Indian Journal of Social Research Vol. 60 (2) (March - April, 2019) (173-184)

Academic and Law Serials

ISSN : 0019-5626
e-ISSN : 2454-3624

EFFECT OF IMPROPER SLEEP AMONG COLLEGE GIRLS

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Abstract

Sleep is a basic human need and is essential for good health, good quality of life and performing well during the day. Sleep is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, inhibition of nearly all voluntary muscles, and reduced interactions with surroundings. Sleep disorders are common among women and contribute to poor functioning and quality of life. The present study entitled, "Effect of Improper Sleep Among College Girls." elicited the common sleep disorders found among the college girls. An informational package was developed to provide useful and applicable practices for developing healthy sleep among college girls.

Key words: Sleep, Inhibition, Consciousness, Disorder, College.

Introduction

Sleep is a dynamic and regulated set of behavioural and physiological states during which many processes vital to health and well-being take place. Sufficient sleep is essential for maintaining optimal physical health, mental and emotional functioning, and cognitive performance. Inadequate sleep time and poor quality sleep interfere with quality of life and can be hazardous to health. Sleep quality exerts a profound influence on the gut health. Low quality sleep means the body doesn't sufficiently suppress the production of cortisol, the much-feared "stress hormone," and that can mess with the balance of the gut bacteria. Lack of sleep also makes women more susceptible to stress, which can significantly influence digestive symptoms. Women can fall asleep at work, at school or when driving; feel tired; have concentration and vigilance detriments; have memory blanks; irritability; frustration; and have a higher probability of accidents or injury. Females, as a rule complain more of sleep problems, but do not exhibit any objective indications of more disturbed sleep, at least not

among otherwise healthy women. This project intends to collect such data and to formulate a list of recommendations that may be adopted by college going girls in order to enhance good sleep in them (Jenni OG, *et al.*, 2007).

Materials and Methods

Ethical considerations

This study was conducted in accordance with the guidelines of the Institutional Review Board of M.G University, Kerala which approved the study protocol. Informed consent for this study was obtained from all the respondents.

Participants

The study was conducted among the degree and post graduate students of Assumption College Changanacherry, Kottayam district, Kerala .The investigators used a pre structured questionnaire to collect information regarding the various aspects of the study. The total number of samples collected was 100 college girls. The selection of samples was from the Assumption College Changanacherry .The selection was based on purposive sampling method. The selection of girls was from the age group of 18-22 years.

Sleep Questionnaire

The data of the study was collected through the questionnaire method. A questionnaire was developed for the collection of the data." Closed type" questions were included in the questionnaire. The questionnaire consisted of questions pertaining to Demographic details, Anthropometric profiles, Sleeping habits, Causes of inadequate sleep, Physical activity and sleep and Sleep disorders (Mahan, K.L, and Stump, E.S, 2012).

Statistical analysis

The data is analysed through different statistical methods The data obtained from the study was subjected to appropriate statistical analysis (SPSS 16.0 version) and was analysed using frequency and correlation. Correlation measures how variable or rank orders are related. Pearson's Correlation coefficient was used to assess the relationship between the demographic details, anthropometric measurements and digestion related problems due to inadequate sleep.

Development of educational module

An informational package was developed after compiling the data obtained to provide awareness.

Results

The findings of the study are as follows-

Demographic profile of selected subjects

Table 1

Demographic factors		*Frequency*	*Percentage*
Age	18 years	17	17
	19 years	4	4
	20 years	19	19
	21 years	19	19
	22 years	1	1
Economic status	Low income	4	4
	Middle income	49	49
	High income	47	47
Type of family	Joint	13	13
	Nuclear	87	87

The above table 1 discusses the demographic profile of the selected subjects. The age wise distribution of the subjects shows that most (19%) of the subjects selected fall in the age group 20 or 21 years each.

When considering the economic status of the selected subjects, most of the individuals (49%) fall in the group of middle income status. Very few (4%) among them are belonging to low income status.

When considering the type of family majority from 100 subjects are from nuclear family (87%).The rest (13%) are from joint families.

