ORIGINAL ARTICLE

Perceptions Toward Leisure Activities and Prolonged Sitting Among Saudi Adults – A Cross-sectional Community-Based Study

Osama A. Samarkandi[1], Lujain O. Samarkandi[2], Mohammed A. Andijani[3], Waleed Hazazi[4], Faris Abdullah Alsubhi[5], Jehad A. Al Mansour[6], Majed T. Almuzaini[7], Fahd Jaber K. Al-Anazi[8]

[1]Department of Basic Sciences, Nursing Informatics, Dean of Prince Sultan College for Emergency Medical Services, King Saud University, Riyadh 11466, Saudi Arabia, [2]Department of Medicine, College of Medicine, Al-Maarfa University, Diriyah 13713, Saudi Arabia, [3]Department of Public Health, Ministry of Health, Riyadh, 11466, Saudi Arabia, [4]Simulation Labs Unit, King Saud University, Riyadh 11466, Saudi Arabia, [5]Lab.Tech., Simulation Labs Unit, King Saud University, Riyadh 11466, Saudi Arabia, [6]Lab.Tech., Field Training Unit, King Saud University, Riyadh 11466, Saudi Arabia, [7]Vice Deanship for Postgraduate Studies and Scientific Research Office, King Saud University, Riyadh 11466, Saudi Arabia, [8]Field Training and Internship Unit, King Saud University, Riyadh 11466, Saudi Arabia

Abstract

Background and Objective: Leisure activities encompass a wide range of recreational pursuits that individuals engage in during their free time. This study aims to assess the perceptions toward leisure activities and prolonged sitting among Saudi adults in Riyadh, Saudi Arabia. **Materials and Methods**: A cross-sectional community-based study was conducted among people living in Saudi Arabia to assess the perception of adults toward leisure activities and prolonged sitting using a total of 25-item questionnaires divided into four sections on the 5-point Likert scale. Results: Two hundred and one (n = 201) Saudi adults completed the survey. In this study, 51.2% of the males were participated. With regard to time spent on leisure activities, such as social media, 28.4% of the respondents spent 30 min, followed by coffee and dessert by 70.6% for 2 h, related activity by 63.2% for >4 h, business-related activity by 30% for <30 min, family time by 30% for 2 h, and 29.4% spend <30 min watching television. Furthermore, 59.2% of participants believed that sitting for long periods of time was harmful to their health. **Conclusion**: Leisure activities and prolonged sitting have emerged as important topics concerning the health and well-being of Saudi adults. The high prevalence of sitting time and its associated health risks necessitate the implementation of strategies to reduce prolonged sitting and increase physical activity levels. By promoting leisure activities and creating a supportive environment, Saudi adults can be encouraged to adopt a more active lifestyle, leading to improved overall health and well-being.

Key words: Adults, leisure activities, perception, Saudi Arabia, sitting time, time spent on social media

INTRODUCTION

In a rapidly evolving world, our daily routines and habits play a significant role in shaping our overall health and well-being. Sedentary behavior (SB) refers to activities that involve sitting or reclining while expending minimal energy.[1-3] One of the primary reasons behind SB is the increased reliance on technology.[2] With the rise of smartphones, tablets, and computers, adults now spend more time sitting than ever before.[2,3] Spending extended periods in front of a screen can lead to a decrease in physical activity (PA) and an increase in SB.[2,3] It has become increasingly prevalent in modern lifestyles due to factors such as technology, desk jobs, and urbanization.[4] This

Address for correspondence:
Osama A. Samarkandi, Department of Basic Sciences, Nursing Informatics, Dean of Prince Sultan College for Emergency Medical Services, King Saud University, Riyadh 11466, Saudi Arabia.
E-mail: osamarkandi@ksu.edu.sa

