

QUALITY OF SLEEP ASSESSMENT IN MASTER HEALTH CHECK- UP PATIENTS USING PIRS-20 SCALE

S. Boopathi¹, P Kasi Krishna Raja², Senthil Sayinathan Balasubramaniam³, P.K. Sanjaikrishna⁴

¹Associate Professor, Department of Medicine, Government Erode Medical College, Perundurai, Tamilnadu, India.

²Associate Professor, Department of Psychiatry, Government Erode Medical College, Perundurai, Tamilnadu, India.

³Assistant Professor, Department of Psychiatry, Government Erode Medical College, Perundurai, Tamilnadu, India.

⁴Undergraduate Student, Government Erode Medical College, Perundurai, Tamilnadu, India.

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Corresponding Author:
Dr. Senthil Sayinathan Balasubramaniam,
 Email: sainathansenthil@gmail.com
 ORCID: 0000-0002-7621-5302

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Abstract

Background: The aim is to assess the quality of sleep for the master health check-up patients using PIRS- 20 scale. **Materials and Methods:** 50 MHC patient who attended MHC were included in the study. It was planned to evaluate the quality of sleep using PIRS-20 scale. **Result:** Out of 50 MHC patients, 24(48%) of them were having normal sleep and 26(52%) where found to have abnormal sleep. **Conclusion:** Our results showed that most of subjects had abnormal sleep pattern. Severe insomnia was seen among 38.4% of subjects.

INTRODUCTION

Disturbed sleep is the most frequent health problem encountered nowadays.^[1] Insomnia is defined as a complaint of difficulty falling or staying asleep which is associated with significant distress or impairment in daytime function and occurs despite an adequate opportunity for sleep. It is a common condition, with an approximate general population point prevalence of 10%.^[2] In the vast majority of cases, insomnia co-occurs with psychiatric or physical conditions. Although it had long been believed that, when this was the case, insomnia was a symptom of those conditions, research suggests that the relationship between such conditions and insomnia is complex and sometimes bidirectional.^[3]

Sleep disorders caused by external factors are termed extrinsic sleep disorders and include inadequate sleep hygiene, environmental sleep disorder, adjustment sleep disorder, insufficient sleep syndrome, limit-setting sleep disorder, sleep-onset association disorder, and hypnotic-, stimulant-, or alcohol-dependent sleep disorder: Circadian rhythm sleep disorders share a common chronophysiological basis whereby there is a discordance between the patient's sleep pattern and the desired or societal sleep norm.^[4] Circadian rhythm sleep disorders include shift work

sleep disorder, delayed sleep phase syndrome, and advanced sleep phase syndrome.^[5] The present study was conducted to quality of sleep among subjects visiting MHC, IRT Perundai Medical college.

MATERIALS AND METHODS

50 MHC patient found to have abnormal sleep visiting MHC, IRT Perundai Medical college of either gender was selected in this prospective observational study.

Subjects who know English and willing to participate and gave their written consent were enrolled in this study. MHC patients who don't know English and not willing to participate were excluded.

A thorough clinical and physical examination was performed. All were subjected to PIRS-20 scale. Responses were recoded as not at all bothered (0), slightly bothered (1), moderately bothered (2) and severely bothered (3). Grading of insomnia was 0-8 with no significant insomnia, 9 -14 with mild insomnia, 15-21 with moderate insomnia and more than 22 severe insomnias. Results of the study was compiled and entered in MS excel sheet for correct inference. Statistical analysis was performed and p value less than 0.05 was considered significant.

RESULTS

Out of 50 MHC patients, 24 (48%) of them were having normal sleep and 26 (52%) where found to have abnormal sleep. A non- significant difference was observed ($P>0.05$) [Table 1].

Out of 26 patients, mild Insomnia was seen in 12 (46.1%), moderate insomnia in 4 (15.3%) and severe insomnias in 10 (38.4%) patients. A significant difference was observed ($P<0.05$) [Table 2].

One or more awakenings after going to sleep, 50% subjects were slightly bothered, 15% were moderately bothered and 35% were severely bothered. In not getting enough sleep, subjects were slightly bothered, moderately bothered and severely bothered in 45%, 18% and 47% respectively. Sleep that doesn't fully refresh, subjects were slightly bothered, moderately bothered and severely bothered in 46%, 20% and 34%, alertness during the day was seen in 56%, 17% and 27%, difficulty keeping your thought focussed in 48%, 20% and 32%, other noticing you tired or fatigue was seen in 42%, 18% and 40%, too many difficulties to overcome was seen in 40%, 22% and 38%, bad mood because of poor sleep in 38%, 34% and 28%, lack of energy because of poor sleep in 41%, 35% and 24%, poor sleep that interferes with your relationship in 40%, 15% and 35%, being unable to sleep in 45%, 17% and 38%, being able to do only enough to get by in 52%, 20% and 28% respectively. From the time you tried to go

to sleep how long did it take to fall asleep on most nights, the response was less than 1/2hour in 43%, 23% and 44%, between 1/2 to 1 hours in 46%, 16% and 38%, between 1 to 3 hours in 41%, 18% and 41% and more than 3 hours or didn't sleep in 37%, 15% and 48%.

