

A Study on Sleep Quality and General Health Among Employees

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Abstract - The purpose of the present study is to measure Sleep Quality and General Health among employees. A sample of 90 working population 30 - IT Employee 30 – Teachers 30 – NGO. The participants were selected using purposive sampling technique. Two questionnaires were used for data collection, Pittsburgh’s Sleep Quality Index (PSQI) developed in 1988, and General Health Questionnaire – 28 (GHQ-28) by Goldberg and Hillier in 1979. Descriptive and Inferential Statistics is used and the data is analysed using SPSS’s software t-Test, One-Way ANOVA, Correlation was used to analyse the data. This study finding concluded that there are significant differences in the GHQ and sleep quality among IT, NGO Employees and teachers however the difference is found to be in some areas therefore the null hypothesis is partially accepted. The study findings with regard to gender found that there is significant difference with regard to GHQ therefore, the null hypothesis is rejected. However, in Sleep quality is partially accepted since some components in the sleep quality there was no evidence of significant difference. The study findings revealed that there is strong relationship exists with GHQ and sleep quality.

Index Terms - Employees, Gender, Sleep Quality and General Health Questionnaire.

INTRODUCTION

Sleep is a naturally recurring state of mind and body, characterized by altered consciousness, relatively inhibited sensory activity, reduced muscle activity and inhibition of nearly all voluntary muscles during rapid eye movement (REM) sleep, and reduced interactions with surroundings. It is distinguished from wakefulness by a decreased ability to react to stimuli, but more reactive than a coma or disorders of consciousness, with sleep displaying very different and active brain patterns.

THE EFFECTS OF SLEEP DEPRIVATION

While it may seem like losing sleep isn’t such a big deal, sleep deprivation has a wide range of negative effects that go way beyond daytime drowsiness. Lack of sleep affects your judgment, coordination, and reaction times. In fact, sleep deprivation can affect you just as much as being drunk.

The effects include:

- Fatigue, lethargy, and lack of motivation
- Moodiness and irritability; increased risk of depression
- Decreased sex drive; relationship problems
- Impaired brain activity; learning, concentration, and memory problems
- Reduced creativity and problem-solving skills; difficulty making decisions
- Inability to cope with stress, difficulty managing emotions
- Premature skin aging
- Weakened immune system; frequent colds and infections; weight gain
- Impaired motor skills and increased risk of accidents; hallucinations and delirium
- Increased risk of serious health problems including stroke, diabetes, high blood pressure, heart disease, Alzheimer’s disease, and certain cancers

Panda S, Taly AB, Sinha S, Gururaj G, Girish N, Nagaraja D (2012) implied through their studies that, Sleep-related disorders (SRDs) though frequent, are under-reported and their implications are often neglected. Insomnia was marginally high in females when compared to males and depression was the major reason. Other SRDs included night terrors, nightmares, somnambulism, and sleep-talking. Family history of SRDs was present in 31.4% respondents. While only 2.2% of the respondents self-reported and

acknowledged having SRD, health-seeking was extremely low (0.3%).

Parvaneh, Kolsoom; Poh, Bee Koon (2014) study findings revealed that each hour later in bedtime (going to bed later) increased the odds of being overweight or obese by 2.59-fold (95% CI: 1.61-4.16). The findings in this study confirm that people with shorter sleep duration are more likely to be overweight or obese; hence, strategies for the management of obesity should incorporate a consideration of sleep patterns.

Qin M (2018), examined that the General Health Questionnaire (GHQ) Created by Goldberg in 1972 could be used as a Screening Psychological Distress Helps Early Detection for People at Risk of Mental Illness. Karthik Laksham Balajee, Ganesh S Kumar, Umakant G Shidam (2017), cross-sectional study was conducted in a rural field practice area attached to a tertiary care medical institution in Puducherry, India, analysis showed that subjects with diabetes and/or hypertension had higher psychological distress, compared to healthy subjects. Subjects with diabetes and/or hypertension have higher proportion of psychological distress compared to healthy subjects. Screening subjects with chronic NCD for psychological distress may help to take appropriate measures.

Methodology

Research Problem

The aim of the present study was to measure sleep quality and general health among employees.

