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# Evaluation of Engineering Collegian Females' Sedentary Behaviors in the University of Baghdad

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**Abstract**

A cross-sectional study is carried out with female students of the College of Engineering at the University of Baghdad from January 10th, to November 1st, 2021 to evaluate engineering collegian females' sedentary behaviors.

A sample of eighty engineering collegian females is recruited from the College of Engineering at the University of Baghdad using the non-probability sampling approach to gather a purposive sample. Sedentary Behaviors were evaluated using the Sedentary Behavior Questionnaire and estimated for (18) items during the past day.

The study result indicates that more than half of engineering collegian females have experienced a high level of sedentary behaviors. The study concludes that the sedentary time while studying was too high and more than two-fifth of the engineering collegian females don't get enough sleep at night. Similarly, the study recommends it is necessary to allocate colleges to safe locations with amenities and students who can spend their spare time moving.

**Keywords:** Collegian, Sedentary Behaviors

## Introduction

In the last few decades, people's lifestyles have altered all over the world. The process of industrialization and technological advancements has simplified human physical labor and altered previous generations' lifestyles. Not long ago, the majority of employment needed some level of physical exertion and energy consumption. The share of jobs that require a lot of physical exercise has dropped dramatically in recent years. This new reality is the result of many people being compelled to sit for more than (8) hours per day and unable to meet physical activity guidelines (Guthold et al., 2018; Ulijaszek, 2018).

Sedentary lifestyles have become a major public health concern that is affecting people all around the world, despite evidence linking them to a variety of chronic diseases. Sedentary behaviors for long periods can cause metabolic dysfunction, development of type 2 diabetes, raise blood pressure, the incidence of cardiovascular disease, obesity crisis, and increase the risk of early death independent of physical activity levels (WHO, 2020; American College of Sports Medicine, 2016; Chau et al., 2013; Kohl et al., 2012).

Regarding sedentary behaviors and gender, sedentary behaviors are more visible in women than in men, and according to studies published in the British Journal of Sports Medicine, sedentary behaviors had the highest impact on this risk in women over 30 (Ghiami et al., 2017).

Furthermore, persons of all ages, including school-aged children, college-aged young adults, working-age adults, and people over the age of 60, are in danger from sedentary behaviors or long periods of sitting (Moulin & Irwin, 2017).

Sedentary behaviors are substantially influencing the university population as a result of increased computer, internet, and desk-based sit hours each day in classrooms, the library, and at home. Furthermore, numerous researches overlooked sedentary habits among college students, although they were recognized an opposing proportion of physical activity (Franco et al., 2019; Moulin & Irwin, 2017; Matthews et al., 2008; Troiano et al., 2008).

As a result, college is an excellent transitioning time for young people since undergraduate students' newly acquired freedom encourages them to make judgments and choices that were previously decided for them. Furthermore, because their educational level allows them to become future social leaders or decision-makers, students' beneficial health practices and attitudes formed throughout their college years will have an impact on the people in their communities (Han et al., 2017). Thus, understanding and measuring sedentary behaviors among college students throughout the early years of their long-term lifestyles is crucial to creating practical approaches to reduce these behaviors (Moulin & Irwin, 2017).

**Methodology**

A cross-sectional study is carried out with engineering collegian females at the University of Baghdad from January 10th, to November 1st, 2021 for evaluation of the sedentary behaviors of engineering collegian females.

A sample of eighty engineering collegian females is recruited from the College of Engineering at the University of Baghdad using the non-probability sampling approach to gather a purposive sample.

The instrument that is used in this study is comprised of two parts: (a) demographics data and (b) sedentary behaviors questionnaire of (18) items, which was used to determine the total sedentary time, domain-specific sedentary time, and sleeping/napping time in the past day. A pilot study is conducted to determine the study instrument's content validity and internal consistency reliability. The information is gathered from engineering collegian females using a self-report questionnaire that was developed. Google Form is used for data collecting. The following procedures are used to analyze the data collected: Descriptive and inferential. The Scientific Research Ethical Committee of the University of Baghdad's College of Nursing has given formal ethical permission to the study. Everyone who agreed to participate in the study signed a consent form.

**Results**

**Table (1): Overall Evaluation of Engineering Collegian Females' Sedentary Behaviors**

| Low sedentary (10.05-12.64) hours/day | Moderate sedentary (12.65-15.24) hours/day | High sedentary (15.25-17.85) hours/day | Mean 15.53 hours/day |
|---|---|---|---|
| 7(8.75 %) | 17(21.25 %) | 56 (70 %) | |

Table (1) presents that most engineering collegian females have been engaged in a high level of sedentary behaviors (70%).

