Assessment of physical inactivity and perceived barriers to physical activity among health college students, south-western Saudi Arabia

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تقييم الخمول البدني والعوائق المتصوَّرة لممارسة النشاط البدني بين طلاب الكليات الصحية في جنوب غرب المملكة العربية السعودية

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الخلاصة: يعتبر الخمول البدني مشكلة صحية عامة في المملكة العربية السعودية. فقد أجريت دراسة مستعرضة لتقييم طراز النشاط البدني والمنبئات بالخمول البدني والعوائق المتصوَّرة لممارسة النشاط البدني بين طلاب الكليات الصحية في جامعة الملك خالد. وقد تطوع ما مجموعه 1257 طالباً (426 من الذكور و831 من الإناث). واستخدم النموذج القصير باللغة العربية من الاستبيان الدولي للنشاط البدني. وقد كان إجمالي الطلاب الخاملين بدنياً 58.0٪. وكان 13.4٪ فقط من الطلاب يؤدون نشاطاً بدنياً قوياً، و14.8٪ نشاطاً بدنياً متوسط الشدة، و29.9٪ أنشطة مشي تفي بمعايير منظمة الصحة العالمية للأنشطة البدنية المعزِّزة للصحة. وكان انتشار وقت الفراغ غير النشط 47.5٪. وشملت المنبئات المستقلة بالخمول البدني: عدمَ العضوية في أندية رياضية وكون الشخص طالب طب. وكان العائق الأول من العوائق التي ذُكرت للنشاط البدني بين الطلاب الخاملين ضيقَ الوقت (51.3٪). وخلص الباحثون إلى أن التغلب على العوائق المتصوَّرة قد يزيد من النشاط البدني بين الطلاب.

ABSTRACT Physical inactivity is a public health problem in Saudi Arabia. A cross-sectional study was carried out to evaluate the pattern of physical activity, predictors of physical inactivity and perceived barriers to physical activity among health college students in King Khalid University. A total of 1257 students (426 males and 831 females) were recruited. The Arabic short form of the International Physical Activity Questionnaire was used. Overall, 58.0% of the students were physically inactive. Only 13.4% of the students performed vigorous physical activity, 14.8% moderate-intensity physical activity and 29.9% walking activities which met World Health Organization criteria of health-enhancing physical activities. The prevalence of inactive leisure time was 47.5%. The independent predictors of physical inactivity were non-membership of sports clubs and being a medical student. The top reported barrier to physical activity among inactive students was time limitations (51.3%). Overcoming perceived barriers may increase physical activity among students.

Évaluation de la sédentarité et des obstacles perçus à l'activité physique chez des étudiants en santé dans le sud-ouest de l'Arabie saoudite

RÉSUMÉ La sédentarité constitue un problème de santé publique en Arabie saoudite. Une étude transversale a été menée auprès d'étudiants en santé de l'Université King Khalid pour évaluer les caractéristiques de leur pratique d'une activité physique, les facteurs prédictifs de la sédentarité et les obstacles perçus à cette activité. Au total, 1257 étudiants (426 hommes et 831 femmes) ont été recrutés. La version abrégée en langue arabe du questionnaire mondial sur la pratique d'activités physiques a été utilisée. Globalement, 58,0 % des étudiants avaient des comportements sédentaires. Seuls 13,4 % des étudiants pratiquaient une activité physique d'intensité vigoureuse, 14,8 % une activité physique d'intensité modérée et 29,9 % pratiquaient des activités de marche satisfaisant aux critères de l'Organisation mondiale de la Santé relatifs à l'activité physique bénéfique pour la santé. La prévalence des loisirs sédentaires était de 47,5 %. Les facteurs prédictifs indépendants de la sédentarité étaient l'absence d'adhésion à un club de sport et le fait d'être étudiant en médecine. L'obstacle principal à la pratique d'une activité physique indiqué chez les étudiants sédentaires était le manque de temps (51,3 %). Surmonter les obstacles perçus permettrait d'accroître la pratique d'une activité physique chez les étudiants.

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Introduction

Physical inactivity has been identified as the fourth leading risk factor for global mortality (accounting for 6% of deaths globally) (*1*). Most of the important risk factors for noncommunicable diseases (NCDs) are closely related to inappropriate diet and physical inactivity (*2*), World Health Organization (WHO) recommendations are for adults aged 18–64 years to do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity in order to improve cardiorespiratory and muscular fitness and bone health and to reduce the risk of NCDs and depression (*3*). Despite the well-documented evidence regarding the negative health consequences of physical inactivity, the majority of adults do not meet the recommended physical activity guidelines (*4*).

