

A STUDY ON PSYCHOLOGICAL PROBLEMS OF EMPLOYEES IN CALL CENTERS AT BANGALORE CITY

Manohar.P¹, Dr.M.Gurusamy², Dr.Mohamad Arif Pasha³

¹Final Year MBA Student, PG Department of Commerce and Management Studies, Brindavan College, Bengaluru

²Professor and Head, PG Department of Commerce and Management Studies, Brindavan College, Bengaluru

³Principal, Brindavan College, Bengaluru

Email: ¹mmanu6349@gmail.com, ²gurusamyphd@gmail.com, ³arifpasha75@gmail.com

Abstract—Call center workers are expected to convey positive emotions and eliminate negative emotions such as annoyance, disappointment, and indignation in their customer encounters to create a desired customer state of mind. When a safe expressive outlet is not provided this emotional repression can have a profound psychological effect on a individual. Therefore, the work-related stress faced by the employees needs to be recognized and rigorous research is needed. Because of the pressures they face in their daily jobs, the call center and BPO organizations have been facing a major employee retention issue. They therefore had to perform thorough research into why the company's workers are having the company's psychological issues and how to devise an effective solution to help the employees deal with the work-related stress and be able to do their best in the job. The objectives of this study are to research the usual psychological problems that employees of the call center in Bangalore face; to research how the organization helps its workers overcome the psychological problems; to evaluate stress related issues caused by the job intensity and multiple changes in working time; and to know how the issues workers face often impact their personal lives. The nature of study was descriptive study. The sample size was 141 respondents. The percentage analysis was used to analyse the data for this study.

Keywords—Call Center, Emotion, Environment, Psychological Problems, Work-Related Stress.

1. INTRODUCTION

When all the individual's psychological processes, such as focus, awareness, memory, thought, reasoning and imagination, etc., operate normally, the person is able to adapt and adequately cope with his environment, when he meets the various demands of life very successfully on his own, he is said to have sound mental health. Such a person feels relatively less pain, anxiety, concern, conflict and stress, is able to handle his emotional problems in a rational and healthy manner, and by and large successfully solves the different problems of life But a person who fails to do so is said to have an unsound personality and is often affected by stress, etc.; working conditions, socio-environmental factors can also contribute significantly to organizational stress that leads to mental health. When the environmental demands on a individual are greater, and his performance is less, he suffers from anxiety and stress due to failure. We usually experience a sense of distress, unfulfillment, frustration, concern and eventually an uncomfortable feeling when we have a lot of work to do and are unable to complete the job. This influences our mental and psychological health, and consequently the capacity to perform. Various organizations' workers (Call centers, MNC's) have to spend their time under intense pressure from competing demands and job situation. Under very convincing circumstances they carry out essential management functions.

Management-level stress manifests itself because they have no control over certain situations but are accountable for the outcome. The present research is intended to make a comparative study with the employees of multinational companies on the psychological problems of Call centers employees. The causes of stress and the organizational employees' unhealthy mental conditions vary. There are conflicts of control, adverse decisions affecting workers, unhealthy and unfair rivalry, lots of strain in the workplace, chaos in the organizational structure, frequent promotions, management and colleagues' abuse, dysfunctional personal relationships with employees, regular quarrels and back-biting, increased

mechanization and frustration among young and old, And the workers' lifestyle is very dynamic, with anxiety, anger and stress impacting their mental health complicated. One is now concerned about job pressure on managers from political parties, trade union pressure on management or vice versa, the pressure of needs and eventually the pressure of conscience. Thus, one experiences stress in some form or another in the modern world.

2. REVIEW OF LITERATURE

V. P Sudhashree, Rohit K. And then Shrinivas K. In their article entitled 'Call Center Employee Problems and Health Concerns' (Indian Journal of Occupational and Environmental Medicine, December 2005, Volume 9, Issue 3 Pgs. 129 – 132), they note that BOSS (Burn Out Stress Syndrome) is very popular among young call center managers. Symptoms of this disorder include persistent fatigue, insomnia, and total alterations of the body's biological 24-hour cycle are regular cause of absenteeism from sickness. Chronic stress levels affect the heart, the endocrine system and can also lead to sleep disturbances.

