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RESEARCH ARTICLE

STRATEGIES TO IMPROVE PHYSICAL ACTIVITY AMONG THE ELDERLY IN THE GCC: A NARRATIVE REVIEW

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Abstract

Physical activity (PA) has numerous health benefits for both physical and psychological well-being. However, physical inactivity and sedentary lifestyle are associated with all-cause mortality, chronic non-communicable diseases, and falls in the elderly. Studies indicate that despite the efforts of Gulf Cooperation Council (GCC) countries to provide healthcare services, physical inactivity and associated health problems continue to rise in Arab countries, including those in the GCC states, with a high prevalence among adults, especially women. Objective of this review is to assess and summarize recommendations from clinical guidelines for PA in elderly. This review aims to identify successful strategies for improving PA among the elderly in the Arabian Gulf States by searching through peer-reviewed articles and grey literature. A lack of scholarly works on PA in the GCC countries, specifically among older people, makes the assessment of this phenomenon challenging. The persistence of physical inactivity among the elderly in the GCC states can be attributed to environmental and cultural factors, including a western medical model, urbanization, motorization, sedentary lifestyles, unhealthy eating habits, and lack of facilities and infrastructure to promote PA. The article recommends a multi-level strategy to improve PA participation among the elderly, including supervised regular exercise, self-reporting of aerobic routines, motivation counseling, and a healthy diet. Governments in the GCC should also address barriers to PA engagement at the intrapersonal, social, environmental, and policy levels, to enable the elderly to achieve and maintain good health and high quality of life. Identifying barriers to PA participation and adherence is crucial to formulating sustainable strategies to improve the physical performance of this group.

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Introduction:-

Physical activity (PA) is an important element of healthy living in old age. Elderly individuals experience various forms of age-related declines, including cognitive performance, balance, and loss of muscle mass, strength, and endurance (Taylor, 2014). Physically inactivity among individuals who are advanced in age exacerbates their

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deteriorating functional status and increases the risk of developing non-communicable diseases (NCDs) and the likelihood of death (Al-Hazzaa, 2018). Physical activity, on the other hand, is associated with reduced risks of chronic health conditions such as diabetes, cardiovascular conditions, fractures, depression, weight problems, as well as breast and colon cancer (Al-Hazzaa and AlMarzooqi, 2018; Bindawas et al., 2020). According to World Health Organization (WHO), PA helps reduce geriatric health problems and prevent approximately 3.2 million deaths every year, which are credited to sedentary lifestyles and general inactivity (Taylor, 2014). Physical activity also increases bone density, decreases total mortality, and improves lipid profiles, mental health, quality of life and general well-being (Warburton et al., 2006).

The benefits of PA to the maintenance and improvement of good health for the elderly necessitate the formulation of interventions to ensure that this group becomes more physically active. The economic burden of inactivity and care provided to adults above 60 years revealed through health-related expenditures also establishes the urgency for promoting PA (Alshaali and Jaziri, 2015; Ding et al., 2016; Taylor, 2014). The reported global 2013 figures, which include money spent on medical care by the elderly related to sedentary living, amount to 53.8 billion American dollars (Al-Hazzaa and AlMarzooqi, 2018).

The challenge to public healthcare systems is and will continue to be enormous considering the anticipated increases in the number of old people, especially those over the age of 60, in the Arabian Peninsula and the world in general (ESCWA, 2017; Ismail and Hussein, 2019; Khan et al., 2017). The Arab Gulf States or countries constituting the Gulf Cooperation Council (GCC) include Kuwait, Bahrain, Qatar, the United Arab Emirates, Oman, and Saudi Arabia (Pearson et al., 2020). The unique socio-cultural environment of the region may require innovative solutions in the promotion of PA among the elderly.

