Original Article

THE LEVEL OF PHYSICAL ACTIVITY AMONG NURSING STUDENTS: A DESCRIPTIVE STUDY

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Abstract

Objectives: Insufficient physical activity is associated with adverse health risks resulting in high rates of chronic diseases such as hypertension and cardiovascular diseases contributing to increased morbidity, difficulty sleeping, increased stress levels, and anxiety. This study described the prevalence, pattern, and types of activities undergraduate nursing students participate in at university campuses, at home, and in their leisure time.

Methods: Exploratory, descriptive design was used. A convenience sample of 200 Jordanian nursing students from governmental and private universities submitted a self-administered physical activity questionnaire (PAQ).

Results: It is indicated that 45 % of the participants usually go to the university by public transportation, indicating a low fitness level. 80% of the total study sample are practicing mild activities while sitting down, e.g., studying at the library, attending short lectures, and taking short tests. 73% practice mild activities during standing up, e.g., standing up to provide a presentation, explaining the g issue, clarifying a figure, or answering questions or short practical tests at the laboratory. At the same time, 60% of the total study sample are practicing hard activities during standing at the college's laboratories for a long time training and applying, standing at clinical training places.

Conclusion: This study indicates that using stairs is low among participants at home and universities, although it is the most active and accessible physical exercise in daily life. Also, walking every day going and coming back home from university is very important because it will improve muscle strength and accordingly it will influence mood. Nursing students should follow positive health behaviors as they could be role models for their patients. Faculty and educators should play a significant role in raising the students' awareness about exercising to achieve physical and mental fitness and methods to balance study and physical activity.

Key Words: Activity, Fitness, Nursing, Physical, Students, Watching TV, Climbing Stairs.

INTRODUCTION

Globally, physical activity has been an increasingly growing concern. Regular physical activity is needed for good health (CDC, 2022). Physical activity is a bodily movement produced by the musculoskeletal system that requires energy expenditure, such as exercise, playing, household responsibilities, traveling, and activities carried out while

working (WHO, 2017). So, people should pay attention to a healthy lifestyle and any changes in daily habits. The adults should generally do at least 150 minutes of moderate-intensity physical activity during the week (WHO, 2017). But many people are unaware of the benefits of regular physical activity. Physical inactivity has become a severe health problem and a most critical import of modern society (Rai et al. 2020). According to the World Health Organization (2017), physical inactivity is the fourth leading mortality risk globally. National Heart, Lung, and Blood Institute in the U.S. (NIH, 2016) argued that regular exercise is one of the best actions anyone can do for his health. The known benefits of physical activity include preventing obesity, obesity-related disorders, and cardiovascular disease, enhancing mental well-being, improving mood, reducing anxiety, and increasing self-esteem (Wang, Xing, & Wu, 2013).

Insufficient physical activity is associated with adverse health risks resulting in high rates of chronic diseases such as hypertension and cardiovascular diseases, which contribute to increased morbidity, difficulty sleeping, increased stress levels, and anxiety (Wang, Xing, & Wu, 2013). Exercise is related to improving health and enhancing positive self-perception (Rodríguez, Carmona, & Rodríguez, 2020). There are many different exercises; the person must pick the suitable types for him. The types of physical activity include: 1) Aerobic such as brisk walking, jogging, swimming, and biking. 2) Strength resistance training, including lifting weights and balance exercises like standing on one leg. 3) Flexibility, like Yoga and various stretching exercises (Chang et al., 2021).

Nurses are important in providing health promotion guidance to the patients and community in all health settings (DoH, 2010). Kelly, Wills & Sykes (2017) suggest that nurses' health practices can impact the care they deliver to their patients. Moreover, another study showed that nurses might be more credible to their patients if they are perceived to follow their own health promotion advice (Blake & Harrison, 2013). Unfortunately, a significant number reported low physical activity levels (Owusu-Sekyere, 2020). Nursing students are now our next generation of employees, so action should be taken to increase the probability that these students implement healthy lifestyle behaviors primarily related to physical activity before they enter the workforce (DoH, 2010).

