FYI POSTER SPECS

poster should cover the following area:
1. Background/rationale of research
2. Goals and objectives
3. Methods (data collection and analysis)
4. Results/conclusions
5. Significance
6. Post-project recommendations and plans

Numbering the individuals panels, or connecting them with arrows

Use a minimum font size of 18 points.

Lettering for the title should be large (at least 70-point font). Use all capital letters for the title.

Present numerical data in the form of graphs, rather than tables (graphs make trends in the data much more evident). If data must be presented in table-form, KEEP IT SIMPLE.

90 x 120cm : i have formatted it correctly
1. Background

- Sleep is a complex state associated with numerous homeostatic mechanisms. Furthermore, sleep patterns have been shown to be associated with increased body weight and blood pressure. Apart from an impact on metabolism and body weight, sleep has also been reported to impinge on mood, cognitive performance, and cardiovascular health [1].
- In previous studies, Taheri et al. established that shorter sleep duration in adults was not only associated with obesity, but also with higher levels of the stomach-derived hormone ghrelin and lower levels of the adipocyte-derived hormone leptin [2]. Taheri et al. also observed a negative linear association between sleep duration and obesity in elementary schoolchildren in Qatar [3].
- A study involving university students in the USA and South Korea found that obesity was associated with both short (<7 h/night) and long sleep duration (>9 h/night) and poor sleep quality among all participants [4]. However, the relationship between sleep duration and obesity has not been studied in university aged students in Qatar.
- Understanding the impact of sleep on health and performance parameters will inform future interventions on addressing key health issues in Qatar.

2. Objectives

The aim of this project is to examine the relationship between sleep duration measured objectively and the following parameters among university students in Qatar, respectively:
- Body weight and composition;
- Blood pressure;
- Cognitive performance.

We hypothesized that sleep duration, sleep quality, and sleep patterns are related to body weight regulation, cardiovascular health, and performance (cognition) in the university student population in Qatar.

3. Methods

- The study recruited students in Qatar Foundation Education City between the ages of 18 to 26 years who were able to provide written informed consent.
- Subjects who had traveled to a different time zone 2 weeks prior to providing data, who had a history of disorder were excluded. A total of 161 participants were recruited into the study.
- Actigraph data from 95 subjects was collected and processed. Figure 1 demonstrates the study design and Figure 2 describes how these measurements were obtained. Collected data were then analyzed using t-tests, Fisher’s exact test, and univariate and multivariate regression.

4. Results:

- The relationship between sleep duration and several factors (as seen in Table 1) were assessed. All these showed a negative trend with sleep duration.
- Among these, sleep duration was negatively associated with waist circumference in univariate model and multivariate model (95% Confidence interval -3.24 to -0.388; P=0.013) after adjusting for age and gender, as seen in Figure 3.

5. Significance

- The aim of this study was to study the effect of total sleep time on cardio-metabolic risk factors in students between the ages of 18 and 26 in Qatar. The associations that were delineated in the results section support our hypotheses that sleep duration are associated both body weight and blood pressure regulation.
- Waist circumference, an indicator of abdominal obesity, is an important risk factor for cardiovascular disease and type 2 Diabetes [5]. The negative relationship between total sleep duration and waist circumference may suggest that shorter sleep is an indirect contributor to cardiovascular risk.
- Furthermore, elevated systolic blood pressure has a direct effect on cardiovascular disease and cerebrovascular events. This makes sleep intervention a crucial element in cardiovascular disease prevention, improving cardio-metabolic health, and future interventions for this age population in Qatar.

6. Future Direction of The Study

- While our results exhibited significant association, this was based on analysis of 95/161 participants only. Processing of the remaining data from other participants would provide insight on findings.
- Further analysis of actigraph data and the CANTAB results would also allow examination of the association between sleep and cognition.

Table 1 shows the relationship of total sleep duration with the following variables: age, weight, fat mass, muscle mass, BMI, neck circumference, waist circumference, waist-hip ratio (WHR), systolic blood pressure, diastolic blood pressure, respectively. A significant negative association with waist circumference and systolic blood pressure was observed.

7. References


Acknowledgements: QNRF funding UREP21-131-3-024