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SOUNDING BOARD

A National Strategy for Promoting Physical Activity in Oman

A call for action

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استراتيجية وطنية لتشجيع النشاط البدني في سلطنة عمان

دعوة للعمل

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ABSTRACT: The increasing prevalence of chronic disease in Oman is a public health challenge. Available evidence in Oman on physical inactivity, the fourth leading risk factor for chronic disease, calls for urgent action to reduce physical inactivity as part of a key strategy to address chronic disease in Oman. The public health implications of this evidence for Oman are considered in light of recommendations outlined in the Toronto Charter for Physical Activity. The charter provides a systematic approach of physical activity and outlines an action plan that could be adapted to the Omani context. Urgent intersectoral action focusing on a shared goal and a more deliberate public health response addressing physical inactivity is required. Further research is needed on the determinants of physical inactivity and culturally appropriate interventions in order to guide future public health actions.

Keywords: Epidemiology; Public Health; Physical Activity; Health Policy; Oman.

الملخص: تزايد انتشار الأمراض المزمنة في عمان يمثل تحديا للصحة العامة. الأدلة المتاحة في سلطنة عمان على الخمول البدني ، والذي هو رابع عامل خطر رئيسي للأمراض المزمنة ، يدعو إلى اتخاذ إجراءات عاجلة للحد من قلة النشاط البدني كجزء أساسي لاستراتيجية معالجة الأمراض المزمنة في سلطنة عمان. من هذه الأدلة تؤخذ الآثار الصحية العامة لسلطنة عمان بالاعتبار في ضوء التوصيات الواردة في ميثاق تورونتو للنشاط البدني. ينص الميثاق على طريقه ممنهجة للنشاط البدني و يضع الخطوط العريضة لخطة عمل يمكن تكييفها مع الحالة العمانية. العمل المشترك العاجل بين القطاعات والذي يركز على هدف مشترك والاستجابة المدروسة لمعالجة الخمول البدني مطلوب. و هناك حاجة إلى المزيد من البحوث لتحديد العوامل المسببة في الخمول البدني و التدخلات المناسبة ثقافيا للمجتمع العماني من أجل توجيه الإجراءات الصحية العامة في المستقبل .

مفتاح الكلمات: علم الأوبئة؛ والصحة العامة؛ النشاط البدني؛ السياسة الصحية؛ عمان.

The escalating burden of chronic disease in Oman—primarily type 2 diabetes and cardiovascular disease—is a major public health challenge. The Political Declaration of the United Nations (UN) General Assembly on the Prevention and Control of Non-communicable Diseases, adopted in 2011, asserted that population-based strategies to prevent chronic disease require an all-of-government approach targeting modifiable risk factors, particularly tobacco use, unhealthy diets and physical inactivity.[1] With a focus on one particular risk factor, physical inactivity, this article aims to operationalise these lofty goals by proposing a framework for a national strategy designed to encourage physical activity.

Physical activity encompasses "recreational or leisure-time physical activity, transportation (e.g. walking or cycling), occupational (i.e. work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities".[2] Physical inactivity is the fourth leading risk factor for chronic disease globally.[3] The World Health Organization (WHO) and the American College of Sports Medicine recommend that adults do at least 150 minutes of moderate-intensity activity a week and strength training at least twice a week.[3,4] This aerobic activity recommendation is also used by the Ministry of Health (MOH) of Oman.[5]

For adults, the available evidence on the prevalence of physical inactivity in Oman shows that it occurs in 33% of men and 41% of women. For college students, the prevalence is 43% in men and 57.8% in women; for adolescents, who are recommended to do at least 60 minutes of moderate-intensity physical activity per day,[2] the prevalence is 70.1% in boys and 84.6% in girls.[6–8] These data underscore the vital importance of public health efforts to reduce physical inactivity

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as part of a multisectoral strategy to address the burden of chronic disease in Oman.