In their research paper entitled "Organizing Call Center Agents: Emerging Problems" (Economic and Political Weekly, May 27, 2006, pgs.2115 – 2121), Ernesto Noronha and Premilla D'Cruz suggest that, during their primary collection of data from call center employees located in Mumbai and Bangalore, it was found that their job content needed them to deal enthusiastically with angry customers who kept t behind. Interacting with angry or hostile customer was an important part of the quality of their work. Emotions had to be held aside and even though the previous caller had physically insulted the employee it was expected to attend the next call with equal treatment.

Lewig and K. A. And M. F. Dollard. In their article entitled "Call center employees' cognitive dissonance, cognitive fatigue and job satisfaction" (European Journal of Work and Organizational Psychology, 2003, 12(4), pgs. 366–392) studied the emotional stress (emotional demands) of call center work and its relationship to job satisfaction and emotional fatigue in a sample of South Australian call center employees. Qualitatively the research confirmed the central role of the variables of emotional labor in the experience of emotional exhaustion and work satisfaction.

In their research paper entitled "Role Stress in Call Centers: Its Impact on Employee Efficiency and Satisfaction," Kode Ruyter, Martin Wetzels and Richard Feinberg, published in the Journal Of Interactive Marketing, pp. 23 – 35, Volume 15, Number 2, Spring 2001, notice that the autonomy aspect of empowerment has a rolestress-reducing effect in particular. Significant empirical direct beneficial effects of competency control and recognition of leadership have been found on work satisfaction. They consider work satisfaction to be beneficial to job success. Furthermore, it was found that job satisfaction reduces the turnover of the company intentions, directly or indirectly through organizational commitment.

Christer Strandberg and Olof Wahlberg (Journal of E-Working, Pgs 116-136, Vol 1, December 2007) published a research paper entitled "All call centers are not electronic sweatshops," conducted a study based on psychosocial working conditions in Swedish in-house call centers compared to the same conditions in Nordic organizations (Swedish, Norwegian, Danish and Finnish) in general. It was found that employees of Swedish in-house call centers consider work to be more supervised than employees usually do in Nordic organizations. Moreover, employment is not regarded as being as fundamental to life by call center workers as is commonly viewed by workers in Nordic organisations.

In her research paper called "Outsourcing Identities-Call Centers and Cultural Change in India," Divya C. McMillin addresses in depth interviews with 40 employees of six call centers based in Bangalore (Economic and Political Weekly, 21 January 2006, pgs. 235 – 241).

Her research findings point to the fact that most of these employees had to change their names, identities, and voice accent to suit the home country of the customer where the calls were made or where they came from. This led to fictional personal profiles generated by the nature of their employment that influenced their cultural identity

A research carried out by Preeti Singh and Anu Pandey on "Women in Call Centers," in which interviews were conducted with 100 women workers of several call centers located in India. (Economic and Policy Weekly, 12 February 2005, pgs. 684 – 688). The study found that night shift work has a clear and negative impact on women's health. This report concluded both the positive aspects of the call center climate and the negative ones. The positive aspects related to the number of years of the respondent's experience, age, and qualifications with that of her salary

Some studies were also carried out in other countries for issues and problems faced by employees of the call centre. One such study was conducted in 2003 by the University of Sheffield (UK), the Health and Safety Laboratory and the Health and Safety Executive's UMIST, which published the research report entitled "Psychosocial risk factors in call centers: work design and well-being assessment." This study is based on primary data from 36 call centers and 1,141 employees

of the call center. This report highlights that most employees in any call center are in the 20-29-year-old age group and nearly 80 percent are in the organization's Customer Care Executives.

On November 16, 2007, the Business Standard reported that India's Union Health Minister A. Ramadoss recently called for a "tech sector health policy," stating: "[BPO employees] have a sedentary lifestyle; they smoke, go to late-night parties, and even take drugs; some get heart attacks in their mid-20s..." However, strain as a reason for leaving a company ranked seventh, while health issues were raised. "Health as a factor of stress is still a problem with a fifth of workers citing health as a factor of stress. The positive part is that the industry is responsive to this and many companies are taking practical steps, from monitoring air quality indoors to testing food in laboratories," said IDC India Country Manager Kapil Dev Singh.