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section delves into the concept of SB, its potential health risks, and the sedentary habits observed among adults. Finding the right balance between leisure activities and an active lifestyle is key. Leisure activities play a significant role in the lives of adults, offering promising solutions to combat SB.[5] Engaging in hobbies and leisure pursuits offers a much-needed break from daily routines, reducing stress, enhancing overall well-being, and helping people break free from sedentary habits.[6] Moreover, promoting cultural and artistic activities can provide alternative sources of leisure that encourage a more active lifestyle. However, it is essential to strike a balance between leisure activities and maintaining an active lifestyle. Engaging in leisure activities has numerous benefits for individuals, regardless of age. Adults who actively participate in leisure activities often report higher levels of overall well-being and happiness.[6,7] Leisure activities provide an outlet for stress reduction and may promote social interaction and connection with others. In addition, engaging in leisure activities can lead to the development of new skills, hobbies, and interests, which in turn can enhance personal growth and provide a sense of fulfillment. Regular engagement in leisure activities has been linked to numerous physical health benefits. First, engaging in leisure activities that involve physical exertion helps improve cardiovascular fitness, strengthens muscles, and enhances overall physical endurance. Engaging in leisure activities also has a profound impact on mental health, participating in activities that are enjoyable and fulfilling can reduce feelings of anxiety, and depression, and improve overall mood. Moreover, leisure engagement promotes a sense of accomplishment, boosts self-esteem, and enhances cognitive function.[7]

Factors such as age, gender, socioeconomic status, and geographical location can influence the type and frequency of leisure activities individuals engage in. For instance, younger adults may be more inclined toward outdoor activities and sports, while older adults may prefer quieter pursuits such as reading or attending cultural events. Similarly, individuals with higher incomes may have access to a wider range of leisure activities compared to those with limited financial resources.[7,8] An increasing level of physical inactivity and sedentary lifestyles affects not only just individuals but also the entire community, with the increase in both across many countries coming with major implications. According to global status reports on PA in 2022 by the WHO, 27% of adults do not meet that the World Health Organization (WHO) recommended levels of PA.[8] One of the nine global targets to improve the prevention and treatment of non-communicable diseases set by the WHO is to reduce the prevalence of insufficient PA by 10% by 2025.[9,10] Understanding the prevalence rate of these behaviors is crucial for public health professionals and policymakers to develop effective strategies promoting PA and overall well-being in the adult population.[11] Despite 44% reporting no weekly moderate to intense PA, 11% spend 8 hours or more sitting with minimal leisure-time PA, and only 4% of people report sitting <4 hours a day and being active at the same time.[12]

Over the recent decade, physical inactivity has garnered greater attention in Saudi Arabia, with studies finding a large proportion (75–90%) of the population not obtaining adequate PA.[3,13-23] Another study in Saudi Arabia conducted among young adults concluded the prevalence rate of physical inactivity was 37%.[24] In addition, another study in Saudi Arabia concluded that 25% of Saudi adults spent 3–4 hours sedentary daily.[3] By shedding light on this topic, we can gain a deeper understanding of the factors influencing SB and explore how leisure activities can be incorporated into daily routines. This alarming prevalence rate highlights the urgent need for interventions targeting SB reduction among Saudi adults. This study aims to assess the perceptions toward leisure activities and prolonged sitting among Saudi adults in Riyadh, Saudi Arabia.

MATERIALS AND METHODS

An online cross-sectional study was conducted among Saudi adults between April 2023 and June 2023 to assess perceptions toward SB and leisure activities. A self-administered questionnaire was generated through Google Forms. The survey questionnaires were sent through social media channels to Saudi adults in Riyadh, Saudi Arabia, and responses with complete information were excluded from the study. The study procedure and questionnaires were reviewed and approved by the Ethical Committee of King Saud University before data were collected. In addition, respondents were informed that their data would be used exclusively for research purposes and that their information would remain confidential. Finally, respondents were informed that they could withdraw from the study at any time.

The questionnaire was intended to assess the perception of SB, leisure activity, and prolonged sitting among Saudi adults adapted from similar studies.[3] The questionnaire was broken into four sections, the first section included 10 questions regarding the demographic and basic information of the respondents, including age, gender, and nationality. The second section consists of seven questionnaires about the frequency of time on leisure activities. The third section is about the perceptions of the participants toward prolonged sitting and physical inactivity. Respondents were asked to rate their responses on a 5-point Likert scale. A score of 5 was given to strongly agree, 4 to agree, 3 to neutral, 2 to disagree, and 1 to strongly disagree, and the last part measured the level of frequency of PA among participants. A two-step validation process was conducted before starting the study.