The economic growth surge in Saudi Arabia in recent years means that the country faces challenges to combat chronic health problems related to diet, sedentary lifestyles and other behaviour changes associated with affluence. These changes, together with developments in city planning that require the use of automobiles for all trips (*5*), may be leading to physical inactivity and a low level of physical fitness (*6*). Available data from studies conducted in Saudi Arabia suggests a high prevalence (43.3–99.5%) of physical inactivity among Saudi children and adults (*7–10*).

Assessment of physical activity using objective measures may provide better estimation about population health status and, in turn, provide evidence to policy-makers to inform changes in policy and culture (*2*). Several studies have indicated that university students' physical activity patterns are likely to be important influences on habitual physical activity throughout adult life (*11,12*). About 84% of those who exercised regularly at university were still physically active 5 or 10 years later. Also, more than 80% of physically inactive university students maintained a sedentary lifestyle afterwards (*13*). The importance of addressing such problems specifically among health college students is related mainly to the fact that they are the future health-care providers and have an important role in health promotion and dissemination of healthy lifestyle to the public. Also, understanding common barriers to physical activity and creating strategies to overcome them may help make physical activity part of their daily life (*14*).

The objectives of this study were to assess the levels and pattern of physical activities among students in health colleges, study the predictors of physical inactivity and investigate the perceived barriers of physical activity among students at King Khalid University (KKU), Saudi Arabia.

Methods

Study setting

The study was carried out in the health colleges of KKU, in both male and female campuses, 1 month before the examination in the academic year 2012–2013. KKU is one of the biggest public universities in the south-western region of Saudi Arabia. The male and female campuses in KKU comprise 5 health colleges. A total of 2000 students were enrolled in all health colleges in 2012–13. The academic year in KKU is divided into 2 levels. Students in levels 1 and 2 are not related to health colleges, rather they taught in science colleges, so that they were not included in the current study. The study was approved by the research committee at KKU. Written approval was obtained from the authorities of each college to conduct the survey.

Study design and sampling

A cross-sectional study was conducted on a representative sample of students randomly selected from health colleges through stratified cluster sampling. The sample size was calculated (*15*) using an anticipated population proportion of physical inactivity of 50% and with an absolute precision of 3% at 95% confidence, the minimal sample size required for the study was estimated to be 1068 students. To account for possible non-response, a total sample of 1200 students was initially planned to be included in the present study.

The target population were male and female students of health colleges in KKU. These include the colleges of medicine, pharmacy, dentistry, nursing and applied medical science. In each college students were stratified into the different academic levels. From each level a section or group (cluster) was randomly chosen by simple random sampling. All students in the chosen clusters were included. A total of 1450 students were registered in the chosen clusters. The response rate was 85.6% (1257/1450). Reasons for non-participation were absence during the study period (3.6%), incomplete questionnaires (8.5%) and lack of interest in the study (3.3%). Nine students with chronic disease or disability were excluded. This was determined as self-reported by students.

Study tools

An anonymous, self-administered questionnaire was used to collect data regarding the following: sociodemographic characteristics (age, sex, college, education, occupation of father and mother and family income); membership of sports club or participating in university sports activities; self-reported level of physical activity; self-perceived barriers to physical activity; and amount of leisure time spent as inactive.

Physical activity was assessed using the official Arabic short version of the International Physical Activity Questionnaire (IPAQ) (*16*). IPAQ short form is an instrument designed primarily for population surveillance of physical activity among adults (age range 15–69 years) (*17*). This version provides detailed information for evaluation purposes. The reliability and validity of the questionnaire were first tested across 12 countries (14 sites) in 2000. The findings suggest that it has acceptable properties for use in many settings and in different languages, and is suitable for national population-based prevalence studies of participation in physical activity (*18,19*). The Arabic version has been validated and used by several studies among the Saudi Arabia adult population (*7,8*). The short form of IPAQ used in the present study has 7 items providing information on time spent walking, in vigorous- and moderate-intensity physical activities and in sedentary activity during the previous 7 days. IPAQ defines moderate physical activities as those that produce a moderate increase in respiration rate, heart rate and sweating for at least 10 min duration. This is equivalent to 3–6 metabolic equivalents (MET) based on the compendium of physical activity (*20*). Vigorous physical activities are defined as those producing vigorous increases in respiration rate, heart rate and sweating for at least 10 min duration. The metabolic equivalent value is above 6 MET (*20*). Before students had answered the questions, they were asked to think about all the vigorous and moderate activities that they had done in the previous 7 days during work, transport, household, yard/garden and leisure/sports.

