rice, salt, fat – should be diminished aswell.Consumption of up to 2 litres of unsweetened liquid a day (plain potable water would be the best). The food should generally be cooked and free of browned flour. Fried and roasted food should be avoided.

4. The old age call for the prevention of not only obesity, but under nourishment as well
5. Non-smoking and non-addictiveness to drugs, alcohol, opiates, black coffee and other addictive substances
6. Constant work, even after retirement
7. Positive attitude

   One should strive to laugh as often as possible and to keep up the good spirit; the blame for own failures should not be shifted to others.

8. Kindness and love should be spread around

They should be targeted towards family, juniors and seniors around one, and towards one's work; sex life as an integral component of love that cuts across the age boundaries, should not be neglected as well.

9. Loneliness and depression should be avoided by allmeans

   One should strive to develop communication skills and prepare oneself to adapt to stressful events.

10. Personal and environmental hygiene

    Oral (teeth & dental prosthesis) hygiene, regular finger and toe nail cutting; removal of any barriers and slippery & wet surfaces at one's home and surroundings, so as to prevent falls and injuries.

11. Refusal to accept prejudices and ignorance on aging, leading to the perception of old age as a synonymfor the disease, disability and dependence on others (of note, only every fifth older person depends on care of the others due to functional incapacity).

12. Full compliancewith the prescribed therapy and regularmonitoring by the attending physician

    Transfer of skills, knowledge and professional & life experience to younger generations and peers.

Conclusion

Aging is a normal physiological occurrence and an inevitable future prospect of each and every person. It depends on the aging genome and proper health-related behaviour that aids in prevention of risk factors responsible for unhealthy aging. Reference Center of the Ministry of Health of the Republic of Croatia for health care of the elderly published guidelines for active healthy aging which promote proper health –related behaviour that aids in prevention of risk factors responsible for unhealthy aging.

4.3 Recommendations in Cyprus to age actively and healthy

In the case of institutionalized/ hospice care the elderly are required to inhabit in an environment different to their original one. This implies a necessary procedure of adaptation that may be quite demanding, especially for seniors with impaired cognitive and sensory functions.

In the case of Cyprus, there are no state-owned services for the long term care of the elderly. Therefore, relevant facilities have been developed either at the municipal – community level or via the action of major NGOs (including the Church of Cyprus) while the private sector has also been very active in the development of several hospices and rehabilitation services across Cyprus.

With regard to the minimum requirements for the licensing of such services, these are specifically stated in relevant legislation (since 2004 aligned with EU directives on the same topic) while additional regulations are frequently updated by the Ministries of Health and Labor. In all cases, a primary care doctor must be assigned as supervising physician for all senior inhabitants of a gerontology facility. In addition, a registered nurse (preferably with a specialty in community care/ gerontology) must be employed at a full time basis to supervise the facility and coordinate the actions of all remaining personnel that may include other health professionals (physiotherapists, occupational therapists, speech therapists, nutritionists, psychologists) as well as non-professional carers and technical assistance/ hygiene personnel.

Although the use of electronic/ digital media is not mandatory, laboratories and physicians are encouraged to use computed assisted technology to send and receive medical data. It is also encouraged to use mobile applications whenever possible both to facilitate communication between inhabitants and their families as well as to promote several educational and recreational activities, including sudoku, crosswords, puzzles and selected recordings of films/ tv shows. In the case of the professionals, the use of digital media and new technologies is generally endorsed, with some centers providing tablets or smartphones for in-service use to their personnel, so that they can have easier access to patient records, to recover their latest laboratory results, to coordinate patient care in collaboration with physicians and external experts as well as to improve personal skills via subscription to health science journals and databases (eg up-to-date, Medscape) or via participation in workshops and seminars (e.g. basic life support/ BLS AED by ERC), often sponsored or co-funded by the ownership of the respective institutions.

4.4 Recommendations in France to age actively and healthy

1) Having an active life

   The key is to keep an active life by doing regular exercises in order to reach a physical and mental wellbeing. This will help to maintain the level of independence and to prevent some chronic diseases such as heart disease, depression, arthritis or diabetes. The choice of an

adapted exercise or sport is essential since older people don't have the same possibilities than the youngest. In consequence, it is important to be in close contact with a doctor.

2) Eating healthy food

The variety of food is the key for staying in good shape: eating fruits and vegetables and whole-grain foods; avoiding sweet, salty and highly processed foods. Some nutrients can lead to chronic conditions as cardiovascular diseases or hypertension. The most important is to follow doctor's suggestions regarding dietary restrictions.

