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Nations International Day of Older Persons 2021
"Digital Equity for All Ages"

The United Nations International Day of Older Persons 2021 theme "Digital Equity for All Ages" predicates the need for access and meaningful participation in the digital world by older persons.

The fourth industrial revolution characterized by rapid digital innovation, characterized by exponential growth has transformed all sectors of society including how we live, work and relate to one another. Technological advances offer great hope for accelerating progress towards the Sustainable Development Goals (SDGs). Yet, one-half of the global population is off-line, with the starkest differences reflected between most and least developed countries (87% and 19% respectively). Recent reports by the International Telecommunications Union (ITU) indicate that women and older persons experience digital inequity to a greater extent than other groups in society; they either lack access to technologies or are often not benefitting fully from the opportunities provided by technological progress.

Meanwhile, as efforts to connect more people are currently under way, new risks have become apparent. For example, cybercrimes and misinformation threaten the human rights, privacy, and security of older people. The rapid speed of adoption of digital technology has outpaced policy and governance at the national, regional, and global levels. The Secretary-General's Roadmap seeks to address these challenges by recommending concrete action to harness the best of these technologies and mitigate their risks.

Source: United Nations (www.un.org)

Editorial

The Older Adults in the Age of Technology and Digital

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The current century is accompanied with digitalization and rapid innovations, And the role of new technologies in different areas of human life is undeniable. With the increasing number of online services and the expanded digital technologies in various fields of daily life, people with disability in this field, which mostly includes the older society, are fewer considered or completely neglected. They have less communication and less use of digital facilities in comparison with young people (1). During the COVID-19 pandemic, the new conditions demonstrated with more inequalities in the use of technology at different age groups, therefore the older adults population must make double efforts to achieve the primary goods and services they need (2). “Digital Equity for All Ages” is the new slogan of international older adults population’s day, with the emphasize to the importance of older peoples’ assessment to digital world and awakening other governments, organizations, institutions, and people. It is necessary to consider the objectives of "ageism and human rights", "sustainable development", "access and literacy", "cyber security and ethics" and "accountability". In order to actualize the new slogan, norms of society, avoiding of any discrimination and stereotypes, applying technology usage policies, providing the infrastructure, accessibility and good price, privacy and legal framework, and finally the older adult's right; should be considered as new approaches. In this regard; some of the challenges of older adults population facing the digital world, are general illiteracy or a low level of technology-related knowledge. Some others are lacking a needed infrastructure in their living areas (such as rural areas). insufficient or lack of skill in using digital equipment, poor income, marital status, and employment are some other challenges for this group of society (3, 4). These challenges can have adverse effects on the older adults population, besides specific conditions associated with normal aging such as decreased function and capacity of body systems and the possibility of multiple diseases (5). Misunderstanding and stereotypes about the abilities of the older adults in every field rise with increasing the elder population, especially when the use of digital devices is much higher than the growth of the older adults population. And the consequence is, anxiety and fear among senior citizens, particularly those who don't have family, nurses, friends, and co-workers nearby to help (6). In the current situation, it seems probable that the responsible organizations of the older society in Iran do not fundamentally try to establish and improve communication access to the digital world and related services. Undoubtedly one of the key issues that can control isolation, fear, and anxiety due to the digital world is empowering the older adults to the maximum use of the existing technol-

