



## A STUDY TO ASSESS THE SLEEP QUALITY OF CALL HANDLERS IN TEYNAMPET CALL CENTER

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### ABSTRACT

**Introduction:** Sleep quality is a vital construct to clinicians and researchers due to the high prevalence of disturbed sleep and insomnia and the clear relevance of sleep quality to optimal health and functioning yet, despite its common usage.” Sleep quality is a term without clear definition (Krystal and Edinger 2008). In fact, sleep quality is likely to have different meanings from one person to the next. For someone with problems initiating sleep, the sleep onset period may be the strongest determinant of sleep quality. The main objective of the study assess the sleep quality of call handlers by Athens insomnia scale. **Methodology:** Non experimental research design will be used to assess the sleep quality of call handlers. The study was conducted in the Teynampet call center. Target population of this study both male and female working call center. In the study random sampling technique was used. The sample size of the study will be 60 both male and female in the Teynampet call center. Sleep quality was assessed using “Athens insomnia scale”. **Result:**Result showed that out of 60samples 10(16.7%) members had no problem, 10(16.7%) members had some suspiciousness of insomnia, and 40 (66.7%) members had suspected insomnia. **Conclusion:**The burden of sleep disturbance was higher in those who are working in call centers. Call handlers have to compromise upon their sleep owing to the contemporary work settings in call centers. Safeguarding their health becomes an occupational health challenge to public health specialists.

**KEY WORDS:** Sleep quality, Call center, Call handlers.

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## INTRODUCTION

The millennium has witnessed the onset of a revolution in terms of emergence of new industries like business process outsourcing (BPOs). The cheap labor costs and the pool of skilled, English speaking Indians have been the foremost factors contributing to the call center boom in the country.<sup>1</sup> The National Capital Region (NCR), like other metropolitan cities, has become an important hub of IT industry. The changing lifestyles, the demand for luxury and the emergence of high-income spending groups coupled with a thoroughly cosmopolitan outlook of life are changing the modern Indian. Call centers are a major turn-on among young graduates as they offer lucrative salaries, interesting work environment and an attractive lifestyle.<sup>2</sup> A "call center" is an umbrella term referring to reservation centers, help desks, information lines and customer service centers.<sup>3</sup> There are basically two types of call centers domestic and international call centers. Prominence arises in international call centers, which operate at night corresponding to a time suitable for their international customers, mostly from USA and UK. Such erratic work timings are often called "graveyard shift" or "UK-USA shift" by few researchers.<sup>1,2,4</sup> Sleep is complex biological circadian vital process which directly and indirectly relates to many daily physical and mental functions of human.

The most know the hormonal mechanism of sleeping is the melatonin effect, the substance periodically secretes by the pineal gland in the brain. For instance, about 32-54% of night workers have symptoms of insomnia or day time sleepiness compared with 18% of daytime workers.<sup>4</sup> Sleep quality is a vital construct to clinicians and researchers due to the high prevalence of disturbed sleep and insomnia and the clear relevance of sleep quality to optimal health and functioning yet, despite its common usage." Sleep quality is a term without clear definition (Krystal and Edinger 2008)<sup>5</sup>.

In fact, sleep quality is likely to have different meanings from one person to the next. For someone with problems initiating sleep, the sleep onset period may be the strongest determinant of sleep quality. In contrast, the relative difficulty to going to sleep may

be of trivial importance to someone whose sleep is restless and rife with frequent awakenings.<sup>6</sup>

Most call handlers work at times when they would normally be sleeping and are forced to live as Indians by days and Westerners after sunset with changing identities and locations to suit their customers. This in turn could challenge the individual's circadian rhythm because the sleep-wake internal clock setting is at odds with sleep-wake cycle of the shift schedule, ultimately resulting in circadian rhythm sleep disorders (CSRSD).<sup>4</sup>

Also, majority of call handlers in night duties are unable to sleep adequately during daytime and hence may develop cumulative sleep debt leading to significant sleep deprivation that can further complicate their health.<sup>4</sup> Occupational health experts of Bangalore reported that night shift duties result in serious health concerns for call center employees; sleep disorders were observed among 83% of employees.<sup>7</sup>

### NEED FOR THE STUDY:

The changing life style, demand luxury and the emergence of high income, spending groups coupled with a thoroughly cosmopolitan outlook of life are changing the modern India. In the world there are many call handling companies are there. Due to modern technology development many BPO companies are growing. In that many call handlers are working.<sup>8</sup> The consequences of sleep deprivation and sleepiness have been noted as the most important health problems in our modern society among shift workers. These consequences include an increase in mortality, morbidity, accidents in productivity, and deterioration of personal and professional relationship.<sup>9</sup>

A study in Delhi-NCR found that 90% employees were not able to balance between their work and family life. Interestingly, the main hobby of most employees was to sleep for as long as they could due to the high fatigue levels of the night duties.

