

CALL HANDLERS AND THEIR HEALTH PROBLEMS, AN INDIAN SCENARIO

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ABSTRACT

Context: India has been the leading destination for the IT and BPO industries in the last decade and in 2005 IT and BPO industries in India employed about 700,000 people directly and about 2.5 million indirectly.

Objective: The main objective was to identify the physical and psychological health problems faced by the call handlers and to know the existing working practices in these call centres.

Design, setting and participants: An eight-part study tool covering various topics was used in the call centres situated in Bangalore, which agreed to be a part of the study. In all, 176 call handlers participated in the study.

Results: Majority of the respondents were in the age group of 21-30 yrs and were males. 119 (67.6%) had less than a year of experience working in the call centres. 94 (54.3%) respondents had rotation shift duties and 144 (81.8%) worked on an average for 8-12 hrs per day. 50% of the respondents had some problems related to their vocal health, 22 (12.5%) complained of problems related to their ears and 126 (71.6%) of the respondents had musculoskeletal pain and the commonest region being the neck and the back.

Unmarried respondents were found to be significantly more under stress when compared to married respondents. Working in call centre had interfered with the call handler's interaction with family members and social life.

Conclusions: To arrive at more concrete conclusions and recommendations and to enforce legislations governing call centres, which is challenging.

Key Words: Call centre, call handlers, health problems.

INTRODUCTION

In recent times, many countries are opting for

continues production. This is why shift (night) work is no longer a fringe problem. The most recent industry to join the shift work group in India is the Call Centres industry. The Call Centre is a rapidly growing sector in the work-life of people in many parts of the world and in India. India has been the leading destination for the IT and BPO industries in the last decade accounting for 65% of the global industry in offshore IT and 46% of the global Business Process Offshoring (BPO). In, 2005 IT and BPO industries in India employed about 700,000 people directly and about 2.5 million indirectly. It is expected to grow as more companies adopt offshoring because of its benefits. If, India accepts inventive measure, the export revenue could be go up by another US\$ 15-20 million by 2015 from US\$ 60 million in 2010. The main reasons for India to be leading destination are: abundance of talent, growth of urban infrastructure, operational excellence, favorable business environment and growth of domestic IT sector.^[1]

The working hours at call centres are odd, due to the time difference between India and United States and/or Europe from where most of the outsourcing is happening.

The rapid development of call centres may bode well for the country's economy, but the range of problems associated with the shift work are becoming apparent, with time pressure, performance monitoring via computer, monitoring of phone calls, ergonomic deficiencies, sleep or biological rhythm disturbance, mood disorders, musculoskeletal problems, eye, ear and voice problems, digestive disorders and stress due to psychosocial risk factors are among most common problems reported.^[2, 3, 4, 5, 6, 7] This means that the call centres are failing to provide the sustainable work opportunities that many are counting on.

Scientific studies of call handlers working in call

centres are few and the knowledge of working conditions and health there is deficient. The long-term health effects if any are truly not known making the call centres earn the nickname 'the coal mines of the 21st century.'^[2]

Shift work alters the normal circadian rhythmicity which interferes with health and well-being. The causes for the occupational health problem among the night workers could be due to a conflict generated in the body of night shift worker by 'desynchronisation' of internal rhythms.^[8]

OBJECTIVES OF THE STUDY

The main aim of this study is to describe the health status and working conditions of call handlers working at call centres in Bangalore City.

The objectives of this study were:

- To identify the physical and psychological health problems of Call Handlers in Call Centres of Bangalore City.
- To examine the existing working practices of these Call Handlers with a view to identify factors affecting their health.

MATERIALS AND METHODS

This is a descriptive cross sectional study undertaken in 2005 to assess the health problems among the call handlers working in call centres situated in Bangalore City.

The tool used in this study is a modified version of the 'Working condition and health at call centres' questionnaire from the National Institute for Working Life (Arbetslivsinstitutet), the Department of Occupational and Environmental Medicine at Vasternorrland County Council and the Institute for Psychosocial Medicine at Karolinska Institute.^[9]

Purposive sampling method was adopted, since we were not given access into the call centre and the strength of the employees in call centres nor the total numbers of call centres were available.

Four hundred and fifty modified to suit the Indian situation and pretested questionnaires were distributed among the Call Centres, which agreed to participate in this study. The answered questionnaires were numbered; the coded responses were entered on a Microsoft Excel 2000

spread sheet. Standard statistical packages were used to calculate percentage, means and chi-square (χ^2) test.