The governments of the GCC states are committed to the provision of health care services to all their citizens. Generally, there is almost universal coverage of health services for natives in these countries, with some of them enjoying high standards of care (Ismail and Hussein, 2019; Ward and Younis, 2014). The Economic and Social Commission of Western Asia (ESCWA) compiled a report named "Ageing in ESCWA Member States" (ESCWA, 2017), which shows an appreciation of the care needs of the elderly and confirms various measures taken to safeguard the health and well-being of the elderly across multiple domains, including employment. Considering such efforts and dedication, one wonders why NCDs and the threat of obesity, which are associated with physical inactivity as a primary modifiable risk factor, continue to rise (AlAbdulKader et al., 2020; Donnelly et al., 2018; Mabry et al., 2016). It is important to understand why the governments of GCC countries have failed to specifically target the provision of PA to reduce the adverse impacts of NCDs while supporting active and healthy aging. The main aim of this review is to identify successful strategies that can be implemented by policymakers to promote PA and improve the health and well-being of the elderly population in the GCC countries.

Literature search

The information presented in this literature review was sourced primarily from the PubMed database, while some articles were chosen from Embase, Medline, and Google Scholar. The focus was on peer-reviewed works published between 2000 and 2021 using various keywords. They included PA/inactivity, sedentary lifestyle/behavior, Arabian gulf, peninsula, gulf states, GCC, Oman, Bahrain, Qatar, Kuwait, United Arab Emirates, Saudi Arabia, elderly, and older adults. The identification of the most recent and high-quality publications, especially systematic reviews and case studies, provided valuable sources of other relevant articles. For instance, the connection between PA and chronic health conditions in the elderly helped in selecting periodicals discussing PA interventions in the GCC. Various grey literature, such as government and research reports, also provided useful information on the subject, particularly the facts concerning program implementation aimed at enhancing the health and well-being of senior citizens.

Research summary

Physical activity, benefits, and the prevalence of physical inactivity in the Gulf Cooperation Council States

Generally, PA enhances fitness due to the significant number of related health benefits to both physical and psychological well-being, which lay the foundation for healthy living in old age. Beneficial exercises encompass sports, exercise, and other activities of daily living, including chores, active transportation, leisure, or occupation-related actions involving any bodily movement that results in using energy through skeletal muscles (Alahmed and Lobelo, 2018; Langhammer et al., 2018). The recommended PA level by the WHO among adults is "150 minutes or more of moderate PA per week or 75 minutes or more of vigorous activities (or a combination of the

two”(Pearson et al., 2020). Several studies affirm the lack of sufficient PA in Arab countries, including those in the GCC, based on WHO standards(Donnelly et al., 2018; Chaabane et al., 2020). However, most of these studies do not focus on the elderly population but on adolescents and adults in general. For instance, Al-Hazzaa and AlMarzooqi(Al-Hazzaa and AlMarzooqi, 2018) cite studies indicating that many people in the Kingdom of Saudi Arabia are physically inactive, including 78 and 78.1 percent of adult women and adolescent females, respectively, while deaths related to physical inactivity amount to 18.4 percent in the country.The expected increase in the number ofelderly people around the world and, in particular, the projected 18.4% of all Saudis by 2050 is likely to result in a crisis if physical inactivity among elderly people is not addressed adequately and effectively(Bindawas et al., 2020; ESCWA, 2017).

Data on PA, including the relevant sociodemographic information, is crucial in understanding the levels of physical inactivity among older people. Several researchers believe that in order to accurately assess physical inactivity in the GCC countries, a comprehensive evaluation of its determinants and prevalence, as well as baseline health data, is necessary due to the limited scholarly work on this topic(Mabry et al., 2010; Al-Zalabani et al., 2015; Sharara et al., 2018).Nonetheless, various research studies evaluating physical inactivity in GCC countries show a high prevalence physical inactivity among adults, especially women(Pearson et al., 2020; Mabry et al., 2016; Sharara et al., 2018; Al-Hazzaa, 2018). However, a A recent study conducted in Saudi Arabia targeting the elderly indicates, however, that the latterwomen show significantly higher levels of physical performance and PA compared to their male counterparts(Bindawas et al., 2020). The gender differences were noted in their involvement and engagement in leisure time activities as well as light and heavy household chores.