3) Maintaining your brain

The cognitive decline is a normal part of aging but studies have shown that a lifestyle that includes cognitive stimulation through active learning slows this cognitive decline. For preventing this issue, the best is to never stop learning. Practicing dance lessons, new language, new instrument, mind games are possibilities to push back the cognitive decline.

4) Having relationships

Living alone is the strongest risk factor for loneliness. Maintaining communication with family and friends is important especially after a significant loss or life change. The best is to schedule regular time to meet with friends and family – a coffee, a meal, or around a common interest.

5) Getting enough sleep

Older adults need just as much sleep as younger adults – seven to nine hours per night – but often get much less. Lack of sleep can cause depression, irritability, increased fall risk, and memory problems. That's why it's important to develop a regular schedule with a bedtime routine and to keep your bedroom dark and noise-free.

4.5 Recommendations in Greece to age actively and healthy

In the Greek society where the ageing population continues to increase, it is necessary to improve care for the elderly, given that today they constitute an important part of the population (and as the National Statistical Service of Greece-ESYE states, 'it presents upward trends'). On the other hand, life expectancy in Greece has improved for both men and women, due to the improved quality of life and health; indeed, life expectancy continues to increase which reinforces the demand for more long term care services provided by the state.

In the recent years, Greek policies and Greek context are oriented towards Active Healthy Ageing and there has been a comprehensive program realized in order to modernize the National Health and

Social Solidarity System which includes a range of political and operational interventions along with concrete recommendations for Active and Healthy Ageing procedures.

Recommendations in the Greek context for the direct or indirect parts in the active and healthy ageing (public bodies, non-profit organizations, health institutions, families and home environments, etc) promote the a) physical and mental health; prevention and health education, b) social policy, c) social networking, d) gender equality, e) intergenerational interaction, f) volunteering, g) transfer & accessability, cities & urban ennironment friendly to the elderly, security, h) physical exercise and athletics, i) culture and entertainment, j) New Technologies, digital education and literacy of the elderly.

These recommendations are being realized – to some extent- through some practices and initiatives targeting the management of active healthy ageing: programs motivated by the principles of A.H.A. are implemented and based on the activation of the public sector's manpower and the utilization of non-profit organizations:

a) the integration and participation of elderly in the society through the Open Protection Centres of the Elderly (KAPI); KAPI provide all forms of organized recreation, medical care, physiotherapy treatment, occupational therapy, social work, hospital care, and all kinds of material and moral services to the elderly.
b) promoting a positive image of ageing and of the role of elderly in society through targeted campaigns.
c) support of families taking care of the elderly and encouragement of intergenerational solidarity.

Conclusion

Greece experiences low ranking among countries which are friendly for active ageing (Global Age Watch 2015); however in the recent years there have been a) changes in the state recommendations and policies towards the actions and projects should be implemented towards the Healthy and Active Ageing b) plans and activities adopted by public and private bodies, NGOs, and local entities, concerning the enhancement of Active & Healthy Ageing. On the top of the discussion, it has to be mentioned that in Greece there are more intentions and potentials in order for senior citizens to participate both in economy and society, to have a healthy, independent and quality life and to create conditions for an active and healthy ageing. Their nonutilization happens due to the lack of

central coordination and management of programs with measurable objectives in parallel with the absence of a common national context of actions.

4.6 Recommendations in Italy to age actively and healthy

If, starting from the European directives, the policies for implementing active aging seem to be formulated as general policy guidelines, the promotion of homogeneous policies in the various countries, mainly characterized by a working interpretation of active aging and therefore oriented to affect the role of the elderly in the labour market or their weight in the social security system, may be less effective than the structuring of targeted interventions that take into account local diversities. On the other hand, in the Italian case, the space left open by public policies is largely filled by a myriad of interventions and projects by private social organizations.

At the national level there is a notable regional differentiation (partly dependent on the fact that the Regions' competences include the health intervention, and this is very relevant for Active Aging projects). An INRCA study - Hospitalization and Treatment Scientific Institute (Principi et al., 2016) focused on mapping, analysis and evaluation of regional laws (including legal proposals) on the subject. The study showed that in only four Italian regions (Abruzzo, Friuli-Venezia Giulia, Liguria and Umbria) is a law in force that regulates active aging in a transversal manner, thus providing for organic interventions for this purpose. Among the remaining 16 regions, only five (Basilicata, Campania, Piedmont, Sardinia and Sicily) there are one or more bills with these characteristics.

Still with regard to the national level, in the third report of the Ministry of Labour on the state of the art regarding the implementation of the Madrid international plan on aging actions and related regional implementation strategies, in the absence of clear concrete actions, it is (for the umpteenth time) generically emphasized that this implementation is "currently being defined" (Ministry of Labour and Social Policies, 2017).