OBJECTIVES

1. To measure sleep quality among IT employees, Teacher's and NGO employees.
2. To measure sleep quality among male and female employees
3. To assess general health among IT employees, Teacher's and NGO employees.
4. To measure general health among male and female employees.

Variables

Independent variable: Type of Employees, Gender

Dependent variable: Sleep Quality, General Health

Hypotheses

H1 There is no significant difference between sleep quality among IT employees Teachers and NGO employees.

H2 There are no significant gender differences in sleep quality.

H3 There is no significant difference in general health among IT employees, Teachers and NGO employees.

H4 There are no significant gender differences in General Health.

Sampling

Purposive Sampling Technique was being used for the present study. The Sample size will have consisted of 90 working population, among them 30 - IT Employee 30 – Teachers 30 – NGO Employees. In 90 Employees 45 are Male and 45 are Female.

Inclusion Criteria

- Employees working in IT Sector, Teaching Sector and NGO Sector
- Both Male and Female Employees

Exclusion Criteria

- Employees working in other Sector
- Employees unwilling to take the test.

MEASURING TOOLS

Following tools will be used for the study:

Pittsburgh's Sleep Quality Index (PSQI) is one of the most widely utilized self-report questionnaires that assess sleep quality over a 4-week time interval. It generates seven "component" scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. The survey contains 19 questions, each weighted on a 0-3 interval scale indicating no, moderate, and severe sleep disorder respectively. A global PSQI score is taken from the survey, with lower scores correlating to better sleep quality. The PSQI was showed to be reliable (89.5) and valid (86.5).

General Health Questionnaire – 28 (GHQ-28) The self-administered questionnaire is an ideal screening device for identifying non-psychotic and minor psychiatric disorders to help inform further intervention GHQ-28: a 28-item scaled version –

assesses somatic symptoms, anxiety, and insomnia, social dysfunction and severe depression. GHQ28 4/5* (max score 28). Reliability and validity: Numerous studies have investigated reliability and

validity of the GHQ-28 in various clinical populations. Test-retest reliability has been reported to be high (0.78 to 0.9).

Table 1: Shows Mean, SD and 'F' Value for Sleep quality among IT, NGO employees and Teachers

| Components | Type of employees | N | Mean | Std. Deviation | F | Significant/Not Significant |
|--------------------------|-------------------|----|------|----------------|-------|-----------------------------|
| Subjective sleep quality | IT | 30 | 0.96 | 0.76 | 80.42 | Significant |
| | NGO | 30 | 1.46 | 0.81 | | |
| | Teachers | 30 | 1.81 | 1.07 | | |
| Sleep latency | IT | 30 | 2.06 | 0.58 | 35.62 | Significant |
| | NGO | 30 | 2.20 | 0.55 | | |
| | Teachers | 30 | 2.42 | 0.61 | | |
| Sleep duration | IT | 30 | 1.86 | 0.68 | 0.74 | Not Significant |
| | NGO | 30 | 2.10 | 0.80 | | |
| | Teachers | 30 | 2.00 | 0.74 | | |
| Sleep efficiency | IT | 30 | 1.86 | 1.16 | 15.46 | Significant |
| | NGO | 30 | 1.96 | 0.96 | | |
| | Teachers | 30 | 2.27 | 1.00 | | |
| Sleep disturbance | IT | 30 | 2.93 | 0.25 | 38.93 | Significant |
| | NGO | 30 | 1.70 | 0.91 | | |
| | Teachers | 30 | 1.46 | 0.73 | | |
| Use of sleep medication | IT | 30 | 2.06 | 0.81 | 85.27 | Significant |
| | NGO | 30 | 1.66 | 0.47 | | |
| | Teachers | 30 | 1.53 | 0.68 | | |
| Daytime dysfunction | IT | 30 | 1.94 | 0.94 | 79.82 | Significant |
| | NGO | 30 | 1.30 | 0.65 | | |
| | Teachers | 30 | 1.94 | 0.92 | | |

With reference to the Table 1, the subjective sleep quality of the high for Teachers, they have overall better sleep quality compared to the others and low for the IT employees. The sleep latency is low for IT employees, which refers to that IT people take little to fall asleep, however the NGO and Teachers have high mean therefore they take longer duration to fall asleep. With the component, the overall sleep duration and sleep efficiency for IT is low, compared to the NGO and Teachers, which signifies that Teachers and NGO

have longer sleep duration. Sleep disturbance is very high among Teachers and less compared to other groups. IT employees do reveal that they use sleep medication to fall asleep and daytime dysfunction is very high among NGO and Teachers compared to IT Employees. The present table data reveals that there is significance difference among all the components expect for sleep duration, therefore the null hypothesis is rejected.