The 2018 Dataquest-IDC BPO E-Sat survey was based on feedback from 1,749 employees from 19 companies located in cities such as Mumbai, Pune, Kolkata, Delhi NCR, Chennai, Ahmedabad, Hyderabad, Bangalore and others. The survey also revealed that while large firms were better ranked in parameters such as work culture and image, small firms were better in salary and job material. Of the 1,749 employees surveyed as part of the survey, 32% complained that they had sleep disorders, followed by 25% as having digestive disorders and 20% as having eye-sight problems.

3. NEED FOR THE STUDY

Call center workers are expected to convey positive emotions and eliminate negative emotions such as annoyance, disappointment, and indignation in their customer encounters to create a desired customer state of mind. When a safe expressive outlet is not provided this emotional repression can have a profound psychological effect on an individual. Therefore, the work-related stress faced by the employees needs to be recognized and rigorous research is needed.

4. STATEMENT OF THE PROBLEM

Because of the pressures they face in their daily jobs, the call center and BPO organizations have been facing a major employee retention issue. They therefore had to perform thorough research into why the company's workers are having the company's psychological issues and how to devise an effective solution to help the employees deal with the work-related stress and be able to do their best in the job.

5. SCOPE OF THE STUDY

This research sheds light on two aspects of the discontent of the call center workers, which are one of the key reasons in this industry for high turnover of manpower: work satisfaction and personal health.

The study answers issues relevant to contemporary jobs faced by young workers in an industry that is still in its infancy. Call centers are mushrooming throughout India's metropolitan cities and are now percolating into smaller towns and cities.

India has earned a reputation of being the BRIC (Brazil – Russia – India – China) 'Services' centre. It is due to the income that the call center industry produces.

The call center industry in India is facing the highest attrition rate of manpower (up to 60 per cent), which is usually due to employee satisfaction, health, and personal safety factors.

These key areas are addressed in this research to find out whether there is any correlation between these factors and the industry's high rate of attrition for manpower

6. OBJECTIVE OF THE STUDY

- i. To research the usual psychological problems that employees of the call center in Bangalore face
- ii. To research how the organization helps its workers overcome the psychological problems
- iii. Studying and evaluating stress related issues caused by the job intensity and multiple changes in working time
- iv. Studying and knowing how the issues workers face often impact their personal lives

7. TOOLS OF DATA COLLECTION

Data must be available for research purposes for any report. There are no study ways without details. For any research the collection of data plays a significant role. It can be gathered from diverse sources. I obtained the data from the following two sources:

Primary Data

- Custom interview
- * Correspondent information
- Information from organisation's superiors

Secondary Data

- Published outlets like journals, official records, newspapers, and magazines, etc.
- Unpublished Sources such as Company Internal Reports prepare their reports for review provided to their analysts & trainees.

8. LIMITATIONS OF THE STUDY

- The sample is subject to the respondents' biases and prejudices. Therefore, precision of 100 per cent cannot be guaranteed.
- The work was carried out in a short period of time, where the thesis could not be expanded by the researcher.
- Due to the fact that the researcher adapted the personal interview method, the study could not be generalized.

9. RESEARCH METHODOLOGY

The present research is of an exploratory sort, as it aims to explore ideas and perspectives to establish new relationships. Study design is versatile enough to allow for the consideration of various aspects of the issue under analysis. It helps to concentrate on any intrinsic weakness in company so management may perform in-depth research.

10. DATA ANALYSIS AND INTERPRETATION

TABLE 1
INCOME LEVEL

<i>Income</i>	<i>No. of Respondents</i>	<i>Percent</i>
Below-15,000	23	16.3
15,000- 25,000	56	39.7
25,000 - Above	62	44.0
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 16.3% respondents said below 15000, about 39.7% said 15000 – 250000, about 44% and about 44% respondents said above 25000.

Interpretation :

From the above graph we can see that most of the respondents of our survey research data said that they have a salary range which is more than 25000. We also spoke to respondents with a little lesser salary range.