We sent one reminder to participants to encourage participation in the study. The data collection was followed by convenience sampling, for data collection, electronic questionnaires were prepared, and distributed.

Data analysis

Data analysis was conducted using the Statistical Package for the Social Science (SPSS) version 26.0 software (IBM Corp Armonk, NY, USA). Descriptive statistics were used,

and the dataset (demographic characteristics, frequency, and perceptions of the participants) was presented as frequencies (n) and percentages (%).

RESULTS

Two hundred and one (n = 201) Saudi adults completed the survey. Among the survey participants, more than half (51.2%) n = 103 were male and the remaining half were female (48.8%) n = 98. More than one-third of the participants (37.3%) were aged between 34 and 40 years.

Most of the participants were Saudi nationals (89.6%). A major proportion of the participant's professions was labeled as "other" (70.1%) while homemakers (19.4%) and business persons (10.4%) were a minority. Regarding the weight of the participants, 44.3% of the participants weighed between 80 and 89 kg, one-third weighed between 60 and 69 kg, and 24.4% weighed between 70 and 79 kg. Most of the participants were non-smokers (78.6%). Detailed information on the sociodemographic characteristics of the participants is discussed in Table 1. In this study 40% of the individuals performed exercise 1-2 days while 30% of them performed between 3-4 days in a weeks [Figure 1].The sedentary time spent on week days and weekends was showsn in Figure 2a and b.

Table 2 shows the frequency of time spent on various leisure activities among participants. For leisure activities such as social media, 28.4% of the participants spend 30 min, while 18.4% spend <30 min on social media. About 70.6% of the participants spent 2 h of their leisure hours on coffee and dessert time, whereas more than two-thirds of the participants (63.2%) spent >4 h of their leisure time on work-related activity. While one-third of the participants spent <30 min on business-related activities. Almost one-third of the participants spend 2 hours of their leisure time with their family, and 29.4% spend <30 min watching TV, and almost all of the participants spend <30 min of their leisure time playing video games.

Regarding the perceptions of the participants toward prolonged sitting and physical inactivity, 59.2% of the participants agreed that sitting for prolonged periods could negatively affect their health; around half of the participants, 49.3 % held the belief that regular exercise during the day would not negatively affect their health. Most of the participants (88.6%) believed that prolonged sitting negatively affected their mental and emotional well-being. Two-thirds of the participants thought that there was a strong relationship between back pain and prolonged sitting hours. A large proportion of the participants (82.6%) believed that a strong relationship exists between social media and prolonged sitting hours. In addition, half of the participants agreed with the statement that there is a strong relationship between coffee-dessert time, prolonged sitting hours, and physical inactivity [Table 3].

Table 4 describes the frequency of PA of the participants. More than one-third of the participants sometimes did their PA in the past week, while 30.8% of the participants rarely did their PA in the past week, and only 28.9% of the participants never did their PA in the past week. In the past month, almost 40.8% sometimes did their PA, more than one-third rarely did their PA, and 20.4% never did their PA.

DISCUSSION

SB and leisure activity are two contrasting aspects of our daily lives that have a significant impact on our health and well-being. In our modern lifestyles, SB is often unavoidable; however, it is important to maintain a balance between sedentary activities and leisure activities. Incorporating regular PA and leisure activities into our daily routines can help mitigate the negative effects of SB and promote overall health and well-being. This study sought to assess the perceptions toward SB and leisure activities among Saudi adults, focusing on a cross-sectional community-based study conducted in Riyadh, Saudi Arabia. In our study, it was found that 40.3% of adults exercise 1–2 days per week. It is

Table 1: Demographic characters of the respondents (n=201)

Variables	Frequency, *n*	Percentage
Gender		
Male	103	51.2
Female	98	48.8
Age in years		
24–26	27	13.4
27–30	52	25.9
31–33	42	20.9
34–40	75	37.3
41–44	5	2.5
Nationality		
Saudi	180	89.6
Non-Saudi	21	10.4
Professions		
Businessman	21	10.4
Housewives	39	19.4
Others	141	70.1
Weight (kg)		
Between 50 and 59	2	1.0
Between 60 and 69	61	30.3
Between 70 and 79	49	24.4
Between 80 and 89	89	44.3
Smoking status		
Previous smoker	43	21.4
Never smoker	158	78.6