One of the results of the EU interventions adopted in 2012 was the construction of the *active ageing index.*

Based on this index, in 2014 Italy ranks 14th out of 28 European countries. We are particularly bad with employment (19th place, but we were 22nd in 2013) and maintaining autonomy (17th place, rising from the 19th) while we are doing very well with social participation (first place with Ireland), thanks above all to the extraordinary care of children and grandchildren carried out by our elders. Practically our elderly are often full-time grandparents, and this would contribute to their active ageing.

However, the data collected for the construction of the active ageing index show, as often happens in Italy, that the absence of social policies generates informal phenomena of extraordinary importance, such as the commitment to voluntary activities and, above all, self-organization internal to families, with the elderly engaged in full service in the care of children and grandchildren.

Alongside these observations, it is useful to add that some objectives connected to active ageing, such as access to new technologies, are completely absent from national or local public policies, while they are found in the projects of private social organizations.

Conclusion

Active aging in Italy is an issue currently confined to aspects related to the labour market and social security. Despite the transposition of EU plans and documents, the rest of the system of interventions that they prefigure is still lacking, and in large part left to the initiative of the third sector.

5. Scenarios and guidelines on dealing with specific conditions

This chapter consists of the collection of exemplary scenario guidelines for professionals and trainers empowering them at the very practical level and providing them with a high capacity when dealing for example with specific conditions, such as seniors facing concrete health issues and barriers, and how they can enlist digital games towards it.

The 2012 guidelines and EU documents on active ageing identify the difficulty of access to ICT among the factors of fragility

(http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1411128908532&uri=COM:2014:562:FIN)

In some countries this has had direct implications in welfare policies, in others it has not translated into defined public actions, but has given space to private social projects (Bini, P. ; Lucciarini, S. “Barriere e opportunità all'implementazione di politiche di invecchiamento: una prospettiva comparata europea”, European Papers on the New Welfare ; n. 16 - 2011. Zaidi, A.; Zolyomi, E. “Active Ageing: what differential experiences across EU countries?” European Papers on the New Welfare, N. 19 – 2012; Ministero del Lavoro e delle Politiche Sociali (2017), Report for Italy for the third review and appraisal cycle of the implementation of the Madrid International Plan of Action on

Ageing and its regional implementation strategy (MIPAA/RIS) 2012-2017, Ministero del Lavoro e delle Politiche Sociali, Roma)

5.1 Guidelines to consider when teaching older adults with risk of frailty

For elder with limited mobility

- Reading can be an interesting activity for elder with impaired mobility: It can also improve memory, reduce stress, improve sleep, and delay cognitive decline. They can use e-readers, audiobooks or online information.
    - Advice: Provide help at home to use the ICT devices or provide support to go towards and from the activity.
    - Advice: The price of the devices and the criteria for choosing between the offers on the market can be a further obstacle: providing indications on the purchase, or renting the necessary devices can be important.
- Physical exercises are important, especially for older adults with limited mobility.
    - Advice: Online exercises programs can be helpful when the elder aren't keen on doing physical activities in group or in a sport centre.
- When ICT courses are organised: pay special attention to the (physical) accessibility of the location:
    - Can one access in a wheel chair of with a walker?
    - Are the computer tables accessible?
    - Are the computer screens large enough to provide large fonts?
    - Is the location known by the elderly? And do they know how to get there?

For elder who need mental support

- When ICT courses are organised: pay special attention to the support of elder who are challenged on mental or cognitive level.
- During the course: provide an explanation on large screen and a step-by-step guideline for each computer.
- Combine a ICT class with a social event: the possibility to sit and talk after the course.
- When you provide information, it is important that elder understand the information. Use the teach-back method by asking them what they understood of a certain explanation, to check in that explanation was clear.

For elder with limited social network

- A pet can help elder to go outside, for example for dog walks. This will support social talks with people in the neighbourhood. A gps-app on the smartphone can motivate to discover new walks in the environment.
- Include elderly themselves in discussing how to make the course more accessible for different profiles. For example, in the project "If you do not know you are not" (http://www.senonsainonsei.org/), a reflection on expectations, motivations, previous competences is first collected through questionnaire, which is then discussed during the first course lesson.
- Provide ICT support for free or in low cost, to reach out to as many elder as possible. When it is not possible, build systems of exchange or collective use.
- Making young people run the courses is a great advantage, but it presents risks: the elderly are happy to work with young people, but both may not be completely at ease. The best condition is when there are mediation figures. For example, in the Fondazione Mondo Digitale project in Rome (https://www.mondodigitale.org/it/cosa-facciamo/aree-intervento/invecchiamento-attivo/nonni-su-internet?_ga=2.55847528.2101260250.1566999925-1515372834.1546444151), courses take place in schools and teachers act as mediators and supervisors.

