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Knowledge of Sleep Impact on General Health among Patients Visiting Gharrafat Al Rayyan Health Center: A Cross-Sectional Study

Dr. Hamdi Nasr Awadh Abdulla Alsadi[1*], Dr. Mutasim Mohammad Rashad Hammoudeh[2]

[1]Family Medicine Specialist in Primary Health Care Corporation, Gharrafat Al Rayyan Health Center, Qatar
[2]Emergency Medicine Specialist, in Primary Health Care Corporation, Gharrafat Al Rayyan Health Center, Qatar

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***Corresponding author:** Dr. Hamdi Nasr Awadh Abdulla Alsadi
Family Medicine Specialist in Primary Health Care Corporation, Gharrafat Al Rayyan Health Center, Qatar

Abstract **Original Research Article**

Background: sleep is one of the contributors to overall health. Several studies worldwide have analyzed the impact of sleep on various health aspects. Objective: In this study we aimed to assess the knowledge of sleep impact on overall health among patients visiting Gharrafat Al Rayyan health center in Qatar. ***Method:*** During routine visits a total of 84 patients were surveyed regarding their knowledge of sleep impact on health using a simple questionnaire; asking them about their belief if a sleep disturbance is a leading cause of health related issues, the questionnaire contains questions about: seeking medical visit for sleep issue, belief of sleep disturbance impact on health, sleep duration, quality of sleep, attributing factors of sleep disturbance, history of chronic disease, patient's weight, weight loss attempts. Data were analyzed using a descriptively. ***Result:*** Among all 84 patients (51%) believe that sleep has an impact on overall health. Anxiety was the most common choice thought to be related to sleep disturbance. In terms of sleep duration (65%) of patients were sleeping less than 6 hours a day and among all patients' "fair" sleep quality scored the highest (Graph5). Most impact of sleep disturbance was physical symptoms (57%). ***Conclusion:*** This study demonstrates a non-significant difference among patients' belief about sleep disturbance and its impact on general health, despite relevant findings of statistically significant impact in variable health aspects among patients who sleep less than 6 hours and or low sleep quality.

Keywords: sleep impact, general health, Gharrafat Al Rayyan health center.

INTRODUCTION

Sleep is a biological process that is essential for life and optimal health. Sleep plays a critical role in brain function and systemic physiology, including metabolism, appetite regulation, and the functioning of immune, hormonal, and cardiovascular systems. [1-2]

Normal healthy sleep is characterized by sufficient duration, good quality, appropriate timing and regularity, and the absence of sleep disturbances and disorders.[3]

Cross-sectional studies conducted in adults from Spain [4], Japan [5], and the U.S. [6-7] have all observed a significant association between short sleep duration and being obese.

Nearly 40 years ago, a study examining the impact of 72–126 hours of total sleep deprivation on oral glucose tolerance found that levels of glucose were markedly higher throughout the test when subjects were sleep-deprived.[8]

Qatar is a developing country in the Eastern Mediterranean Region undergoing rapid economic growth, modernization, and sociocultural changes. There is a dearth of studies in Qatar and this region on potential predictors of short and long sleep duration and their associations with chronic disease in the general population. Most published studies report insufficient sleep in children and young adults of these populations. [9-11]

In this study we aim to assess patients' knowledge of sleep disturbance and its possible attributing factors to assess its impact on variable aspects of health overall. We hypothesised that patients' awareness about insufficient sleep duration and quality has an impact on their overall health.

METHOD

A cross-sectional study was conducted among patients visiting Gharrafat Al Rayyan health center using a simple written and self-administered questionnaire in Arabic and English language. The study was conducted among Qatari and non-Qatari patients who are residents in Qatar during routine visits from May to July 2025 aimed to capture their belief about sleep and its impact on health. The participants provided informed consent before participating in the study. No personal identifiers were collected, and all responses were anonymous.

Data Analysis:

Descriptive statistics were used for analysis of the demographic characteristics and sleep related data. Data were approximated to the nearest decimal point as shown in (Table 1 -3).

