

A STUDY ON PROFESSIONAL HEALTH PERILS AMONG FACULTY MEMBERS TEACHING AT PRIVATE COLLEGES IN CHENNAI

**R. Harini Hingnekar
Dr. D. Nisar Ahmed**

Abstract

Occupational safety and health (OSH) is a cross-disciplinary aspect concerned with providing safety, health and welfare of individuals engaged in employment. According to WHO and ILO, "Occupational health means the science and the art of providing employees with the highest rate of health, maintaining high quality, and enhancing the health of work force".

There has been a massive interest in research into the area of occupational health over the last decade. This paper discusses in particular about the prevalence of occupational hazards among teaching professionals which presents the various disorders teachers are exposed to in their occupation and also seeks to identify the factors that contribute to it. For this purpose, samples of 50 respondents were collected, who are the faculty members working in Private Engineering colleges in Chennai. Based on the analysis of data, suggestions are provided from managerial perspective on teachers having control on the effects of job and reduce their health related problems.

Keywords: *Occupational Health, Occupational Hazard*

Introduction

Occupational Health is an area which is gaining importance nowadays in almost all sectors. But there are some areas which are still kept in dark without focusing on the Health Hazards that are endemic to that field. Work-related ailments that stem out from occupational hazards among teaching professionals at College/University level have been neglected so far.

In view of this trend, the researcher conducted a survey on occupational health hazards faced by faculty members teaching at private engineering colleges in Chennai.

Significance of the Study

There is always stereotyped belief that teaching is one of the professions which is stress free and does not create any hazards. But, the reality is not so, which is evident from the literature review. The understanding that this profession is also justified to have posturing health hazards has come to the purview of various countries and our country seems to appreciate the same in a measured pace. Considering the above factors, this empirical research paper examines the occupational health hazards that are faced by the teaching professionals in the private engineering colleges in Chennai.

Literature Survey

Milan Shrestha (2011)^[1] conducted a study among University teachers in Nepal and found that forty-eight percentage teachers suffered from voice disorder, in which almost 45 (95.74%) was suffering from sore throat and remaining 2 (4.25%) was allergy. Dust 61 (47.69%), poor air conditioning 13 (20%) and others 6(9.22%) was the cause of voice disorder among University teachers and majority of respondents (80%) felt occupational stress caused by organizational culture related factors, which includes poor task environment (38%), lack of defined objectives (22%), poor problem solving environment (50%), poor communication (53%) and non supportive environment (52%). The majority of respondents (69%) felt occupational stress caused by their roles in the university related factors, which were role ambiguity (35%), role conflict (33%) and high responsibility for students (43%).

T. Mariammal et al (2012)^[2], in the study conducted among university teachers in Tuticorin District (Tamil Nadu) found that there is increased percentage of pulse rate, systolic pressure, diastolic pressure, pulse pressure and arterial pressure among teachers and the percentage of increase observed was 10.04, 11.88, 13.29, 5.97 and 13.80 respectively as against normal parameters.

Dr Juliana Jalaludin (2012)^[3], studied on 6 respiratory symptoms being and were cough, phlegm, cough with phlegm, wheezing, breathlessness, in order to find any association between occupational stress level and respiratory symptoms. Symptoms that most experienced by the respondents were breathlessness with percentage of 47.5%. Wheezing was the second symptoms most experienced by the respondents with the percentage of 26.2%. Phlegm was the third most experienced respiratory symptom with the percentage of 21.3 % from total respondents. 16.4% of respondents had chest cold and chest illness and also cough with phlegm gave percentage of 14.8%. The least symptom experienced by the respondents was cough where only 13.1% of the respondents had it. Most of the respondents usually cough on getting up or first thing in the morning ^[3]

Alan H.S.Chan et al (2010)^[4], reported on the health related facts among teachers in Hong Kong. Heavy workload and time pressure (95.1%), education reforms (86.8%), external audits (70.1%), pursuing further education (60.9%), and managing student's behaviour, and learning (57.6%) were the most frequently reported sources of work stress.

Pooja Holeyannavar (2009)^[5], found that the effect of all the stressors contribute to the overall stress among teachers. The average to high level of stress observed in 65 per cent of teachers highlighted difficulty to cope up with physical and personal, occupational, psychological and emotional and familial and social stressors.

Chong and Yin Ling (2006)^[6], based on a study found that the ten most frequently reported work-related health complaints among the teachers were tiredness, eye strain, anxiety, voice disorder, sleep problems, shoulder pain, neck pain, headache, sadness/depression, and low back pain. Both the prevalence (92.4%) and intensity (mean: 2.43) of work-related tiredness were also very high. The teachers seem to be exhausted and fatigued with their work.

