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Original Research Article

Study of Sleep Patterns and Other Sleep Related Factors among Residents of Jaipur City

Dr. Sanjay Kumar Singhal[1], Dr. Kopal Sharma[2]*, Dr. Lokendra Sharma[3], Dr. Dheeraj Jeph[1], Dr. Kapil Gupta[1], Dr. Jitendra Kumar Gupta[1]

[1]Asstt. Professor, Department of Physiology , SMS Medical College, Jaipur, India
[2]PhD. Student, Dept. of Pharmacology, SMS Medical College, Jaipur, India
[3]Professor, Dept. of Pharmacology, SMS Medical College, Jaipur, India

***Corresponding author**
Dr. Kopal Sharma
Email: kopalneemawat@yahoo.co.in

Abstract: Adequate amount and good quality of sleep affects both the mental and physical health. Any disturbance in this vital physiological process in turns affect the quality of our work. Objectives: The current study aimed to determine the sleep patterns and other sleep related factors. The current cross-sectional study was conducted on 1000 healthy and randomly selected participants from Jaipur city. Self-recalling and personal interview with the participant was employed for data collection. Data was extracted using Microsoft Excel (2010) spreadsheets. The mean age of the participants was 36.12 $\pm$ 8.45 years. Results showed maximum sleep latency of greater than one hour in business class participants (53.5%), followed by students. Profession wise distribution of sleep revealed that 87.7% of the house wives slept for 7-8 hr while the duration of sleep was less than 5 hours among 96.4% business professionals. 72.7% housewives described their sleep quality to be perfect in contrast to 12.6% students. Sleep talking was the most commonly encountered type of parasomnia affecting 92% students, 73% service class, 65% business people and 81% housewives. The results of the current study showed a high prevalence of sleep problems among the business professionals followed by the students. Timely identification and appropriate treatment of sleep disorders in these groups may improve life quality in them.
Keywords: Sleep disorders, Profession, Workload, Residents of Jaipur

INTRODUCTION

In the last decade there has been an emerging attention to sleep and sleep related disorders among different population as sleepiness and fatigue are now prevalent in majority of adults [1]. Pattern of sleep varies according to various factors like age, type of employment, physiological characteristics, mental status and other associated physical diseases [2]. The cut throat competition, escalating level of stress, hectic schedule and expectations by family members affects our health and also the normal physiological process like sleep.

Insomnia is becoming prevalent now days. It includes not only latency in sleep but also lack of good quality sleep, frequent awakenings at night or early in the morning. Sleep disorders in affect physical and mental abilities and also the academic performances [3]. Numerous studies that have been conducted in the past, analyzed the deleterious effects of sleep deprivation on medical students, medical house staff [1, 4-7]. The purpose of the present study is to explore the effects of sleep patterns on different profession including business people, housewives, students and service class people residing in Jaipur city.

SUBJECTS AND METHODS

This was a retrospective study conducted with randomly selected 1000 apparently healthy volunteers of 20 to 50 years of age. Self-recalling and personal interview with each participant was employed for data collection. The ethics committee of the institute approved the study. Confidentiality was assured to all participants who volunteered and none were reimbursed. Recruited volunteers were given a brief description about the study and its objectives. Verbal consent of each volunteer was taken. Unhealthy volunteers based on history taking and clinical examination, persons not residing in Jaipur, people working in night duties and shift duties, smokers and alcoholics**,** those on sedatives, hypnotics, antihistaminic, anti-psychotics, drug addicts and taking

any medicines which can affect sleep rhythm and pattern were excluded from the study. Recruitment and collection of data continued for one month. The recruitment and collection process was carried out under the supervision of the authors. Information collected was extracted using Microsoft Excel (2010) spreadsheets and interpreted.

RESULTS

The study enrolled 1000 participants residing in Jaipur city. The mean age of the participants in the study was 36.12 ± 8.45. Male to female distribution was 448:552 [Table 1]. There was a fair representation of different occupations: students (19.1%), service (40.5%), business (21.7%), house wives (18.7%). Maximum sleep latency of greater than one hour was observed in business class participants (53.5%), followed by students. 52.4% housewives had sleep latency of less than 15 min. 95% students, 49.6 % of service class and 87.1% house wives slept for 7-8 hrs. In contrast 96.4% business people slept for less than 5 hours [Table 3]. 12.6% students, 44.7% service class, 35% business employed and 72.7% housewives described their sleep quality to be excellent. While 9.4% students, 2.2% service people, 5.5% business class, 1.1% house wives ranked their quality of sleep as bad [Fig 1]. 92% students, 73% service class, 65% business people and 81% housewives had sleep talking type of parasomnias. Sleep walking was the least common type of parasomnia noted, affecting 76% students, 24% service class, 27% business people and 17% housewives [Fig 2].