Barriers of performing physical activity among the elderly

Fundamentally, an in-depth understanding of why physical inactivity persists among the elderly in the GCC states, considering the numerous benefits of PA, can help identify areas of improvement and selection of the best strategies or interventions. Ward and Younis(Ward and Younis, 2014)affirm that many health systems in the Arab World have adopted a western medical model with a curative and rehabilitation focus, and only modest promotional and preventive efforts are aimed at reducing health risk factors. By encouraging and enabling older adults to engage in PA, the governments of GCC states can improve their health and wellness as a strong foundation for maintaining independence and optimal fitness necessary to perform activities of daily living(Bindawas et al., 2020). The needed changes must also address existing barriers that may hinder this group from participating in PA, especially the environmental and cultural ones(Mabry et al., 2016). Valid insights from past research in other countries identifying determinants and other factors that influence PA behavior change should also be integrated with creating appropriate and culturally sensitive interventions(Stathi et al., 2014; Chase, 2013).

Generally, physical inactivity in the GCC countries is connected to increases in wealth, which has allowed many people to live in comfort. Factors such as enhanced urbanization and motorization have encouraged sedentary lifestyles and unhealthy eating habits involving the consumption of fast foods that underlie recorded increases in NCD mortality and morbidity in this region(Donnelly et al., 2018; Alahmed and Lobelo, 2018; Alsufiani et al., 2015).Other elements contributing to and exacerbating these trends include extreme weather, heavy traffic, and lack of facilities and infrastructure to promote PA, such as walking routes and pavements, which impede engagement in PA(Pearson et al., 2020; Al-Hazzaa, 2018). Several studies also identify other barriers such as work and family responsibilities, fatigue, tiredness, laziness, and lack of willpower or time to exercise. Other commonly cited factors are chronic health conditions, public modesty, and other factors related to socio-cultural norms(Donnelly et al., 2018; Al-Baho et al., 2016). Many of these elements fall into different categories across individual, socio-cultural, environmental, organizational, and political levels as hindrances to PA participation, which are all connected to an increase in national wealth, household income, and urbanization(Benjamin and Donnelly, 2013; Silva and Akleh, 2018).

The identification of barriers to PA participation and adherence, although lacking the specific targeting of older adults, is crucial to formulating sustainable strategies to improve the physical performance of this group. Still, considering that most of the studies discussed above assess PA levels of adults, including those of the elderly at the lower age range of around 60 years, it is easy to extrapolate the findings to all senior citizens. Generally, this group is likely to be negatively affected by the identified barriers more than the general population because of their deteriorating physical and mental health. Research shows that gender, age, and low education, as key determinants in increased physical inactivity, are shared across the Arab regions, in addition to specific cultural aspects that discourage PA participation, particularly for women(Pearson et al., 2020; Sharara et al., 2018). Discouragement and

isolation of the female population reflect the need for caution and creativity in the implementation of potential interventions to improve PA as the GCC countries are defined by a distinct socio-cultural environment compared to other regions.