EPIDEMIOLOGY OF PHYSICAL ACTIVITY IN OMAN

In addition to the previously mentioned studies reporting on the national prevalence, seven studies utilising a similar definition for physical activity have been published, with five focusing on young people[9–13] and two on adults.[14,15] All the studies carried out among young people focused on secondary school students living in the capital region of Muscat. Only one study examined the association of physical activity with health outcomes; it reported a significant inverse association of vigorous physical activity with body mass index among both boys and girls.[12]

All studies explored the prevalence and distribution of physical activity. The key findings included a high prevalence of physical inactivity in this age group (ranging from 33.3–61.2% in boys and 76.9–90.2% in girls).[12,13] Boys were significantly more physically active than girls[9,10,12,13] and students living in rural areas were significantly more active than their urban counterparts.[9] In addition, a larger percentage of girls were reported to be in the earlier stages of behaviour change compared to boys (i.e. pre-contemplation: 5.8% *versus* 4.7% and contemplation: 26.7% *versus* 10.3% respectively) and girls identified a significantly higher number of internal and external barriers to physical activity than boys.[13]

The two peer-reviewed studies among adults in Oman relate to the adult population of the city of Sur. One study demonstrated a significant association of physical inactivity, particularly in the work domain, with the metabolic syndrome, which is a clustering of risk factors for type 2 diabetes and cardiovascular disease.[14] The study also found a higher prevalence of the metabolic syndrome among women across all domains of activity (work, transport and leisure) when compared to men. This pattern of higher prevalence of the metabolic syndrome among women in comparison to men is similar to other countries in the Gulf Cooperation Council (GCC).[15]

The second study found that the lowest level of physical activity was in the leisure domain.[16] In general, men were more inactive in the work domain compared to women and women were more inactive in the transport and leisure domains, a pattern seen in many developing countries. This same study also reported that demographic, anthropometric and behavioural correlates varied by gender and by the domain of activity. High-risk groups for physical inactivity included men and women who were unemployed, women aged 40 years and older, men aged 20–29 years and men who were married.[16] The only commonly-identified high-risk sub-group across all physical activity domains was the unemployed group. This group included students, retirees, housewives and people looking for work. Factors associated with physical inactivity among the unemployed could include conservative cultural norms as well as limited options for entertainment and volunteer work.[17]

This varied pattern of physical activity by gender and domain implies that policies and programmes need to target women and men separately and according to behaviour domains. For example, establishing women-only exercise locations could reduce leisure inactivity among women and building walker-friendly residential areas could reduce transport inactivity in men.

POLICY AND PROGRAMMATIC OPTIONS TO ADDRESS PHYSICAL INACTIVITY

In a qualitative study, mid-level public health managers were asked to reflect upon the implications of the evidence described above to identify relevant policy interventions to increase physical activity in Oman.[17] The key suggestion made by the respondents was to create activity-supportive and culturally-sensitive environments through relevant changes to the physical environment and to public policy. This recommendation was in response to the following key barriers identified by the participants: personal (lack of motivation, awareness and time); social (norms restricting women's participation in outdoor activities and the low value placed on physical activity); environmental (lack of places to be active and unfavourable weather), and policy (ineffective health communication and limited resources). Studies from GCC countries have examined the constraints and opportunities for physical activity and have made similar recommendations.[18,19]

NEED FOR FURTHER RESEARCH

Given the rising prevalence of chronic disease in Oman, further research and on-going surveillance is required to gather context-specific evidence regarding the level of physical inactivity in the country.[20,21] There is great potential to inform public health approaches through building on the initial research findings presented in this paper. Population-based survey datasets at the national and local level provide a wealth of data to improve the understanding of physical inactivity and to develop and monitor the outcomes of evidence-based policies and public health programmes.[7,8,22,23] Based on the Behavioral Epidemiology Framework proposed by Sallis *et al.*, an in-depth analysis of these datasets could be carried out to explore the associations of physical

inactivity and health outcomes and to determine the prevalence (and variations among population sub-groups) and correlates of physical inactivity.[24] In addition, documenting and evaluating existing interventions, some of which are mentioned below, as well as testing interventions aimed at promoting physical activity, could provide practical approaches to addressing physical activity in Oman. This population-health approach is vital to understanding and addressing the increasing prevalence of chronic disease and its risk factors in Oman.[25]