Table 2: Frequency of time spent on various leisure activities among respondents

Leisure activity	Time spent (hours per day)					
	<30 min *n* (%)	30 min *n* (%)	1 h *n* (%)	2 h *n* (%)	3–4 h *n* (%)	>4 h *n* (%)
Social media	37 (18.4)	57 (28.4%)	26 (12.9)	30 (14.9)	24 (11.9)	27 (13.4)
Coffee dessert time	4 (2.0)	3 (1.5)	2 (1.0)	142 (70.6)	50 (24.9)	0
Work relating activity	38 (18.9)	1 (0.5)	3 (1.5)	28 (13.9)	4 (2.0)	127 (63.2)
Business relating activity	62 (30.8)	28 (13.9)	31 (15.4)	21 (10.4)	1 (0.5)	58 (28.9)
Family time	2 (1.0)	1 (0.5)	29 (14.4)	60 (29.9)	87 (43.3)	22 (10.9)
Watching TV	59 (29.4)	27 (13.4)	56 (27.9)	38 (18.9)	1 (0.5)	20 (10.0)
Video games	199 (99.0)	2 (1.0)	0 (0)	0 (0)	0 (0)	0 (0)

Table 3: Perceptions toward prolonged sitting and physical activity among respondents

Statements	Strongly agree *n* (%)	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)	Strongly disagree *n* (%)
Sitting for prolonged periods can negatively impact my health	117 (58.2)	2 (1.0)	47 (23.4)	35 (17.4)	0 (0.0)
Sitting for prolonged periods will not negatively impact my health if I regularly exercise during the day	4 (2.0)	95 (47.3)	61 (30.3)	37 (18.4)	4 (2.0)
Sitting for prolonged periods and physical inactivity can negatively impact my mental and emotional state	92 (45.8)	86 (42.8)	23 (11.4)	0 (0.0)	0 (0.0)
There is a strong relationship between back pain and prolonged sitting hours	116 (57.7)	4 (2.0)	81 (40.3)	0 (0.0)	0 (0.0)
There is a strong relationship between social media and prolonged sitting hours	92 (45.8)	74 (36.8)	34 (16.9)	1 (0.5)	0 (0.0)
There is a strong relationship between coffee-dessert time prolonged sitting hours and physical inactivity	61 (30.3)	40 (19.9)	64 (31.8)	36 (17.9)	0 (0.0)

Table 4: Frequency of physical activity among participants

Variables	Frequency (*n*)	Percentage
Your physical activity level in the past week		
Never	58	28.9
Rarely	62	30.8
Sometimes	77	38.3
Always	2	1.0
Often	2	1.0
Physical activity level in the past month		
Never	41	20.4
Rarely	76	37.8
Sometimes	82	40.8
Always	1	0.5
Often	1	0.5

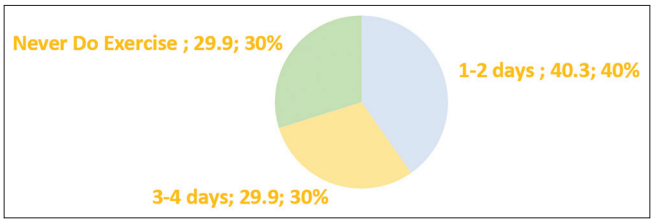

Figure 1: Exercise per week

interesting to note that a recent study on PA reported that 63% of adults do exercise every week and 37.0% of them do not do any PA,[13] while our study indicated that 29.9% of adults do not do any exercise. Another recent study conducted in Saudi Arabia investigated that the percentage of Saudi adults aged ≥15 years who were physically active was 17.40%, while the proportion of non-physically active subjects was 82.60%.[21] Our study results were in concordance with a study conducted on adults, reporting that 44% of the respondents performed exercise 1–2 days a week.[3] However, another community-based study conducted in Nigeria concluded that 68.6% of adults were physically active while 31.4% were inactive.[25] Engaging in regular PA can have a positive impact on various aspects of our physical, mental, and emotional health and also plays a significant role in the prevention and management of chronic diseases.[25]

