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- Challenges and Self-care of Health professionals during the COVID-19 pandemics from SARS-CoV-2 a critical review
- What influences quality of life and healthy aging of older persons?
- Factors that influence nurses' work-related quality of life: Systematic literature review
- Investigation of occupational injuries in a tertiary hospital

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2. Parallel articles publication. Papers must be submitted exclusively to the Journal "Nursing Care and Research", they have not been published previously in print or electronic form, nor they are under review in another journal electronic or printed by the time of submission, in English or in any other language. The Editorial Board decides on the (fastest possible) time of publication of articles and reserves the right to modify their format. However, major, or substantial modifications are made only after authors' consent.

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If the work is accepted for publication and in order to be published the author or at least one of the authors must be a registered subscriber of the journal (annual cost € 20) or a regular member of the Nursing Studies Association for the current year (annual cost € 15 and € 6 one-time as registration fee). If none of the above applies, the cost of publication is € 20, which includes access to year-round issues. Payment can be

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There is a limit on the number of authors allowed for original articles, which should not exceed six (6), except from special cases when it comes to multi-disciplinary, large-scale multicenter studies. The authors of systematic reviews (meta-analysis, meta-synthesis, mixed methodology, scoping reviews and certain types of non-systematic reviews (eg narrative or critical reviews) should not exceed four (4) authors, while the authors of descriptive reviews should not be more than two (2).

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Lewis T, Hell J. (1992). Rhabdomyolysis and Myoglobinuria. In: Hall J, Schmidt G, Wood L. (eds), *Principles of Critical Care, Volume 2*. New York: McGraw Hill.

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Challenges and Self-care of Health professionals during the COVID-19 pandemics from SARS-CoV-2 a critical review

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ABSTRACT

The COVID-19 pandemic has brought health professionals face to face with great challenges both personal and professional. They were called to deal with unprecedented situations related to the illness itself, health system's weaknesses, manage their own stress, cope with social prejudice and stigmatization and more recently deal with the dilemma of getting the COVID-19 vaccine or not.

The purpose of the present critical review is to describe challenges faced by health professionals during the COVID-19 pandemic, make suggestions on self care techniques and indicate ways to augment their empowerment. However, not all health professionals develop the same level of stress and/or burnout, since they differ in their ways of reacting to various challenges. In the context of self-care, during the COVID-19 pandemic, psychological empowerment can strengthen resilience, optimize the quality of care provided, contribute to health professionals' personal development and enhance their sense of personal control. It is important for health professionals to forge their own "shield" of self care that will help

them protect against adversities. Future cross-sectional and qualitative studies should focus on investigating secondary stress disorders and post traumatic growth, as a result of experiencing COVID-19 pandemic whereas suggest ways to improve health professionals' physical and mental health during and after the pandemic.

What influences quality of life and healthy aging of older persons?

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ABSTRACT

INTRODUCTION: Worldwide, the population is rapidly aging. Most of older people prefer rather to have quality of life and maintain basic rights and fundamental freedoms with dignity than long life with low quality. Quality of life is a multidimensional, complex and subjective construct depending on the context, culture and value systems. Health policy-makers need urgently to focus on quality of life for all through health promotion and well-being, disease prevention, and better healthcare services mainly at home.

PURPOSE: To identify factors that positively influence quality of life and healthy aging, to emphasize their implications, and make informed recommendations for healthy and happy aging.

METHODS: We searched the most recent literature using various databases (CINAHL, Google Scholar, PubMed), organization reports and websites to retrieve publications related to quality of life of older persons. Using the same keywords, we also searched the reference lists of the eligible identified publications.

RESULTS: The main factors positively contribute to healthy and happy aging include arts (e.g., music, dance), brain fitness, exercise/physical

activity, connection with nature, nutrition, and social and intergenerational activities.

CONCLUSION: The pursuit of happiness and quality of life is human right and everyone's overarching goal linked with psychosocial and physical health, and feelings of pleasure, contentment, and joy. Policies and innovative technological interventions are required to reduce older peoples' social isolation and loneliness. Public awareness for healthy aging, well-being, and cost-effective outcomes may contribute to cohesive and happy communities. Regulated combination of these factors could influence lifestyles leading to healthy and happy aging.

