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THE EFFECT OF PHYSICAL ACTIVITY ON HEALTH AND FUNCTIONALITY OF OLDER ADULTS

Khalil Alsaadat[i]
Department of Educational Policies,
College of Education
King Saud University,
Saudi Arabia

Abstract:
Physical activity can improve health, functionality and reduce the risk of chronic disease; it is significant to know the contributing factors to physical activity participation among older adults. This paper discusses the importance and benefits of physical activity for older adults, and the effect of lack of physical activity on older adults.

Keywords: physical activity, older adults, functionality

1. Introduction

The term "older adult" is now a commonly accepted replacement for more pejorative terms such as elderly, or senior citizen when referring to a member of our aging population. The World Health Organization recognizes that older is a vague term, although they use the "60 years of age or older" definition set by the United Nations (Lawrence, Aingleton, 2017).

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure (Halaweh, et al., 2016). Physical activity is an effective intervention to enhance the overall health, quality of life, reduce the risk of falls, and reduce risks associated with chronic conditions among older adults. In addition, being physically active also improves physical and mental functioning, social well-being, and overall physical and physiological health. Particularly among older adults, physical activity improves and maintains strength, flexibility, balance, and coordination as well as reduces risk of falls (Schmidt et al., 2016). Participating in regular moderate intensity physical activity such as walking, cycling and swimming has significant benefits for health, including improved treatment of many diseases. The evidence of health benefits of physical activity is stronger for adults above 65 years old than any other age group, since the consequences related to inactivity are more severe

[i] Correspondence: email alsaadat@gmail.com

in this age group. Active older adults have lower rates of all-cause mortality and better muscular fitness compared to less active older adults (Halaweh et al, 2016).

2. Methods

Literature review regarding physical activity for older adults is conducted to illustrate the benefits and lack of physical activity on older adults.

2.1 Benefits of physical activity for older adults

Physical activity has been shown to decrease significantly the risk for cardiovascular disease, type II diabetes, obesity, and other chronic health conditions (Ryan, et al., 2017).

Physical activity has multiple effects on the ageing process, contributing to physical, mental and social well-being in older age. Recent research among older adults, 50 years old, in high income countries indicates that higher physical activity levels are associated with greater physical function, a decreased likelihood of frailty and a lower risk of losing physical independence (Barrett et al., 2016). In recent years, evidence has accumulated demonstrating that physical activity can promote wellness in adults as well as youths (Masurier and Corbin, 2006). There are multiple physical activity benefits among older adults, individuals aged 65 and over, including falls prevention, increased physical function in daily activities, decreased anxiety and depression, and increased quality of life (Kosman & Cardinal, 2014).

Advanced age is currently associated with less time spent active and more time spent sedentary, which plays a substantial role in the loss of physical fitness and increasing presence of comorbidities typically associated with aging . Physical activity physical activity can enhance and maintain the health of older adults by minimizing age related declines in health, limiting the progression of chronic disease, and improving psychological and cognitive profiles in older adults (Lawrence, Singleton, 2017).

Souza, according to some studies, reported that changes in neural activation, such as enhancement in excitation-contraction mechanism, can explain increases in the torque and in the ability to sustain longer contractions as result of stretching training. This training response may assist the rate and duration of muscle response to change skeletal muscle viscoelastic properties increasing the extensibility of the tendon, and of muscular components (aponeuroses, contractile and connective tissues). It might also, modify the passive length-tension relationship of the muscle and, thus, influence peak and endurance torque (Souza, et al., 2017).

Participation in physical activity lowers morbidity and mortality rates and contributes to health maintenance of older adults (Overdorf, Coker, Kollia, 2016). Many age related structural and performance declines can be mitigated with increased physical activity, participation in physical activity, for instance, has been shown to preferentially enhance cognitive processes sensitive to age-related decline (Szabo et al., 2013).

The low prevalence of regular PA is determined, among other factors, by the fact that in modern industrialized societies the vast majority of adults engage in sedentary jobs.

2.2 The effect of shortage of physical activities on older adults

With ageing, components of physical functioning such as strength, balance, coordination, flexibility and endurance are negatively influenced by changes occurring in the skeletal muscles and body composition. Muscle strength is an important component in maintaining physical function, mobility and vitality in old age. The progressive loss of muscle strength and other systems may lead to functional decline with advanced age. Physical activity appears to have a beneficial effect on the dynamics of physical functioning; relatively regular moderate intensity physical activity can help older adults prevent a decline in physical functioning. Furthermore, level of engagement in physical activity is an important predictor of physical function; older adults who have higher levels of physical activity have better overall physical function than those who perform lower level of physical activity (Halaweh et al., 2016).