As a result of our study, we found that 40.3% of adults spent more than 3–4 hours sedentary per weekday, whereas 69.7% spent more than 4 hours sedentary on weekends. However,

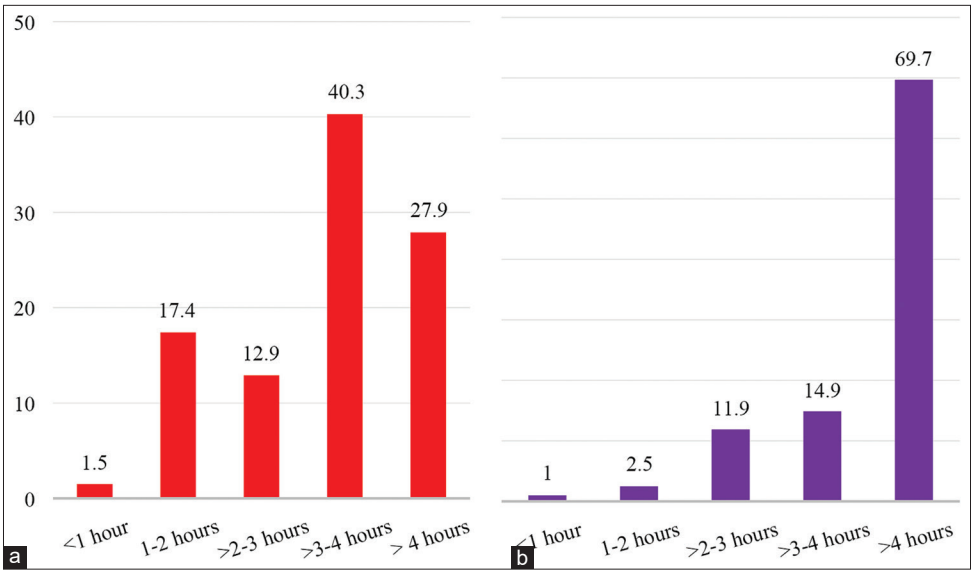

Figure 2: (a) Sedentary time spent per weekday, (b) Sedentary time spent on weekends

a study by Bashatah *et al*. concluded that 30.7% of Saudi adults spend 1–2 hours sedentary on weekdays.[3] Another study by McAlister *et al*. indicated that adults aged 55 years and over spent 10 hours per day engaged in SB.[26] A different study conducted by Matthews *et al*. among American adults reported that 54.9% of the sample size spent equal to or more than 7.7 hours a day engaged in SB.[27] Another study conducted in Brazil on adolescents reported that 9 hours per day were engaged in sedentary behavior by the sampled adolescents.[28] A different study conducted by Korea Health Statistics in 2018 shows that Koreans aged 19 and older spend 8.3 h each day sedentary, whereas 8.9% of adults spent <4 h sedentary daily, and 20.6% spent more than 12 h sedentary daily.[29,30] One of the reasons behind this could be due to the advancement of technology and changes in lifestyle. Spending excess time engaged in sedentary behavior poses significant risks to our health.[31]

Leisure activities play a significant role in the lives of individuals, helping them unwind, relax, and rejuvenate. In Saudi Arabia, like in any other country, adults engage in various leisure activities to escape the pressures of their daily routines and find enjoyment. Saudi adults frequently engage in outdoor activities such as walking or jogging, picnics, barbecues, sports, attending cultural festivals and events, dining out, going to the cinema, and shopping. In our study, 29.4% of adults spend >30 min of their leisure time watching TV, while a study in Europe concluded that 40% of European adults spend their leisure time watching TV.[32,33] Furthermore, a different study reported that 80% of individuals in the United States spend three or fewer hours per day watching television or using computers for non-work-related activities. According to the same study, the average person aged 15 and older watched TV, socialized, or exercised on an average day in 2022.[34] The average time spent by men on leisure and sports activities was 5.8 hours, while the average time spent by women was 5.1 hours.[35] In addition, a recent study on young people revealed that 2–4 hours are usually allocated to screen time (television, computers, video games, and smartphones).[36] Our study found that social media for leisure activity accounted for 30 min by 28.4% of adults. According to the survey conducted in 2022, playing games and computer use for leisure, socializing, and communication accounted for 34 min each for people aged 15 and older.[35] One likely reason for this discrepancy could be that the standard of life has risen significantly due to rapid economic progress in Saudi Arabia during this period of transformation, increasing the amount of leisure time available to Saudis. It should come as no surprise that greater free time leads to an increase in sedentary lifestyles. While technological advancement has undoubtedly improved our lives in numerous ways, it has also inadvertently led to a sedentary lifestyle for many individuals. The increased reliance on screens and sedentary activities has contributed to various health problems, both physical and mental.