Table 1: Demographic characteristics of study population

Variables	N = 1000
Mean age (Range) yrs	36.12 ± 8.45 (20-50)
Male: Female	448:552
Employment status	
Students	191 (19.1%)
Service	405 (40.5%)
Business	217 (21.7%)
Housewives	187 (18.7%)

Table 2: Distribution of the participants according to Sleep Latency

Sleep Latency	Profession			
	Students N(%)	Service N(%)	Business N(%)	Housewives N(%)
≤ 1n5 min	25 (13.1%)	67 (16.5%)	21 (9.7%)	98 (52.4%)
16-30 min	25 (13.1%)	62 (15.3%)	32 (14.7%)	32 (17.1%)
31-60 min	101 (52.9%)	161 (39.8%)	48 (22.1%)	43 (23%)
> 60 min	40 (20.9%)	115 (28.4%)	116 (53.5%)	14 (7.5%)

Table 3: Profession wise distribution of sleep duration in night

Profession	Duration of sleep in hours					
	<5 hr	5-6 hr	6-7hr	7-8 hr	8-9 hr	>9 hr
Students (N= 191)	0	5 (2.6%)	52 (27.2%)	95(49.7%)	33 (17.3%)	6 (3.1%)
Service (N = 405)	28(6.91%)	63(15.56%)	89(21.98%)	201(49.63%)	23 (5.68%)	1(0.24%)
Business (N= 217)	14 (96.45%)	28 (12.9%)	125 (57.6%)	47 (21.66%)	3 (1.38%)	0
Housewife (N= 187)	4 (2.14%)	4 (2.14%)	15 (8.02%)	163(87.17%)	0	1 (0.53%)