A strong body of evidence indicates that low cardiovascular fitness is related to higher risk of chronic disease and that high cardiovascular fitness has a protective effect for heart disease, high blood pressure, stroke, high blood lipid levels, diabetes and some forms of cancer. Strength and muscular endurance are associated with lower risk of osteoporosis and higher functional capacity (Masurier & Corbin, 2006).

Physical activity levels tend to be lower in high-poverty areas, such as rural and inner city communities, than in low-poverty areas, such as suburban and exurban communities (Kosman & Cardinal, 2014). Also the maintenance of physical function in old age is especially critical in low and middle income countries, with rapidly increasing older populations and fewer resources directed to the needs of older adults (Barrett et al., 2016). Reduced physical activity is an important issue among adults from ethnic minority groups, who are also at higher risk of becoming overweight or obese, therefore development of interventions that promote physical activity is important for reducing the incidence of obesity (Ferrara et al., 2015).

Cross sectional studies have found a link between physical activity and cognition. Individuals who report higher levels of physical activity show better performance on executive function tasks than those who report lower levels of activity (Szabo et al., 2013).

Although participation in physical exercise declines with age, the participation of women in exercise and recreational physical activity is lower relative to men throughout the life course. More is known about barriers to physical activity. These include daily activities, being busy, feeling tired, laziness, experiencing health problems, having difficulty managing time and not wishing to exercise alone, although women over 60 have been found to report lower level barriers to physical activity than younger women with the exception of barriers associated with ill health. Some of these barriers are amenable to intervention and could be transformed through effective

behavioral change mediation. There is also evidence that individual factors including levels of self-motivation are likely to be an important influence on older women's engagement in physical activity (Carmichael et al., 2015). Yang et al reported that Lack of physical activity and prolonged sedentary behavior have been consistently linked with elevated risk of metabolic syndrome and other chronic conditions. They continued that Among the American working population, a major proportion of their daily physical activity is acquired from job related activities, whereas these occupational physical activities have become less prevalent and less physically demanding over the decades. In addition, prolonged sedentary behavior, characterized by low energy expenditure and a sitting or reclining posture, has been on the rise. The coexistence of a reduced physical activity level and prolonged sedentary behavior may profoundly affect the US working population's health status, and their joint influence is likely to differ by occupation type (Yang et al., 2016). A sedentary lifestyle and consequent low levels of fitness in older adults have been described as the determining risk factors for the development of several chronic conditions (Carrapatoso et al., 2017).

Carmichael et al noted that it is possible that the health benefits of increased participation in physical exercise could have a positive effect on the employment participation of older people, this prediction is consistent with a socio-ecological approach that implies a link between an individual's behaviour, their environment and wider social constructs such as occupational class (Carmichael et al, 2015).

Physical activity is important in the prevention of several chronic diseases and conditions, often exhibiting a dose response relationship with health outcomes in adults, obesity are also a major modifiable risk factor for numerous chronic diseases and conditions in adulthood (Herman et al., 2009). Physical activity is an important determinant of health, positively affecting physical, mental and social well-being.

Despite this being repeatedly shown in both observational and experimental studies, a large majority of adults do not reach the recommended levels of daily physical activity (Federico et al., 2013). Studies reported that physical activity was positively associated with several indicators of socioeconomic position, such as education and occupation and income. Other studies showed that the association between SEP and PA was stronger among females than among males (Federico et al., 2013).

3. Conclusion and Recommendations

Older adults are encouraged to be moderately active five days a week for 30 minutes a day or vigorously active three days a week for 20 minutes a day or some combination of the two (Kosman & Cardinal, 2014). There is strong evidence that physical activity is associated with health outcomes. Physical activity reduces rates of all-cause mortality and a number of non-communicable diseases such as coronary heart disease, high blood pressure, type 2 diabetes, colon cancer and others (Hamrik et al., 2013).

Adults should meet the guidelines recommended physical activity level, 150 minutes of moderate intensity aerobic activity or 75 minutes of vigorous intensity

aerobic activity or an equivalent combination of the two on a weekly basis (Yan et al., 2016). Since physical activity participation declines with age and can vary within older age groups, the national physical activity recommendations for older adults have been developed to attenuate the loss of balance, strength, and cardiovascular ability typically seen with advancing age (Lawrence, Singleton, 2017). Recent studies reported that engagement in physical and cognitive activities in older adults has a generally positive effect on cognition, on brain health, and on cognitive aging outcomes, and may be more effective than pharmacological interventions (Overdorf, Coker, Kollia, 2016). Accumulating 30 minutes of moderate to vigorous intensity physical activity on most days of the week substantially reduces the risk of morbidity and mortality in older adults (Carrapatoso, et al., 2017).

In terms of public health, walking has been indicated as the most relevant form of exercise to increase regular physical activity at moderate intensity. Different intervention studies have given evidence of the health benefits of walking and showed short-term health improvements in previously sedentary adults (Carrapatoso et al., 2017).