Exemplary scenario

Mr. X is 88 years old. He goes to the general practitioner regularly every three months for monitoring of a moderate high blood pressure and for hypercholesterolemia. He pays attention to his diet to avoid high fat and hyper caloric foods. He lives together with his wife. He never leaves his house because he feels too tired to move. His wife asks if ICT can help to set up a meaningful daily activity for her husband. *(case inspired by Frailty.net)*

Action points to consider:

- Is there ICT service or ICT support at home, to guide this person with his first digital steps?
- When taking his first digital steps, one can try to guide him to social apps, to get in contact with peers or relatives when staying at home.

- Because the man follows up his health status regularly, maybe apps on healthy living can be useful and interesting for him?
- Because the man pays attention to his diet, maybe apps and programs on cooking can be interesting for him?
- Since he has to take medication regularly, can an app that helps remembering time and doses of the medicines help him?
- Are there applications that can help this man to start moving again and perform physical activity?
- Advise the man to work on the computer/tablet during the day, and try to avoid screen-time during the evening, in order to prevent sleeping problems.
- When attending ICT courses (maybe accompanied with his wife), the location and the desks have to be wheelchair accessible.

5.2 Guidelines to consider when teaching older adults with risk of malnutrition

Malnutrition affects billions of people worldwide. Some populations have a high risk of developing certain types of malnutrition depending on their environment, lifestyle and resources.
Malnutrition is a condition that results from nutrient deficiency or overconsumption.

Types of malnutrition include :

- **Undernutrition:** This type of malnutrition results from not getting enough protein, calories or micronutrients. It leads to low weight-for-height (wasting), height-for-age (stunting) and weight-for-age (underweight).
- **Overnutrition:** Overconsumption of certain nutrients, such as protein, calories or fat, can also lead to malnutrition. This usually results in overweight or obesity.

People who are undernourished often have deficiencies in vitamins and minerals, especially iron, zinc, vitamin A and iodine.
However, micronutrient deficiencies can also occur with overnutrition.
It's possible to be overweight or obese from excessive calorie consumption but not get enough vitamins and minerals at the same time.
That's because foods that contribute to overnutrition, such as fried and sugary foods, tend to be high in calories and fat but low in other nutrients.

Malnutrition affects people in all parts of the world, but some populations are at a higher risk. For example, there are older adults, particularly those who live alone or have disabilities. Research shows that up to 22% of older adults are malnourished and over 45% are at risk of malnutrition.

Malnutrition in older adults can lead to a number of health problems, including the following:

- Unintentional weight loss.
- Tiredness and fatigue (feeling out of energy).
- Muscle weakness or loss of strength. This could lead to falls, which could cause broken bones or fractures.
- Depression.
- Problems with memory.
- A weak immune system. This makes it hard for your body to fight off infections.
- Anemia.

Thanks to digital games and digital courses older adults can improve their knowledge about healthy foods and wellness. In particular, the use of ICT will increase their attention for nutrition and will encourage healthier food choices. The best foods are those that are full of nutrients, such as fruits, vegetables, whole grains, and lean meats. Help old people limit their intake of solid fats, sugars, alcoholic beverages, and salt. Suggest ways to replace less healthy foods with healthier choices.
For example, a e-learning course can suggest them to snacking on healthy foods is a good way to get extra nutrients and calories between meals. It may be especially helpful for older adults who quickly get full at mealtimes.
Thanks to digital games old people will learn to make food taste good again. If elderly is on a restricted diet, herbs and spices can help restore flavor to bland foods. Just remember to avoid herb or spice blends that are heavy in salt.
Moreover, thanks to use of tablet or others digital tools, old people will be able to watch some videoclip about fitness and plan social activities, make mealtimes and exercise a social activity. Encourage them to meet a neighbor or friend for lunch. Many restaurants offer discounts for seniors.
Poor nutritional status in the elderly population is an important predictor of morbidity and mortality. The current advice is for professionals dealing with a senior person with the risk of malnutrition.

Additional things one should consider while providing ICT teaching to a person with poor nutrition:

1. Be sure to be able to provide to the elderly necessary ingredients & support

During ICT teaching, show her/him some joyful videos/materials to make the process playful. It is a good idea to concentrate on games and interactive materials on healthy eating and good nutritional habits.