ogies in every dimension (7). Thus, using the capabilities of digital and IT (Information Technology), architecture, health providers, and other area specialists can be very effective in the development of education and the use of facilities, especially social media. Furthermore, the governments and the older adults' affairs organizations should take the necessary measures to improve literacy level, especially in using digital devices, English language skills, subsidy for digital facilities for the needy older people. They should control rumors and inappropriate behaviors on these issues by preventing the dissemination of misconceptions and negative stereotypes around the older adults and technology (8). Older adults' associations in all countries can use social media capacity through participating with them to show and broadcast of essential and valid scientific information on opposing existing stereotypes. A brief look at society at the current situation, we understand that older adults have to use different types of technology (9). Health care providers, service delivery systems such as provincial radio and television networks, and peer education in various fields play a key role in providing an environment and facilities for the older adults by strengthening the information needed by the older adults community. These environments lead to the maximum use of available facilities because empowering the older adults to benefit from technology and digital devices improves communication with others, especially telecommunications and video calls. Providing such an environment promotes quality of life, independence in daily activities, self-care and increased life satisfaction, reducing social isolation with access to digital equipment indoors and outdoors, magazines and digital books, engagement in learning, entertainment, transportation and Transportation, banking, entertainment, getting away from the feeling of loneliness, etc., ultimately increase life expectancy with minimal disability It may also be possible to provide a platform for the older adults to make greater use of digital equipment and facilities, including robots, remote care, virtual children, smart homes, and the like (10). Finally, it can be ensured that reputable channels can play an effective role in digital empowerment by working with the older adults and providing accurate guidance and information. As a result, providing accurate and coherent information about digital facilities and equipment and, most importantly, gaining the trust of the older adults in this field is necessary to empower the older adults to be able to make informed and confident decisions in different situations.

Keywords: Older Adults ; Aging ; Technology.
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Letter to Editor

Use of medicinal plants in the older adults

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The vast country of Iran has different vegetation in terms of having different climates. Also, due to having different ethnic groups, there is a wide range of different cultures and customs in this country. One of the most remarkable of these rituals is the use of medicinal plants in various ways. People have been using plants for centuries to improve their health. Throughout history, plants have been used as food or medicine to treat or prevent disease. The World Health Organization recently reported that 80% of people worldwide use herbal medicine in some form of basic health care. Herbal medicine has a wide range of applications. Herbal remedies have positive effects on diseases such as asthma, rheumatoid arthritis, migraine and, etc. The use of medicinal plants in the older adults is of particular importance because most older adults people have several chronic diseases and usually use a variety of chemical drugs, On the other hand, they also use medicinal plants to reduce pain and treat their diseases, Therefore, they are more at risk of dangerous drug interactions than others. Also According to previous studies, herbs play an important role in the self-medication of the older adults (1). According to a study conducted on the older adults in Kurdish cities, 74.4% of the older adults used medicinal plants, and 91% of the subjects believed that the use of medicinal plants was effective in treating their disease. According to 68.7% of the older adults, the use of medicinal plants is harmless. Types of medicinal plants and their uses in the older adults included the following: Four seeds, borage, thyme, persiavash, arone flower, balango, barhang, and lemongrass in decoction form for cold, also mint, thyme, and licorice in decoction form for stomach pain as well as rice in infusion form in high blood sugar and food poisoning related problems, Chamomile brewed in kidney stones, ash, balango, marshmallow and dandelion in decoction form for constipation, stalk decoction for high blood fat, a decoction of chamomile and wormwood in podard, borage, chamomile, orange spring, valerian and Aruneh flower in infusion for headache, marshmallow flower in soaked form for skin rash and fever, a decoction of jujube seeds, chamomile and valerian in high blood pressure, hot flashes, shortness of breath, osteoporosis, cold, palpitations, diarrhea, poisoning, hair loss, Dermatitis, memory loss, miscarriage and also tinnitus and crown in muscle cramps. On the other hand, the most common causes of consumption of herbal treatments were cold, stomach aches, headaches, foot pain, and hypertension. Also commonly used medicinal plants among the older adults are thyme, four seeds, borage, sage, rice, licorice, arone, jujube, persiavash, balango, wreath, mint, valerian, lolopshmi, marshmallow, and spring orange (2). Aging leads to psychological, social, and psychological changes and is often associated with functional and structural changes in the central nervous system. Memory impairments and their loss are currently two issues of concern for the older adults. Using medicinal plants is one of the new recommendations and techniques proposed to strengthen memory and prevent its reduction. With age, the process of destruction and weakening of the function of organs, including the brain, is predictable. Physical activity and proper nutrition are factors that play an important role in the health of the nervous system. Brain-derived neutro-