References

Barrett T.M., Liebert M.A., Schrock J.M., Cepon-Robins T.J., Mathur A., Agarwal H., Kowal P., Snodgrass J.J. (2016), Physical function and activity among older adults in Jodhpur, India, Annals of Human Biology, vol 43, issue 5, 2016. https://doi.org/10.3109/03014460.2015.1103901

Carmichael Fiona, Duberley Joanne, Szmigin Isabelle, (2015), Older women and their participation in exercise and leisure-time physical activity: the double edged sword of work, Sport in society, vol.18, n.1. https://doi.org/10.1080/17430437.2014.919261

Carrapatoso Susana, Silva Paula, Purakom Atchara, Novais Carina, Colaco Paulo & Carvalho Joana (2017), The Experience of Older Adults in a Walking Program at Individual, Interpersonal, and Environmental Levels, Activities, Adaptation & Aging, vol.41, issue 1. https://doi.org/10.1080/01924788.2016.1272393

Federico Burno, Falese Lavinia, Marandola Diego & Capelli Giovanni, (2013). Socioeconomic differences in sport and physical activity among Italian adults, journal of sport sciences, vol 31, issue 4. https://doi.org/10.1080/02640414.2012.736630

Ferrara Cynthia M., Ackerson Leland K., Krieger Rebecca, Fahey Allison, Maloof Evan, Marley Sharon, (2015), Feasibility of a social networking site to promote physical activity in adults, International Journal of Health Promotion and Education, vol 53, issue 2. https://doi.org/10.1080/14635240.2014.932672

Halaweh, Hadeel. Willen Carin, Svantesson Ulla, (2016), Association between physical functioning in community dwelling older adults, European journal of physiotherapy, vol 19 , issue 1. https://doi.org/10.1080/21679169.2016.1240831

Hamrik Z., Sigmundová D., Kalman M., Pavelka J., Sigmund E. (2013), Physical activity and sedentary behaviour in Czech adults: Results from the GPAQ study, European journal of sport science, vol14, n 2. https://doi.org/10.1080/17461391.2013.822565

Herman Katya M., Craig Cora L., Gauvin Lise & Katzmarzyk Peter T. (2009), Tracking of obesity and physical activity from childhood to adulthood: The Physical Activity Longitudinal Study, International Journal of Pediatric Obesity, vol 4., issue 4. https://doi.org/10.3109/17477160802596171

Kosma, M., Cardinal, B.J., (2014), Theory-based physical activity beliefs by race and activity levels among older adults, ethnicity & health, Ethn Health., vol 22,n2. https://doi.org/10.1080/13557858.2015.1047741

Lawrence, L.M. & Singleton, J.F., 2017, What Do We Mean by Older Adult and Physical Activity? Reviewing the Use of These Terms in Recent Research, Activities Adaptation and Aging, vol.14, n.1. https://doi.org/10.1080/01924788.2016.1272391

Masurier Guile, Corbin Charles B. (2006), Top 10 Reasons for Quality Physical Education, Journal of Physical Education, Recreation and Dance, Vol 77, No. 6. https://files.eric.ed.gov/fulltext/EJ794467.pdf

Overdorf Virginia, Coker Cheryle & Kollia Betty (2016), Perceived Competence and Physical Activity in Older Adults, Activities, Adaptation & Aging, vol.40, issue 4. https://doi.org/10.1080/01924788.2016.1199518

Ryan, Christopher J. Cooke Martin, Kirk Patrick Sharon I., Leatherdale Scott T., Wilk Pioter, (2017), The correlates of physical activity among adult Métis, https://www.ncbi.nlm.nih.gov/pubmed/28277016

Schmidt, L., Rempel, G., Murray, T. C., McHugh, T. L., & Vallance, J. K. (2016). Exploring beliefs around physical activity among older adults in rural Canada. International journal of qualitative studies on health and well-being, 11, 32914. https://doi.org/10.3402/qhw.v11.32914

Souza Ralph, Perera, Glebert, Gomes, N.N.A. Raquel (2017). Effect of chronic stretching on the torque of young adults, Journal of Physical education and Sport, vol 17, issue 3. DOI: 10.7752/jpes.2017.03186

Szabo Amanda N., Bangert Ashley S., Reuter Lorenz, Patricia A. & Rachael D. Seidler (2013), Physical activity is related to timing performance in older adults, Aging, Neuropsychology and Cognition, a Journal on Normal and Dysfunctional Development, vol. 20, issue 3. https://doi.org/10.1080/13825585.2012.715625

Yang Yan, An Ruopeng, Zhu Weimo, (2016), Physical activity and prolonged sedentary behavior in US working adults, Archive of Environmental & Occupational Health, vol.17 n.6. https://doi.org/10.1080/19338244.2016.1151853