Literature proposed that the number of undergraduate students who reported inactivity in their lifestyle is increasing (Alpar et al., 2008; Nassar & Shaheen, 2014). Therefore, the need for prevention interventions in college students (Nassar & Shaheen, 2014). Physical activity is required for undergraduate students by doing powerful exercises during the period of memory activation, which boosts memory (Keyan & Bryant, 2017). The university academic years highly influence the modeling of students' behaviors, mainly concerning lifestyle and physical activity. So better understanding of physical activity benefits and best practices among students could lead to the development of best practices of physical activity (Keyan & Bryant, 2017). Nevertheless, regular physical activity can be challenging for students despite their awareness of the benefits accompanying this behavior; knowledge alone is not associated with healthy behaviors (Nassar & Shaheen, 2014). The prevalence of physical inactivity among young undergraduate students was very high (Haddad et al., 2004). The main aspects associated with this inactive behavior are time limitations, lack of motivation, and limited places for exercise (Pires et al., 2013). University-enrolled students report having less time for physical activity due to the obligations of academic life (Pires et al., 2013).

Even though nursing students are educated about the positive effects of physical activity, this knowledge has not always been reflected in their lifestyles (Haddad et al., 2004). Many nursing students do not meet physical activity guidelines (Dąbrowska-Galas et al., 2013; Khamaiseh & AL Bashtawy, 2015). According to previously mentioned studies, nursing students who implement physical activity will be more motivated, comfortable doing any activity, and have a more positive attitude (Dąbrowska-Galas et al., 2013; Khamaiseh & AL Bashtawy, 2015). Additionally, the working nurses' physical activities have contributed to better employability, retention, and low absenteeism ((Dąbrowska-Galas et al., 2013).

Many studies showed that there is a relationship between academic performance and the physical activity of undergraduate students (Dubuc et al., 2017). Results of the Dubuc et al. (2017) study indicated that motivational, physical, and lifestyle factors appear to be predictors of academic performance in undergraduate students. Another study revealed that the physical activity of nursing students was best predicted by self-efficacy and social support, so physical activity should be promoted in nursing students. (Blake, Stanulewicz, & Mcgill, 2017). Even with established evidence that physical activity is effective in reducing the risk of chronic diseases, as well as the

importance of physical activity on the students' psychological status, academic performance, and self-efficacy, few studies have been conducted regarding physical activity in Jordan.

According to our search, only three studies were done highlighting the health promotion issues mentioning physical activity among nursing students in Jordan as a subscale (Haddad et al., 2004; Nassar & Shaheen, 2014; Khamaiseh & AL Bashtawy, 2015). Haddad et al. (2004) study aimed to compare health-promoting practices of Canadian and Jordanian nursing. And the results indicated significant differences on three subscales: health responsibility, physical activity, and interpersonal relations; however, both groups had similarly low scores. Nassar and Shaheen (2014) studied the health-promoting behaviors of university nursing students in Jordan. The nursing students in the same study showed low scores in physical activity subscales. And a significant difference was found between a healthy lifestyle, including physical activity, and students' age and gender (Nassar & Shaheen, 2014). Moreover, Khamaiseh and AL Bashtawy's (2015) study assessed the prevalence of obesity and patterns of physical inactivity among nursing students. More than one-third of nursing students in their study did not exercise for at least 20 minutes, more than two-thirds did not exercise for at least five days or more a week, and more than half of the students did not engage in any stretching exercises (Khamaiseh & AL Bashtawy, 2015).

Based on the above, it is crucial to describe the trends and patterns of physical activity explicitly among undergraduate nursing students. Jordan is one of the middle eastern countries that give special attention to improving the quality of education and supporting the students' performance. One of the significant Jordanian future goals is to promote the development of sports and physical activity. Because Jordan's government believes that the happiness and fulfillment of citizens are important, so this can be achieved through promoting physical, psychological, and social well-being. As a result, the primary purpose of the study is to assess the level of physical activity among undergraduate nursing students in Jordan to help improve health education for undergraduate nursing students and improve their performance. This study may contribute to developing a fitness program for nursing students in universities to help them improve their knowledge and performance and adopt a healthy lifestyle. This study aimed to describe the prevalence, pattern, and types of activities undergraduate nursing students participate in at university campuses, at home, and in their leisure time.

MATERIALS & METHODS

Study Design

This study is an exploratory descriptive in design. Descriptive studies often lay the foundation for further, more rigorous studies (Polit & Beck, 2004).

Sample and Setting

The sample size of (180) participants was estimated for this study using the G power analysis computer program developed by Erdfelder, Faul & Buchner (1996), with a low effect size of 0.2, power of 0.8, and α (the risk of Type I error) at 0.05. Yet, a convenience sample of 200 completed and submitted their response. Inclusion criteria are Jordanian nursing students currently enrolled in different undergraduate nursing programs, including bachelor, and Diploma, from both genders. The study was conducted in various governmental and private universities and colleges in Jordan, only Amman governorate.