RESULTS

In this study, one hundred and seventy six answered study tool were returned. The response rate was 39.11%. The results and analysis of the one hundred and seventy six is as follows:

A. Demographic Profile:

Among the 176 respondents in this study, 121 (68.8%) were males. The ages of the respondents ranged from 17 years to 38 years, the mean age was 23.18 years. All the female respondents were below the age of 30 years. 151 (85.8%) of the respondents were unmarried. 158 (89.8%) of the respondents had completed their graduation and 69 (39.2%) of the respondents were studying and working. Unmarried respondents were more at stress when compared to married respondents, table 1.

B. Work Related Profile

In this study, 119 (67.6%) of the 176 respondents had work experience of less than six months and 82 (46.6%) of the call handlers had fixed work timings and the rest were on rotation shift. 144 (81.8%) worked between eight to twelve hours per day and 65 (36.9%) of the call handlers worked over time. 164 (96%) of the work force worked five days a week.

The total duration of rest breaks and toilet breaks put together was around thirty minutes for 164 (93.2%) respondents.

The number of hours spent in front of the Display Screen Equipment (DSE) varied with minimum of 6 hour to a maximum of 18 hours. 163 (92.6%) of them knew how to adjust their DSE. Forty nine (27.8%) respondents did not have a permanent workstation – "hot desking".^[10]

Vocal Problems: Among the 176 respondents, 62 (35.2%) had throat discomfort, 54 (30.7%) had change in the pitch of their voice, 38 (21.6%) had a loss of voice and 48 (27.3%) of the call handlers in the current study reported having suffered from hoarseness of voice at some point of time after joining call centre.

Visual Health: More than 50% of the call handlers in this study had symptoms of visual fatigue in varying degree. The commonest symptoms were headache among 138 (78.40%) followed by irritated or sore eye 119 (67.61%) and difficulty focusing 102 (57.95%).

Auditory (ear) Health: In the current study, 96 (54.5%) of the respondents shared their headsets. 22 (12.5%) of the participating call handlers complained of ear problems, the most common complaints being pain, decreased hearing and ear block.

Musculoskeletal: In this study 126 (71.6%) of the call handlers had some kind of a musculoskeletal disorder (MSD). The most common site of persistent pain reported was neck and the back (spinal column) by 116 (92%), followed by pain in the shoulder joint and wrist joint.

C. Systemic Health:

Body Mass Index (BMI): 84 (47.72%) of the respondents had a normal BMI, 52 (29.54%) were overweight pre-obese, 14 (7.95%) and 8 (4.54%) had Grade I and Grade II obesity respectively. 13 (7.38%) were underweight.

Gastrointestinal System: In this study 29 (16.5%) of the call handlers reported developing symptoms of gastritis and in 8 (4.5%) the symptoms had worsened after joining a call centre. 127 (72.2%) had noticed a change in their appetite, of these, 58 (32.9%) had an increased appetite and 40 (22.72%) had gained weight, and the weight gain ranged from 2 to 8 kilograms.

Respiratory System: At the time of study 13 (7.4%) had common cold, 8 (4.5%) had dry cough and 5 (2.8%) had productive cough. These symptoms worsened after joining the call centre.

	Stress		Total
	Yes	No	
Unmarried	77	74	151
Married	19	06	25
Total	96	80	176

TABLE 1. MARITAL STATUS AND STRESS

χ^2 value = 5.41 p = 0.020 at 1 degree of freedom.

Psychosocial Health:

Table 2: Describes, the number of persons responding in the affirmative to selected psychosocial health risks.

When asked about,

- Interaction with family members** - 47 (26.7%) of them said that there was a change in their interaction with family members. The commonly reason for this change was that they had too little time and/or no time to spend with their family members.
- Social interaction** - 52 (29.5%) said they had too little time and/or no time to socialize and they were not able to attend social gatherings and family functions.
- Sexual activity** - 9 (5.1%) said that there was a change. Among these, the married people said that the change was due to odd working hours, because of which they could not spend time with their spouse. Unmarried call handlers did not specify the cause for the change in their sexual activity.

Work experience and its relation to psychosocial health:

Table 3. Explains the relation between work experience and short temperedness

Table 3 show, that there was a positive correlation between work and temper, that is with increasing work experience there is an increased chance of call handler becoming short tempered. There was a significant association between increasing work experience and the call handler more prone to becoming short tempered (χ^2 value 17.18, p < 0.05 at 3 degree of freedom).

Table 3. Describes the relation between work experience and difficulty concentrating

With increasing experience, call handler had more difficulty concentrating on their work as shown in Table 3. There was an increasing trend seen between work experience as a call handler and difficulty concentrating on the task. There is a significant association between growing work experience and difficulty concentrating (χ^2 value 15.83, p < 0.05 at 3 degree of freedom).