Disruption in family life and lack of socialization due to odd shift timings were reported more among women employees as they had to balance between the dual burden of work and home.<sup>10</sup> Insomnia is the

most prevalent sleep disorders among the call handlers. The estimated prevalence of difficulty in initiating and maintaining sleep is about 30%. Sleep disorder is a common complaint among the general populations of western countries, with rates of self-reported insomnia ranging between 10% and 48% 50 to 70 million.<sup>11</sup> Americans are affected by chronic sleep disorders and intermittent sleep problems that can significantly diminish health, alertness and safety. In Asia, the incidence among sleep disturbance among the general population ranged from 26.4% to 39.4%.<sup>12</sup> Most call handlers work at times when they would normally be sleeping and are forced to live as Indians by days and Westerners after sunset with changing identities and locations to suit their customers.<sup>13</sup> This in turn could challenge the individual's circadian rhythm because the sleep-wake internal clock setting is at odds with sleep-wake cycle of the shift schedule, ultimately resulting in circadian rhythm sleep disorders (CSR).<sup>14</sup> Also, the majority of call handlers in night duties are unable to sleep adequately during daytime and hence may develop cumulative sleep debt leading to significant sleep deprivation that can further complicate their health. Occupational health experts of Bangalore reported that night shift duties result in serious health concerns for call center employees; sleep disorders were observed among 83% of employees.<sup>15</sup>

Worawan pooched et.al.,(2015) had conducted studies in 2015 to assess the risk among call center workers. Sample size was 216. according to the results: call center workers were only at 2 levels of risk (high and medium). the high risk level for 52.3%, the medium risk level was 47.7%, the mean score of risk was 4.5%.<sup>16</sup>

In India study revealed that 89% of workers in different occupations work environments suffered from many health problems. Such as depression, anxiety, fatigue, stress, sleep related disorder. This is the problems persons who are working in call centers.<sup>17</sup>

Dr. Vinoth Kumar et.al conducted cross sectional study in 2016 to assess the occupational health problems of workers in BPO industries. According to the results: most of the people affected with physical health problems, digestive problem, psychological

problem.(80%) people affected by digestive people were the 5.3% people are affected with psychosomatic disorders (stress, depression, fatigue) were the 5.3% peoples are affected by sleep disorders 60.7% peoples are normal they don't have any health problems.<sup>18</sup> A high incidence of sleep disturbance was recorded in workers of call handlers working in call center due to insufficient resting period. This in turn could challenge the individual's circadian rhythm sleep disorder.

Also, to majority of call handlers in night duties are unable to sleep adequately during daytime and hence may develop cumulative sleep debt leading to significant sleep deprivation that further complicates their health.<sup>19</sup>

The available literature revealed ample studies on Indian call centers in the domains of sociology, management, and psychology with very little in the public health domain mostly using small sample sizes. The present study was designed to assess the sleep quality and determine its among call handlers Teynampet.

#### OBJECTIVES:

- To assess the quality of sleep among call handlers.
- To determine the association between demographic variables and quality of sleep among the call handlers.

**METHODOLOGY:** A descriptive study was chosen to assess the sleep quality of call handlers working in call centers. The Setting of the study is Teynampet call center. The total sample size was 60 workers of call center. The sample who meet the inclusion criteria were selected for the study of purposive sampling technique. Permission for carrying out the study was obtained from the Institute Ethics Committee. A "call handler" was defined as a person working in an international call center involved in customer service whose job required him/her to spend a significant proportion of his/her working time responding to calls on the telephone whilst simultaneously using display screen equipment.

Call handlers who had been employed for more than two months were only included in the study. Personal

interviews were conducted at respective call centers using a structured questionnaire in English, after obtaining informed consent.

Data were collected using a pretested, self-administered structured questionnaire consisting of socio-demographic details lifestyle and work conditions of call handlers. Sleep quality of respondents was assessed by a validated 8-item Athens Insomnia Scale.<sup>9</sup>This scale has been constructed in accordance with the ICD-10 criteria for insomnia.

The first five items comprised difficulties initiating sleep, maintaining sleep, early morning awakening, sleep duration, and perceived sleep quality. The last three items measured aspects of daytime impairment (well-being, physical and mental functioning, and sleepiness). Each item was scored on a 4-point scale with higher scores indicating more severe problems.

The total score ranged from 0 to 24. The scores were then graded as follows: score <4 “no sleep problem,” score 4 or 5 “some suspicion of insomnia,” and score  $\geq 6$  “suspected insomnia.” The Athens Insomnia Scale has shown good reliability and validity.<sup>10,11</sup>

The Oslo-3 scale was used to describe the level of social support among call handlers.<sup>12</sup>This scale incorporates three components covering different fields of social support giving a total score ranging from 3–14. A score of 3–8 was graded as “poor support,” 9–11 “moderate support,” and 12–14 “strong support.”The study period is one week. Data were collected by the structured interview method.