TABLE 2

HAVE TO DO A LOT OF WORK IN CALL CENTER JOB

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	15	10.6
Agree	38	27
Neutral	46	32.6
Disagree	29	20.6
Strongly Disagree	13	9.2
Total	141	100

Analysis :

From the above table we can see that out of 141 respondents about 10.6% respondents said strongly agree, about 27% said agree, about 32.6% said neutral, about 20.6 said disagree and about 9.2% respondents said strongly disagree.

Interpretation :

From the above graph we can see that most of the respondents of our survey research data said that they do have a lot of work in the call center jobs. But the respondents who chose to stay neutral were more in number.

TABLE 3

SOMETIMES IT BECOMES COMPLIED PROBLEM FORM TO MAKE ADJUSTMENT BETWEEN POLITICAL/GROUP PRESSURES AND FORMAL RULES AND INSTRUCTIONS

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	18	12.8
Agree	35	24.8
Neutral	56	39.7
Disagree	18	12.8
Strongly Disagree	14	9.9
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 12.8% respondents said strongly agree, about 24.8% said agree, about 39.7% said neutral, about 12% said disagree and about 9.9% respondents said strongly disagree

Interpretation :

From the above graph we can see that most of the respondents of our survey research data chose to stay neutral when we asked if sometimes it becomes complied problem form to make adjustment between political / group pressures and formal rules and instructions. Only a very few respondents said either they agree or disagree.

TABLE 4
GET LESS SALARY IN COMPARISON TO THE QUANTUM OF MY LABOR/WORK

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	31	22.0
Agree	49	34.8
Neutral	36	25.5
Disagree	16	11.3
Strongly Disagree	9	6.4
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 22% respondents said strongly agree, about 34.8% said agree, about 25.5% said neutral, about 11.3% said disagree and about 6.4% respondents said strongly disagree.

Interpretation :

From the above graph we can see that most of the respondents of our survey research data said that they definitely agree that they do get less salary in comparison to the quantum of my labor / work. Only a very few respondents did not feel so and they felt that they are being paid reasonably well for their work in the company.

TABLE 5
SOME OF COLLEAGUES AND SUBORDINATES TRY TO DEFAME AND MALIGN ME AS UNSUCCESSFUL

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	23	16.3
Agree	42	29.8
Neutral	44	31.2
Disagree	27	19.1
Strongly Disagree	5	3.5
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 16.3% respondents said strongly agree, about 29.8% said agree, about 31.2% said neutral, about 19.1% said disagree and about 3.5% respondents said strongly disagree

Interpretation :

From the above graph we can see that most of the respondents of our survey research data felt that often they have seen discrimination in the company and some of colleagues and subordinates try to defame and malign them as unsuccessful. This creates a lot of psychological issues among the employees of the company.

TABLE 6
GET AMPLE OPPORTUNITY TO UTILIZE ABILITIES AND EXPERIENCE INDEPENDENTLY

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	25	17.7
Agree	48	34.0
Neutral	40	28.4
Disagree	17	12.1
Strongly Disagree	11	7.8
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 17.7% respondents said strongly agree, about 34% said agree, about 28.4% said neutral, about 12.1% said disagree and about 7.8% respondents said strongly disagree

Interpretation :

From the above graph we can see that most of the respondents of our survey research data said that they get ample opportunity to utilize abilities and experience independently which will allow the company employees to grow their skills and it gives them the confidence to work in the company in a better way.

TABLE 7
SELDOM REWARDED FOR HARD LABOR AND EFFICIENT PERFORMANCE

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	28	19.9
Agree	40	28.4
Neutral	36	25.5
Disagree	23	16.3
Strongly Disagree	14	9.9
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 19.9% respondents said strongly agree, about 28.4% said agree, about 25.5% said neutral, about 16.3% said disagree and about 9.9% respondents said strongly disagree

Interpretation :

From the above graph we can see that most of the respondents of our survey research data felt that the company does not recognize the hard work and labor put by the employees of the company. They feel that they are seldom rewarded for hard labor and efficient performance which the company has to take care of.