KEYWORDS: arts, healthy aging, older persons, physical activity, quality of life, technological innovations.

INTRODUCTION

Quality of life (QoL), a multidimensional, complex and subjective construct, has been defined by the World Health Organization (WHO 1993) as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”. QoL includes aspects of physical health, psychological well-being, social relationships, environment (Power et al. 1999), social dimensions of health (e.g., income, education), spirituality, perceived satisfaction with life, and happiness (Baernholdt et al. 2012, Tripathi 2012). From older peoples’ perspectives, QoL is an “amorphous concept” (Asthana 2009) categorized into nine strongly connected domains: autonomy, role and activity, health perception, relationships, attitude and adaptation, emotional comfort, spirituality, home and neighbourhood, and financial security (van Leeuwen et al. 2019). As the global community is rapidly aging, it is estimated that by 2050, 20% of the population will be over 60 and those over 80 to triple (shorturl.at/jovwK). In Canada, the current population that permanently lives in the country is 37.6 million with the largest annual growth (+1.4%) among all G7 countries (Statistics Canada 2020). About 6,593 million people are older than 65 years of age and centenarians (10,795 mostly women) have tripled from 2001. Most of older people prefer rather to have QoL than long life with low quality. Thus, health policy-makers need urgently to focus on global health and QoL through health promotion and well-being for all, disease prevention, and better healthcare services. The increasing ratio of older persons to working population will worsen the problem and lead to a crisis, when the level of benefits increases faster than tax collections (Feldstein July 2, 2018). Getting older is a unique experience with much time for hobbies, feeling of accomplishment and self-actualization, and living in the moment. However, aging comes with challenges influencing QoL such as health issues (e.g., sensory deficits, physical and mental illnesses, functional status), social isolation (e.g., loneliness, boredom), and financial concerns (Paskulin and Molzahn 2007). Satisfaction with life and healthy lifestyle are leading to healthy

aging, QoL and overall well-being for older persons. WHO emphasizes the importance of health and well-being as “public goods and assets for human development that contribute to strong, dynamic and creative societies” (WHO 2019, p.2). Factors positively influence healthy aging and well-being include brain fitness, art activities, exercise, reconnecting with nature, healthy nutrition, social engagement, and maintaining basic rights and fundamental freedoms with dignity (WHO 2015). The purpose of this work was to identify modifiable factors that positively influence QoL and healthy aging, their implications on policy, and make informed recommendations for healthy and happy aging.

METHODS

We used an integrative literature review approach (Souza et al. 2010) and the following keywords in all literature searches: arts, healthy aging, older persons, physical activity, quality of life, technological innovations. We searched various databases (i.e., CINAHL, Google Scholar and PubMed); organization reports (e.g., All-Party Parliamentary Group on Arts Health and Well-being, British United Provident Association and Centre for Policy on Ageing, World Happiness Report, OECD); and websites (e.g., American Geriatrics Society, Canada Technology and Aging Network or Age-Well, Green infrastructure and the Health and wellbeing Influences on an Ageing population or GHIA, World Health Organization). We also expanded our searches using the reference lists of all eligible identified publications.

FACTORS FOR QUALITY OF LIFE AND HEALTHY AGING

The main factors we identified in the literature that are well described and contribute to healthy aging, well-being, and QoL include (in alphabetical order): art activities (e.g., painting, dancing, music), brain fitness (e.g., mindfulness), exercise/physical activity, connection with nature (e.g., gardening), healthy nutrition (e.g., Mediterranean diet), and social engagement and intergenerational activities. Next, we will discuss each one of those factors in more details.