RESULTS

The majority of patients answered sleeping less than 6 hours/day, but only 6 patients discussed sleep issues with their physician during routine visits. Erratic bedtime was the most chosen attributing factor related to sleep disturbance followed by use of electronic device like (mobile/TV) in bedroom and feeling stressed or overwhelmed prior to sleep as shown in (Table2).

There was a significant difference in sleep duration and its impact among all patients as shown in (Graph1). Findings showed more impacts in patients who sleep less than 6 hours compared to those who sleep 7-8 hrs and more than 8 hours. Physical symptoms like headache and fatigue were reported the highest, followed by emotional lability (mainly anxiety) and reduction in productivity. Impressively, consumption of unhealthy food was mostly selected by patients who sleep less than 6 hours.

Employees and married patients tend to have less sleep duration (< 6 hours/day) compared to students, non-working and unmarried patients. (Graph2).

Table 1: Sociodemographic Characteristics (N=84)

Variable	n (%)
Gender	
Male	23 (28)
Female	61 (72)
Nationality	
Qatari	31 (37)
Non-Qatari (Arabic)	34 (40)
Non-Qatari (Non-Arabic)	19 (23)
Age	
10-19 years	8 (9)
20-45 years	61 (74)
46-65 years	11 (13)
Above 65 years	4 (4)
Marital status*	
Married	48 (57)
Unmarried	36 (43)
Employment	
Employee	59 (70)
Student	13 (15)
Retired	4 (5)
Not working	8 (10)
Data were approximated to the nearest decimal point. **Missing data*	

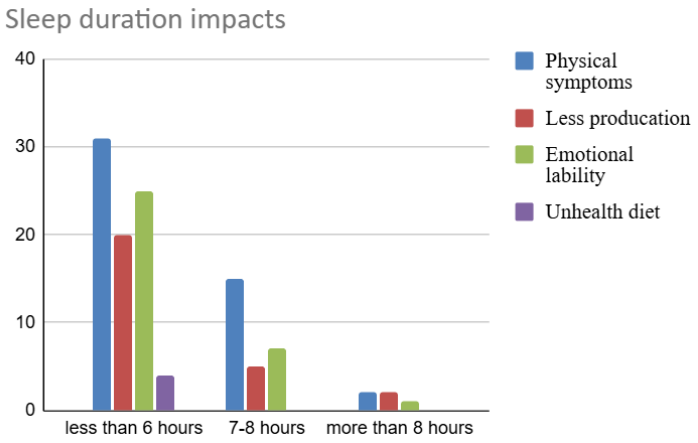
Table 2: Sleep duration, quality and attributing factors (N=84)

Variable	n (%)
Sleep duration	
Less than 6 hours	54 (65)
7-8 hours	25 (30)
More than 8 hours	5 (5)
Sleep quality	
Very poor	9 (10)
Poor	27 (32)
Fair	37 (44)
Very good	10 (11)

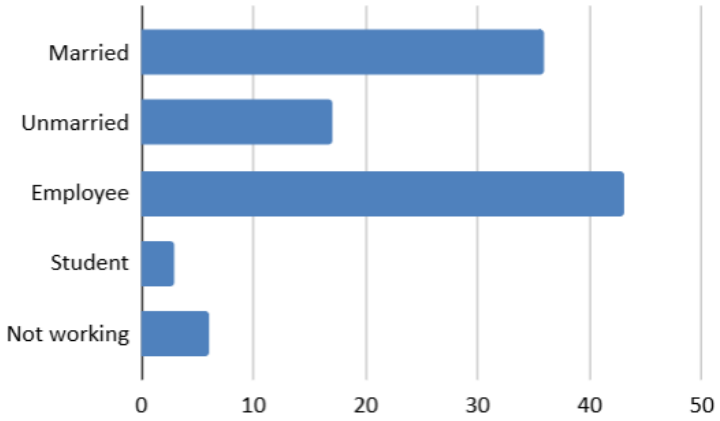
Excellent	1 (1)
Attributing factors	
Erratic bed times	37 (44)
Use of electronic device in bedroom	33 (39)
Night shift or study	24 (29)
Caffeine intake	18 (21)
Uncomfortable sleep environment	3 (4)
Medical condition like pain or sleep apnea	5 (6)
Stress (overwhelmed thinking prior to sleep)	33 (39)
Data were approximated to the nearest decimal point.	