Public Health Implications for Oman

Public health experts in Oman have emphasised that a more deliberate and coordinated multisectoral approach needs to be implemented to promote physical activity.[17] The health sector needs to coordinate with other sectors—such as the municipalities, and the transportation and urban planning sectors that are involved in shaping the built environment and the education, sports and tourism sectors that promote recreational physical activity and competitive sports—to ensure that policies supportive of physical activity are established. Evidence from around the world reiterates the importance of taking a comprehensive approach to the promotion of physical activity.[1,3,26,27]

The Nizwa Healthy Lifestyle Project (NHLP) is a community-based initiative focusing on the promotion of healthy lifestyles and the primary prevention of chronic diseases. An evaluation of the NHLP has provided helpful initial evidence on physical activity interventions for informing public health initiatives in Oman; this has been the only well-documented population-level physical activity intervention project in the country to date. The settings-based approaches used to address physical inactivity as part of a broader strategy to address cardiovascular disease appeared to succeed in increasing the prevalence of physical activity in both men and women.[23]

Helpful further guidance is now available to inform population strategies designed to promote physical activity. The Toronto Charter for Physical Activity is an advocacy tool developed by physical activity experts and launched at the 3rd International Congress on Physical Activity and Public Health held in May 2010, in Toronto, Canada.[28] It summarises the evidence on the benefits of physical activity and outlines four key action points: (1) implement a national policy and action plan; (2) introduce policies that support physical activity; (3) reorient services and funding to prioritise physical activity, and (4) develop partnerships for action. The following paragraphs discuss the public health implications of the available evidence in Oman around these four overlapping priority areas.

IMPLEMENT A NATIONAL POLICY AND ACTION PLAN

The Toronto Charter emphasises the unifying role of a national policy and action plan.[28] Promoting physical activity requires the involvement of numerous stakeholders, many of whom are not within the health sector. Integrated action beyond the health sector is not a new approach in Oman. The Health-Promoting School (HPS) initiative introduced in 2004 brought together the MOH and the Ministry of Education.[29] The National Strategic Response to HIV/AIDS launched in 2005 involves several government entities and civil society as well as international agencies,[30] while the NHLP involves more than 22 sectors.[27] Oman can build on these national intersectoral experiences to develop and implement a national policy and plan of action on physical activity.

INTRODUCE POLICIES THAT SUPPORT PHYSICAL ACTIVITY

The Toronto Charter stresses the importance of a supportive policy framework for physical activity.[28] The creation of communities that make physical activity an easier choice is determined by numerous policy decisions that influence where people live and work, their means of transport, the availability of schools and health services and their options for recreation.[31,32] Creating a supportive policy environment has been a key solution suggested by programme managers in Oman.[17] Given that the prevalence of the metabolic syndrome was higher in women across all domains of physical activity, and that demographic correlates varied by gender and physical activity domains (work, transport and leisure), it is imperative that policies be gender-relevant and domain-specific.

REORIENT SERVICES AND FUNDING TO PRIORITISE PHYSICAL ACTIVITY

According to the Toronto Charter, for policies to be successful, services and funding need to prioritise physical activity.[28] The following paragraphs provide a brief overview of services that could promote physical activity based on the suggestions made in the Toronto Charter.

School settings have the potential to reach a large number of young people as nearly a quarter of the Omani population is school-aged and over 90% attend school.[33,34] Several existing initiatives targeting school-aged children promote physical activity, including the national HPS initiative[31] and the Move for Health

initiative in Nizwa.[23] Examining the effectiveness of these initiatives and developing and testing multi-component school-based interventions based on available evidence could help shape appropriate policies and behaviour change interventions targeting young people in schools.[35–39] Given the gender differences in physical activity among young people and adults, a special focus on approaches to increasing physical activity among girls at an early age is vital.