phil factor (BDNF) is a factor in nerve growth. This protein prevents neurodegeneration. This protein decreases with age. Tumor protein necrosis alpha (TNF-α) increases neuronal cell destruction. According to the results of a study, consumption of frankincense along with regular walking increases BDNF and decreases TNF-α in the older adults, so frankincense can have positive results on memory, brain function, and prevention of Alzheimer's Disease (3). Reports also indicate that four months of consumption of lemongrass in the older adults with Alzheimer's disease not only prevented the progression of the disease but also reduced the symptoms of the disease (4). According to the results of a double-blind clinical trial performed on 70 older adults people, the herbal composition of frankincense and lemon balm had a positive effect on the memory of the older adults (5). Also, the plants of the wedge, lavender, licorice, amla, belladonna, biloba, and ginger have been prescribed in traditional medicine for dementia. Pharmacological studies show that these plants exert their anti-dementia effect by inhibiting acetylcholinesterase, antioxidant, anti-inflammatory, anti-apoptotic and preventing the formation of beta-amyloid plaque (6). Osteoarthritis is one of the most common diseases which is not directly lead to death but is one of the major causes of disability in the older adults. There are medications and surgeries for different types of osteoarthritis, which are expensive and can cause significant side effects. The results of previous studies in the older adults with mild to moderate osteoarthritis of the knee with impaired physical function show that topical pterygium oil has a greater effect on improving physical function than diclofenac gel (7). According to these descriptions, medicinal plants can be very useful and effective in treating the problems of the older adults with fewer side effects compared to synthetic drugs, but studies on medicinal plants to find a more useful and effective treatment are still ongoing and more studies are required.

Keywords: Aging; Medicinal plants; older adults.
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Top Article

Congratulations to Dr. Mostafa Araj-Khodaei, Assistant Professor of Traditional Medicine, TUOMS, and Dr. Albert Gjedde from Center of Neuroscience, University of Copenhagen on having their article entitled: "Relative strengths of three linearizations of receptor availability: Saturation, Inhibition, and Occupancy plots", published in Journal of Nuclear Medicine (IF=10.057), which has been selected as the top article of this issue. Aging Research Institute expresses the warmest greeting to them.

Student Letter

Management of hypertensive crises in the older adults

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Blood pressure above 120/80 mmHg is referred to as a hypertensive crisis. Emergency or urgent nature of the crisis can be identified from the end-organ damage. In older adults patients, physicians should pay more attention to nonspecific symptoms while specific symptoms are not fixed. In order to control this crisis in older adults patients, a number of parameters should be considered, including; knowledge of the pathophysiological changes, pharmacological options, pharmacokinetics of the medications used, their side effects, and their interactions with other medications. The choices of treatment can be referred to Clevidipine, nicardipine, labetalol, esmolol, and fenoldopam. It is also recommended that Nitroprusside, hydralazine, and Nifedipine due to complications or unpredictable responses should be avoided unless another option is not available.

Several other drugs have been used to treat this disease, including, enalaprilat, diazoxide, and trimethaphan camsylate(1, 2) Of course, these drugs are not the main treatment option because they have significant side effects (3).

Enalaprilat as an intravenous angiotensin-converting enzyme (ACE) inhibitor, can potentially compromise the already declined renal function in older adults patients making it less favorable option (4). It may also be due to a decrease in reflex tachycardia pressure. (5, 6).

Trimethaphan camsylate is a non-depolarizing sympathetic and parasympathetic ganglia blocker(5). It is a competitor to acetylcholine (5). It lowers blood pressure, but on the other hand, it has many side effects including tachycardia and exacerbation of ischemic heart disease; therefore, It should not be given to older people (7).

Diazoxide causes the peripheral vasodilatation (8). It causes severe hypotension as well as ischemia of the heart if administered intravenously (9).

The management of hypertensive crisis especially in older adults patients is a clinical challenge for physicians. The pathophysiological changes in these patients make them at risk of more complications. Therefore, extensive knowledge of the available agents, their side effects, and interactions with other agents, is essential for a successful outcome.