A list of possible barriers to physical activity as suggested by El-Gilany et al. (*21*) was used to examine these barriers among Saudi university students.

Inactive leisure time was considered among individuals who did not participate in regular physical activities or just described sedentary behaviours in their leisure time (activities such as computer activities, computer and video games, reading, listening to the radio or watching television) (*22*).

Data collection

After obtaining approval for data collection, the researchers introduced themselves to the students in each cluster and informed them about the aim of the study and about guarantees of anonymity and confidentiality. Students were allowed to respond in their own time and in private. Each student spent about 10 min in completing the questionnaire. Participation was entirely on voluntary basis after giving verbal consent.

Data entry and analysis

Physical activity scores and levels were calculated according to the guidelines for data processing and analysis of the IPAQ. MET-min per week for each of walking, moderate- and vigorous intensity activities were calculated as follows: walking = (3.3 × walking min × walking days); moderate activity = (4.0 × moderate activity min × moderate activity days); vigorous activity = (8.0 × vigorous activity min × vigorous activity days). Physical activity levels were also classified into 3 categories: inactive, minimally active and health-enhancing physically active, according to the scoring system provided by IPAQ (*19*). Vigorous and moderate physical activities for each subject were also classified as meeting or not meeting WHO criteria for physical activity for health (*23*).

The data were then analysed using *SPSS*, version 16. Continuous data were presented as mean and standard deviation (SD) and compared using Student t-test and Mann–Whitney-U test for parametric and nonparametric data respectively. In categorical data, the chi-squared test was used for comparison between groups. Significant factors predicting physical inactivity on bivariate analysis were entered into multivariate logistic regression analysis to find out the independent predictors of physical inactivity. Odds ratios (OR) and their 95% confidence interval (CI) were calculated. $P < 0.05$ was considered statistically significant.

Results

The age of participating students ranged from 17 to 25 years, with a mean of 20.1 (SD 1.4) years. They were proportionally distributed across the different levels of health colleges in KKU. Of the 1257 participants 66.1% were females.

Pattern of physical activities

According to the IPAQ scoring system, 58.0% of students were physically inactive and only 29.1% and 12.9% of the students had moderate and high intensity physical activities respectively, with no statistically significant difference between males and females. Of the students 20.8% performed vigorous intensity activities for more than 10 min/week and only (13.4%) performed vigorous activities that meet with WHO criteria. Male students were highly significantly more likely to participate in vigorous activities compared with females ($P < 0.001$). For moderate intensity activities, 30.9% of students performed these for more than 10 min/week and 14.8% according to WHO criteria, with no significant difference by sex ($P < 0.05$). About half of the students (48.8%) performed more than 60 min walking activities per week with no statistical significant difference between the sexes. Only 29.9% performed walking activities that met WHO criteria, significantly more females than males ($P < 0.05$). The mean prevalence of inactive leisure time was higher in males [55.5% (SD 20.8%)] compared with females [44.8% (SD 22.5%)] ($P < 0.001$) (Table 1).

Table 1 Pattern of self-reported physical activities among health college students

Pattern of physical activities	Males (n = 426)		Females (n = 831)		Total (n = 1257)		Test of significance	*P*-value
	No.	%	No.	%	No.	%		
Physical activity level								
High	60	14.1	102	12.3	162	12.9		
Moderate	126	29.6	240	28.9	366	29.1	χ^2 = 1.1	> 0.05
Low	240	56.3	489	58.8	729	58.0		
Vigorous activities								
≥ 10 min/week	114	26.8	148	17.8	262	20.8	χ^2 = 13.6	< 0.001
≥ 75 min/week[a]	83	19.5	85	10.2	168	13.4	χ^2 = 20.8	< 0.001
Moderate activities								
≥ 10 min/week	124	29.1	264	31.8	388	30.9	χ^2 = 0.93	> 0.05
≥ 150 min/week[a]	64	15.0	122	14.7	186	14.8	χ^2 = 0.26	> 0.05
Walking								
≥ 60 min/week	194	45.5	419	50.4	613	48.8	χ^2 = 2.68	> 0.05
≥ 150 min/week[a]	109	25.6	267	32.1	376	29.9	χ^2 = 5.75	< 0.05
Mean (SD) % leisure time spent inactive	55.5 (20.8)		44.8 (22.5)		47.5 (21.2)		Z = 6.48	< 0.001

[a]*Meets World Health Organization recommendations.*
SD = standard deviation.