TABLE 8**NOT PROVIDED WITH CLEAR INSTRUCTIONS AND SUFFICIENT FACILITIES REGARDING THE NEW ASSIGNMENTS**

<i>Particulars</i>	<i>No. of Respondents</i>	<i>Percent</i>
Strongly Agree	27	19.1
Agree	31	22.0
Neutral	46	32.6
Disagree	25	17.7
Strongly Disagree	12	8.5
Total	141	100.0

Analysis :

From the above table we can see that out of 141 respondents about 19.1% respondents said strongly agree, about 22% said agree, about 32.6% said neutral, about 17.7% said disagree and about 8.5% respondents said strongly disagree

Interpretation :

From the above graph we can see that most of the respondents of our survey research data said that they are not provided with clear instructions and sufficient facilities regarding the new assignments which will decrease the efficiency of the work done by the employees. Hence the company should take care of this problem.

11. FINDINGS

- i. Most of the respondents we spoke to for our survey are male respondents. Only a very few respondents were female respondents
- ii. Most of the respondents we spoke to for our study were between the age group of about 25 years to about 40 years. There were good number of respondents who were between the age group of about 18 years to about 25 years also. Very few respondents were above the 40 years of age.
- iii. The respondents of our survey research study were mostly graduating or at least had 12th as their education qualification. We however spoke to a good number of respondents who said they had an education qualification of about 10th or Diploma.
- iv. The respondents of our survey in a major number were unmarried respondents. Only a very few respondents said that they were married. This may be due to the fact that call center employees mostly have a night shift which normally is not preferred by married people.
- v. The highest number of respondents of our study were of about 1 year to about 3 years of total work experience working in call centers. Matching in the number were the respondents who had about a year of work experience in the call center. We also spoke to respondents who had more than 3 to about 10 years of experience also. However, they were small.
- vi. Most of the call center employees normally work in a night shift. Hence major number of respondents of our surveys aid so. We also spoke to respondents who had rotational shifts. Respondents who had days shift were very less in number.
- vii. Normally the call center employees are more prone to work related stress than any other type of employees. But the employees working in the call center do not all of them believe so as we had a lot of respondents who chose to be neutral for this statement. They feel that every type of employee will have almost the same amount of work-related stress as the call center employees.

A Study on Psychological Problems of Employees in Call Centers at Bangalore City

- viii. The respondents are very much divided in their opinion about the job security in their respective companies. Some felt they have a very secured job and some of the respondents felt that they do not have any type of job security in their current company.
- ix. Respondents in a good number said that the work-related stress that they have in their company is also affecting their personal life. But an almost equal number of respondents did say that they do not take the work-related stress to home and their personal lives are not affected by it.
- x. Most of the respondents of our survey said that they have a lot of stress in their jobs due to the unreachable and unreasonable targets given to them by the company. This was closely followed by the respondents who felt that the working hours in the company is also one of the reasons why they have job related stress.

12. SUGGESTION

- i. The present study helped to gain insight into core areas of psycho-social concerns, work stress and job-related problems that need attention of all stakeholders' perceptions of their mental health and mental health determinants. The findings of face-to-face interviews provide in-depth information concerning the influences of call center work on women's psychosocial health. Based on the findings the researcher has reflected on certain areas that could be focused to promote the well-being of employees.
- ii. Social Workers have an important role to play in the welfare and development of call center workers, including assisting Government and voluntary organizations to amend policies and plans. Social Workers need to develop modules to train and support these call center workers; provide therapeutic interventions to the respondents and organize training programs that improve the women's ability to address their concerns
- iii. The probability of managing job dissatisfaction indicators at the organization level seems a remote solution. The intervention of psycho-social machinery for creation of intra-organisation and inter-industry job confidence is the call of the day for increasing job satisfaction levels in the call center industry
- iv. By training and developing the workers at the community, facilitation of providing emotional first aid, psychosocial care and support could be achieved. Similarly, the stress among women workers is taken into cognizance.
- v. The HR representatives and Professional Counsellors jointly have a role to bring behavioural change starting from the training days. Continuous education and Counselling will help to mitigate such problems and it is possible to prevent serious problems
- vi. Programs on Time Management, tips to keep fit and such other programs can be offered. These steps would help to seek the loyalty of women employees to the organizations and helps greatly for the retention of employees.