	Yes
Constantly under stress	96 (54.5%)
Getting edgy or short tempered quite often	78 (44.3%)
Difficulty in concentrating at work	55 (31.3%)
Loss of interest in general	61 (34.7%)
Sleeping poorly	107 (60.8%)
Interaction with family members	47 (26.7%)
Social interaction	52 (29.5%)
Change in sexual activity	9 (5.1%)

n= 176

TABLE 2: NUMBER OF PERSONS RESPONDING IN THE AFFIRMATIVE TO SELECTED PSYCHOSOCIAL HEALTH RISKS

Table 3. Depicts the relation between work experience and decreased sleep

There is a significant association between increasing work experience and decreased sleep (χ^2 value 17.67, $p < 0.05$ at 3 degree of freedom). However, looking at the proportions in the work category, there appears to be a decrease of the problems in those with more than 18 months of experience as shown in Table 3. Probably as a result of circadian rhythm adjustment to the new working hours the experienced call handlers had reduced sleep disturbance.

Table 3. Shows relationship between work experience and musculoskeletal pain

There was a statistically significant association between increasing work experience and musculoskeletal pain (χ^2 value 8.04, $p \leq 0.05$ at 3 degree of freedom), as shown in the Table 3. But in call handlers above 18 months of experience there is a decrease in musculoskeletal pain, this could be due to the call handlers getting adjusted to their job or call handlers who could not tolerate pain quitting the profession.

Menstrual History: Of the 55 (31.3%) female respondents, 2 (3.63%) said that they had noticed a change in their menstrual cycles after becoming call handlers.

	Short Temper			Total
		Yes	No	
Work Experience	1- 6 months	17 (25%)	51 (75%)	68
	7- 12 months	28 (54.9%)	23 (45.1%)	51
	13- 18 months	21 (55.2%)	17 (44.8%)	38
	> 19 months	12 (63.1%)	7 (36.9%)	19
	Concentration			
	1- 6 months	11 (16.1)	57 (83.9%)	68
	7- 12 months	16 (31.3%)	35 (68.7%)	51
	13- 18 months	18 (47.3%)	20 (52.6%)	38
	> 19 months	10 (52.6%)	9 (47.3%)	19
	Decreased Sleep			
	1- 6 months	29 (42.6%)	39 (57.3%)	68
	7- 12 months	37 (72.5%)	14 (27.4%)	51
	13- 18 months	30 (78.9%)	08 (21.1%)	38
	> 19 months	11 (57.8%)	08 (42.2%)	19
	Musculoskeletal Pain			
	1- 6 months	42 (61.7%)	26 (38.3%)	68
7- 12 months	40 (78.4%)	11 (21.6%)	51	
13- 18 months	32 (84.2%)	6 (15.8%)	38	
> 19 months	12 (63.1%)	7 (36.9%)	19	

TABLE 3. COMPARISON OF WORK EXPERIENCE WITH SHORT TEMPER, CONCENTRATION, SLEEP AND MUSCULOSKELETAL PAIN

DISCUSSION

The call centres are the most attractive work place for most of the young graduates. The anecdotal reports and reviews claim that the call centre employers face mental, psychological and other health problems because of the odd working hours and stressful nature of the job.

The non-respondents rate in this study was 61%, whose profile is not been studied. In another study done by Health and Safety Executive (HSE), among call centre employees, the non-response rate was 62%.^[10] The authors believed that dissatisfaction and discontent are the reasons why an individual may not participate in a particular study. However, during this study the author could not directly contact the call handlers and some call handlers expressed inability to participate due to lack of time. The other reason could be, the non-respondents might have

been healthy and did not suffer from any health problems so they did not feel the need to respond or the counter argument of the non-responders could have been sick and were absent during data collection period.

In this study the call handlers age ranged from 17 to 38 years and mean age was 23.18 years. In a study done by Halford et al^[11], the respondents age group was 19 to 43 years and the mean age was 34 years in a study done by Toomingas et al.^[12] The younger age group in our study when compared to other studies may probably be due to the fact that the call centre industry in India is a recent one and most recruits are in the younger age groups.

In this study 68.8% of call handlers were males. In the studies done by Toomingas et al^[12] and by Halford et al^[11], 72% and 52% of the respondents respectively were female. This difference in gender distribution may probably be attributed to the odd working hours and rotation of shifts.

Marital Status: Disruption in family life are more problematic than disruption of community and social life, because the night shift worker have very little time to spend with his or her family.^[7, 13] Sore family relationship and domestic bliss was reported among 6% and 28% respectively from a study in India.^[7] In this study unmarried respondents had significantly risk of developing stress when compared to the married respondents, as shown in Table 1.