Predictors of physical inactivity

In bivariate analysis, type of college and non-participation in university sports clubs were significant predictors of physical inactivity (Table 2). The independent predictors of physical inactivity as revealed by logistic regression analysis are presented in Table 3. Non-membership of sports clubs was the greater risk for physical inactivity (OR = 3.45; 95% CI: 1.56–7.66). Students of the college of medicine were more likely to be physically inactive (OR =2.69; 95% CI: 1.93–3.76), while students of dentistry were the least likely to be physically inactive.

Barriers to physical activity

Presence of at least 1 perceived barrier to physical activity was reported by 74.9% of physically inactive students, and the average number of perceived barriers was significantly higher [4.36 (SD 4.66)] among them compared with physically active students [3.15 (SD 4.56)]. The significant barriers among physically inactive students were: time limitations (51.3%); lack of accessible and suitable sports places (31.1%); have other important priorities (28.1%); lack of friends to encourage (27.8%); lack of support and encouragement from others (23.2%); lack of safe sporting places (22.8%); lack of motivation (19.6%); high cost (17.7%); not being interested in sports (18.5%); lack of sports skills (17.8%); feeling tired on physical activity (15.8%) and ignorance about the benefits of sports (9.3%) (Table 4).

Discussion

The present study showed that more than half of health college students were physically inactive and only 12.1% were highly active. These results are consistent with the results reported by previous studies in Saudi Arabia (*5,7,10,24,25*). Other countries of the Gulf region also showed a high prevalence of physical inactivity. For example, a Kuwait study reported a prevalence of physical inactivity of 34% and 55% among male and female university students respectively (*26*). Regarding other Arab countries, in Egypt only 11.3% of students at the University of Mansoura were physical inactive (*21*) and at the University of Alexandria one-third were physically inactive (*27*). In a Lebanese study about 26.4% of university students reported engaging in physical exercise (*28*). Elsewhere, about one-third of Chinese and Brazilian university students were physically inactive (*29,30*). Makrides et al. reported that fewer than half of university students in Canada participated in exercise 3 or more times per week (*31*). A previous study in the USA reported that 17% of university students were physically inactive (*32*).

Although health-enhancing physical activities play an important role in lowering the risk of chronic diseases (*33*), and should be prioritized in the lives of health college students, the current study revealed that only 13.4%, 14.8% and 29.9% of the students performed vigorous intensity, moderate intensity and walking activities that meet WHO criteria of health-enhancing physical activities. A previous study in Saudi Arabia reported that only 15% of female university students performed vigorous intensity activities meeting the WHO

Table 2 Bivariate analysis for predictors of physical inactivity

Predictor	Total	Physically inactive		OR (95% CI)
	No.	No.	%	
Age (years)				
< 20	1019	584	57.3	Ref.
20+	238	145	60.9	1.16 (0.870–1.55)
Sex				
Male	426	240	56.3	Ref.
Female	831	489	58.8	1.11 (0.87–1.40)
College				
Dentistry	195	77	39.5	Ref.
Medical	644	416	64.6	2.80 (2.01–3.89)
Pharmacy	174	102	58.6	2.17 (1.43–3.29)
Applied Sciences	182	102	56.0	1.95 (1.30–2.94)
Nursing	62	32	51.6	1.63 (0.92–2.91)
Level				
3–4	291	158	54.3	Ref.
5–6	339	196	57.8	0.81 (0.46–1.44)
7–8	389	230	59.1	0.94 (0.54–1.65)
9–10	179	110	61.5	0.99 (0.57–1.73)
11–12	59	35	59.3	1.09 (0.67–1.99)
Father's education				
Below secondary	513	309	60.2	1.24 (0.97–1.60)
Secondary	232	139	59.9	1.23 (0.90–1.68)
Above secondary	512	281	54.9	Ref.
Mother's education				
Below secondary	824	473	57.4	0.96 (0.72–1.30)
Secondary	203	122	60.1	1.08 (0.73–1.58)
Above secondary	230	134	58.3	Ref.
Father's work				
Professional/semi-professional	523	306	58.5	Ref.
Military/police	396	233	58.8	1.01 (0.78–1.32)
Other	96	49	51.0	0.74 (0.48–1.14)
Died/retired/not working	242	141	58.3	0.99 (0.73–1.35)
Mother's work				
Housewife	943	556	59.0	1.17 (0.90–1.51)
Working outside home	314	173	55.1	Ref.
Income				
Able to save	509	297	58.3	Ref.
Sufficient	649	372	57.3	0.96 (0.76–1.21)
Insufficient	99	60	60.6	1.01 (0.71–1.70)
Family size				
< 6	460	284	61.7	1.48 (0.98–2.23)
6–12	682	385	56.5	1.19 (0.80–1.77)
> 12	115	60	52.2	Ref.
Sports club membership				
Yes	33	9	27.3	Ref.
No	1224	720	58.8	3.81 (1.77–8.26)