Instrument

A self-administered questionnaire was used in this study. It was developed and published by Craig et al. (2003). This physical activity questionnaire (PAQ) is designed to find the person's level of physical activity in everyday life. The first part involves questions related to the participants' sociodemographic characteristics, such as gender, age, marital status, type of university, and academic year. The second section asks about physical activity patterns in and around the house. The third section is about travel to work or university and activities there. And the fourth

section asks about recreations that participants engaged in during the last 12 months. The instrument was translated forward-backward (Beaton et al., 2000) from English to Arabic to avoid any possible misunderstanding. Two forward translations from English to Arabia were independently performed by a professional translator and a nurse expert whose mother tongue is Arabic. The backward translation was performed by a bilingual translator who was blinded from the original English version. Although the instrument had been tested for validity and reliability by the tool developer Craig et al. (2003); and other researchers (Smith, Marshall, & Huang, 2005). It was face validated by a panel of experts after translation from English to Arabic language. The panel will be composed of three nursing faculty members. This process assures the appropriateness of the instrument according to the study purpose and evaluates the appropriateness to Jordanian culture. Then, the final version of the instrument was piloted on 18 students who confirmed that the Arabic version was coherent and easy to complete. The reliability of the translated instrument was assessed using Cronbach α, which revealed an acceptable value of 0.86.

Data Collection Procedure

Craig et al. (2003) questionnaire was used to collect data from participants in the period between Jan/ 2021 to Mar/2021. Due to the COVID-19 pandemic, data were collected using Google Forms (https://drive.google.com), and students were invited to participate in the study via social media platforms such as Facebook and WhatsApp groups. A cover letter, participant information sheet, and a consent form were included on the first page of the online survey, which explained the study's purpose and participation.

Statistical Analysis

Data was fed, coded, edited, and analyzed using a PC with statistical packages for social science (SPSS version 22.0) windows system. Descriptive statistics were done using numbers, percentages, arithmetic mean, and standard deviation. Then, Data were checked for normality.

Ethical Consideration

Ethical approvals were obtained from Institutional Review Boards (IRBs) in the primary researcher's university. Nursing students were informed about the study's purpose and that completing the questionnaire would be deemed consent to participate in the research. Participants were provided with a cover letter to clarify the study purpose, to assure the participants' anonymity, and their right to withdraw at any time. The confidentiality of the data, to which no one except the primary researcher would have access. Permission to use the instrument was granted because it was freely published online.

RESULTS

Demographic Characteristics

The majority (83%) of the total study sample is aged between 20 to less than 25, with females a percentage of (90%). The great majority of the study sample were studying at private universities. there is 31% of the total study sample in the third academic year. Moreover, the results show that most of the study sample is single.

The Prevalence, pattern, and type of physical activity within and outside the

house *The regular pattern of transport*

Table 1. The regular pattern of transport (n= 200)

Trip distance	The regular pattern of transport							
	By bicycle		Public transport		Walking		By car	
	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
Less than 1.5 km (short distance)	**0**	**0**	45.0	90	52.5	105	2.5	5
1.5- 8 Km (medium distance)	**0**	**0**	75.5	151	20.0	40	4.5	9
Over 8 km (far distance)	**0**	**0**	86.5	173	3.5	7	10.0	20

The statistical indicators shown in the above table 1 indicate that, If the trip distance is less than 1.5 km, 45% of the total study sample will travel by public transport, 52.2% will move by walking, and 2.5% will use a car. On the other hand, If the trip distance is Over 8 km, then 86.5% of the total study sample will travel by public transport, 3.5% will use a walking pattern, and 10% will use a car.

Watching TV or Video

Table 2. Number of hours watching TV or videos per day (n= 200)

Number of hours for watching TV or videos per day	During the past 12 months											
	More than 4 hours/day		3- 4 hours/day		2 – 3 hours/ day		1-2 hours/ day		Less than 1 hour daily		N.A.	
	P	F	P	F	P	F	P	F	P	F	P	F
On schooldays before 6 PM.	3.0	6	2.0	4	3.5	7	16.0	32	27.0	54	48.5	97
On schooldays after 6 PM.	3.5	7	3.0	6	9.0	18	20.5	41	27.5	55	36.5	73
On vacation days before 6 PM.	8.0	16	3.5	7	17.5	35	18.5	37	22.0	44	30.5	61
On vacation days after 6 PM.	12.5	25	10.5	21	17.5	35	23.5	47	20.5	41	15.5	31

F: Frequency, P: Percentage %

The statistical indicators shown in table 2 indicated that there are 48.5% of the total study sample don't watch TV or videos at school days before 6 P.M. While there are 36.5% of the total study sample don't watch TV or videos on school days after 6 P.M., there is 30.5% of the total study sample don't watch TV or videos on vacation days before 6 P.M. Finally, 10.5% of the total study sample watch TV or videos for 3- 4 hours/day.