Keywords: Older adults ; Hypertensive ; Blood pressure.

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COVID-19

A glance on the published articles about aging

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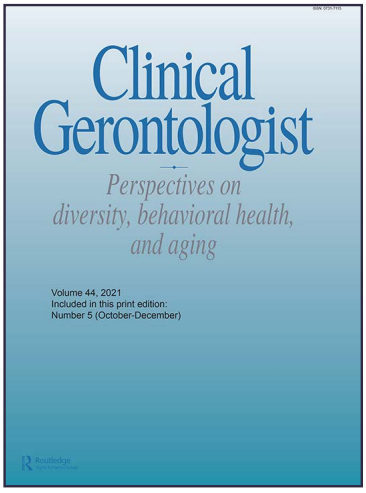

Leilani Feliciano et al. from the department of psychology of the University of Colorado, the United States in a study entitled "Impacts of the Coronavirus Pandemic on the Emotional and Physical Health of Older Adults Compared with Younger Cohorts", compared the emotional and physical health and overall well-being related to social restrictions during the coronavirus disease (COVID-19) pandemic among older adults, middle-aged, and younger adults.

276 people have participated in this study and data regarding the mental and physical health, as well as positive and negative impacts of the pandemic, were collected through an online survey.

This study found that depressive symptoms and coronavirus anxiety level differed significantly by age. Older adults reported less depressive and anxious symptoms than younger cohorts. Negative COVID-19 experiences significantly predicted higher levels of stress, anxiety, and insomnia symptoms in younger adults as compared to older cohorts. Also, the findings of this study indicate that social restrictions had a more substantial negative impact amongst younger adults compared to older adults, particularly in terms of mental health and well-being.

This study indicated that older adults may be more resilient to the impacts of the pandemic than youngers. Also, the findings of this investigation suggested that older adults may serve as a critical resource for how to navigate crisis situations of this nature. The authors of this study suggested continuing to monitor health outcomes as the pandemic subsides in conjunction with the vaccine rollout, as the long-term effects of social distancing and stay-at-home measures are yet to be determined in future studies.

The finding of this research was online published in Clinical Gerontologist on 31 Aug 2021.

Keywords: Coronavirus, COVID-19, social distancing, social isolatio, healt, hwell-being, older adults

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Falls in the Older adults: Epidemiology, Assessment, and Prevention

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Falling is a sudden event that would be a result of falling from an upper level or same level surface. According to the World Health Organization, falling is the second leading cause of unintentional injury deaths worldwide, around 40-60% of falls eventuate in injuries (1). The lethality of the fall from 1993 to 2003 in the United States, Finland, and Spain increased by 59% (3). The older adults population has increased worldwide and in Iran. Approximately one-third of people over the age of 65 experience a fall at least once a year (1).

Location and time distribution

According to global statistics, 80% of falls occur in low- and middle-income countries (1). Its mortality rate is highest in the Eastern Mediterranean, with 2.9 cases of fall occur per 100,000 people (1). The severity of falling in urban areas is higher than in rural areas and the home environment is one of the most common places (80%) for the older adults to fall. About 22% of falls occur in the yard and 34% at night, and about 17% of the older adults report a history of falls in several parts of the house (1, 4).

consequences

Some consequences of falling: Consequences of falling compasses a wide range from soft tissue injuries, vertebral and rib fractures, hip joint dislocation, hip fractures, organ damages, inter-cranial injuries, and subdural hemorrhage, with upper and lower limb fractures, and head trauma are the most common ones (5-7). Every year, 646,000 people die due to falls and this rate is higher in the older adults, so that 11-22% of the older adults die due to falling, and in the older adults over 85, the death rate reaches 40%, and the survival rate for them is Less than other age groups (1, 7, 8). Having fear of falling with a prevalence of 76%, causes less tendency to social interaction, reduced quality of life affected by limited mobility and reduced life satisfaction, inability to perform daily functions, Increased depression leads to other psychological problems (7, 9).