Table 2: Shows Gender differences for the Sleep Quality

| Components | Gender | N | Mean | Std. Deviation | t | Significant / Not Significant |
|--------------------------|--------|----|------|----------------|------|-------------------------------|
| Subjective sleep quality | Male | 45 | 1.24 | 0.88 | 5.82 | Significant |
| | Female | 45 | 2.37 | 0.96 | | |
| Sleep latency | Male | 45 | 2.17 | 0.53 | 4.06 | Significant |
| | Female | 45 | 2.66 | 0.66 | | |
| Sleep duration | Male | 45 | 2.00 | 1.97 | 0.14 | Not Significant |
| | Female | 45 | 1.97 | 0.72 | | |

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|-------------------------|--------|----|------|------|------|-----------------|
| Sleep efficiency | Male | 45 | 2.02 | 1.09 | 2.47 | Not Significant |
| | Female | 45 | 2.53 | 0.84 | | |
| Sleep disturbance | Male | 45 | 2.35 | 0.93 | 3.43 | Not significant |
| | Female | 45 | 1.71 | 0.84 | | |
| Use of sleep medication | Male | 45 | 2.42 | 0.75 | 4.55 | Not Significant |
| | Female | 45 | 1.71 | 0.84 | | |
| Daytime dysfunction | Male | 45 | 2.20 | 0.96 | 3.43 | Significant |
| | Female | 45 | 1.94 | 0.92 | | |

The present data for the sleep quality, reveal that female have overall less sleep quality compared to male, they are more need for sleep medication, less of sleep duration and however male have more daytime dysfunction and have more sleep disturbance. The

components namely; subjective sleep quality, sleep latency and daytime dysfunction shows significant difference among the group therefore the null hypothesis is partially accepted.

Table 3: Shows Mead, SD and F Value for GHQ among IT, NGO employees and Teachers

| Areas | Type of employee | N | Mean | Std. Deviation | F | Significant / Not Significant |
|--------------------|------------------|----|------|----------------|-------|-------------------------------|
| Somatic symptoms | IT | 30 | 2.20 | 1.12 | 15.13 | Significant |
| | NGO | 30 | 3.12 | 2.14 | | |
| | Teachers | 30 | 3.52 | 2.72 | | |
| Anxiety/Insomnia | IT | 30 | 2.53 | 1.22 | 3.47 | Not significant |
| | NGO | 30 | 2.40 | 1.03 | | |
| | Teachers | 30 | 2.64 | 0.95 | | |
| Social Dysfunction | IT | 30 | 2.16 | 1.23 | 2.34 | Not Significant |
| | NGO | 30 | 2.40 | 1.19 | | |
| | Teachers | 30 | 2.80 | 0.99 | | |
| Severe Depression | IT | 30 | 2.83 | 1.70 | 38.88 | Significant |
| | NGO | 30 | 0.73 | 0.44 | | |
| | Teachers | 30 | 0.83 | 1.46 | | |

With reference to Table 3, it is seen that Teachers have high mean score therefore display somatic symptoms, are more anxious and might exhibit Insomnia, finally are socially dysfunctional in nature compared to IT and NGO employees. However, IT employees have

high mean value for the therefore they are more susceptible to have depression. The present data shows there are significant differences among the group for the area somatic symptoms and severe depression, therefore the stated hypothesis is partially proven.