Viviane Kovess-Masfety et al (2006)^[7], conducted a study which showed that there is a higher prevalence in teachers of a number of physical disorders. The most affected organs are in the ENT tract. The throat, in particular, is affected and several studies have already reported that teachers seem to be prone to such problems, particularly those related to voice.

Objectives of the Study

- To study about the factors that contribute to Physiological health problems faced by teaching professionals.
- To explore the various aspects that add to Psychological health problems faced by teaching professionals.
- To examine the impact of these hazards on their profession.

Hypotheses

➤ **Hypothesis 1**

H₀: Female faculty members don't face more physical health problems compared to Male faculty members.

H₁: Female faculty members face more physical health problems compared to Male faculty members.

➤ **Hypothesis 2**

H₀: There is relationship between marital status and psychological problems faced by faculty members.

H₁: There is no relationship between marital status and psychological problems faced by faculty members.

➤ **Hypothesis 3**

H₀: There are significant differences between mental health problems faced by the faculty members and the factors that contributes to the mental health problems.

H₁: There are no significant differences between mental health problems faced by the faculty members and the factors that contributes to the mental health problems.

Methodology:

Research Design: It is a descriptive cum analytical study where the primary data was collected through a questionnaire. The secondary data was collected from Journals and from Internet.

Sampling Method and Sample Profile: Stratified sampling method was used. The sample size of the study was 50 consisting of 28 women and 22 men faculty members respectively. Only faculty members belonging to Assistant Professor Cadre in various Engineering colleges located in Chennai is considered in this study.

Research Instrument: A structured questionnaire was formed based on variables identified from the literature review and discussions with the prospective respondents. It was validated and a pilot study consisting of 10 respondents was done to refine the questions.

Data Analysis: The recorded observations were calculated in terms percentage analysis and the hypotheses testing was done using Chi-Square and ANOVA.

Analysis and Results:

The different tables provide the analysis and major observations of the respondents in terms of percentages corresponding to the various items in the questionnaire.

Demographic Profile

Male Faculty members: 22 were male faculty members among which 18 were married and 4 were unmarried.

Female Faculty members: 28 were female faculty members among which 17 were married and 11 were unmarried.

Findings & Inferences (based on the questionnaire)

1: Do you undergo any kind of physical health problems? :

Significant number of respondents (Table 1) are affected with some kind of physical health problem or other. When asked for the reason, most of them attributed it to their job.

Table 1: Presence of Physical Health problems among the faculty members

| Options | Yes | No |
|---------|-----|-----|
| Male | 60% | 40% |
| Female | 64% | 36% |

2: Do you face any psychological health problems? :

Table 2 shows that 70% of Married faculty members and in case of Unmarried faculty members, 54% of them stated that they go through some kind psychosomatic problems. Married respondents showing greater indication of the same, when inquired for the reason, most of them stated that, work-life balance among married women and insufficient remuneration packages among the married male faculty members are the reasons.

Table 2: Presence of Psychological Health problems among the faculty members

| Options | Yes | No |
|-----------|-----|-----|
| Married | 70% | 24% |
| Unmarried | 54% | 30% |

3: Which of the following physiological health problems do you consider to have evolved out of work related aspects? :

When asked about the reasons for Hypertension (73%) and Diabetes (43%), majority of them felt that it is due to role ambiguity at workplace. Eye problems (81%) are due to usage of computers and excessive reading. ENT problems (79%) are attributed towards unclean work environment Varicose Veins (4%) is a kind of disorder affecting the veins in the legs, occurring due to long standing hours. All the above are the major health issues that the respondents feel to have arisen from the work related factors.

Table 3: Work Related factors leading to the following physiological health problems among the faculty

| Health Problems | Percentage |
|-----------------|------------|
| Hypertension | 73% |
| Diabetes | 43% |
| Eye Problems | 81% |
| ENT Problems | 79% |
| Varicose Veins | 4% |

4: Among the following, which is the factor which contributes to physiological problems?:

Five major physiological problems were taken into consideration and the corresponding factors that added to the ailment were raised with the respondents. Majority of them stated that they get headache due to heavy work load (65%) and while handling the students (70%). Good number of respondents face respiratory disorders due to dust from the usage of chalk pieces (80%) and unclean environment (75%) and when enquired in detail about the respiratory disorders they reported, persistent cough and cold, formation of phlegm in lungs etc. Due to Improper Ergonomics (58%) and long standing hours while taking classes(92%), musculoskeletal disorders like, neck pain, shoulder pain, back pain, knee pain etc occurred. Excess hours of teaching (74%) and shouting at the students to maintain discipline now and then (62%), contribute to voice disorders. Reasons for weariness are due to work related aspects (89%) and in managing students (78%).