Costs

It is estimated that about 40% of long-term hospitalization with exorbitant costs is due to falls (10) and about 33% of the cases require high-costed surgery after falling (11). Health-care costs for falling in 2020 reached about $ 32.4 billion In the United States (12). The World Health Organization report shows that the average health care costs for each falling case in the Republic of Finland and Australia are $ 3611 and $ 1049, respectively (4). Evidence in Canada shows that effective fall prevention strategies can be implemented. It can generate net savings of more than $ 120 million per year (1).

Risk factors

Risk factors for falling in the older adults include: Increase in age, female gender (probability of falling 37% for women and 27% for men and high mortality probability in men), (13) History of falling, living in urban areas, low light and cluttering in traffic routes, uneven surface inside the house, lack of fixation for padding and carpet, lack of non-slip flooring, difficulty in accessing bedside lamps and kitchen utensils, not paying attention to safety around the house, bathroom, toilet, kitchen, stairs, toilet being away from the bedroom, inappropriate shoes, etc. (1, 11, 14). Physical illness, skeletal, neurological, and cardiac problems, malnutrition, muscle weakness, urinary incontinence, arthritis, cognitive impairment, vision and hearing, depression, movement disorder, slipping, loss of consciousness and dizziness, seizures, stroke, syncope, Aggressive and violent behavior (1, 13, 15), antipsychotic drugs, antiarrhythmics, digoxin, diuretics, hypnotics and sedatives, substance, and alcohol abuse, living or working at high altitudes, falling heights, physical inactivity and Proper exercise, low-risk perception, lack of attention to pet safety and ... (1, 4, 14)

Fall risk assessment

There are various tools for measuring the risk of falling in the older adults that can predict the risk of falling for them and prevent its occurrence, including FRAT and STRATIFY (16, 17).

Prevention

Fall trauma is preventable. Fall prevention strategies for the older adults are based on one risk factor or several risk factors. In many cases, single-factor intervention can be very effective while costing less.

Some of the prevention methods are as follows:

Exercise and physical activity: Physical activity and walking or even jogging cause an increase in balance ability and good posture while standing or walking around. Physical activity programs such as Tai Chi exercise have an effective role in increasing the balance ability of the older adults (1) However, for high-risk older adults, little effect has been reported (1). Weight-bearing and balance exercises can reduce the risk of falls in the older adults by up to 50 percent and subsequent complications such as trauma by up to 60 percent (18).

Vision correction: Vision problems increase the risk of falling in the older adults, especially at night, which reduces the risk of falling with correction, for example, cataract surgery reduces this rate to 34% (1).

Surgical interventions: Implantation of a cardiac pacemaker reduces 58% in the rate of falling and 70% of falling-related injuries (1).

Fluids and electrolytes therapy: Lack of fluids and nutritional disorders cause weakness and hypotension and fall. Therefore, preventive measures in this area can be effective.

Shoe correction: Anti-slip tape under the shoes in winter or slippery places has suitable effectiveness, which results in a 42% reduction in falling rates (19).

Education: Assessing the effectiveness of fall education needs further investigation (1). However, raising public awareness is one of the most reliable methods of prevention.

Injury-prone areas need support: That 95% of hip fractures are caused by falling, the use of hip protectors is an option to reduce falling-related trauma and injuries in high-risk individuals. Also, the effectiveness of using head protectors approved for preventing skull injuries and brain injuries in various sports such as cycling and motorcycling (1).

Pharmacological interventions include the gradual reduction of psychotropic drugs such as benzodiazepines and vitamin D supplementation.

Environmental interventions and house remodeling: In high-risk areas such as bathrooms, kitchens, stairs, and corridors by installing protective railings, auxiliary handles and anti-slip carpets, non-slip floors, home layout, and removal of hazardous equipment can reduce the risk of falls (1, 6).

Conclusion and suggestions

Falls in the older adults are preventable. Conducting population-based studies will greatly help to clarify the problem and increase awareness and design better preventive interventions for the older adults in the community, which together will increase the quality of life in the older adults.

Keywords: Older adults ; Epidemiology ; Prevention.
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