If you woke up during night how long did it take to call back to sleep on most nights, the response was less than 1/2hour or did not wake up in 35%, 25% and 40%, between 1/2 to 1 hour in 40%, 11% and 49%, between 1 to 3 hours in 48%, 19% and 33%, more than 3 hours or one didn't fall back to sleep in 57%, 20% and 23%. Not counting times when you were awake in bed, how many hours of actual sleep did you get during the worst night, the response was more than 7 hours in 41%, 12% and 47% respectively [Table 3].

Table 1: Distribution of patients

Sleep pattern	Number (%)	P value
Normal sleep	24 (48%)	0.95
Abnormal sleep	26 (52%)	

Table II Evaluation of grading of insomnia

Grading of insomnia	Number	P value
No significant insomnia	0	0.04
Mild Insomnia	12 (46.1%)	
Moderate insomnia	4 (15.3%)	
Severe insomnias	10 (38.4%)	

Table III Assessment of PIRS- 20 scale

In the past week, how much were you bothered by:	Not at all bothered (0)	Slightly bothered (1)	Moderately bothered (2)	Severely Bothered (3)
1.One or more awakenings after going to sleep	0	50%	15%	35%
2.Not getting enough sleep	0	45%	18%	47%
3.Sleep that doesn't fully refresh you	0	46%	20%	34%
4.Alertness during the day	0	56%	17%	27%
5.Difficulty keeping your thought focussed	0	48%	20%	32%
6.Other noticing you tired or fatigue	0	42%	18%	40%
7.Too many difficulties to overcome	0	40%	22%	38%
8.Bad mood because of poor sleep	0	38%	34%	28%
9.Lack of energy because of poor sleep	0	41%	35%	24%
10.Poor sleep that interferes with your relationship	0	40%	15%	35%
11.Being unable to sleep	0	45%	17%	38%
12.Being able to do only enough to get by	0	52%	20%	28%
Please search the best answer for each question about past week,				
13. From the time you tried to go to sleep how long did it take to fall asleep on most nights?				
0.less than 1/2hr	0	43%	23%	44%
1.between 1/2 to 1 hrs	0	46%	16%	38%
2.between 1 to 3 hr	0	41%	18%	41%
3.more than 3 hrs or didn't sleep	0	37%	15%	48%
14. If you woke up during night how long did it take to call back to sleep on most nights?				
0.Less than 1/2 hr or didn't wake up	0	35%	25%	40%
1.Between 1/2 to 1 hr	0	40%	11%	49%
2. Between 1 to 3 hrs	0	48%	19%	33%
3. More than 3 hours or one didn't fall back to sleep	0	57%	20%	23%
15. Not counting times when you were awake in bed, how many hours of actual sleep did you get during the worst night?				
0.more than 7 Hrs	0	41%	12%	47%
1. between 4 to 7 hrs	0	45%	13%	42%
2.between 2 to 4 hrs	0	43%	11%	46%
3.Less than 2 hrs or didn't sleep	0	42%	17%	41%
16. How many days did you have trouble coping because of poor sleep?				
0.None or 1day	0	46%	14%	40%
1. on 2 or 3 days	0	44%	12%	44%
2.on 4 or 5 days	0	41%	26%	33%
3. on 6 or all days	0	40%	15%	35%

Over the past week, how could you rate?	Excellent	Good	Fair	Poor
17.Your sleep quality compared to most people	0	38%	22%	40%
18.Your satisfaction with your sleep	0	43%	15%	42%
19.The regularity of your sleep	0	49%	15%	36%
20.The soundness of your sleep	0	42%	25%	33%