Going up the stairs at home

Table 3. Number of times for going up the stairs at home (n=200)

No. of times for going up the stairs at the home	**During the past 12 months**											
	More than 20 times/day		**16 – 20 times/day**		**11- 15 times /day**		**6 – 10 times/day**		**1-5 times/ day**		**N. A**	
	P	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**
On schooldays	1.0	2	3.5	7	6.0	12	19.5	39	51.5	103	18.5	37
On vacation days	3.0	6	4.0	8	7.0	14	16.5	33	44.0	88	25.5	51

F: Frequency, P: Percentage %

According to table 3 result, on schooldays, there is 51.5% of participants go up the stairs 1 – 5 per day, and 1% goes up the stairs more than 20 times per day. While on vacation days, there is 44% of participants go up the stairs 1 – 5 per day, and finally, 3% go up the stairs more than 20 times per day.

Activities around the home

Table 4. Number of hours of activities around the home per week (n=200)

No. of hours per week	**During the past 12 months**													
	More than 15 hours / week		**10- 15 hours/ week**		**6- 10 hours/week**		**3 – 6 hours/week**		**1-3 hours/ week**		**less than 1 hour/ week**		**N.A.**	
	P	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**
Food preparation , Cooking, Washing of dishes	2.5	5	2.0	4	7.0	14	16.0	32	31.0	62	24.5	49	17.0	34
food shopping and buy groceries	0.5	1	0	0	2.5	5	8	16	31.5	63	35	70	22.5	45
Shopping and walking	0	0	1	2	3.5	7	18	36	32	64	26	52	19.5	39

around shops for other purposes (e.g. clothes, dolls, etc.)														
Cleaning the house	2	4	2	4	7.5	15	11.5	23	25	50	26	52	26	52
Washing and ironing	1	2	1	2	2.5	5	9	18	20.5	41	33.5	67	32.5	65
Care for pre-school and newborn children (if any)	4	8	1.5	3	2.5	5	6.5	13	11	22	12	24	62.5	125
Caring for elderly and people with special needs at the house (if any)	0	0	0	0	1.5	3	3.5	7	9	18	11	22	75	150

F: Frequency, P: Percentage %

31% of the total study sample, as shown in table 4, see the number of hours for preparing food, cooking, and washing dishes as 1-3 hours/week. For food shopping and buying groceries, 35% of the study sample see that the number of hours is less than one hour per week. Regarding the number of hours related to Shopping and walking around shops for buying other purposes (e.g., clothes, dolls, etc.), 26% of the total study sample see that they are spending less than one hour per week. Hours related to cleaning the house, 26% of the total study sample said that the number of hours is less than 1 hour per week. For the number of hours related to caring elderly and people with special needs, 75% of the total study sample said that they don't spend any time on that.

The Prevalence, pattern, and type of physical activity at the university

Indicators of physical activity at the university

Table 5. Activities at the University (n=200)

	The number of activity hours per week at the university				
	Less than 10 hours	10 – to less than 20 hours	20 to less than 30 hours	30 to less than 40 hours	More than 40 hours
Frequency	46	64	37	32	21
Percent %	23.0	32.0	18.5	16.0	10.5

	How many times did you go to the university in the past 12 months?											
	1	2	3	4	5	6	7	8	9	10	11	12
Frequency	1	14	15	11	5	26	12	49	16	17	8	26
Percent %	0.5	7.0	7.5	5.5	2.5	13.0	6.0	24.5	8.0	8.5	4.0	13.0
	No. of times for going up the stairs (10 steps) at the university/during the past 12 months											
	More than 20 times/day		16 – 20 times/day		11- 15 times/day		6 – 10 times/day		1-5 times/ day		N. A	
Frequency	13		7		15		28		116		21	
Percent %	6.5		3.5		7.5		14.0		58.0		10.5	
	How many kilometers are between the home and the university?											
	I do not know		Less than 10 kilometers		From 10 to less tha20 kilometers		From 20 to less than 30 kilometers		From 30 to less than 40 kilometers		From 40 to less than 50 kilometers	More than 50 kilometers
Frequency	28		38		33		37		18		14	32
Percent %	14.0		19.0		16.5		18.5		9.0		7.0	16.0
	How many times per week for going from home to the university?											
	I do not know	2	3	4	5	6	7	8	9	10	15	18	20
	6	21	14	35	98	3	5	1	1	10	4	1	1
	3.0	10.5	7.0	17.5	49.0	1.5	2.5	0.5	0.5	5.0	2.0	0.5	0.5