Interventions and strategies to motivate physical activity

To improve the health and well-being of older adults, various measures are necessary, such as policy implementation and program development. Among these measures, PA is a crucial element that can effectively alleviate many aging-related issues. Therefore, it should be included in global, regional, and national initiatives (Langhammer et al., 2018; ESCWA, 2017). According to Alsufiani et al. (Alsufiani et al., 2015), the elderly can achieve the WHO PA recommendations by engaging in structured workouts or sports, lifestyle-based activities such as short walks or climbing stairs, and specific exercises aimed at enhancing strength, endurance, balance, and coordination. Seniors who are unable to meet the recommended PA levels are advised to remain as active as possible, based on their conditions and abilities (Bull and Milton, 2014). Several research studies offer different strategies for improving PA among adults in GCC countries, including behavior change and multi-level interventions (Benjamin and Donnelly, 2013; AlQuaiz et al., 2021; Mabry et al., 2014). A study conducted by Cohen et al. found that environmental interventions such as improving accessibility to parks and recreation areas can encourage older adults to engage in PA (Cohen et al., 2007). Another study found that a home-based exercise program is more effective than no intervention in improving activities of daily living performance and reducing falls among older adults. Hence, improving mobility and quality of life (Lin et al., 2022). A study conducted among Chinese rural adults named SAWA (stay active while aging) provided an effective multilevel intervention based on the SEM (socioeconomic model). Interventions based on the individual, interpersonal, and community levels were implemented in a study to improve PA among older adults, as shown in Figure 1. At the individual level, telephone counseling, printed materials, and training sessions were used to address factors such as knowledge, beliefs, perceived barriers, self-regulation, self-efficacy, and skills. Peer groups were formed at the interpersonal level to enhance collective efficacy, observational learning, and incentive motivation. At the community level, group sharing and coaching were conducted to improve social capital and identify environmental factors that can facilitate or constrain exercise (Li et al., 2022). We can implement similar strategies in GCC, which not only improve the PA level but also focus on health status changes, including changes in cognitive function, obesity, and night-time sleep quality.

Most of the solutions address barriers to PA participation, including lack of time, traditional women's roles, extreme weather, and limited resources. The proposals advocate for culturally sensitive environmental modifications involving building fitness facilities and community sidewalks or using current air-conditioned structures for PA (Benjamin and Donnelly, 2013; Mabry et al., 2014). Earmarking some of these amenities for use by women can help minimize socio-cultural hindrances associated with maintaining public modesty (Mabry et al., 2014). The near-universal health care coverage in GCC nations provides an important avenue through which the governments can encourage seniors to remain physically active through the promotion of PA by physicians and other care providers (Alahmed and Lobelo, 2018). They can provide appropriate and effective health information, PA screening, patient education, and implementation of behavior change aimed at improved self-motivation and positive behavior reinforcement (AlQuaiz et al., 2021). Qualified exercise professionals can also fulfill these duties, which implies the employment of these experts, particularly those able to help the geriatric population (Stathi et al., 2014).

GCC governments have developed local PA promotion initiatives to increase the involvement of people of various age demographics in regular exercise. For example, Saudi Arabia has a municipality-based healthy living initiative to promote walking and sporting among people of all ages (Al-Hazzaa and AlMarzooqi, 2018). Riyadh has developed mega parks with pedestrian tracks for public use. A number of towns and cities also have free playgrounds and spaces for different recreation activities that are safe for use by elderly individuals. Municipalities across the country are committed to building public walking tracks and sports grounds (Al-Hazzaa and AlMarzooqi, 2018). However, the public is discouraged from using the facilities during the hot summer season to avoid disastrous health outcomes. Thus, the building of free, high-quality, and accessible spaces for senior residents is a key strategy used by GCC countries to increase PA rates among the elderly population.

Another strategy through which PA is promoted in Gulf Nations is through the development and implementation of policies that discourage the isolation of the older generation (Ismail and Hussein, 2019). A significant number of high-income Arab countries have adopted a measure to increase the quality and length of long-term care (LTC) for elderly individuals. An important component of strategies for meeting the LTC needs of the rapidly growing senior

population is promoting intergenerational solidarity within families to prevent the isolation of frail adults who require support to engage in physical activities. The initiatives are aligned to the GCC's 2002-2012 Arab Plan of Action on Ageing, which focuses on the solidarity of people belonging to different age demographics as the foundation for social development. In Oman, immediate family members and relatives are held responsible for ensuring that the LTC needs of ill or old people are met through cooperation.