Using both a cross-sectional survey and focus group discussions with members of the community, an evaluation of the NHLP suggests that the introduction of gender-segregated walkways has led to an increase in the prevalence of physical activity.[23] In addition, anecdotal evidence suggests a general appreciation for recent initiatives to build sidewalks and neighbourhood parks in the capital area. Research indicates that land-use mix, population density, transport connectivity, parking and neighbourhood aesthetics (walkways and green areas) influence physical activity in developed countries.[31,32] The evidence on transportation and urban design in relation to physical activity is sparse for GCC countries. Thus, research from within the region is required to identify neighbourhood environmental characteristics that are gender-relevant, supportive of walking and cycling activities and appropriate for the hot arid climate.

Primary healthcare is the backbone of the health system in Oman.[40] Evidence, largely from developed countries, demonstrates the effectiveness of promoting physical activity in primary care.[26] Existing patient-focussed interventions, addressing diabetes and hypertension management and the adult screening programme for people 40 years and older, could benefit from the inclusion of detailed physical activity counselling guidelines within their protocols.[41–43] Routine screening of physical activity for all adults visiting primary care facilities could be introduced through the adoption of simple assessment tools and complemented with relevant counselling that targets high-risk groups, such as women and the unemployed.[44–46] The introduction of more intensive behaviour change interventions modelled from available programmes could be complemented by reorienting the training of healthcare workers and strengthening the healthcare system to include preventive health services. This is a need that has been identified both within the region and globally.[23,26,47–52]

The Ministry of Sports Affairs advocates sports for all; however, a key solution is to ensure that government facilities provide a variety of sporting options and are accessible for men and women of all ages. This could be implemented by having gender-segregated facilities and/or scheduling.[53] Promoting women-only venues could involve collaborating with other government and private institutions, such as with the Omani Women's Association under the Ministry of Social Development. In addition, since many adults are neither athletic nor interested in participating in competitive sports, the scope of the Ministry of Sports Affairs could be broadened to promote and support informal recreational sports like walking, hiking, biking and swimming, in addition to the women's aerobics classes recently initiated in government sports facilities in the capital area.

DEVELOP PARTNERSHIPS FOR ACTION

Increasing a population's participation in physical activity, as the Toronto Charter states, requires partnership and intersectoral collaboration.[28] Given that the MOH bears the cost of managing chronic disease patients, the health sector needs to take a strong leadership role in galvanising support from other sectors to promote physical activity. This whole-of-government approach is perhaps the most challenging aspect of promoting physical activity; however, it is also the most vital in terms of prevention of chronic disease in Oman.[54] Among the most successful examples of intersectoral collaboration for health in Oman are the community-based initiatives and the School Health Programme.[23,29]

Partnership efforts now need to be taken to the next level so that policy-makers can adhere to the commitments that were made at the United Nations General Assembly on non-communicable diseases.[1] The Toronto Charter, which emphasises inclusiveness by avoiding "health-centric" language[28] and the accompanying document, *Investments that Work for Physical Activity*,[39] are excellent advocacy tools for this process.

Conclusion

Given the rising prevalence of chronic disease and the ageing of both the Omani population and those in neighbouring countries, public health priorities must address the well-known behavioural risk factors of chronic disease. Promoting physical activity involves creating a supportive physical environment and building a more proactive public policy response in the Omani context as identified by key public health experts. The Toronto Charter provides a useful framework for developing a national strategy on physical activity. Concerted intersectoral action focused on a shared national goal and a more deliberate public health response addressing physical inactivity are key strategies for the prevention of

chronic disease. Given that the MOH bears the cost of managing chronic disease, policy-makers within the health sector need to advocate for multisectoral interventions.

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