Remind to have a healthy snacks and balanced diet during the sessions. (Crackers and cheese, hummus, cottage cheese, cream cheese or dips; dried fruit and nuts; protein filled sandwiches, sweet muffins, cakes and pastries)

2. Hydration is dramatically important

   Be aware that there is always a glass of water nearby. Older persons tend to drink less and be dehydrated compared to a younger person. Make sure that there always is a glass of water on a hand reaching distance during the teaching.

3. Make necessary breaks and feel when the elderly is tired or/and need a rest

   Malnourished person tends to get tired easier due to the lack of appropriate vitamins and nutrients in its daily routine. The professional should pay attention to the very first signals of tiredness and make small breaks.

4. Good nutrition for the elderly helps teach her/him and make care easier

   Up to half of all older adults are at risk for malnutrition, that's why it's important to make sure those you care and teach have a healthy diet. It helps prevent muscle loss, supports recovery, reduces risk for re- hospitalizations, and makes caregiving easier. The elderly having a good nutrition will be more attentive, patient during the training and will enjoy it better comparing with other seniors.

5. Stay healthy with proper nutrition yourself

   When caring for or providing ICT teaching to a malnourished person it is highly important to not forget about physical and psychological health of the caregiver and professional. Sometimes, the professionals are so overwhelmed with taking care and working with the elderly, so they can forget about themselves.

   Eating healthy is the best way to maintain your strength, energy, stamina, and immune system. It's also one of the most powerful things you can do to stay positive.

6. Rest. Recharge. Respite.

   Make sure to take some time away to re-energize or ask for help. Taking care and teaching to a person with food problems can be stressful, and taking a breath ensures that you'll be ready to take on the challenges ahead.

5.3 Guidelines to consider when teaching older adults with risk of cardiovascular disease

CASE STUDY THE MELCO PROJECT

A very interesting research project regarding the implementation of new technologies for the care of the elderly was recently undertaken by the Cyprus Technological University. The project was entitled: Mobile Elderly Living Community (MELCO): The Development of the Social Community Model. It used a mobile application designed specifically for the elderly and attempted to detect barriers and limitations towards its large-scale implementation and application in the community. Based on a detailed questionnaire-based interview with the participants three axes were taken in consideration: a) ontology, b) ecological theory and c) social network and information systems analyses for the development of the social community model. Four elderly women participated as a case study in piloting the mobile virtual system. The participants also responded to a short close-ended questionnaire. The analysis of the questionnaire and the discussions with the participants showed that elders found the mobile system useful, easy to use and expressed that the actual use of this would help them remain active. Furthermore, the participants'' concern of social isolation or dependency on others seemed to be trounced via the use of the mobile technology.
(file:///C:/Users/User/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/Melco_publication_2013__IJCS%20(1).pdf)

5.4 Guidelines to consider when teaching older adults with risk of dementia or cognitive problems

CASE STUDY THE GRANKIT PROJECT

In the framework of this project an innovative social communication platform was designed in the form of an online 'help desk' to be supported by volunteers (grandparents-senior citizens) which offers an online chat forum, for private or group discussion. The project consortium consisted of five partners: the University of Nicosia (Cyprus), the University of Hannover (Germany), the Emphasys Centre (Cyprus), the EuroEd Foundation (Romania) and the National Centre for Scientific Research 'Demokritos' (Greece). The GRANKIT project focused on two target groups: the grandparents and the grandchildren. Active ageing, digital literacy and intergenerational solidarity were promoted through the development and implementation of an innovative ICT training course that enhanced senior

citizens' digital literacy skills and supported the acquisition of the key digital competences considered essential for elderly people to participate in the highly technological contemporary world. (https://conference.pixel-online.net/ICT4LL/files/ict4ll/ed0008/FP/1952-SLA1219-FP-ICT4LL8.pdf)

5.5 Guidelines to consider when teaching older adults with risk of falling

As a general assumption, falls are a prominent cause of global injury in elderly and studies- on the one -have shown the magnitude of this problem while analyses – on the other- have indicated that the prevalence of falls for the elderly can be largely reduced by offering multifactorial falls prevention programs. An importantly negative result of the risks of falling is that the function and quality of life may deteriorate drastically after a fall; elderly people may also fear falling again, a fear leading them to reduced mobility because of the confidence loss. Furthermore, there are elderly people who may even avoid certain daily activities (e.g. shopping, cleaning) due to their fear and decreased activity may at the same time increase joint stiffness and weakness along with further reduced mobility.