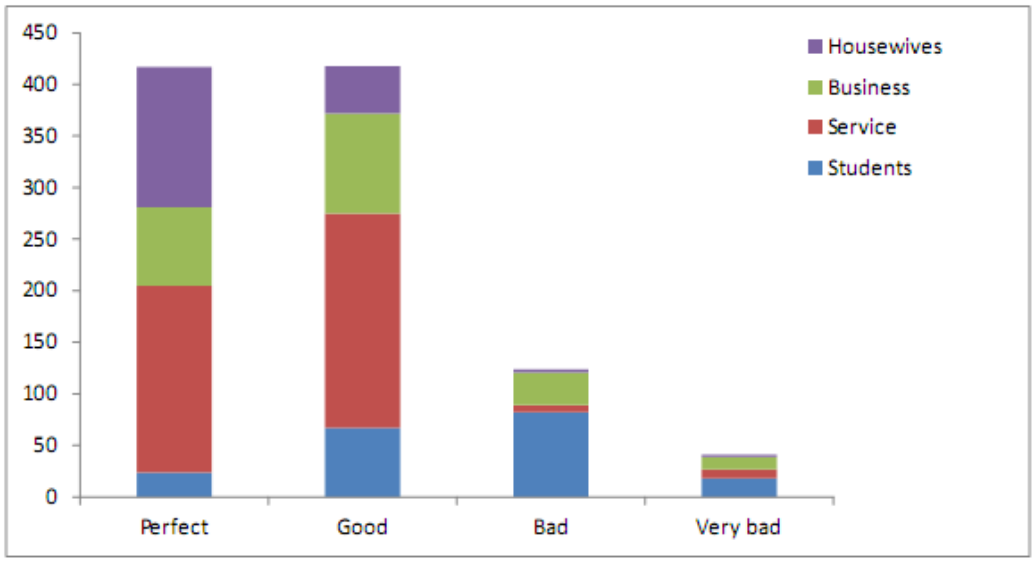

Fig-1: Distribution of total study Population According to Quality of sleep

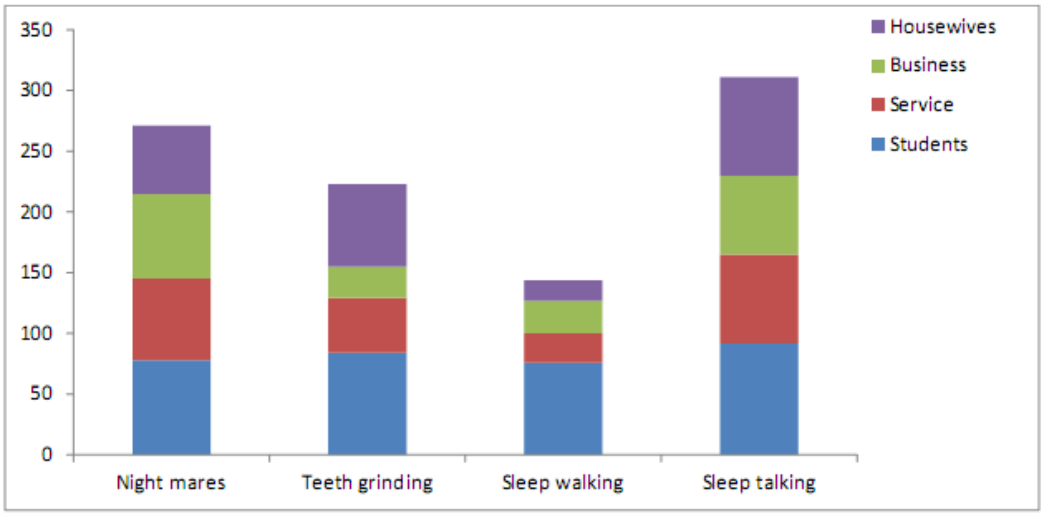

Fig-2: Distribution of population according to the types of parasomnias

DISCUSSION

Sleep disorders are of paramount concern due to long standing social and demographic significance. This study, based on a large representative sample of the Jaipur population, is the first to demonstrate the prevalence of sleep habits and other sleep related factors in people with different employment status. There are several noteworthy results in our study. Maximum sleep latency was observed in students and in people employed in business. According to a previous study, sleep latency in most people (32.3%) was reported at about 30 minutes [7] that is consistent with our research. Excessive coffee intake, alcohol abuse, smoking and use of mobile phones/laptop are the habits adversely affecting sleep in students.

Two previous studies revealed that most adults sleep 7-8 h per night, although timing, duration, and internal structure of sleep vary among healthy individuals and as a function of age [8, 9]. Similar findings were revealed in our study also and the maximum duration of sleep pattern as observed in our study was also 7-8 hrs. 12.6% students, 44.7% service class, 35% business employed and 72.7% housewives described their sleep quality to be excellent. Similar findings were mirrored in previous study where the sleep perception was measured using the Pittsburgh Sleep Quality Index and the students revealed their sleep quality to be poor [10].

In another study involving medical students the subjective sleep quality of students was recorded as excellent-29%; good-40%; satisfactory-24%; poor 6%; very poor-1% students [11]. A study of sleep-related disorders among a healthy population in South India including 21% women concluded that 72.7% of the population had good sleep [12]. In our study 72% of house wives also described their sleep quality to be

perfect. A study from recent past have suggested that poor sleep quality may predict obesity and high body fat mass among adults [13]. Relation between socio economic status (SES) and sleep quality was revealed in one study. Factors such as anxiety, depression and health status, are associated with poorer sleep quality and occur more often within lower social classes which explains the association of SES to sleep quality [14].

Sleep talking was the main type of parasomnia noted in our study population encountering 92% students, 73% service class, 65% business people and 81% housewives. While sleep walking was the least common type of parasomnia encountered affecting 76% students, 24% service class, 27% business people and 17% housewives. These results are also mirrored in a previous study conducted in general population of Norway with 66.2% study population complaining of night mares and 22% complaining of sleep walking [15]. Parasomnias are physical events/experiences interfering with sleep which can occur at sleep onset, during sleep, or during arousals from sleep [16].

The current study reflects the prevalence of sleep problems among the business professionals and the students. Timely identification and appropriate treatment of sleep disorders in these groups may improve life quality in them.

Sleep disturbances are an important issues faced in present scenario. Sleep patterns are affected by age, gender, living conditions, doing exercise and workload. The present study throws a light on prevalent sleep patterns and the need to correct them. The critical evaluation of the prevalent questionnaires used to identify or diagnose sleep disturbances and sleep-related disorders in Indian population is the need of hour. Further studies based on longer period with separate data on week days and weekends are needed to study sleep patterns in different population sets. Comparison between different studies in different countries is not an easy task because there is much variability in operational definitions and different measures are used to evaluate sleep. But at the same time such study will bridge the gaps in our knowledge in this field and also help to address the health of all population belonging to different socio economic status in our country.

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