

## Correspondence

### Physical inactivity in Saudi Arabia. *An under served public health issue*

To the Editor

I have read the interesting article by AboZaid and Farahat<sup>1</sup> on physical activity profile of patients attending family medicine clinics at the Armed Forces Hospital in Taif, Kingdom of Saudi Arabia (KSA). The authors of this paper, as well as other authors who strive to dig into this important yet neglected public health issue must be commended. However, I have several comments on the study findings and on the issue of physical inactivity in KSA.

First, the physical inactivity prevalence (46.2%) found in AboZaid and Farahat<sup>1</sup> study appears not far different from what we have previously reported (40.6%) on a larger and more representative sample from Riyadh, using the International Physical Activity Questionnaire (IPAQ).<sup>2,3</sup> Previous surveys using different instruments, however, estimated inactivity prevalence in KSA to range from 43.3% to as high as 99%.<sup>4</sup>

Second, regarding marital status and educational levels in their results, it is important that we interpret these findings with caution, due to the small sample size and not controlling for some confounders, such as age. In a previous study<sup>5</sup> with a large and representative national sample, we were able to show significant differences in the proportion of active versus inactive Saudis relative to marital status and educational levels. That is to say married and low educated people are more likely to be inactive.

Third, the findings of no gender differences in activity levels need a comment. As the authors nicely stated in their paper, the IPAQ has 3 categories of activity levels, low level (inactive), moderate level (moderately active), and high level (vigorously active). The authors, however, perhaps due to the small sample size, did combine the moderate and high levels into the active group. In addition, IPAQ covers all domains of physical activity, and women especially in a country like KSA are expected to have a high level of moderate physical activity due to their engagement in household activity. Such activities as carrying loads (such as babies, and so forth), and house chores (such as scrubbing floors, sweeping, and vacuuming), which are classified as moderate-type activity in IPAQ are more likely to be performed by female respondents. Had the authors examine the difference in the vigorous activity level between the males and females, the findings would have been different and may be similar to what we have

previously reported in a study on males and females from Riyadh using IPAQ.<sup>2</sup>

Fourth, in Table 3 of the study of AboZaid and Farahat,<sup>1</sup> I find it difficult to understand that more than half of the active participants reported no time as a reason for not being active, and approximately one-third of them had no place to exercise. How come then they were classified as being active? This type of question should have been directed only to those people who were being inactive. Such findings may jeopardize the validity of the participants' answers on physical activity levels to begin with.

Fifth, our previous study,<sup>2,3</sup> as well as other studies<sup>6</sup> have shown that there exists a possible overreporting of moderate level physical activity when using IPAQ. Therefore, the real overall prevalence of physical inactivity among Saudis may be much higher than what was reported in these studies using IPAQ.<sup>1,2</sup> In a recent community-based national study involving Saudi males and females between the ages of 30 and 70 years, the prevalence of physical inactivity was found to be 87.6%.<sup>5</sup> In that study, the proportion of Saudis engaged in physical activity, including light-intensity activity, who expend an energy equivalent of 600 metabolic equivalent (MET)-minutes per week or more was 12.4% (male = 15.2%, and female = 9.7% [ $p < 0.001$ ]).<sup>5</sup>

Finally, this high prevalence of physical inactivity in Saudi society represents a major public health burden, as evidenced by the high population attributable risk of physical inactivity in KSA compared to those in the United States or in the United Kingdom.<sup>7</sup> Indeed, the sedentary lifestyle of the contemporary Saudi people is no longer similar to that of their ancestors. Yet, nothing is really carried out to combat this trend of inactivity in Saudi society. We frequently encounter several public health initiatives to combat smoking and other risk factors, which is obviously needed. However, a national public health initiative aimed on reducing physical inactivity and promoting active living is lacking. Unless concrete steps are taken to reduce physical inactivity in the Saudi population, the future public health cost would be enormous.