Arts

Early civilizations recognized the beauty in nature, soothing rhythms of poems, harmony of movement and music and their contribution to body to maintain good health (All-Party Parliamentary Group on Arts Health and Wellbeing Inquiry Report 2017), cognitive functioning, mental/emotional health, social engagement, satisfaction and well-being, purpose in life (Fraser et al. 2015). Creative efforts in various ways (e.g., writing, dance, singing, gardening, culinary arts) are appreciated as a unique individualized experience with positive effects on physical and mental health, QoL and well-being for people of all ages (All-Party Parliamentary Group on Arts Health and Wellbeing Inquiry Report 2017). Arts interventions can contribute to prevention and risk reduction of age-related mental and physical illnesses, health promotion, and support treatment or management of health conditions across the lifespan (Fancourt and Finn 2019, WHO 2019). Arts engagement contribute to holistic and patient-centred care, provide social and emotional support in palliative care and bereavement, and improve experience and outcomes in emergency and rehabilitation (WHO 2019). While artistic engagement contribution to QoL and health for older people is growing (Fraser et al. 2015), those low-risk non-invasive and cost-effective non-pharmacologic interventions in people with dementia are still in its infancy (Vancampfort et al. 2020). Engagement with arts may empower people with dementia, their families, caregivers and educators to strengthen social, emotional and spiritual bonds. Sensory stimulation (e.g., dance, music, painting/visual arts) and psychosocial stimuli (e.g., one-on-one socializing) result in positive outcomes for most of older people with dementia (Cohen-Mansfield et al. 2010). The Arts & Minds non-profit organization (<https://art-sandminds.org/>) is committed to improve QoL for people with dementia, in New York, via an interdisciplinary approach and art-based activities to create positive emotional and cognitive experiences, enhance verbal and non-verbal communication, experience social connection and self-discovery, reduce isolation, and build community. To help people with mental health challenges in Cambridge (shorturl.at/gpvA5), and

support mental health initiatives with arts, and broaden acceptance, recognition, and awareness of mental health issues across Canada (shorturl.at/atxZ0). Arts engagement also foster healthy aging by diminishing anxiety, depression, and stress; increasing self-esteem, confidence and purpose; and influencing mood leading to better nutrition, hydration and social engagement (All-Party Parliamentary Group on Arts Health and Wellbeing Inquiry Report 2017). In UK, "arts prescription" as a person-centered and effective intervention to physical and psychological pain (instead to medical treatment) showed that physician consultation rates dropped by 37% and hospital admissions by 27%, while the intervention cost saved £216 per patient (All-Party Parliamentary Group on Arts Health and Wellbeing Inquiry Report 2017).

Music

Music activates and intellectually stimulates the entire brain and cognitive functions, especially in persons with dementia (Baird and Samson 2015, Baird and Thompson 2018). It increases one's abilities to carry out daily living activities (Fancourt and Finn 2019); triggers smiles, laughter and tears and awakens memories of earlier lives (e.g., childhood) that can link to person's past (Baird and Samson 2015, Baird and Thompson 2018) and start conversations and storytelling (Ekra and Dale 2020). Regardless older persons' language ability or whether events had long forgotten, systematic music activities evoke emotions and reactions sometimes expressed through body language such as clapping hands, tapping feet (Baird and Samson 2015, Ekra and Dale 2020). Listening to music is a means of non-verbal communication building social relationships and may facilitate life satisfaction (Hebert et al. 2018). Although unknown how music engages the aging brain or whether it is an important intervention to improve older persons' lives, music interventions may be effective in alleviating symptoms of anxiety and depression, improve mood, promote a feeling of well-being, and achieve relaxation and QoL (Fraser et al. 2015, Petrovsky et al. 2015). While music is not a cure for dementia, it may be effective in reducing behavioral and psychological symptoms (Baird and Samson 2015, Ray and Mittelman 2015, Sung and Chang 2005, Tsoi et al.

2018) beyond any medication effects. Listening to music during physical activity increases the volume of activity helping individuals to exercise more regularly and for longer (Fancourt and Finn 2019). Music is also associated with increase in discharges and reduction in the average length of stay, falls, and need for antipsychotics in hospitalized people (Fancourt and Finn 2019). Individualized music, particularly, stimulates life-enriching experiences and pleasure (Baird and Samson 2015, Ray and Mittelman 2015); improves emotional well-being and mood of older adults with chronic diseases (Haboush et al. 2006, Quach and Lee 2017); influences cognitive and emotional efficacy in persons with dementia (Baird and Samson 2015, Särkämö et al. 2016); and improves QoL (Särkämö et al. 2013) and reduces behavioral and psychological symptoms of dementia (Mallidou et al., in review). Music preferences is part of one's identity that promotes dignity and relieve boredom (Hebert et al. 2018), and can increase emotions/affect during and immediately after the intervention in older people with dementia (Mallidou et al., in review). Overall, real stories demonstrate the power, joy, and healing effect of music (shorturl.at/rzEV3).