Table 3: patient BMI and weight reduction (N=84)

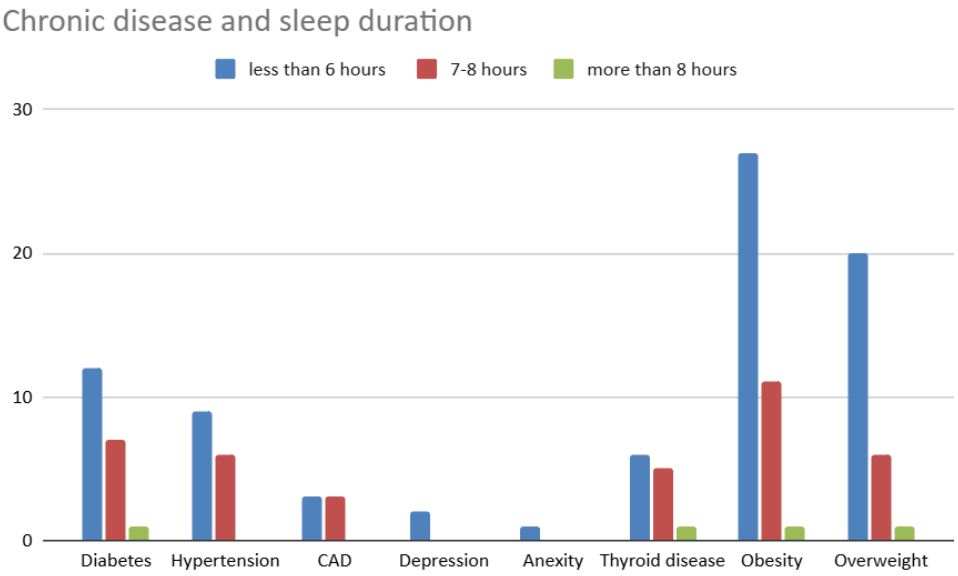
Variable	n (%)
BMI	
Underweight	0 (0)
Normal weight	18 (21)
Overweight	27 (32)
Obese	39 (47)
Weight Reduction*	
No weight reduction	39 (47)
Weight reduction (less than 5%)	15 (18)
Weight reduction (5-10%)	26 (30)
Weight reduction (more than 10%)	4 (5)
Data were approximated to the nearest decimal point. **weight reduction during last 6-12 months*	