### Statistical Analysis

Data were analyzed with SPSSfor Windows 16.0 (SPSS Inc, Chicago, USA). Descriptive and Inferential statistics. Univariate analysis was done to find the association of sleep quality with various factors using  $\chi^2$  test.

### RESULT AND DISCUSSION :

The data were analyzed inferential statistics and descriptive statistics therefore the results indicate the demographic variables are among 60 samples regarding age out of 60 samples 12(20%) samples were under the age group of 18-20 years,27(45%), samples were under the age group of 20-24 years,21(35%)samples were under the age group of 24-30 years, regarding sex35(58.3%) were males, 25(41.7%) were females. shift duration7(11.7%) were they are work 7-8 hours/day, 28(46.7%) were they are work 8 hours/day, 25(41.7%) were they are work 12 hours/day, number of call attended per day 15 (25%) were they are attend less than 100 calls per day, 45(75%) were they are attend more than 100 calls per day, marital status 40(66.7%) were they are married, 20(33.3%) were they are unmarried, availability of relaxation facility at office 1(1.7%) were they having relaxation facility at office, 59(98.3%) were they are having no relaxation facility at office.

Workload out of 25(41.7%) where they are having heavy work at office, 30(50%) were they are having mild work at office, 5(8.3%) were they are having less work at the office. Table 1 shows that the association between frequency and distribution of demographic variables with assessment of sleep quality of call handlers. The result shows that there are significant variables between the demographic variables such as age, sex, availability of rest facility, work load. Regarding quality of sleep

Out of 60samples 10(16.7%) members had no problem, 10(16.7%) members had some suspiciousness of insomnia, and 40 (66.7%) members had suspected insomnia. *Table-3* shows the mean and standard deviation for call handler results. Reveals that the mean of sleep quality of call handlers was 8.93 and the standard deviation was 4.22%. Non-significant variables between demographic variables such as shift duration, number of calls attended /day, marital status.

**TABLE 1: DEMOGRAPHIC VARIABLES OF CALLHANDLERS: (N=60)**

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1)	<b>AGE</b> a) 18-20 years b) 20-24 years c) 24-30 years	12 27 21	20% 45% 35%
2)	<b>SEX:</b> a) Male b) Female	35 25	58.3% 41.7%
3)	<b>SHIFT DURATION</b> a) 7-8 hours/day b) 8 hours/day c) 12 hours/day	7 28 25	11.7% 46.7% 41.7%
4)	<b>NUMBERS OF CALL ATTENDED / DAY</b> a) Less than 100 b) More than 100	15 45	25% 75%
5)	<b>MARITAL STATUS</b> a) Married b) Unmarried	40 20	66.7% 33.3%
6)	<b>AVAILABILITY OF RELAXATION FACILITY AT OFFICE</b> a) Yes b) No	1 59	1.7% 98.3%
7)	<b>WORKLOAD</b> a) Heavy b) Ok c) Less work	25 30 5	41.7% 50% 8.3%

**TABLE 2: ASSESS THE SLEEP QUALITY OF CALL HANDLERS.**

Assessment	No problem		Some suspiciousness of insomnia		Suspected insomnia	
	N	%	N	%	N	%
Assess the sleep Quality of call handlers	10	16.7%	10	16.7%	40	66.7%

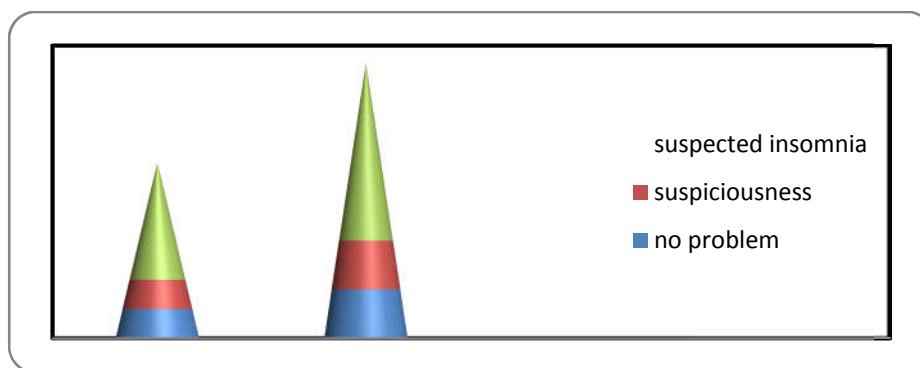


Figure 1: Assess the sleep quality of call handlers

TABLE 3: ASSOCIATION BETWEEN FREQUENCY & DISTRIBUTION OF DEMOGRAPHICAL VARIABLE WITH ASSESSMENT OF SLEEP QUALITY OF CALL HANDLERS.