Dance

Dancing is an activity combining musical-kinetics and skills; an aerobic low-level resistance exercise beneficial in various conditions including arthritis, dementia, and Parkinson's disease (British United Provident Association and Centre for Policy on Ageing 2011). Dancing at old age is a popular leisure, low-risk physical activity, and part of holistic care (Lehikoinen 2019). Dance improves cardiovascular fitness that positively influence cognition and brain volume (Niemann et al. 2016), "white matter" integrity in the brain that shortens gradually, and thinking and memory problems later in life (Burzynska et al. 2017). Dancing stimulates the brain due to the constant effort to learn and remember new steps, and adapt to movements (Douka et al. 2019). It enhances psychological status (e.g., mood, self-esteem) (O'Toole et al. 2015) that may encourage social engagement; develops a sense of belonging and group identity that may reduce depression and social isolation (Murrock and Graor 2016); eliminates feelings of loneliness (Douka

et al. 2019); and effectively maintains and promotes health and social well-being (Douka et al. 2019; Lehikoinen 2019, Sheppard and Broughton 2020). Those experiences influence QoL for people even with severe cognitive dysfunction (O'Rourke et al. 2015b). Dancing creates a thriving environment for individuals due to the combination of emotions, social interaction, motor coordination and music. For example, therapeutic ballroom dancing reduce the risks of dementia by 76% (BUPA and Centre for Policy on Ageing 2011), relieve depression in older persons, provide the opportunity for direct physical contact with another person and a more personal experience, and increase comfort and enjoyment (Haboush et al. 2006). Waltzing is an effective aerobic exercise that improves functional capacity in patients with chronic heart failure (Fancourt and Finn 2019). Hip-hop dancing improves level of energy, lifts mood and lowers stress in ways similar to aerobic exercise (Kim and Kim 2007). A 10-week Greek traditional dance program (Sofianidis et al. 2009) improved static and dynamic balance control of community-dwelling healthy older persons that potentially prevent falls, reduced postural sway during performance of one-leg stance, and increased the range of upper trunk rotation. Although dancing demands a lot of energy, even older persons out of shape can dance with positive outcomes (shorturl.at/chILU). Older persons can be engaged in meaningful dance activities in a safe and accessible way to enhance physical, cognitive and overall health and well-being (shorturl.at/JKQU1). The "90 is the new 70; dancing... is a way of changing your whole life for the better!", says Scotto in her London studio (<https://www.simonascotto.com/>), where she is training older than 55 years of age persons to become professional dancers. Those professional dancers believe dancing is a form of socialization that can buffer the effects of stress and depression and enhance QoL (Mallidou & Scotto, in review).

Brain fitness

There is a strong two-way causal relationship between the brain and the mind. That means, the mind can transform the brain (Arden 2010, Begley 2007, Gardner 2004, Levitin 2007, Schwartz

and Begley 2002). Changing the way of thinking through mental training (e.g., worrying less, meditation, mindfulness) the brain creates and shapes the mind and vice versa (Gardner 2004, Schwartz and Begley 2002). For example, mothers' expressions of love and physical contact can trigger different responses in their children (Hunter 1999, Noriuchi et al. 2008). Therapeutic touch, based on the belief that human beings are fields of energy constantly in interaction with others and the environment, is a relaxing and nurturing energy therapy that assists in balancing physical, emotional, mental and spiritual well-being; and decreases negative behavioral symptoms in dementia (Anderson et al. 2017, Lu et al. 2013, Wardell and Weymouth 2004). Meditation is a way of mind training to improve emotional, physical, and spiritual well-being (www.MindandLife.org). A recent (2019) Alzheimer's documentary ("Monster in the mind") by the 83-year-old CNN veteran journalist, Jean Carper, is devoted to contemporary research leaders and the power of the mind that can help us save ourselves and the world from dementia (shorturl.at/brxyO).