GCC countries need to develop long-term policy programs that entail vision-centered and intensive action plans to address the shift in family structures and living arrangements in order to discover contemporary ways to promote PA in elderly people (Khan et al., 2017). Actions to address the reducing support for people above 60 years must be informed by high-quality data relating to the causes of isolation and physical inactivity within the population. Some of the challenging dynamics that the GCC social welfare policymakers encounter include weak family ties, a longer lifespan than the previous decades, an increase in lifestyle diseases, and a high aging rate. Prosperous Middle East countries should explore elderly care models that address contemporary challenges that result in reduced support for people above 60 years (Khan et al., 2017). For example, countries can invest in the youth to build the capacity required for the provision of effective care to elderly persons. Additionally, the countries should make efforts to identify and provide the resources needed for quality elderly care services, especially concerning PA in the home and hospital environments.

Combined cognitive-behavioral PA improvement approaches can help older adults to overcome physical inactivity and other factors that contribute to lifestyle health conditions (Chase, 2013). Elements of the strategy include supervised regular exercise, self-reporting of aerobic routines, motivation counseling, and a healthy diet. The intervention is delivered through face-to-face and telephone-mediated strategies. Coaching and monitoring are critical components of implementing the integrated method of promoting PA among people above 60 years. Supervision by a practitioner, self-monitoring, and regular outcome reporting are essential for the attainment of positive physical well-being outcomes. Importantly, GCC countries can benefit from the universal adoption of combined cognitive-behavioral PA therapy through client-centered and home-based techniques.

Analysis and critique

Generally, participation in PA is associated with positive outcomes in the physical and psychological domains of the general population. Considering the age-related vulnerabilities of the elderly, PA represents a special factor for enabling this group to live and age well as it enhances their functional status, among other elements associated with an improved quality of life (Moshibah et al., 2016; Otaibi et al., 2020). Its contribution to the prevention and potential postponement of degenerative, non-communicable, and musculoskeletal diseases, including dementia, diabetes, and osteoporosis, is particularly important to older adults (Donnelly et al., 2018; Moshibah et al., 2016). According to Moshibah and his colleagues (Moshibah et al., 2016), the minimization of the associated dangers of ill-health forestalls a 6 to 10 percent of all deaths recorded around the world every year, which are reportedly caused by physical inactivity. Therefore, the lack of PA promotion or related focused interventions in the GCC states as a vital element in active and healthy aging is troubling. Though various reports affirm the efforts of these countries in safeguarding the well-being of the elderly, PA seems to be mentioned in passing, while persistent physical inactivity among older adults may be explained by a lack of action in implementing relevant programs (Bull and Milton, 2014; ESCWA, 2017).

Despite the relative lack of information on PA participation among the elderly in the GCC countries, the available research confirms high levels of physical inactivity among adults, which includes seniors. They also provide valuable knowledge about the factors that may explain the prevalence of unhealthy lifestyles or the lack of PA among the elderly (Alsufiani et al., 2015; Mabry et al., 2016; Warburton et al., 2006). The WHO recommendations for physical performance offer a useful target for health improvement that governments in the Arabian Peninsula can use as a reference point in creating PA programs (Pearson et al., 2020). However, Warburton and Bredin (Warburton and Bredin, 2017) challenge messaging centered on the 150 minutes per week moderate-to-vigorous PA threshold, indicating its potential lack of an evidentiary basis. They also fear that the advice may needlessly hinder people from reaping huge benefits from just being physically active, which may especially be relevant for seniors who may be unable to engage in PA due to frailty or other functional problems.

Still, a certain level of fitness may be necessary to achieve the expected benefits of fitness and minimization of heightened aging-related risks such as falling, mental decline, and depression. Governments in the GCC states should initiate a multi-level strategy to improve PA participation among the elderly, with a specific emphasis on

minimizing strong socio-cultural barriers, especially those affecting women (Benjamin and Donnelly, 2013; Mabry et al., 2014). AlQuaiz et al. (AlQuaiz et al., 2021) assert that the physical performance of Arabic women, driven by their prioritization of household and family responsibilities, may not be enough to meet recommended PA levels. By addressing barriers to PA engagement at the intrapersonal, social, environmental, and policy levels, GCC countries will ensure that their elderly achieve and maintain good health, high quality of life, and their associated positive impacts. Al-Hazzaa and AlMarzooqi (Al-Hazzaa and AlMarzooqi, 2018) identify fragmentation, short-term focus, and lack of a coordinating body as factors that may lead to the failure of PA promotion initiatives.