S.NO	DEMOGRAPHIC VARIABLES	NOPROBLEM		SUSPICIOUSNESS		SUSPECTED		CHI-SQUARE TEST VALUE
		NO	%	NO	%	NO	%	
1)	<b>AGE</b> a)18-20years b)20-24years c)24-30 years	2	3.3%	1	1.7%	9	15%	X <sup>2</sup> =0.915 df=4 P=9.49 significant
		5	8.3%	5	8.3%	17	28.3%	
		3	5%	4	6.7%	14	23.3%	
2)	<b>SEX:</b> a)Male b)Female	5	8.3%	5	8.3%	25	41.7%	X <sup>2</sup> =0.85 df=2 P=5.9 significant
		5	8.3%	5	8.3%	15	25%	
3)	<b>SHIFT DURATION</b> a)7-8 hours/day b)8hours/day c)12 hours/day	2	3.3%	0	0%	5	8.3%	X <sup>2</sup> =64.8 df=4 P=9.49 Non significant
		7	11.7%	7	11.7%	14	23.3%	
		21	35%	3	5%	1	1.7%	
4)	<b>NUMBERS OF CALL ATTENDED / DAY</b> a)Less than 100 b) More than 100	3	5%	1	1.7%	11	18.3%	X <sup>2</sup> =34.6 df=2 P=5.9 Non significant
		29	48.3%	9	15%	7	11.7%	
5)	<b>MARITAL STATUS</b> a)Married b)Unmarried	7	11.7%	7	11.7%	26	43.3%	X <sup>2</sup> =17.45 df=2 P=5.9 Non significant
		14	23.3%	3	5%	3	5%	
6)	<b>AVAILABILITY OF RELAXATION FACILITY AT OFFICE</b> a)Yes b)No	1	1.7%	0	0%	0	0%	X <sup>2</sup> =4.9 df=2 P=5.9 significant
		9	15%	9	15%	41	68.3%	
7)	<b>WORKLOAD</b> a)Heavy b)Ok c)Less work	2	3.3%	4	6.7%	19	31.7%	X <sup>2</sup> =7.32 df=4 P=9.49 significant
		6	10%	5	8.3%	19	31.7%	
		2	3.3%	1	1.7%	2	3.3%	

**DISCUSSION:**

International call centers are one of the most sought after workplaces among young graduates as they are allowed entry even with minimum education at quite attractive pay packages. Ambitious youngsters, as early as 15 years of age, are attracted to the seemingly lucrative call center job as they offer an interesting work environment, an attractive lifestyle and decent emoluments.<sup>7,10,13</sup> This is evident in our study wherein majority of call handlers<sup>27</sup> (45%), samples were under the age group of 20-24 years. The proportion of female call handlers was less as compared to males. Majority 40 (66.7%) was married. Most (90%) of call handlers were graduates and post-graduates. Similar findings have been reported by other studies as well.<sup>7,13,15,16</sup> While employment in the BPO sector has meant that young adults are reaching their career milestones and financial goals much earlier, surveys and anecdotal evidence show that call handlers experience sleep disorders owing to odd working hours and a highly pressurized, monotonous work environment. In the present study, a significantly large proportion (59.5%) of call handlers was found to have suspected insomnia as measured by the Athens Insomnia scale. Several studies have reported such high levels of sleep disorders among call center workers.<sup>4,6,7,17,18</sup> A study conducted by the Associated Chambers of Commerce and Industry of India<sup>18</sup> and another by Naveen, *et al*,<sup>7</sup> reported sleep disorders among 60% of call center workers. These studies, however, have primarily relied on self-reported sleep disorders rather. Such high level of impaired sleep quality may be a sign of fatigue and occupational burnout. Working in an extreme form of shift work often associated with a long stretch of night duties

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could be one of the several reasons. The physiological, emotional and biological needs of a person are based on rhythmic patterns of sleeping and awakening. According to several scholars increased workload can result in burnout and sleep-related disorders.<sup>20</sup> Studies show that workers with high job demand report exhaustion, nervousness, and insomnia or disturbed sleep.<sup>21,22</sup> Health education activities need to be conducted regularly among call handlers to stress on the importance of having a sound sleep and a healthy lifestyle. There is also a need for conducting larger epidemiological studies for better understanding of health problems and create a database of such problems among call handlers.

Call handlers have to compromise upon their sleep owing to the contemporary work settings in call centers. Therefore, safeguarding their health becomes an occupational health challenge to public health specialists.

**CONCLUSION:**

The burden of sleep disturbance was higher in those who are working in call centers. Callhandlers have to compromise upon their sleep owing to the contemporary work settings in call centers. Safeguarding their health becomes an occupational health challenge to public health specialists.

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