Exercise/Physical activity

Regular physical activity that includes simple exercises at home alone or in groups is one of the most important factors for life to maintain good health in older age, transform body and mind (<https://healthyageinc.wordpress.com/page/4/>), increase life expectancy, and contribute to QoL and well-being (Douka et al. 2019). For older persons, regular physical activity includes leisure time (e.g., dancing), transportation (e.g. walking, cycling), household chores (e.g., gardening), and sports activities (e.g., swimming, hiking). Overall, older persons should performed:

1. *Aerobic* activities: in bouts of at least 10 minutes duration and at least 150 minutes per week of moderate-intensity (or at least 75 minutes per week of vigorous-intensity or an equivalent combination of moderate- and vigorous-intensity).
2. *Any kind* of physical activity: at least 3-days per week to enhance balance and prevent falls.
3. *Muscle-strengthening* activities on at least two days per week (shorturl.at/DELQ7).

The benefits of those activities include lower rates of all-cause mortality, coronary heart disease, high blood pressure, stroke, type-2 diabetes, and colon and breast cancer, and reduce risk of depression and cognitive decline, falling, moderate and severe functional and role limitations. In addition, higher level of cardiorespiratory and muscular fitness, healthier body mass and composition, better cognitive function, and a favourable biomarker profile for prevention of cardiovascular disease, type-2 diabetes, and enhancement of bone and functional health were observed (https://www.who.int/dietphysicalactivity/factsheet_olderadults/en/).

Nature

The natural environment within which humans live is a blessing. The outdoor surroundings are important for exposure to daylight, participation in enjoyable activities and meaningful experiences such as change and freedom, and perceptions of well-being and thriving (Johansen and Gonzalez 2018). Exposure to and experience with nature and gardens stimulates social interaction and meaningful conversations, restoration of attentional functions, and reduction of mental tiredness (Johansen and Gonzalez 2018). The natural environment, though, need to have certain qualities to affect human experience: a) being away from one's ordinary environment and the nature is in accordance with the individual's interest in nature; and b) the nature is extensive to be explored and retain engagement over time, and has the potential to fascinate (Johansen and Gonzalez 2018). At the community level, creating or improving urban green space may be an effective and sustainable way to increase physical activity and improve other aspects of well-being in the population. A recent natural experiment in deprived urban neighbourhoods in Greater Manchester (<https://ghia.org.uk/>) shown that urban green (e.g. parks, private gardens) and blue (water-related) spaces are important for health and wellbeing in later life and support healthy aging in urban areas (Benton et al. 2018, Dennis et al. 2020). The benefits are due to personal and social memories they embody; opportunities to connect with nature and others, participate in active outdoor activities and adventures, inde-

pendence and growth; and encouragement for designing and running activities such as dementia walks. For example, dementia walks may include short stops and talks about wildlife, flowering and fragrant plants, natural (e.g., pet dogs, water features) or artificial elements (e.g., sculptures, art). Also, other park activities (e.g., children playing, sports), special park features (e.g., heritage, cafés) or memorable places may be suitable prompts for engagement (GHIA 2020). The influence of well-designed outdoor natural spaces (e.g., gardens) on health and well-being for older persons in residential care facilities is increasingly recognized. The nature exposure is a multisensory stimulation, whose benefits include improvement of agitation, stress, depression, pain, psychosocial well-being, sleep, attention restoration, social interaction, independence, sense of purpose, wandering behaviour, and reminiscence (Astles 2015). Nature and gardens offer a symbolic environment that potentially activates memories (reminiscence) that promote identity, self-worth and self-perception, which in turn reinforce feeling of wholeness, coherence, and meaning (Johansen and Gonzalez 2018). However, nature and outdoors are rarely used as a therapeutic intervention in residential care facilities. When they are, the benefits of sensory gardens, therapeutic horticulture, and other purposeful use of plants as non-pharmacological interventions in dementia care are related to improve behaviour, affect, well-being and functional level, better sleep pattern, and reduce disruptive behavior (Abraha et al. 2017, Gonzalez and Kirkevold 2014).

Nutrition

Healthy diet is an important modifiable factor in cognitive performance (Mallidou and Cartie 2015) that can have powerful benefits for well-being in combination with physical activity even in older people (WHO 2015). For example, meat consumption influences emotions, feelings, behaviour, and character; malnutrition increases hospitalization, infections, and mortality, while reduces social engagement; and dehydration increases fatigue, confusion, and anger and influences cognition, memory and mood (Mallidou and Cartie 2015). The Mediterranean diet