Anthropometric profile of the selected subjects

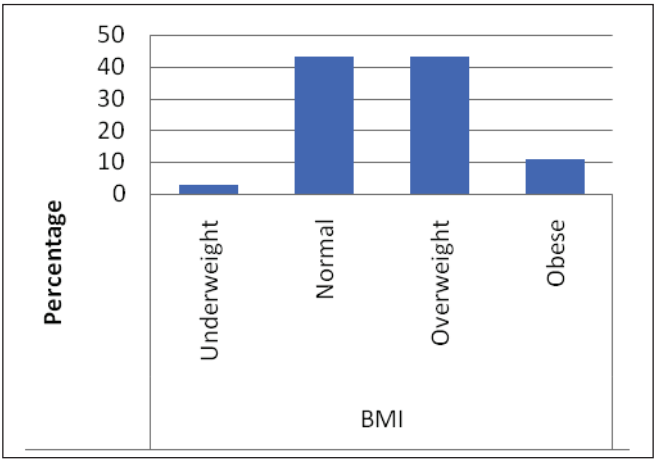

Figure 1

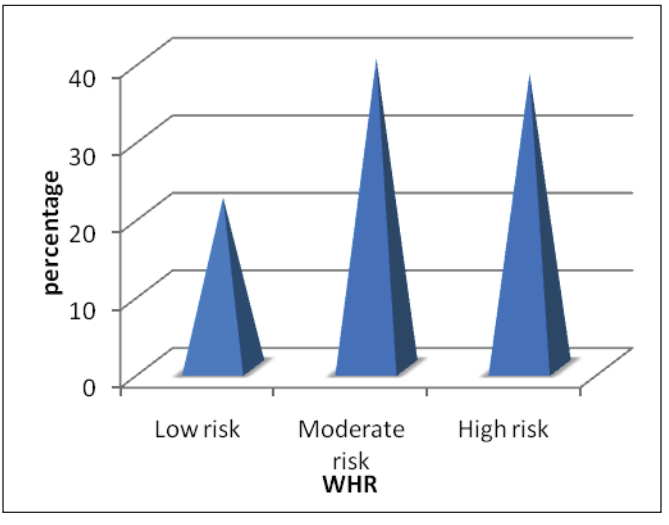

Figure 2

The figure (1 and 2) depicts the BMI and WHR status of the selected participants.

Usual sleep habits of selected subjects

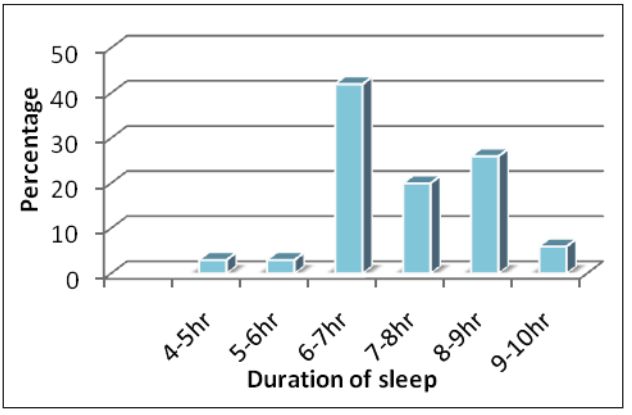

Figure 3

The figure 3 describes the duration of sleep of selected samples. Most of selected samples (42%) spent 6-7 hours for sleeping. Very few of the selected samples (3%) each spent 4-5hours and 5-6 hours for sleeping.

Physical activity of the selected subjects

Table 2: Physical activity of the selected subjects

	Frequency	*Percentage*
Habit of exercise		
Yes	61	61
No	39	39
If yes, type of exercise		
Gym	10	10
Jogging	27	27
Cycling	6	6
Games	17	17
Duration of exercise		
45mn	32	32
1hr	28	28
More than 2hr	16	16
No	23	23

The table 2 describes about the physical activity level of the selected subjects. Majority (61%) of the college girls are engaged in physical activity and most among of them (27%) are engaged in jogging. A 10 percentage of the selected students are engaged in gym, only

17 percentage are interested in playing games and very few (6%) are interested in cycling. Majority of them work out for more than 45 minutes and 28 percentage work out for an hour.

Relationship between physical activity and duration of sleep

Table 3: Relationship between physical activity and duration of sleep

Duration of sleep		*Physical activity*
Duration of sleep	Pearson Correlation Sig. (2-tailed) N	.442**

***Correlation is significant at the 0.01 level (2-tailed)*

There is a significant relationship between duration of sleep and physical activity (r = .442**) (Table 3) of the selected subjects. The physical activity of the subjects have a positive relationship with the duration of sleep which means those who have regular physical activity gets much longer duration of sleep (Laird D, 2015).