Conclusion:-

The elderly group is at a high risk of disease and death as they experience the degenerative process of aging and its adverse impacts on the body, especially on physiological functioning. The identification of PA as a factor that can prevent or postpone such effects and allow senior to live well necessitates the formulation of comprehensive and focused strategies to enable them to engage in PA. Despite the paucity of information on PA participation specific to the elderly in the GCC countries, the available scholarly works on the subject provide insights into factors that may explain the high levels of physical inactivity among adults. Still, considering that the impacts of aging are universal, interventions recommended in other countries or regions such as improving accessibility to parks, home-based exercise programs and effective multilevel interventions based on SEM may offer valuable solutions. However, they must be tailored to the Arabian Gulf, given its unique socio-cultural environment and the numerous barriers that may hinder engagement in PA. The anticipated benefits of improved physical performance not only accrue to the elderly but also to the health care systems of the GCC states by lightening the economic burden associated with the provision of crucial medical services to older adults. Furthermore, the projected increase in the number of people entering old age in the Arab Gulf states implies a potential escalation of related challenges.

Recommendations:-

The WHO standards discussed earlier provide a blueprint for implementing measures that can help older adults in the Arabian Gulf age healthily and without risking their already declining physical and mental state. The solutions identified above, including the use of clinicians to disseminate relevant PA information, can dismantle barriers that encourage physical inactivity to the detriment of vulnerable seniors. These proposed interventions must be endorsed by government-driven or national-sponsored health campaigns to create awareness about PA benefits for the elderly and how they can achieve them, among other policy actions. The implementation of all these efforts should involve a central coordinating body tasked with PA improvement among older adults to avoid the pitfalls of fragmented and ineffective short-term initiatives. The governments of GCC nations should also enhance their monitoring of population levels of PA as well as the associated surveillance tools needed for measurement to undergird health goal achievement with timely and systematic data reporting and collection. This effort is vital to enabling more scientific research into the connection between PA and the elderly, as the current number of scholarly works on the subject is quite low. The governments of the GCC nations should encourage and incentivize academic study on the subject as a foundation for implementing appropriate and effective PA interventions, even though some countries, such as Saudi Arabia, seem to have more publications on related issues.

Research gaps and future studies

Though the identified lack of literature on PA specific to the elderly may be attributable to the low number of databases used to source relevant information, a lot of articles affirm the paucity of data. Therefore, future studies can focus on producing original scholarly works that tap into the scarce repositories of facts and figures concerning PA among older adults in GCC countries. The target of inquiry should include the assessment of relationships between relevant variables, including PA interventions. In this case, research should provide in-depth knowledge of the unique social and cultural environment of the Arabian Peninsula and how practitioners can adapt solutions to address the high levels of physical inactivity among the elderly in the region. Some research investigations also identify a variety of areas that may need improvement involving the development and use of appropriate tools for measuring PA or sedentary behaviors (Donnelly et al., 2018). The use of diverse instruments that may have low validity and reliability scores as well as differences in the definition of terms is likely to limit the comparison of data between GCC states or understanding of intercountry PA levels.

Future studies also need to explore culturally-competent strategies to improve PA support for elderly individuals as family structures, and arrangements change. Younger keens have become minimally involved in the welfare of older adults in their families due to shrinking family size, urbanization, and job demands. A general increase in life

expectancy in prosperous Middle Eastern countries and poor lifestyle practices among elderly people increase pressure on existing geriatric services and resources. Therefore, researchers need to adopt study methods that can result in the discovery of PA programs that address current challenges. Importantly, scholars must investigate the quality and progress of existing programs carefully and suggest data-based improvements that address local gaps and challenges.

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