OR = odds ratio; CI = confidence interval; Ref. = reference group.

criteria (*10*). These values were noticeably lower than that those reported in developed countries. The National College Health Risk Behavior Survey in the United States of America (USA) reported that 42% of college students participated in vigorous activity that met WHO criteria, while an additional 20% participated in moderate activity (*34*). Staten et al. reported that 39% and 41% of university students were vigorously and moderately physically active (*35*). National statistics also show that in many countries at least one-quarter of all young people are deemed physically inactive (*36*).

The high prevalence of inactivity among university students in Saudi Arabia may be explained by a reliance on cars rather than walking or bicycling for short-distance travel (including trips to and from university), sedentary lifestyles and the limited quality physical education programmes in schools, especially for women (*5*).

It is now recognized that sedentary behaviours are associated with harmful health outcomes that are different from those attributable to the lack of physical activity (*37*). The current study revealed that the health college students had a high prevalence of inactive leisure time (47.5%). This was markedly higher than the average among university students of 32 countries with different cultural and economic development factors, averaging 23% (north-western Europe and USA), 30% (central and eastern Europe), 39% (Mediterranean), 42% (Pacific Asia) and 44% (developing countries) (*38*). This variation in the level of physical inactivity between different countries is a reflection of socio-economic developments, technology and urbanization. The reasons for the observed higher prevalence of inactive leisure time may be explained in terms of a trend towards rapid economic development and replacement of an active lifestyle with an increasing frequency of sedentary routines in daily life in Saudi Arabia (*7*). Watching television was

Table 3 Logistic regression analysis of independent predictors of physical inactivity among health college students

Predictors	β	*P*-value	OR (95% CI)
No sports club membership	1.24	< 0.05	3.45 (1.56–7.66)
College			
Density	–	–	Ref.
Medical	0.99	< 0.001	2.69 (1.93–3.76)
Pharmacy	0.70	< 0.001	2.02 (1.33–3.07)
Applied Sciences	0.60	< 0.05	1.83 (1.21–2.76)
Nursing	0.42	> 0.05	1.52 (0.85–2.71)
Constant	1.595	< 0.001	

OR = odds ratio; CI = confidence interval; Ref. = reference group.

found to be the most predominant leisure-time pursuit among youth in the south-western region of Saudi Arabia. About 38% of the youth watched television for more than 3 hours per day (*39*).

In the present study females were less likely to engage in vigorous physical activity than were males. The same finding has been reported by many studies in different cultures and different age groups (*4,5,25,29,38,40,41*). In many traditional communities, females face social pressures that have historically linked physical power and athleticism to maleness: femininity is not consistent with vigorous activity and sports. Also, cultural norms and values in Saudi Arabia are more permissive for boys to practise physical activity and restrict females to the domestic domain (*5,23,42*).

Analysis of the risk factors for physical inactivity using regression analysis revealed that non-membership of a sports club was a significant predictor of physical inactivity. Similar results have been reported in Egypt, USA and Hong Kong (*21,30,43*), because daily participation of university and community sports facilities play a crucial role in encouraging students to participate in physical activity, as the students usually do not have a full daily schedule of studies (*44*).

Being a student in the college of medicine was found to be associated with a high risk of physical inactivity. This is in accordance with a study from Egypt (*21*). Heavy academic study was considered to be one of the barriers to participation in physical activity in a university population in China (*45*). On the other hand, age, study level, parent's education and job and family income were not significant predictors of physical inactivity. Regarding family income and socioeconomic standard, there is a controversy about their effect on physical activity level. While some studies reported that low socioeconomic status was associated with sedentary behaviour and low levels of physical activity (*46*), other studies found that high socioeconomic status was associated with high physical inactivity (*30,35*). When considering the effect of parent's education on physical activity level, in contrast to our findings a positive correlation was observed between degrees of parents' education and levels of physical activity in several studies (*10,21,30*). While the present study did not find significant relation between age and physical activity, previous studies have reported a considerable decline in physical activity levels, especially among adolescent females in some of the major cities in Saudi Arabia (*24*).