In this context above, the carers, trainers, professionals dealing with older adults should take the following points into consideration when recruiting the ICT use into their practices:

1. Preventing or reducing the number of future falls and fall-related injuries and complications while maintaining as much of the elderly function and independence:
    - General information should be given about reducing the risks of falls (e.g. vision regular examination, shoes suitable choices, etc.)
    - Concrete advice has to be enlisted on how elderly should use their medication safely.
    - Medication monitoring has to be a common strategy (supplementation of vitamin D to be controlled).
    - The elderly have to be aware of the environmental hazards around them (home construction); ICT should be used for a proper environmental/home management; mapping fall risks in and around the house needs to be done as well.

2. Aiding elderly who report more than one fall and/or a problem with balance or gait:
    - Professionals and trainers have to use fall evaluations (digital, online) towards the risk factors. identification and the further opportunities to lowering risks.
    - Self-confidence of the elderly against falls needs to be constructed through depression combat and cognitive exercises; ICT has a central role here, too.

3. Falls threatening the independence of the elderly, causing individual and socioeconomic consequences
    - Maintaining - as much as possible - the elder people's independence is the most important factor in gerontology and in life and health quality promotion; therefore, professionals should be oriented to using health education and healthcare counseling through digital means.
    - In the health sector, and more specifically in falls prevention in the elderly, the use of ICT through information systems can bring significant benefits to the independence of these people; elderly guided by a digital program can learn how to prevent falls and accidents, and subsequently can feel independent, prevent falls issues, or/and deal with any health issues.

Exemplary scenario

Mr Jones is 78 years old: he has been an active person by the time he had a first fall outside his house a year ago. His children have mentioned that he may have experienced some more falls without- however- serious injuries, but he seems reluctant to report them because he attributes falling to the aging process or because he fears being subsequently restricted in his activities or even institutionalized.

His children ask if there is / are ways that he can be benefitted from the use of ICT

Action points to be considered:

- Has he ever received courses on ICT use to help him deal with any steps needed either for the prevention of falls, implications of falls or with the report necessity?
- Is he involved in any networks, or has he developed any kind of social networking via the use of technology which will help him – directly or indirectly- with the fears of restrictions and institutionalization?
- Is there the possibility that through ICT he may receive support and information about the risks of falling, falls prevention, report necessity, psychological empowerment?
- Is there a person who can guide him – via digital means & technology choices-and aid with the independence maintenance- beyond his relatives- practices?

6. Conclusions and recommendations

The European guidelines on digital literacy and on active ageing determine for a greater part the policies of the different European countries on this matter. In addition, each country gives specific

accents to the European policy to adapt the general policy to the needs of the country's ageing population. We can conclude that already different actions are set up to enhance the digital literacy of elder people, and to promote healthy and active ageing. A consistent evaluation of the policy is needed, to adjust the policies to the changing demography of the European population.