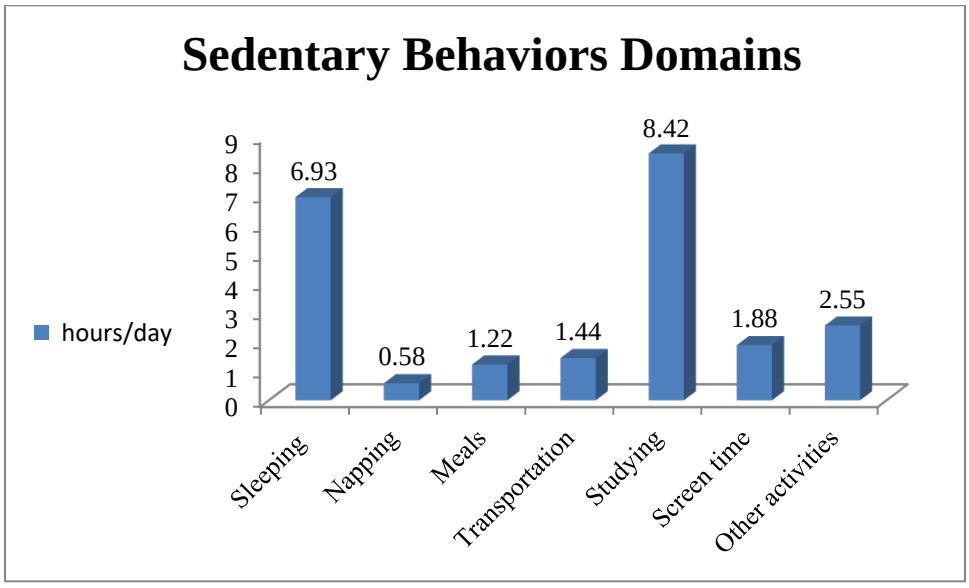


**Figure (1): The Average Time (hours/day) Spent in Different Domains of Sedentary Behaviors for Engineering Collegian Females**

Figure (1) indicates that engineering collegian females spend more time studying than sleeping, other activities, screen time, transportation, meals, and napping.

## Discussion

### Part I: Discussion of the Overall Evaluation of Collegian Females' Sedentary Behaviors

The results of the data analysis that have been shown in Table (1) indicate that the overall evaluation of the engineering collegian females' sedentary behaviors displays that more than two-thirds of engineering collegian females have practiced a high level of sedentary behaviors (15.25-17.85) hours/day, with a mean of sedentary time of (15.53) hours/day (Table 1). Because engineering collegian females have a high proportion of sedentary time, this data can be read to suggest that females spend (>6) hours per day sitting while studying.

A cross-sectional study that discovered that sedentary time is higher during studying lends support to such an evaluation (Nicolson et al., 2019). Moreover, according to another cross-sectional survey, the average amount of sedentary time spent by students each day is (14.93) hours (Xu et al., 2020). This is a similar finding to that reached in the current research. While this study is contradicted with a cross-section study which revealed that the total sedentary time in engineering colleges is (11.66) hours/day (Moulin and Irwin, 2017).

**Part II: Discussion of the Average Time (hours/day) Spent in Different Domains of Sedentary Behaviors for Humanity Collegian Females**

The results of the data analysis that have been shown in Figure (1) indicate that the mean time during sleeping and napping is (6.93) hours/night and (0.58) hours/day respectively. This suggests that the more time engineering collegian females nap throughout the day, the less time they sleep at night.

Ninety-five percent of females had insufficient sleep (less than eight hours per night), according to research supporting this claim (Alzamil et al., 2019). Furthermore, according to another study, more than three-quarters of collegians take daily naps of (>30) minutes/day (Lovato et al., 2014).

The mean sedentary time during meals is (1.22) hour/day. This number represents the average amount of time people spend eating during the day. According to numerous studies, collegians spend one hour per day during meals (Felez-Nobrega et al., 2019; Moulin and Irwin, 2017; and Lynch et al., 2014); this finding is very similar to that of the present study.

The mean sedentary time during the transportation is (1.44) hour/day. This has manifested as a result of the city's heavy traffic. Two research has found that research participants spend (> 1) hour per day sitting during transit, indicating that such an evaluation is warranted (Felez-Nobrega et al., 2019; Gorely et al., 2007).

The mean sedentary time during studying is (8.42) hours/day. This number suggests that collegian females, in general, must succeed and attain their objectives. Thus, they devote the greatest time to studying. This claim is supported by a cross-sectional analysis which found that the studying domain necessitates the most time spent sitting (Nicolson et al., 2019). This contradicts prior research that claimed pupils studied for two to five hours per day (Xu et al., 2020; Felez-Nobrega et al., 2017; Moulin and Irwin, 2017; Duan et al., 2015; Lynch et al., 2014; Rouse and Biddle, 2010).

The mean sedentary time during screen time is (1.88) hours/day. After being likened to the standard of less than (3) hours/day, this shows that this time frame is considered regular recreational screen usage throughout the day. Respondents spend around (2) hours each day on screen-based time, according to previous studies (Nicolson et al., 2019; Felez-Nobrega et al., 2019; Duan et al., 2015; Al-Hazzaa et al., 2011).

Finally, the mean sedentary time during other activities is (2.55) hours/day. These findings imply that collegian females might spend time sitting while engaging in other activities such as home duties (cooking, ironing, etc.) and listening to music.

Previous research has shown that sitting time during other activities is (2) hours a day, which backs up this claim form (Felez-Nobrega et al., 2019; Harvey et al., 2015).

**Conclusion**

The study concludes that the sedentary time while studying was too high and more than two-fifth of the engineering collegian females don’t get enough sleep at night.

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