The majority of the physically inactive students perceived the existence of at least 1 barrier to physical activity. The significant barriers reported by physically inactive students were: personal factors, such as time limitations, having other important priorities, being not interested in sports, lack of motivation, lack of sport skills and ignorance about the benefits of sports; environmental factors, such as lack of accessible and suitable sports place, lack of safe sporting places as well as their high cost; and social factors which were lack of support from friends and family. Lack of time due to lesson schedules, parents giving academic success priority over exercise, lack of time due to family and social commitments was considered as a significant barrier to physical activity by several studies (*21,37,46,47*). Environmental factors such as sports facilities, the public transport system, climate and campus safety are considered to be important determinants of physical activity. Also, social support and encouragement, especially from families and friends, are significant contributors to physical activity for both male and female students (*21,44*).

The observed high prevalence of physical inactivity among health college students should give a warning sign to the health authorities especially when taking into account that more than 80% of physically inactive university students also maintained a sedentary lifestyle (*13*) and that physical inactivity causes 6–10% of the major NCDs of coronary heart disease, type 2 diabetes and breast and colon cancers. Furthermore, this unhealthy behaviour causes 9% of premature mortality (*48*). There should be a clear preventive strategy to eliminate physical inactivity in order to increase life expectancy and minimize the risk of NCDs

Conclusions

This study highlights an important issue for the health and welfare of the health college students in the south-western region of Saudi Arabia: the observed high prevalence of physical inactivity and inactive leisure time. Public health authorities in Saudi Arabia should

Table 4 Self-perceived barriers to physical activity and sports among physically active and inactive health college students

Variable	Physically active (*n* = 528)		Physically inactive (*n* = 729)		*P*-value
	No.	%	No.	%	
Reported at least one barrier	270	51.1	546	74.9	0.001
Barriers reported					
Time limitations	192	36.4	374	51.3	0.001
Lack of accessible and suitable sports places	124	23.5	227	31.1	0.002
Lack of safe sports places	87	16.5	166	22.8	0.004
Lack of support and encouragement from others	81	15.3	169	23.2	0.001
Lack of friends to encourage me	91	17.2	203	27.8	0.001
Have other important priorities	101	19.1	205	28.1	0.001
Lack of sports programmes that suit my physical fitness	66	12.5	103	14.1	0.227
Not interested in sports	53	10.0	135	18.5	0.001
Lack of motivation	75	14.2	143	19.6	0.007
High cost	54	10.2	129	17.7	0.001
Lack of sports skills	47	8.9	130	17.8	0.001
Fear of failure in sports competition	46	8.7	74	10.2	0.224
Fear of injury	53	10.0	98	13.4	0.07
Fear of deterioration of physical illness	40	7.6	50	6.9	0.65
Nobody to care for my family	62	11.7	101	13.9	0.307
Feeling tired on physical activity	57	10.8	115	15.8	0.01
Ignorance about benefits of sports	31	5.9	68	9.3	0.02
Prefer not to attend sports places	49	9.3	82	11.2	0.304
Lack of or low physical power	61	11.6	100	13.7	0.267
Feeling unable to practise sports adequately	33	6.3	65	8.9	0.09
Objection of parents	41	7.8	72	9.9	0.231
Body cannot tolerate physical activity	41	7.8	77	10.6	0.19
Previous failure in sports competition	30	5.7	57	7.8	0.14
Unsuitable (hot or cold) weather	91	17.2	142	19.5	0.32
Previous bad experience with physical sports activity	47	8.9	73	10.0	0.56
Mean (SD) no. of barriers	3.15 (4.56)		4.36 (4.66)		0.001

SD = standard deviation.

continue their efforts to raise population awareness about the benefits of physical activity and healthy lifestyles for the prevention of chronic diseases and the improvement of quality of life. There is a need for clear, al guidelines for practising physical activity by university students. Public and university facilities for sports and exercise should be established for both males and females. University curricula should include the opportunity for all students to participate in physical activity. Lowering the academic burden will give students more time to participate in physical activity.

The study addresses the problem of physical inactivity among health college students only. A larger study to include all colleges may be more informative. Furthermore, there is a need for a national study with a representative sample to address the issue of physical activity/inactivity in university students in Saudi Arabia at large. Interventional studies may be recommended to assess and improve the cultural and social determinants of physical activity.

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