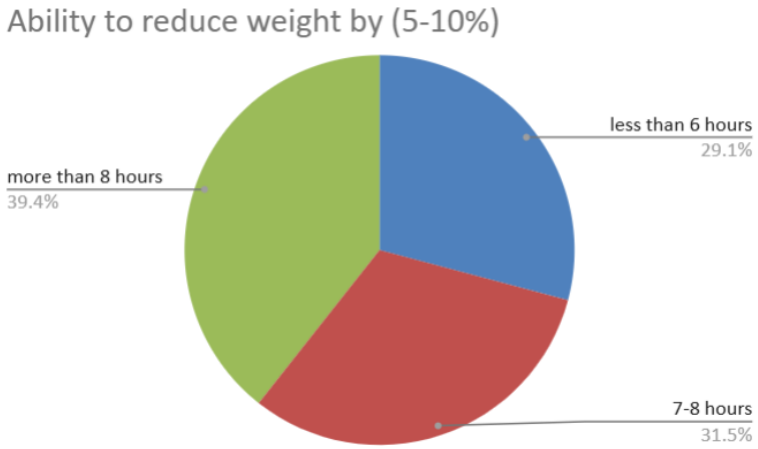
Graph 1: Sleep duration impacts



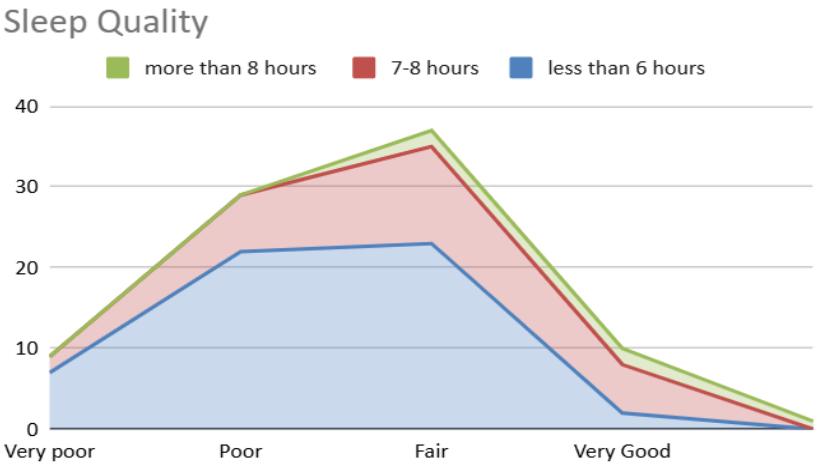
Graph 2: Sociodemographics in patients sleeping less than 6 hours



Graph 3: Chronic disease and sleep duration



Graph 4: Ability to reduce weight by (5-10%) during the past 6 months and sleep duration



Graph 5: Sleep quality

Sleep quality (very poor = 9, poor = 27, fair=37, very good= 10, excellent=1)

Table 4: Sleep quality and chronic illness (N= 72)

Sleep quality	Chronic disease	No chronic disease
Very Poor and poor	23	12
Fair sleep quality	17	20
Prevalence odds ratio (POR) = 2.25		
Count, N:5, Sum, Σx:84, Mean, μ:16.8, Variance, σ^2: 173.76, Margin of Error (Confidence Interval):6, Standard Deviation σ:13.1, *p*-value is .051123.		

DISCUSSION

The findings in this study revealed a high prevalence of both physical and emotional health impacts among patients visiting Gharrafat Al Rayyan health center who sleep less than 6 hours despite a high rate of patients' disbelief. In fact data was selected randomly without specifying the number of sleep duration or quality as an inclusion criterion during surveying.

The questionnaire asked whether the patient has visited a physician for sleep issues as a primary reason or not, sleep duration and quality, belief of sleep as a leading cause of disease or has impact on health, contributing factors of sleep disturbance, patient BMI and weight reduction.

Given the fact that only 6 patients discussed sleep issues with their physician and 48% of patients disbelieve the impact of sleep on their health. This might reflect that sleep is not usually addressed during routine visits where it could be the root of other health issues.

The number of obese and diabetic patients was the highest among patients with less sleep duration (Graph3), However these findings can be attributed to high prevalence of diabetes and obesity in the area. The same applied for hypertension although cannot be generalized as findings were not compared to a control group in this study. Thyroid patients meant to have hypothyroidism either clinical or subclinical for which the clinical ones were subjected to levothyroxine treatment.

Despite the large number of obese and overweight patients who sleep less than 6 hours, around (29%) were able to achieve weight reduction of (5-10%) compared to those who sleep 7-8 hours with (31.5%) and (39.4%) for those who sleep more than 8 hours. (Graph4).

Sleep quality and chronic illness was assessed for 72 patients as well in this study (Graph5) and (Table4). Having a chronic illness in patients with fair sleep quality (the most type) was compared to very poor and poor quality (combined). Findings (*p*-value is .051123) showed a high prevalence of chronic illnesses like (hypertension, diabetes, coronary artery disease and thyroid disorder) in very poor and poor sleep quality (combined) compared to fair sleep quality alone. *(POR) = 2.25.*

This study is limited to small sample size, short questionnaires and less diversity, therefore further research is needed to get a comprehensive overview.

CONCLUSION

There is a scarce belief among patients regarding the impact of sleep in general health. Further action is needed to increase the awareness of sleep related conditions during clinical visits especially for overweight, obese and chronic disease patients.

Disclosure: The authors report no conflicts of interest in this work.

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