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E - learning courses

Overview

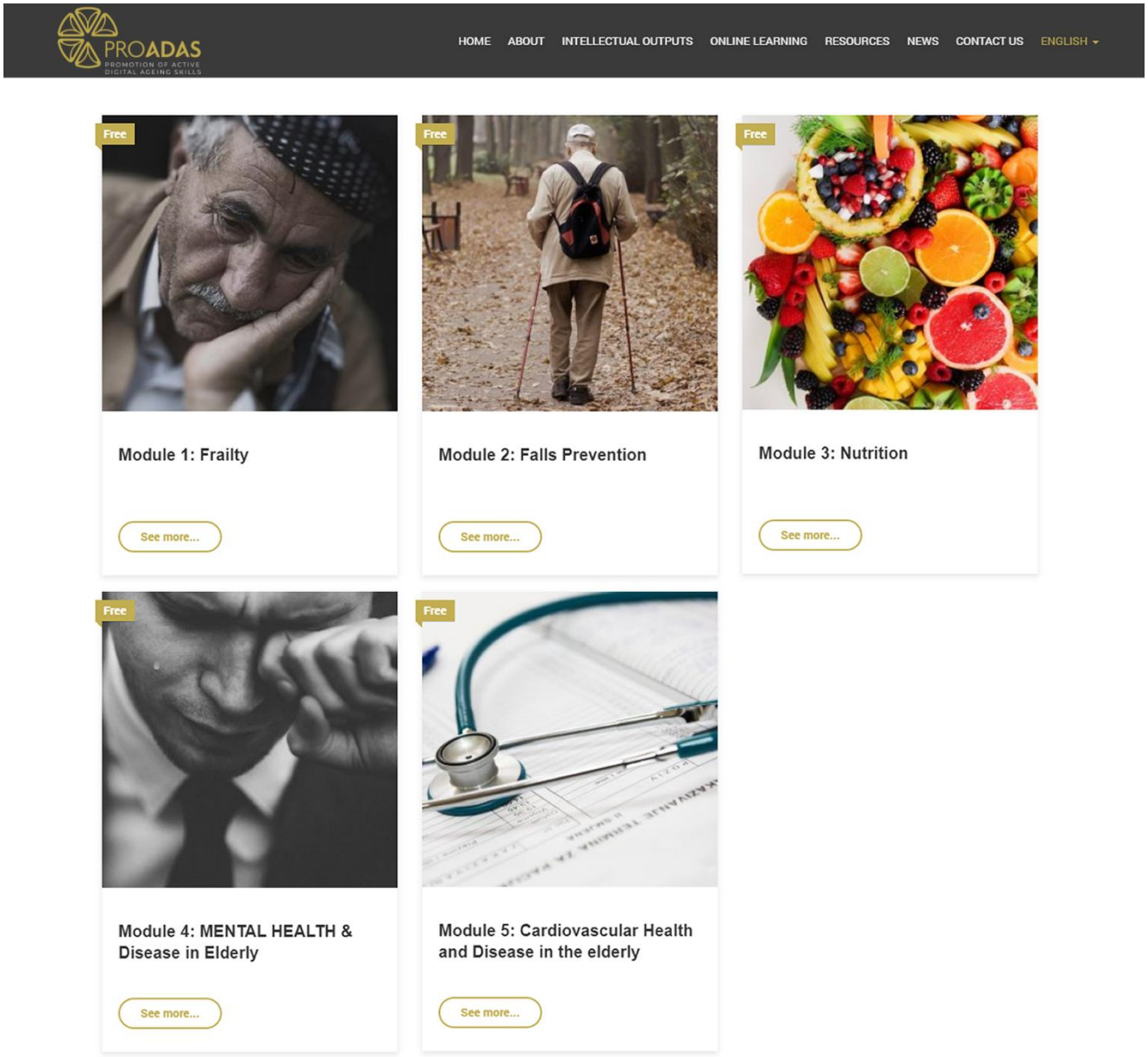
Intellectual Output 4 includes five different e-learning courses for senior citizens, as well as educators and professionals who work senior citizens, such as nurses, physiotherapists, doctors, social workers, psychologists etc.

In particular, the e-le arning courses for educators aim at enhancing their skills in managing and delivering active ageing digital competences, while the e-learning courses for senior citizens include properly adapted and elaborated content which aims at helping seniors 'discover' what the ICT can do for them, giving them the chance to further cultivate their skills.

Role of IO4

- The e-learning courses are used as a virtual learning ecosystem.
- Users are able to find the online modules, participate in learning activities, use assessment tools to evaluate their performance, and communicate with other users.
- There is support for the digital resources data base, multimedia content, and further resources.
- The applied methodology consists of approaches related to inquiry-based and problem-based learning.
- The content has been under functionality and usability testing by experts and target group members.
- The Online Learning Platform is user-friendly, provides authentic and contextualized learning opportunities, and presents content in chunks, which are compatible with modern trends of e-learning.
- The online interactive tools facilitate the learning process and promote social networking and information sharing among target groups and stakeholders.

Overall, IO4 is designed to offer online users an interesting and instructive experience!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Module 3: Nutrition

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MODULES

Module Overview

Module Nutrition refers to the **basic principles of nutrition in the elderly**, to describe nutritional practices both in terms of **food categories** as well as **nutrient content** and to present and allow the proper creation of a **healthy diet plan** for elderly individuals **with various clinical conditions**.

Module Content

EXPAND ALL

- Unit 1: Nutrition & Ageing Process
  3 Topics | 1 Quiz — EXPAND
- Unit 2: Nutrition & Disease
  3 Topics | 1 Quiz — EXPAND
- Unit 3: Muscle Mass and Eating Behaviour
  3 Topics | 1 Quiz — EXPAND
- Unit 4: Nutrition, Carers and the Community
  3 Topics | 1 Quiz — EXPAND
- References

Mobile application

Overview

The proADAS mobile application is part of the digital tools of the project, and addresses senior citizens with self-managed training on digital scaling