DISCUSSION

Sleep is defined as an unconscious state from which a person can be aroused by sensory stimuli. There are two types of sleep non-rem sleep or slow wave sleep is a deep sleep that occur during first hour after going to sleep also called dreamless sleep which is associated with decreased peripheral vascular tone and other vegetative function of the body.^[6] REM sleep is lasting 5 to 30 minutes for every 90 min associated with active dreaming and bodily muscle activity, the brain is highly active in REM sleep also called as paradoxical sleep some of the common sleep disorders encountered in general population are insomnia, hypersomnia and parasomnia.^[7] Insomnia is characterized by difficulty in falling asleep and maintaining sleep and non-restorative sleep. 50-30% of general population complaining of Insomnia, it occurs at least 3 times a week for one month. Causes of insomnia-painful conditions, RHD, alcohol withdrawal syndrome, delirium tremens, anxiety disorder, depression, mania, drug abuse(amphetamines), idiopathic.^[8] Hypersomnia is characterized by excessive daytime sleepiness and sleep drunkenness. 1 to 2% of general population are affected. It occurs daily for at least one month. Common causes-narcolepsy, sleep apnoea, Kline Levin syndrome, Chagas disease, hypothyroidism, alcohol intoxication, depression.^[9] The present study was conducted to quality of sleep among subjects. We found that out of 50 MHC patients, 24 (48%) of them were having normal sleep and 26 (52%) where found to have abnormal sleep. Out of 26 patients, mild insomnia was seen in 12 (46.1%), moderate insomnia in 4 (15.3%) and severe insomnias in 10 (38.4%) patients. Jain A et al,^[10] determined the prevalence of sleep disorders among 1524 college students and their effect on academic performance. The SLEEP-50 was used. It consists of 50 items that tap a variety of sleep characteristics. Scoring was done by students as 1- "not at all", 2-"somewhat", 3-"rather much", or 4- "very much" true. The SLEEP-50 provides scores for Insomnia, Narcolepsy, Obstructive Sleep Apnea (OSA), Circadian Rhythm Disorders (CRDs), Sleep walking, Nightmares. Scoring was done to determine which students were at risk for the various disorders. Out of 1524 students examined, 381 were found to have sleep disorder. Females comprised 565 and males comprised 43%. Obstructive sleep apnea was seen in 11% of examined students. Narcolepsy was seen in 18% of students. Other sleep disorders were CRDs (6%), sleep walking (1%), night mares (3%) and insomnia (4%). The difference among different sleep disorders were significant (P- 0.04). Maximum numbers of student complaint of use of alcohol at night (17%).

Our results showed that one or more awakenings after going to sleep, 50% subjects were slightly bothered, 15% were moderately bothered and 35% were severely bothered. In not getting enough sleep, subjects were slightly bothered, moderately bothered and severely bothered in 45%, 18% and 47% respectively. Sleep that doesn't fully refresh, subjects were slightly bothered, moderately bothered and severely bothered in 46%, 20% and 34%, alertness during the day was seen in 56%, 17% and 27%, difficulty keeping your thought focussed in 48%, 20% and 32%, other noticing you tired or fatigue was seen in 42%, 18% and 40%. Narcolepsy is disorder of ability to suffering to sustain wakefulness voluntarily and disorder of REM sleep regulation, which is characterized by sudden weakness or loss of muscle tone without loss of consciousness, hallucination at sleep onset, muscle paralysis upon wakening.

We observed that too many difficulties to overcome was seen in 40%, 22% and 38%, bad mood because of poor sleep in 38%, 34% and 28%, lack of energy because of poor sleep in 41%, 35% and 24%, poor sleep that interferes with your relationship in 40%, 15% and 35%, being unable to sleep in 45%, 17% and 38%, being able to do only enough to get by in 52%, 20% and 28% respectively. Parasomnia is dysfunctional or episodic nocturnal events occurring with sleep. These are somnambulism (sleepwalking), sleep terror, nightmare, sleep related enuresis, sleep talking, bruxism, restless leg syndrome, periodic limb movements.^[11]

Our result showed that if you woke up during night how long did it take to call back to sleep on most nights, the response was less than 1/2hour or did not wake up in 35%, 25% and 40%, between 1/2 to 1 hour in 40%, 11% and 49%, between 1 to 3 hours in 48%, 19% and 33%, more than 3 hours or one didn't fall back to sleep in 57%, 20% and 23%. As per American sleep association insomnia is primarily caused by inadequate sleep hygiene. Sleep hygiene is a behavioural and environmental practice that will improve the better quality of sleep. Following are the healthy sleep habits to promote better sleep, keep a consistent sleep schedule at seven hours of sleep, do not go to bed unless you are sleepy, establish relaxing bedtime rituals, use your bed only for sleep, make your bedroom quiet and relaxing, avoid stress and anxiety, don't eat large meal before bedtime, exercise regularly, avoid consuming caffeine, nicotine, alcohol before bedtime and reduce fluid intake before bed time.^[12]

CONCLUSION

Our results showed that most of subjects had abnormal sleep pattern. Severe insomnia was seen among 38.4% of subjects.

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