One of the primary reasons for these dentary lifestyles associated with technological advancement is the increase in desk-bound work. With the emergence of computers and the Internet, many jobs now require individuals to spend long hours sitting in front of a screen. Prolonged sitting has become a common feature in the lives of students due to the sedentary nature of their academic routines. Almost two-thirds of those surveyed reported that sitting for prolonged periods can negatively affect their health. Similarly, another study reported that 80.2% of the adults surveyed reported that sitting for prolonged periods could negatively affect their health.[3] Due to this, it is worth noting that almost half of the adults surveyed believed that sitting for prolonged periods would not negatively impact their health if the proper precautions were taken in the form of regularly exercising. A study conducted among medical students concluded that 94% of students experience lower back pain due to prolonged sitting,[36,37] whereas our study concluded that 60% of adults

believed that there is a strong relationship between back pain and prolonged sitting hours. This prolonged sitting can lead to a host of health problems, including obesity, cardiovascular diseases, and musculoskeletal disorders. While SB is a complex issue that affects various segments of the population, targeting specific settings and population groups can yield the most potential for successful behavior change interventions. Workplace settings, educational institutions, health-care facilities, the aging population, and screen time reduction for children and adolescents are all promising targets for interventions that aim to reduce SB and promote a more active lifestyle. By focusing efforts on these areas, we can work toward improving overall health and well-being on a broader scale.

Our study results indicated that 88.6% of adults believed that sitting for prolonged periods and physical inactivity can negatively influence their mental and emotional state. A variety of populations, including younger adults, are negatively impacted by sedentary time, including an increase in anxiety,[38] depression,[39] and a decrease in emotional well-being.[40-44] Lack of PA and prolonged sitting can hinder the release of endorphins, which are crucial in regulating mood and reducing stress. Moreover, spending excessive time sitting can negatively affect cognitive function, attention span, and overall performance. According to the data found by this study, Saudi adults possess a reasonable level of awareness regarding the negative effects of SB on health. This awareness can be an important driving force for behavior change. The increasing availability and usage of wearable devices and smartphone applications have the potential to enhance individuals' perception of their sedentary behavior by providing real-time feedback and encouraging active breaks.

One of the main limitations of this study is the relatively small sample size. Due to time and resource constraints, only a limited number of participants were included in the research. As a result, the findings may not be generalizable to a larger population. Future studies could consider increasing the sample size to enhance the external validity of the research. Second, this study relied on self-report measures, which may be susceptible to response bias. Participants may have provided socially desirable answers or may have misunderstood the questions, leading to inaccurate data. Another limitation is the possibility of sampling bias, the participants in this study were selected through convenience sampling, which may introduce bias and limit the representativeness of the sample. Cultural norms and gender roles in Saudi society can impose restrictions on certain leisure activities, particularly for women. These restrictions may influence individuals' perceptions and availability of leisure options.

CONCLUSION

In conclusion, the study on perceptions toward sedentary behavior and leisure activities among Saudi adults in Riyadh highlights the need for a comprehensive approach to address the challenges posed by sedentary lifestyles. By understanding the perceptions and barriers faced by individuals, we can develop targeted interventions and initiatives that promote active living and foster a culture of well-being. Encouraging leisure activities and reducing SB will not only improve physical health but also enhance the overall quality of life for Saudi adults.

AVAILABILITY OF DATA AND MATERIAL

The data sets used and analyzed during the current study are available from the corresponding author upon request.

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