Causes of sleep disturbances among selected subjects

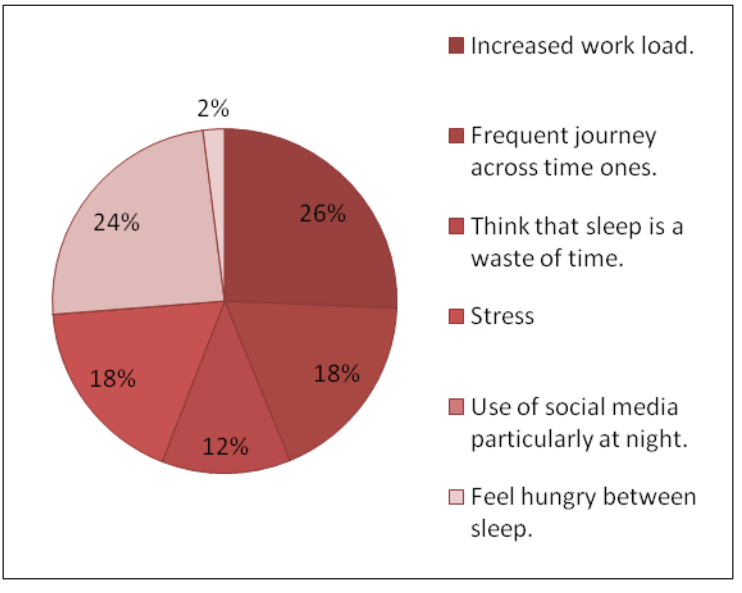

Figure 4

The above figure 4 describes the common causes including increased work load, frequent journey across time zones, thought of sleep as a waste of time, stress, usage of social medias at night, hungry between sleep that affect the normal sleep of the selected subjects.

Common sleep disorders among the selected subjects

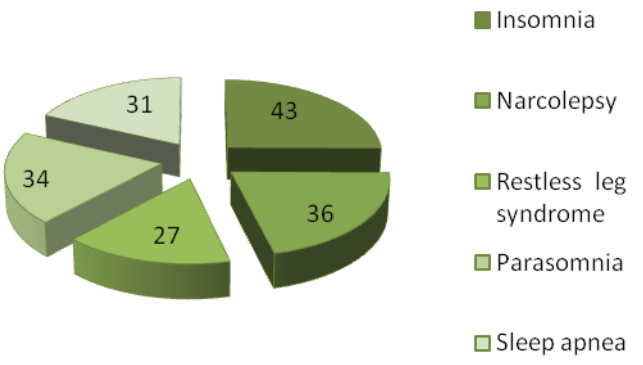

Figure 5

The figure 5 depicts the sleep disorders commonly found among selected respondents. Insomnia, Narcolepsy, Restless Leg Syndrome, Parasomnia, Sleep Apnea are the major disorders found among them.

Digestion problems due to inadequate sleep

Table 4: Digestion problems due to inadequate sleep

Common problems	*Agree*	*Disagree*
Belching	73	27
Constipation	74	26
Anxious And Shaky	78	22
Lack Of Appetite	74	26
Binge-Eating	71	29
Relying On Caffeine/Chocolate	90	10
Burping After An Inadequate Sleep	78	22

The table 4 depicts the gastrointestinal problems of the selected subjects .The data's were collected and assessed using a set of questions. From the consolidated data it is clear that the common problem among majority of the (90 subjects) is high reliance on coffee or chocolate to avoid sleep. Seventy eight subjects complain about burping after an inadequate sleep and anxious and shaky due to inadequate sleep. Seventy four subjects complain about constipation and lack of appetite due to inadequate sleep. Only 71 subjects complain about binge eating (Spruyt K, *et al.*, 2008). Seventy four subjects complain about

constipation and lack of appetite due to inadequate sleep. Only 71 subjects complain about binge eating (Fuller, *et al*., 2006).

Relationship between digestion problems and sleep disorders

Table 5: Relationship between digestion problems and sleep disorders

Sleep disorders / *Digestion problems*		*Insomnia*	*Parasomnia*	*Narcolepsy*	*Sleep apnea*	*Restless leg syndrome*
Relying On Caffeine/ Chocolate	Pearson Correlation Sig. (2-tailed) N	.271**	.229*	-.018	-.030	-.032
Burping After An Inadequate Sleep	Pearson Correlation Sig. (2-tailed) N	-.021	-.042	-.564	-.081	-.871
Binge-Eating	Pearson Correlation Sig. (2-tailed) N	.249**	.229*	-.313	.522**	-.022
Anxious And Shaky	Pearson Correlation Sig. (2-tailed) N	-.263**	-.187	.593*	.293**	.052
Lack Of Appetite	Pearson Correlation Sig. (2-tailed) N	-.231	.256**	.187	-.092	.449*
Belching	Pearson Correlation Sig. (2-tailed) N	-.023	.241*	-.313	.041	-.083

***Correlation is significant at the 0.01 level (2-tailed).*
**Correlation is significant at the 0.05 level (2-tailed).*

There is a significant relationship between sleep disorders and digestion problems (Table 5) of the selected subjects. The sleep disorder, insomnia is having a significant relationship with caffeine intake (r=.271**), binge-Eating (r=.249**), anxious and shaky (r=-263**). They have a significant positive relationship. This shows that as the caffeine or chocolate intake, binge-eating, shakiness and anxiousness increased the more chance to get affected with insomnia (Thase, 2006).