13. CONCLUSION

The present study is intended to investigate the psychosocial concerns of women employees working in few selected BPOs in Bangalore and Mangalore. The results of the study in terms of aims and objectives suggest that BPOs has an impact on the psychosocial concerns of women employees, in terms of coping patterns, work stress, job related factors, job satisfaction and feeling of insecurity.

It highlights a strong need of support from all stakeholders. Work Stress and job-related negative factors are chief reasons for psychosocial concerns of women employees in call centers. Hence, it is gaining huge levels of importance in Organizational Behavior and Industrial Psychology. This implies the need for Social Work interventions in these areas.

It has been observed that call center workers are exposed to a volley of problems in all three domains of health viz. physical, mental, and social, owing to their unique job profile. A thorough search of literature revealed ample studies on Indian call centers in the domains of sociology, management, and psychology with very few studies in the public health domain.

Most of the studies, barring a few, have relied mainly on self-reported health status of individuals without using any validated measuring tools for measuring their physical, mental, and social health. Also, very few studies have used statistically sound methodology in conduct of their studies and analysis of results, thus failing to give scientifically valid

explanations for possible reasons for poor health profile of call center workers. Thus, there is a need to conduct bigger epidemiological studies for better understanding and to create a database for health problems among call center workers.

14. BIBLIOGRAPHY

- [1] Aggarwal B.B., & Naidu, D. (1986). A life stress scale for university students, cited From Nandita Goswami 1999, A Study of Life Stress and Coping Style Among University Youth (male & female), Unpublished M. Sc. Dissertation, University of Rajasthan
- [2] Brown, W. A., (1998). The Placebo Effect, Scientific American Magazine, 9 278:1, 90- 95.
- [3] Danner, D.D., Snowdon, D.A., & Friesen W. V (2001). Positive emotion in early life and longevity, findings from nun study, Journal of Personality and Social Psychology, 80, 804–813
- [4] Jagdish, A & Srivastva, A. K., (1995). Mental Health Inventory, Manovaigyanik Prikashan Sansthan. Varanasi,
- [5] Lankshear, G., Cook, P., Mason, D., Coates, S., Button, G. (2001) Notes and Issues: “Call centre employee’s responses to electronic monitoring: some research findings”, Work, Employment and Society, 15, 595-605.
- [6] Norman, K. Nilsson, T. & Hagberg, M, (2004) Working conditions and health among female and male employees at a call center in Sweden, American Journal of Industrial Medicine, 46, 55-62
- [7] Taylor, P., and Bain, P. (1999) An assembly line in the head: work and employee relationship in the call center, Industrial Relation Journal. 30 (2), 101-117.
- [8] Vaid M. Health and Population Innovation Fellowship Programme Working paper No. 10. New Delhi: Population council; 2009. [Last cited on 2013 Dec 12]. Exploring the lives of youth in BPO sector: Findings from a study in Gurgaon. Available from: http://www.popcouncil.org/pdfs/wp/India_HPIF/010.pdf.
- [9] Latha G, Panchanatham N. Call center employees: Is work life stress a challenge? Sabaramuwa Univ J. 2010; 9:1–9. [Google Scholar]
- [10] Chavan SR, Potdar B. A critical study on work-life balance of BPO employees in India. [Internet] 2011. [Last cited on 2013 May 4]. Available from: www.trikal.org/ictbm11/pdf/OB/D1241-done.pdf.
- [11] Suri S, Rizvi S. Mental health, and stress among call center employees. J Indian Acad Appl Psychol. 2008; 34:215–20. [Google Scholar]
- [12] udhashree VP, Rohit K, Shrinivas K. Issues, and concerns of health among call centre employees. Int J Occup Environ Med. 2005; 9:129–32.
- [13] Lin YH, Chen CY, Hong WH, Lin YC. Perceived job stress and health complaints at a bank call center: Comparison between inbound and outbound services. Ind Health. 2010; 48:349–56.
- [14] Kunikullaya KU, Kirthi SK, Venkatesh D. Heart rate variability changes in business process outsourcing employees working in shifts. Indian Pacing Electrophysiol J. 2010; 10:439–46.
- [15] Choudhary SB, Rao V, Suneetha S. Attitude alters the risk for development of repetitive strain injuries in software professionals. Indian J Occup Environ Med. 2003; 7:32–4.