As shown in Table 5, 32% of the total study sample spent between 10 to less than 20 hours weekly at the university, while 23% of the total study sample spent less than 10 hours at the university. There is also 18.5% of the total study sample spent between 20 to less than 30 hours weekly at the university, 16% spent between 30 to less than 40 hours weekly at the university, and finally, there is 10.5% of the total study sample spent more than 40 hours weekly at the university.

The statistical indicators show that 24.5% of the total study sample went to the university 8 times during the past 12 months, while only 0.5 % of the total study sample went to the university one time during the past 12 months. 58% of the total study sample said that the number of times going up the stairs (10 steps) at the university is between 1 and 5 times. At the same time, there is 3.5% of the total study sample said that the number of times going up the stairs at the university is between 16 and 20 times daily.

The results in the above table show that 19% of the total study sample saw that the number of kilometers between the home and the university was less than 10 kilometers. In comparison, only 7% of the total study sample saw the number of kilometers between the home and the university is from 40 to less than 50 kilometers. Regarding the number of times per week for going from home to the university shown in the previous table, it is indicated that 49% of the total study sample seeing that the number of times per week for going from home to the university is 5 times per week. And 7% of the total study sample seeing that the number of times per week going from home to the university is three times per week.

Type and level of activities at the university

Table 6. Type and level of activities at the university (n=200)

Activities levels at the university	No		Yes	
	Percent %	Frequency	Percent %	Frequency
Sitting down- mild activity **e.g., studying at the library, attending short lectures (one hour at more), and short tests.**	20.0	40	80.0	160
Sitting down- medium activity **e.g., lectures with a long time of tests that require a long time sitting down.**	22.0	44	78.0	156
Standing up- mild activity **e.g., standing up to provide a presentation, explaining an issue, clarifying a figure, or answering questions or short practical tests at the laboratory.**	27.0	54	73.0	146
Standing up medium activity **e.g., standing up at the laboratory for training and applying (for not more than 2 hours), standing up at events and systemic and nonsystematic activities, and standing in the students' line at the restaurant or supermarket.**	33.5	67	66.5	133
Standing up hard activity **e.g., standing at the college's laboratories for a long-time training and applying (for more than 2 hours), standing at the places of clinical training.**	40.0	80	60.0	120
Walking – carrying heavy things like the weight of a case only, moving objects at a place, moving between halls	35.5	71	64.5	129
Walking – carrying heavy things, moving between colleges or buildings.	49.0	98	51.0	102
Movement- pushing heavy objects weighting more than 30 kg	80.0	160	20.0	40

It is shown from the results of table 6 that 80% of the total study sample practiced mild activities during sitting down. Though 78% of the total study sample are practicing medium activities while sitting down. 73% of the total study sample are practicing mild activities during standing up. 60% of the total study sample are practicing hard activities during standing up. 64.5% of the total study sample are carrying things of weight not more than the case during walking. 51% of the study sample are carrying heavy things while walking and moving between colleges and buildings. Also, 20% of the total study sample pushed heavy objects weighing more than 30 kg while walking.

Mode of transportation from home to the university (n=200)

Table 7. How the student usually gets to the university (n=200*)*

How do you usually get to the university?	Never and rarely		Occasionally		Usually		Always	
	P	**F**	**P**	**F**	**P**	**F**	**P**	**F**
By car	59.0	118	9.0	18	5.0	10	27.5	55
By public transport or by the university's transport	6.5	13	12.5	25	4.5	9	76.5	152
By bicycle	93.5	187	.5	1	2.5	5	3.5	7
Walking	91.0	182	2.0	4	2.5	5	4.5	9

F: Frequency, P: Percentage %

The results shown in table 7 indicated that 76.5 % of the total study sample are always going to the university by public transport or by the university's transport, while only 3.5, and 4.5 % of the total study sample are usually going to the university by bicycle and walking to the university.