Parasomnia has also significant relationship between caffeine intake (r=.229*), binge-eating (r=.229*), lack Of Appetite (r=.256**) and belching (r=.241*). They have a significant positive relationship. This shows that as the caffeine or chocolate intake, binge-eating, shakiness and anxiousness increased the chance of getting parasomnia (HauriP, 2009).

Narcolepsy has a significant relationship between anxious and shaky (r=.593*). There is a significant positive relationship between anxious and shakiness and narcolepsy. This shows that as the anxious and shakiness increases the frequency of getting affected with narcolepsy also increases (Lee-chiong, 2008).

Sleep apnea has significant relationship between binge-eating (r=522**) and anxious and shakiness (r=.293**). There is a significant positive relationship between sleep apnea and anxiousness and binge eating (Hobson J, *et al.*, 2013).

Restless leg syndrome has significant relationship between lack of appetite (r=.449*). There is a significant positive relationship between lack of appetite and restless leg syndrome.

Development of educational module on importance of sleep for college girls

An educational module was developed to promote the importance of sleep among college girls.

Discussions

Relationship between physical activity and duration of sleep

There is a significant relationship between duration of sleep and physical activity ($r = .442^{**}$) of the selected subjects. The physical activity of the subjects have a positive relationship with the duration of sleep which means those who have regular physical activity gets much longer duration of sleep.

Causes of sleep disturbances among selected subjects

- Majority (84%) of the selected samples are losing their sleep due to the use of Social Medias. While sixteen percent of the selected subjects are not active in social medias even if they have identity in them.
- Sixty three percent of selected samples suffer from sleep disturbances due to frequent travel across time zones. While the rest (37%) of them have no problems with sleep during travelling.

- Forty two percent of selected subjects consider that sleep is a waste of time. At the same time, fifty eight percent of the selected samples have no problems with sleep.
- While considering their work load, the majority (91%) of the subjects have problems with inadequate sleep due to increased work load. Nine percent of the selected subjects did not complain about problems with sleep due to increased work load.
- When discussing the stress levels among selected subjects, most (62%) of them suffers from inadequate sleep due to stress. While thirty seven percent of the selected subjects does not have the problem of stress.
- Only 7 percent of the selected subjects have the problem of feeling hungry in between sleep, while the rest (93%) do not feel hungry in between sleep.

Common sleep disorders among the selected subjects

- Forty three among the selected subjects suffer from insomnia while 37 of the selected subjects are at a moderate risk of developing insomnia. It is also evident from the data that insomnia is the leading sleep disorder among the selected subjects.
- Thirty six selected subjects are at a high risk of narcolepsy and thirty four suffer from parasomnia. Sixty selected subjects are at a very low risk of restless leg syndrome.
- It is also clear that most of the subjects have more than one disorder.

Digestion problems due to inadequate sleep

- The gastrointestinal problems of the selected subjects were collected and assessed using a set of questions. From the consolidated data it is clear that the common problem among majority of the (90 subjects) is high reliance on coffee or chocolate to avoid sleep.
- Seventy eight subjects complain about burping after an inadequate sleep and anxious and shaky due to inadequate sleep.
- Seventy four subjects complain about constipation and lack of appetite due to inadequate sleep. Only 71 subjects complain about binge eating.
- From the above table it is clear that majority of the selected subjects are having some kind of digestion problems.

Relationship between digestion problems and sleep disorders

There is a significant relationship between sleep disorders and digestion problems of the selected subjects. The sleep disorder, insomnia is having a significant relationship with caffeine intake. They have a significant negative relationship. This shows that as the caffeine or chocolate intake increased the more chance to get affected with insomnia.

Development of educational module on importance of sleep for college girls

A booklet was developed for adolescent girls which holds on the topic importance of sleep. An awareness class was taken regarding the same.

Limitations

The current study had several limitations. First, there could have been parental indulgence in the study which included collecting information regarding the respondents sleep pattern. More objective methodologies such as polysomnography (PSG) are needed to assess children's sleep, to reduce information bias; however, this is difficult in a large sample. Second, since the study did not include items about history of sleep disorders, developmental disabilities, mental disorders, and past use of central nervous agonist medication that could affect sleep, girls with latent and actual sleep disorders may have been present in the community group.

Acknowledgements

This work was not been supported or funded by any of the institution or funding agency.

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Received on 9.8.2018 and accepted on 29.8.2018