(e.g., fruits, dark green leafy vegetables, olive oil, grains, legumes) reduces the risk of cognitive decline and Alzheimer's disease, since most of the nutrients have an impact on cognition (Gu and Scarmeas 2011, Ng 2013, Psaltopoulou et al. 2013). There are many ways to affect cognitive health throughout life; lifestyle choices promote cardiovascular health and benefit the aging brain (Ball and Birge 2002). With advancing age, micronutrient deficiencies increase because of decreasing caloric requirements (Ball and Birge 2002). Vitamins B primarily, iron and zinc are associated with cognitive impairment. Nutritional supplements (e.g., multivitamin) can be recommended as an intervention to treat malnutrition (Vancampfort et al. 2020) sufficient to prevent these deficiencies and the risk for dementia (Ball and Birge 2002). Also, a higher vegetable intake can promote health and well-being, and health-related QoL (Azupogo et al. 2018); the TUFTS Food Guide Pyramid for Older Adults may also be helpful (shorturl.at/drBQ3). Finally, since eating is a social event, isolation can be a negative factor for nutrition and health (Boulos et al. 2017, Illario et al. 2016).

Social engagement and intergenerational activities

Humans are social animals by nature. Social relationships (or other aspects of it such as social isolation, social support, loneliness, social networks), as a modifiable social determinant of health, is a significant public health risk associated with health and well-being. Living alone and poor social support are associated with an increased risk of institutionalization of older men living in rural areas (Takeuchi et al. 2018) and with poor physical and mental health outcomes such as higher rates of premature mortality from all causes, depression, cognitive decline (Coyle and Dugan 2012). The impact of social isolation on mortality risk may be comparable to or greater than other risk factors such as smoking, obesity, and physical inactivity (National Academies of Sciences 2020). There is a high prevalence of social isolation and loneliness among older adults worldwide (Chen et al. 2018). For example, 24% of community-dwelling older persons are considered socially isolated; 35% of persons aged 45 and older are

lonely; and 22% of adults in the United States report they “often or always feel lonely, they lack companionship, left out, or isolated from others” (National Academies of Sciences 2020). Social engagement, as a non-pharmacological approach, might decrease the risk for cognitive decline (Kim et al. 2016) and improve or maintain health-related QoL in older people living in residential care facilities (Freeman et al. 2016); and may address behavioral and psychological symptoms of dementia (He et al. 2016; Mallidou et al. 2013, Saleh et al. 2017). Social support that includes a network of family and friends is causally related to health, well-being, and longevity (Umberston and Karas Montez 2010). Interaction with environment and multiple social relationships have a strong impact on functional ability for older adults in Japan (Watanabe et al. 2017). Thus, prevention and treatment of loneliness among older persons should be seriously considered (Sakamoto et al. 2017). For instance, intergenerational activities (e.g., digital gameplay) can strengthen ties and relationships among younger and older generations that encourages them to enjoy each other’s company and allows each generation to play new roles as they relate to other players. Older persons to feel younger and happier; younger adults to learn new skills, develop personal meaning and direction, and take responsibility for other people; and both generations to enjoy common cultural activities, learn and resolve problems together, and laugh over difficulties and mistakes (Kaufman et al. 2020).

IMPLICATIONS ON POLICY-MAKING

The implications of our work for policy include multi-sectoral interventions and policies relevant to healthy aging. These policies suggest programs and innovative solutions that may contribute to older persons’ retirement delay and the need for long-term care facilities by including “active aging” as a means to positive and cost-effective health outcomes, increased community activities, and improved lifestyles (OECD - Background report for 2019 G20 Japanese Presidency 2019, OECD Health Working Paper 2009). The policy implications of the UN recommendations on Sustainable Development Goals include changes in working and family lives, and community

cohesion. For example, high employment and high-quality work; economic stability, strong community with trust and respect; improved physical and mental health; support of family life; decent education for all; ethical standards; measurement and explanation of happiness as at the center of policy-making; and design and delivery of services for overall well-being for all. Thus, we suggest the following relevant policies as a start:

1. *Healthy aging*: Policy-makers and healthcare professionals need to promote healthy aging, and empower and support older people to live independently and stay social engaged and contribute to the community based on their capacity (He et al. 2016, WHO 2015). In addition, policies need to encourage older persons to maintain engagement to preserve brain health (OECD - Background report for 2019 G20 Japanese Presidency 2019), manage their health and well-being (Sheppard and Broughton 2020), actively participate in informed decisions about them, and improve health inequalities (WHO 2019). These policies may foster well-being that can involve many social and economic opportunities and benefits (OECD - Background report for 2019 G20 Japanese Presidency 2019). Finally, programs need to promote lifelong learning and skill development, age-diverse work cultures, and inclusive and age-friendly initiatives (e.g., dementia-friendly communities) involving and networking older persons through the process to acquire, adapt, and disseminate knowledge (Van Eerd et al. 2016).
2. *Education*: Instead of considering the implications of aging as an increase cost, it is central to human rights that policy-makers need to consider it as investments that contribute to older persons’ well-being (WHO 2015). Understanding healthy aging as a benefit for communities with certain expectations from older persons promote respect, compassion, and dignity across ages (Friedman et al. 2019). Health and aging organizations, healthcare providers, schools of healthcare professionals, and health professional associations need to educate the public and students in healthcare professions on the health impacts of social isolation and loneliness in older adults using various educa-

- tional campaigns and initiatives (e.g., conferences, webinars, guidelines).
3. *Arts engagement*: Arts as part of people's life and its social value to health are connected with well-being and can address challenges the health and social care system is facing and improve humanity, value for money, and overall effectiveness of this complex system (Fancourt and Finn 2019). Thus, social care needs should be proactively deployed, appreciated and acted upon (All-Party Parliamentary Group on Arts Health and Wellbeing Inquiry Report 2017).
 4. *Parks and recreational areas*: Gardens and balconies have never been more important in helping older people to thrive in outdoor spaces. Being outdoors regularly is considered as a natural component of the therapeutic environment in long-term care facilities (Johansen and Gonzalez 2018). To improve the use of existing gardens, educational programs for staff is recommended (Gonzalez and Kirkevold 2014); improving the quality of parks and recreation areas could further benefit the health of older and low-income persons in communities (shorturl.at/gvB27).
 5. *Technological innovations*: Interventions related to older people need to be developed and assessed to help in reducing social isolation and loneliness and understand the benefits of technology and potential adverse consequences taking into consideration certain contextual issues (National Academies of Sciences 2020). With the growing emphasis on community and home care, and aging in place, there is a risk for social isolation and loneliness of older persons. A possible solution to these consequences might be a different approach to minimize the risks by maximizing health outcomes (Coyle and Dugan 2012). The current crisis in health and social care demands innovative solutions for health policy in prevention. Health-care providers should periodically assess older persons' experience of social isolation and loneliness, determine the underlying causes, document their findings in the electronic health records, initiate evidence-based interventions to address those causes (e.g., hearing loss, mobility limitations), and use potential preventive interventions.
 6. *Policies on happiness*: Although happiness is a subjective experience (Helliwell, Layard, and Sachs 2012) and a state of mind (O'Rourke et al. 2015a), society should foster happiness for their citizens, because it is strongly associated with sense of belonging to community, quality of human relationships, and income (Helliwell et al. 2012). For instance, the U.S. Founding Fathers recognized the right to the pursuit of happiness, China champions a harmonious society, and Bhutan adopted the goal of Gross National Happiness (GNH) rather than Gross National Product. In 1972, the King in Bhutan in 1972 declared the goal of happiness over the goal of wealth by organizing principles for governance and policy-making for raising society-wide happiness as much as it does to raise national income. The GNH index is the first reliable and systematic attempt of its kind in the world to measure happiness and chart public policies accordingly. Factors/causes of happiness that determine well-being include both external (e.g., social trust, quality of work, freedom of choice, political participation, values) and personal (e.g., mental and physical health, education, gender, age) characteristics. Most of these factors have a two-way interaction with happiness such as physical health may improve happiness, while happiness improves physical health (Helliwell et al. 2012). The level of happiness is correlated with psychosocial and physical health, observable brain functions, and characterized by feelings of pleasure, contentment, satisfaction, and joy (O'Rourke et al. 2015a). Predictors of happiness among older community-dwelling women living alone include self-esteem and symptoms of depression (Kim et al. 2019).

RECOMMENDATIONS

Overall, although we do not intend to prescribe lifestyles for older persons, we dare to suggest a modifiable timeline of activities for a healthy and happy aging (Table). Finally, we recommend further research on the associations among older persons' social isolation and loneliness with their health, mortality, and their risk factors and mechanisms.