Table 4: Shows the Gender difference for GHQ

| Areas | Type of employee | N | Mean | Std. Deviation | t | Significant /Not Significant |
|--------------------|------------------|----|------|----------------|-------|------------------------------|
| Somatic Symptoms | Male | 45 | 2.53 | 0.96 | 65.13 | Significant |
| | Female | 45 | 2.93 | 0.33 | | |
| Anxiety/Insomnia | Male | 45 | 2.48 | 1.14 | 17.39 | Significant |
| | Female | 45 | 2.80 | 0.69 | | |
| Social Dysfunction | Male | 45 | 2.22 | 1.24 | 4.31 | Not significant |
| | Female | 45 | 2.68 | 1.04 | | |
| Severe Depression | Male | 45 | 2.15 | 1.70 | 35.43 | Significant |
| | Female | 45 | 0.77 | 0.42 | | |

Table 4 scores reveal that there are significant differences among the group, therefore the null hypothesis gets rejected. The female undertaken in this research, have high mean value therefore they are more susceptible to have somatic symptoms, are more anxious in nature and feel socially dysfunction compared to the male. However, the male mean value for severe depression is high therefore they might have depression symptoms.

CONCLUSION

1. This study finding concluded that there are significant differences in the GHQ and sleep quality among IT, NGO Employees and Teachers however the difference is found to be in some areas therefore the null hypothesis is partially accepted.
2. The study findings with regard to gender found that there is significant difference with regard to GHQ therefore, the null hypothesis is rejected. However, Sleep quality is partially accepted since some components in the sleep quality there was no evidence of significant difference.

REFERENCES

- [1] <https://www.psychologytoday.com/intl/basics/sleep>
- [2] https://www.health.harvard.edu/newsletter_article/sleep-and-mental-health
- [3] <https://www.helpguide.org/articles/sleep/sleep-needs-get-the-sleep-you-need.htm>
- [4] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3902152/>
- [5] <https://www.gl-assessment.co.uk/products/general-health-questionnaire-ghq/>
- [6] Availability:<<https://search.informit.com.au/documentSummary;dn=135620581423045;res=IELAPA>> ISSN: 0964-7058. [cited 27 Nov 19].
- [7] Banks MH, Clegg CW, Jackson PR, The use of the General Health Questionnaire as an indicator of mental health in occupational studies. *J Occup Psychol.* 1980;53(3):187–94. <http://doi.org/10.1111/j.2044-8325.1980.tb00024.x>. Google Scholar
- [8] Endsley P, Weobong B, Nadkarni A. The psychometric properties of GHQ for detecting common mental disorder among community dwelling men in Goa, India. *Asian J Psychiatr.* 2017;28:106–10.
- [9] Karthik Laksham Balajee, Ganesh S Kumar, Umakant G Shidam(2017). Comparison of psychological distress and its associated factors among chronic disease and healthy subjects in rural Puducherry,India, *Indian Journal of Social Psychiatry*,volume 33,number 2,pages 177-180,doi 10.4103/0971-9962.209190,year 2017.
- [10] Krystal, A. D., & Edinger, J. D. (2008). Measuring sleep quality. *Sleep Medicine*, 9, S10–S17. Stea T, Knutsen T, Torstveit M. Association between short time in bed, health-risk behaviors and poor academic achievement among Norwegian adolescents. *Sleep medicine.* 2014;15(6):666-71.
- [11] Manzar, M. D., Moiz, J. A., Zannat, W., Spence, D. W., Pandi-Perumal, S. R., Ahmed S. BaHammam, & Hussain, M. E. (2015). Validity of the Pittsburgh Sleep Quality Index in Indian University Students. *Oman medical journal*, 30(3), 193–202. doi:10.5001/omj.2015.41
- [12] Panda S, Taly AB, Sinha S, Gururaj G, Girish N, Nagaraja D. Sleep-related disorders among a healthy population in South India. *Neurol India* 2012;60:68-74.
- [13] Parvaneh, Kolsoom and Poh, Bee Koon. Sleep deprivation is related to obesity and low intake of energy and carbohydrates among working Iranian adults: A cross sectional study [online]. *Asia Pacific Journal of Clinical Nutrition*, Vol. 23, No. 1, Mar 2014: 84-90.
- [14] Qin M, Vlachantoni A, Evandrou M, Falkingham J. General Health Questionnaire-12 reliability, factor structure, and external validity among older adults in India. *Indian J Psychiatry* 2018;60:56-9
- [15] Shad, R., Thawani, R., & Goel, A. (2015). Burnout and Sleep Quality: A Cross-Sectional Questionnaire-Based Study of Medical and Non-Medical Students in India. *Cureus*, 7(10), e361. doi:10.7759/cureus.361