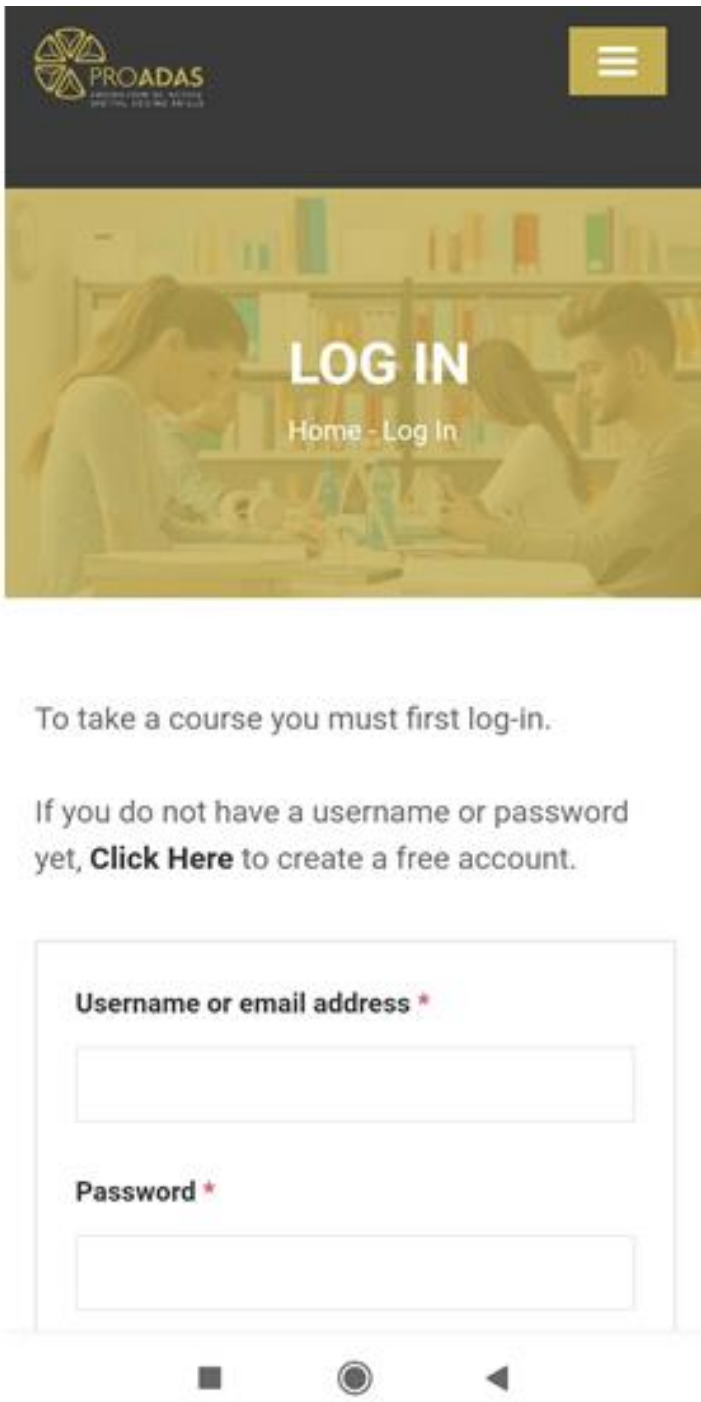
It is in fact the mobile version of IO4, and helps maximize the impact on digital use and active ageing. It is based on the project's platform and it is accessible for downloading on all major mobile platforms, such as Play Store.

Role of IO5:

- The mobile application is used in addition to the website and the online learning modules.
- In other words, it is the mobile version of the website and the online learning platform, and it is available 24/7.
- The users can go through the learning modules, study the available material and take the quizzes as many times as they wish, in order to achieve the best possible learning outcomes.
- The application is user-friendly and it is available in all partner languages and in English.

Overall, the mobile application is a useful and valuable tool for senior citizens and professionals alike!


PROADAS
Welcome to proADAS
Senior citizens represent an important and ever growing part of the European society, our economy, culture and our lives, and 'Active Ageing' as a term entails the framework in which elderly people experience a better ageing through the boosting of their life quality and the independence; adding 'digitality' in the procedure of 'active ageing' means that we provide them with the essential skills to respond to the 21st century features and demands & at the same time to help them come closer to a model of a completed life of welfare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PROADAS

The *proADAS - **Pro**motion of **A**ctive **D**igital **A**geing **S**kils -* (Erasmus+ KA204-046895) aims to enhance the digital literacy of senior citizens.

In this context "Xenios Polis. Culture, Science and Action", as the lead partner for the proADAS Book and in cooperation with European University Cyprus (Cyprus), E-Seniors Association (France), Erasmus University College Brussels (Belgium), Center for Social Innovation (Cyprus), Diciannove Società Cooperativa (Italy), Adriatic Ionian Euroregion (Croatia), presents to the reading audience the scientific book of the program.

Beyond the ultimate goal of this book, thus the wide presentation and dissemination of the results achieved during the program as well as the promotion and further implementation by any stakeholder, the proADAS Book aspires to contribute through the studies and papers presented here to the scientific mapping of a dynamic research field with multifaceted dimensions.

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