CONCLUSION

QoL is the overarching goal for all persons at all ages. Factors that positively influence healthy aging, well-being and QoL include arts such as music and dancing, brain fitness, physical activity, reconnection with the nature, healthy nutrition, and social engagement including intergenerational activities. Policies, interventions, innovative technological solutions, and public awareness and education for healthy aging, well-being and cost-effective health outcomes are required to reduce social isolation and loneliness and provide opportunities for strong, cohesive and happy communities that can thrive. The human right to pursuit happiness is old and connected with psychosocial and physical health as well as with feelings of pleasure, contentment, satisfaction, and joy.

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Table. Timeline of recommended activities for healthy aging

Daily Activities	Time of the Day	Duration	Comments
Exercise	Morning	1 hr	Exercise in groups or at home alone using technology
Nutrition	4-5 times	30 min/each	Choose carefully nutritional meals
Dance	Afternoon	1 hr	Dance with others or even alone at home (online videos)
Music	Anytime	5-6 hrs	Listen to music during other activities
Nature	Morning/Afternoon	1 hr	Spend time in parks or own garden
Pets	Morning/Afternoon	2 hrs	Play with pets
Social engagement	Evening	2-3 hrs	Involve with others for leisure time
Sleep	Night	7-8 hrs	Sleep well without interruptions, if possible

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Factors that influence nurses' work-related quality of life: Systematic literature review

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ABSTRACT

BACKGROUND: The quality of nursing work is influenced by many factors, such as shift work, experience, training and development opportunities, relationships with colleagues and supervisors, and work-life balance.

AIM: The purpose of this literature review was to study the factors that affect nurses' quality of work life.

METHOD: An extensive review of international and Greek bibliography was made through the search of pubmed, scopus and google scholar databases with key words nurses, nursing staff, work-related quality of life, quality of nursing work-life, professional and work characteristics and combinations of these from 1999-2019.

FINDINGS: Twenty-six studies were included in the review. The main factors found to determine the quality of work life are the working time, lack of staff and materials, the ability to balance work-family needs, taking initiatives and workplace safety. Additional factors found to influence work-related quality of life are occupational stress, job satisfaction, job engagement and embeddedness. The use of strategies that empower nursing staff and lead to burnout avoidance, as

well as decreased mobility and better work-related quality of life.

CONCLUSION: The improvement of work-related quality of life helps reducing mobility and improves productivity. Therefore, the management should take all appropriate measures to improve working conditions.

KEYWORDS: nurses, nursing staff, work characteristics, nursing, work-related quality of life

Investigation of occupational injuries in a tertiary hospital

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ABSTRACT

AIM: The aim of this study was the analysis of occupational accidents that were reported by the employees in the occupational health service in one University Hospital between 2013-2017.

MATERIAL AND METHOD: Data collection in this retrospective descriptive study, was performed by an anonymous questionnaire developed for this study, which was completed with information from the occupational accident forms of the years 2013-2017. Data included the activity during which the accident, the way and place of injury, the use of Personal Protective Equipment (PPE), the virology check and the instructions given after the accident. Data were entered in an Excel spreadsheet, while statistical analysis was performed by SPSS-v.21.

RESULTS: There were found 505 completed occupational accident forms. Of those 73.5% happened to women, while 64.6% in the 19-35 age group. Injuries were more frequent in nursing staff (31.5%), with sharp objects (77.2%), in upper extremities (82.3%). The 76.7% of the employees used the appropriate PPE during the time the accident occurred, while 85.1% had been immunized against HBV and there

was no absenteeism in 93.7%. In all staff, except nursing, there was a reduction in the proportion of accidents in 2015-2017 compared to 2013-2014, that is following the implementation of the P.D.6/2013. A statistically significant increase in injuries from misplaced movements between the two time periods was found (from 63.2% to 73.7%, p-value=0.012), while the proportion of non-vaccinated employees against HBV was reduced (p-value=0.025).

CONCLUSION: Sharp injuries have a high incidence in health care employees. It is therefore essential to take all necessary protection and prevention measures by the responsible authorities in collaboration with employees.

KEY WORDS: Hospital, health care professionals, risk factors, occupational accidents, work health and safety, sharp injuries



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