The Prevalence, pattern, and type of physical activity in leisure time

Table 8. Type and pattern of spending leisure time (n=200)

	No. of time you did the activity during the past 12 months.															
	N.A.		**Less than one time/ month**		**One time/ month**		**2- 3 times/ month**		**One time/week**		**2-3 times/week**		**4 – 5 times/week**		**6 times or more/ week**	
	F	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**
Swimming – competition	176	88.0	21	10.5	0	0	1	.5	0	0	1	.5	0	0	1	.5
Swimming – entertainment	122	61.0	68	34.0	0	0	7	3.5	1	.5	1	.5	1	.5	0	0
Traveling the luggage on the back – climbing mountains	167	83.5	25	12.5	0	0	02	1.0	2	1.0	2	1.0	0	0	2	1.0
Walking for entertainment You shouldn't include the walking as a transport, as it was included in the section A and B	71	35.5	64	32.0	0	0	17	8.5	10	5.0	14	7.0	12	6.0	12	6.0
Racing or hard riding of the bike on mountains.	183	91.5	15	7.5	0	0	1	.5	0	0	0	0	0	0	1	.5
Riding bike for entertainment	173	86.5	22	11.0	0	0	4	2.0	0	0	0	0	0	0	1	.5

You shouldn't include riding bike as a transport																
Works of home and care maintenance	150	75.0	44	22.0	0	0	4	2.0	1	.5	1	.5	0	0	0	0
Exercises with big influence	107	53.5	51	25.5	0	0	9	4.5	7	3.5	15	7.5	7	3.5	4	2.0
Other types of exercises	93	46.5	51	25.5	0	0	18	9.0	15	7.5	15	7.5	6	3.0	2	1.0
Exercises using weights	139	69.5	32	16.0	0	0	10	5.0	8	4.0	5	2.5	6	3.0	0	0
Adaption exercises or using training bike	161	80.5	22	11.0	0	0	6	3.0	2	1.0	3	1.5	3	1.5	3	1.5
Exercises on the land Stretching, Squat, maintaining fitness, yoga	109	54.5	49	24.5	0	0	14	7.0	11	5.5	12	6.0	3	1.5	2	1.0
Dancing	75	37.5	64	32.0	0	0	20	10.0	12	6.0	15	7.5	4	2.0	10	5.0
Running competitions	141	70.5	41	20.5	0	0	8	4.0	5	2.5	2	1.0	1	.5	2	1.0
Jogging	113	56.5	46	23.0	0	0	11	5.5	18	9.0	6	3.0	3	1.5	3	1.5
Bowling game	176	88.0	20	10.0	0	0	2	1.0	2	1.0	0	0	0	0	0	0
Tennis or badminton	182	91.0	13	6.5	0	0	1	.5	1	.5	1	.5	1	.5	1	.5
Squash	165	82.5	22	11.0	0	0	4	2.0	6	3.0	2	1.0	0	0	1	.5
Ping-Pong	188	94.0	10	5.0	0	0	0	0	1	.5	0	0	1	.5	0	0
Golf	190	95.0	9	4.5	0	0	0	0	1	.5	0	0	0	0	0	0
Football	162	81.0	27	13.5	0	0	3	1.5	3	1.5	1	.5	2	1.0	2	1.0
Rowing	191	95.5	7	3.5	0	0	0	0	0	0	1	.5	0	0	1	.5
Netball, volleyball, or basketball	178	89.0	18	9.0	0	0	1	.5	0	0	2	1.0	0	0	1	.5
Hunting	189	94.5	8	4.0	0	0	0	0	2	1.0	1	.5	0	0	0	0
Horseback riding	186	93.0	10	5.0	0	0	1	.5	2	1.0	0	0	0	0	0	0
Snooker, billiard, or Darts game	183	91.5	14	7.0	0	0	0	0	1	.5	2	1.0	0	0	0	0
Playing music or singing.	164	82.0	25	12.5	0	0	2	1.0	1	.5	1	.5	3	1.5	4	2.0

Sealing, surfing, or boating	188	94.0	12	6.0	0	0	0	0	0	0	0	0	0	0	0	0
Boxing and Wrestling	183	91.5	14	7.0	0	0	0	0	0	0	1	.5	1	.5	1	.5

F: Frequency, P: Percentage %

The results in table 8 indicate that 34% of the total study sample are practicing swimming for entertainment for less than one time per month. 32 % of the study sample walk for entertainment less than once per month. 32% of the total study sample are dancing for less than one time per month. 25.5% of the total study sample practice exercises with a big influence less than once per month. 24.5% of the study sample practiced exercises on the land for less than one time per month. The results also show that 22% of the study sample practice maintenance works at home and car maintenance less than once per month. 20.5% of the study sample practice running exercises less than once per month, and 23% practice Jogging exercises less than once per month.