A recent community-based national study, involving adult Saudis between 30 and 70 years, showed that the overall prevalence of coronary heart disease (CHD) was 5.5%, and diabetes mellitus to be 23.7%.<sup>8,9</sup> The expected increase in ischemic heart disease mortality in the Middle East region in 2020 compared to 1990 was estimated to be the greatest among all regions of the world (146% increase in women, and 174% increase in men).<sup>10</sup> This is greatly attributed to the high presence of major CHD risk factors, including physical inactivity. In addition,

diabetes is rapidly emerging as a global health care problem that threatens to reach pandemic levels by 2030. The projected increase in diabetes cases in the Middle East region from 2000 to 2030 is 164%, the highest among all region of the world.<sup>11</sup> According to the World Health Organization, the most important risk factors of non-communicable diseases in the Arab countries included high blood pressure, high concentrations of cholesterol in the blood, inadequate intake of fruit and vegetables, overweight or obesity, physical inactivity, and tobacco use.<sup>12</sup> Five of these risks are closely related to improper diet and physical inactivity. Physical inactivity and unhealthy diets are considered among the leading causes of major non-communicable diseases, including cardiovascular disease, type 2 diabetes and certain types of cancer,<sup>12</sup> thus contributing substantially to the global burden of disease, death, and disability in the Arab countries.<sup>13</sup> Prevention of noncommunicable diseases depends on controlling the predisposing risk factors, including physical inactivity. Physical activity on the other hand, is associated with numerous health benefits and plays a major role in modifying many other CHD risk factors.<sup>14,15</sup>

In conclusion, physical inactivity in KSA is exceedingly prevalent and a national physical activity action plan is urgently needed. Furthermore, a national surveillance system and physical activity promotional strategy are very important steps in combating hypokinetic-related diseases in KSA.

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#### *Reply from the Author*

We would like to thank Saudi Medical Journal for sending us this interesting correspondence. We also thank Dr. Hazzaa Al-Hazzaa, and appreciate his well known effort at the national and international levels in promoting physical activity for healthy lifestyle.

We have carefully read the comments raised by Dr. Al-Hazzaa regarding our article on "Physical activity among Saudi patients attending family medicine clinics in western Saudi Arabia."

We already reported in the discussion section that findings of the current study may be difficult to be generalized to represent the general population because of the specific characteristics of the study population who are military personnel and their families. Those participants are potentially more physically active compared to the general population mainly because of the nature of their work. Socio-demographic

characteristics of this study population are relatively different and should be considered in interpreting the findings.

Regarding marital status and educational levels that did not show significant association with physical activity, the small sample size in our study may be the cause. Adjusting for age was very important but it did not change the significance of the univariate analysis. Moreover, approximately 2/3 of our population are relatively of younger age (<50 years old), and their type of work as military personnel could shift them to the active group. In the current study, we already combined the moderate and high activity levels into the active group. In addition, 53% of women in this study are considered active including those with moderate physical activity due to their engagement in household activity. However, male participants are thought to be more physically active compared to the general population because of the nature of their work, lifestyle, or availability of facilities for physical exercise. We absolutely agree that there is a gender difference in the vigorous activity level between the males and females, and our findings support that, however, we think that moderate activity is important among both males and females, and people should be educated on its impact on making their life healthier.

In our study, more than half of the active participants reported no time as a reason for not being active. This finding explains the nature of physical activity among the current population, which is work-related and not kind of planned regular exercise activity. Physical work activity should be considered in different studies that attempts to estimate the magnitude of physical activity in the general population. We absolutely agree that estimating moderate level physical activity can lead to overreporting of physical activity in different populations, however, this type of moderate activity should be encouraged especially with lack of time and/or facilities.

Finally, as we stated in our article, everyone should incorporate activity into his day-to-day life, which would increase the magnitude of moderate activity of people into a more active and more healthy lifestyle.

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#### Related topics

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