Education Qualification: Nearly 90% of the respondents had completed their graduation. Toomingas et al^[11] in their study had 25% respondents who had completed university education.

Work Related Profile: The management of the call centres should address the issues related to working environment like space needed for each workstation, layout of the workstations, temperature, air quality, humidity, lighting and equipment's including their maintenance and storage.

Specific issues within the working premises like rest rooms, canteens, easy availability of drinking water and availability of toilets for male and female among others should also be taken care while planning a call centre. This factors could help decrease the health

risks faced by the call handlers.^[14]

Work Schedule: In this study, the call handlers worked eight to twelve hours per day, five or six days a week. Toomingas et al^[11] in their study found more than 50% of their respondents spent 37 hours/week in call centres. Flexibility in shifts can lead to harmonious working environment and decrease stress in working environment.^[14]

Vocal (Voice): Call handlers daily routine involves talking and listening over the telephone as compared to people in other work.^[3, 4] Toomingas et al in their study also mention that throat or voice problems were noted among call handlers.^[11] Indian studies also mention about vocal health problems like hoarseness, irritating cough, difficulty in voice modulation and dysphonia similar to present study findings.^[4, 7] Risk is greater when suffering from cold, so assigning staff to office tasks, which does not involve speaking, reduces the risk.^[14]

Vision: The commonest symptom was headache. Headache in particular, and also other symptoms related to eyes were also common in the study done by Toomingas et al.^[11] Indian studies^[4, 7] mention visual problems were faced by 30 – 40% of the call handlers. Visual fatigue is probably due to prolonged use of DSE.

Rest Breaks: Provision of short breaks help to divert the eyes to objects at different distances and increase the blink rates, thus preventing dryness of eyes and visual fatigue, thus many short breaks are better than single long break.^[14]

Auditory: The call handlers are required to wear their headsets their entire shift every day. A adjustable headset with comfortable fit and volume control was provided to 80% of the respondents. Bhuyar^[7] et. al also mention hearing problem among 24% call handlers participating in their study.

The sharing of headset could increase the risk of ear irritation and infection and the mouthpiece could also transmit infections.

Musculoskeletal: The call handlers are exposed to musculoskeletal injuries (of neck, shoulders, back, wrists and hands) due to awkward, static and or repetitive working postures.^[15, 16]

In this study nearly 70% of the respondents had some kind of a MSD, i.e., persistent pain in neck and

the back (spinal column), similar to another study finding.^[7] Toomingas et al^[11] described more than 90% of the call handlers reported somatic symptoms of pain and ache the neck and limbs.

Systemic Health:

Gastrointestinal System: Chandrasekaran et al^[17] and Poole et al^[18] in their study on shift workers explained problems related to digestive system and gastritis respectively. In this study, 21% of the respondents reported developing symptoms of gastritis. Study^[7] in call centre reported 71% respondents complained of digestive problems.

Call handlers are more prone to gastrointestinal problems probably due to irregular and unsocial working hours meaning irregular meal timings and poor quality food.^[14]

Psychosocial Health: Occupation related stress as defined by HSE is 'the adverse reactions people have, to excessive pressure or other types of demand placed on them'.^[19] Intense stress can lead to physical and psychological ill health, which in turn increases sickness absence, decreased morale and performance of the call handlers and increased turnover.^[14]

The common cause of stress among call handlers include repetitive tasks, work load, long working hours, shift work, unsocial working hours, poorly designed work stations and working environment.^[4, 7, 20]

CONCLUSIONS

The call centre industry is a recent job avenue in the Indian work force as in many developing countries in the world. It is attracting a large number of graduates, because of the high salary and perks associated with working in a call centre, which in turn gives them the freedom to spend money. The number of call centres is also expected to increase, because of many countries like America and United Kingdom, planning to shift their back offices to India and other parts of the world. So the call centres are also expected to boost the Indian economy so also the economy of many countries in the coming years.

The call centre industry thus being a recent one and growing constantly in India and in many countries in Asia, follow-up studies are definitely needed to further determine the long term implications which

this type of work has on the health of those working in the industry. Many of the call centres are trying to recruit young people from rural areas to meet their attrition rate.

There was a significant association between work experience and short temperedness, difficulty concentrating, decreased sleep and musculo skeletal pain. Dietary changes sleep disturbances, stress, musculoskeletal problems, vocal, auditory and visual problems and menstrual disturbances are reported among call handlers and shift workers in foreign studies. There have not been many studies done in call centre industries in India especially on the health and safety aspects of its employees. There are no uniform legislations covering the call centres with regard to health and safety. Concrete legislations need to be formulated and enforced for the industry, particularly with respect to health and safety.

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