Table 9. The time by hours for each group of leisure (n=200)

Leisure time/week	**Frequency**	**Percent %**
I do not know	33	16.5
Less than 5 hours	128	64.0
From 5 to less than 10 hours	21	10.5
From 10 to less than 15 hours	10	5.0
From 15 to less than 20 hours	3	1.5
20 hours or more	5	2.5

The results in previous table 9 show that 64% of the total study sample see that the time spent for leisure is less than 5 hours per week. ,In comparison 1.5% of the total study sample see that the mean of time spent for leisure is between 15 to less than 20 hours per week.

DISCUSSION

This study aimed to describe the prevalence, pattern, and types of activities undergraduate nursing students participate in at university campuses, at home, and in their leisure time. The study data showed that the regular pattern of transportation among the students indicates a physical activity in their trips out and to home is less than 1.5 km. The majority of the participants will travel by walking, then by public transportation, then a car, and this result is not surprising since the weather in Jordan generally suitable for short meters of walking, and the students will avoid traffic congestion, especially in the morning. But for longer distances, most students prefer using public transportation, a car, then walking is reasonable since public transportation is cheaper to use than a car is like Haddad et al. (2004) study results. Haddad et al. clarified that these results originated because many Jordanians do not own cars; they do walk for a great deal during their typical day. But, at the same time, if we look at our study results, participants avoid walking for a longer distance of 1.5 km, which may be an indication of a low level of fitness. This is similar to Al-Ma'aitah, Haddad, and Umlauf (1999); Nassar and Shaheen (2014); and Blake, Stanulewic, and Mcgill (2017) studies results. The researchers believe that the nature of streets in Jordan and the presence of places designated for pedestrians so that they can reach their work and universities safely on

foot is limited, reducing the motivation to walk, and limiting the physical activities of all people, including university students.

Regarding spending hours watching TV or videos, the researchers believe that long hours watching will reduce the level of physical activities and will cause obesity as well. Fortunately, a low percentage of the study participant spend more than 3- 4 hours/daily watching TV or videos. this may be due to a heavy study load and homework assignments, in addition, the student as shown in the results, spend more time on vacation watching TV. There are 48.5% of the total study sample who don't watch TV or videos on school days before 6 P.M., 27% of the total study sample watch TV or videos for less than one hour/ day, and finally, 3% of the total study sample watch TV or videos for more than 4 hours/day. The low number of hours spent by this study participant also may be due to the effect of the period of pandemic Covid 19 and the impact of the lockdown during that period so the students now after calling off all restrictions prefer outdoor activities more than watching TV. The researcher sees many benefits of the previous results and concluded as over-watching television without walking has caused obesity in 23% of all ages, and 14% of the risk of diabetes, not to mention high fat (Rosiek et al., 2015).

On the schooldays, 51.5% of the total study sample are going up the stairs for 1 – 5 per day. This result indicates that most participants avoid climbing stairs, similar to the (Alva, Ravichandran, Veluswamy, 2020) study result. Participants may view the majority of places they visit as providing less opportunity or motivation to climb stairs, either due to the non-availability of stairs in small buildings or the presence of elevators in large buildings. Stair climbing is the most accessible and feasible fitness exercise every day (Hongu et al., 2019). Regular stair climbing provides chances for moderate to high-intensity physical activity and is considered a helpful type of exercise to improve cardiorespiratory fitness (Alva, Ravichandran, Veluswamy, 2020). So, this will improve the body's ability to withstand and helps to lose weight in the long term (Hongu et al., 2019).

31% of the total study sample see that the number of hours for preparing food, cooking, and washing dishes, is between 1 and 3 hours per week. This result is expected and highly related to Jordanian and Arabic cultures, which consider food processing and household activities a significant daily responsibility, especially for women (majority of the participants), even if it is not considered a mode of physical fitness. It was mentioned previously in the literature that heavy housework is an essential component of activity but may be insufficient to cause health benefits (Lawlor et al., 2002). The process of cooking is a part of the list of housework that requires continuous effort for some time, it has been proven that standing for a full hour to prepare food helps burn 263 calories but excluding those women who eat some food or sweets during the preparation of the food because it will raise the number of calories again and may cause an adverse reaction, instead of weight loss, the body is exposed to obesity (Musumeci, 2015).

As shown in this study's results regarding physical activity in the university, there is 32% of the total study sample spent between 10 to less than 20 hours weekly at the university, and 80% of the total study sample are practicing mild activities in the university during sitting down, e.g., studying at the library, attending the short lectures (one hour at more), short tests. While 78% of the total study sample are practicing medium activities during sitting down, e.g., lectures with a long time, and tests that require a long time sitting down. In addition, most participants do not use stairs a lot in universities. Before interpreting the results, we should consider the lockdown during Covid 19 and its effect on limiting the student's time in the university, it means that these results should be generalized with caution recognizing the environmental circumstances. Several works of literature highlighted that there is something negative about health that lies behind the act of sitting or lying for hours. Hence, sitting or staying for a long time in a specific place reduces the level of fitness (Fotynyuk, 2017).

Despite that, this study's results revealed that most of the students' homes were not so far from their universities, but they still used public or university transportation rather than walking. This also indicates a low level of physical activity among them, similar to Deliens et al. (2015) study results. This can lead us again to the importance of building an environment that provides a safe opportunity for the public to walk to their works, universities, and schools and reach at the right time.

Most study participants spent less than five hours weekly as leisure time. Yet, only 6 % of them perform walking as entertainment and physical activity. On the other hand, most participants performed other physical activities like swimming, running, jogging, dancing, and walking only once a month, indicating a low level of physical

activity. The study of Finger et al. (2017) showed the same results and recommended encouraging adults to conduct more physical activity during their leisure time because more than half of the participants in their study undertake less than 2.5 hours per week of at least moderate-intensity aerobic physical activity. It also deserves mentioning that our study results fail to meet the core aspect of the WHO's (2013) recommendations on physical activity which is to reduce the prevalence of insufficient physical activity (defined as less than 2.5 hours of moderate- to vigorous-intensity physical activity per week) as part of the Global Action Plan for the Prevention and Control of Non-Communicable Diseases 2013-2020.

As a result of our study results, we recommend that the students be aware of the importance of practicing physical activities for their health physically and mentally. So, a physical education course should be included in the universities that encourage the student to develop their knowledge, positive trends, and motor and behavioral skills required to have a healthy lifestyle. It is necessary to evaluate the physical activity levels of people in Jordan, provide the proper awareness about the importance of physical activity to their health, and guide them to the proper physical programs in governmental and private primary health facilities. In addition, provide the people with proper playgrounds accompanied by supervisors or trainers to practice physical and sports activities. Motivating the students participating in different sports and physical activities by honoring them in their schools and universities, giving them time to practice, and providing them with areas and qualified trainers. Media also should take part in motivating people by doing symposiums to raise awareness among families, society, and students about the importance of practicing physical activity, developing programs, publishing the results, and celebrating champions. Finally, further research is recommended to evaluate the physical activity level at home, universities, and leisure time, comparing the period before the pandemic Covid 19 and after, and assessing the correlation between demographics and the level, type, and pattern of physical activities among nursing students. Given limited studies examining the relationships between physical activity, health behavior, health outcomes, and academic performance among nursing students in Jordan, more research is needed in this area. Future quantitative and qualitative studies can be conducted in many governorates in Jordan not only in Amman, which is considered a limitation of this study. In addition, using a convenient sampling approach during the period of the pandemic Covid 19 limits the generalizability of the results.

CONCLUSION

Indeed, physical activities have many benefits, including the improvement of physical health, strengthening of muscles, and improving mental well-being. It is noteworthy that all types of physical activities, including walking, swimming, climbing stairs, housework, and other activities, have positive influences. Unfortunately, this study's results indicate a low level of activity among the participants, considering the indicators tested according to the tool used in this study. Although indicators may differ according to the tool used. But an understanding of students' level of activities and describing the type of activities they prefer is crucial designing appropriate and customized interventions to support less active nursing students, to make healthy lifestyle choices. The students must be aware of the benefits of physical activity in the long run in their future career. This study indicates that using stairs is low among participants at home and universities although it is the most active and accessible physical exercise in daily life. Also, walking every day going and coming back home from university is very important because it will improve muscle strength and accordingly it will have its effect on mood. Nursing students should follow positive health behaviors as they could be role models for their patients. Faculty and educators should play a significant role in raising the students' awareness about exercising to achieve physical and mental fitness, and methods to balance study and physical activity. Furthermore, educators and university administration should encourage students to attend university sports and exercise services. Finally, the university should provide a suitable environment for students, such as fitness centers.

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Conflicts of interest

There are no conflicts of interest.

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Authors' contributions

RA primary author confirms contribution in study conception and design, data collection, interpretation of results, and manuscript preparation. MA confirms contribution to the paper: Data collection, interpretation of results, and draft manuscript preparation.

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