Table 4: Factors contributing towards physiological problems faced by the faculty

| Physiological Problems | Yes | No |
|---|------------|-----------|
| Factors Leading to Headache | | |
| Heavy Work Load | 65% | 35% |
| Handling the students | 70% | 30% |
| Factors Leading to Respiratory Disorders | | |
| Dust from Chalk Piece | 80% | 20% |
| Unclean Environment | 75% | 25% |
| Factors Leading to Muskulo-Skeletal Disorder | | |
| Improper Ergonomics | 58% | 42% |
| Long-Hours Standing | 92% | 8% |
| Factors Leading to Voice Disorder | | |
| Excess Hours of Teaching | 74% | 26% |
| Screaming at students in order to Maintain Discipline | 62% | 38% |
| Factors Leading to Fatigue | | |
| Work Related | 89% | 11% |
| Managing Students | 78% | 22% |

5: What are the factors that contribute to psychological health problems at work?:

To study about this area, 33 samples, who reported psychological problem alone, were considered. From the Table 5, it is clear that excessive work load brings in Stress (9%), Anxiety (2%), Depression (6%) and Tension (6%). Organisational Culture produces Stress (9%), Anxiety (2%), Depression (2%) and Tension (6%). Role Ambiguity is learnt to be the major aspect affecting the mental health of the faculty with Stress (6%), Anxiety (6%), Depression (6%) and Tension (9%). Management of students leads to Stress (2%), Anxiety (6%), Depression (2%) and Tension (2%). Teaching is a field that requires continuous updating and additions of credentials to the qualification. Thus some faculty members consider that pursuing higher studies, which the job demands, poses threat to mental health which is evident with the data, Stress (2%), Anxiety (0%), Depression (0%) and Tension (9%). It is evident that

a mix of all factors at the work area leads to psychosomatic problems. When asked to the respondents, whether they sense that these mental health hazards leads to damage of their physical health, they admitted it and majority of them clearly stated that when mental health is affected, it is clearly visible in the physic. The frequent problem undergone is Headache due to mental pressure.

Table 5: Psychological Health problems faced by the faculty and factors contributing it

| Factors/ | | | | | |
|------------------------|-----------------|-------------------------|-----------------|----------------------|-----------------------|
| Mental Health Problems | Heavy Work-load | Organis-ational culture | Role Ambi-guity | Students Manage-ment | Pursue higher Studies |
| Stress | 9% | 9% | 6% | 2% | 2% |
| Anxiety | 2% | 2% | 6% | 6% | 0% |
| Depression | 6% | 2% | 6% | 2% | 0% |
| Tension | 6% | 6% | 9% | 2% | 9% |

Hypothesis Testing

The chi-square test is used for testing the null hypothesis, which states that there is no significant difference between the observed and expected frequency results.

Formula used for calculating Chi-Square is:

$$\chi^2 = \sum \frac{\{(O - E)^2\}}{E}$$

As degrees of freedom, $df = (r-1)(c-1)$, where r is the number of rows and c is the number of columns in the contingency table.

H₁-H₀: Female faculty members don't face more physical health problems compared to Male faculty members.

Table 6: Contingency Table for Chi-Square Test for Hypothesis 1

| Gender/ Options | Yes(O) | No(O) | Total |
|------------------|------------|------------|--------|
| Male | 13(13.64)* | 9(8.36)* | 22 |
| Female | 18(17.63)* | 10(10.64)* | 28 |
| df=(2-1)(2-1) =1 | 31 | 19 | N = 50 |

In the table, (O) represents, observed frequency and (E)* represents expected frequency.

The calculated Chi-Square value is 0.1411. At $\alpha = 0.05$ and $df = 1$, the critical table value for Chi-Square = 3.84.

Here, the calculated chi-square value $0.1411 < 3.84$ (Table value). Hence, the Null-Hypothesis is accepted. Therefore it is proved that female employees don't face more physical health problems compared to Male faculty members.

H2- H0: There is no relationship between marital status and psychological problems faced by faculty members.

Table 7: Contingency Table for Chi-Square Test for Hypothesis 2

| Marital Status/ Options | Yes | No | Total |
|-------------------------|-----------|-----------|--------|
| Married | 25(23.1)* | 10(11.9)* | 35 |
| Unmarried | 8(9.9)* | 7(5.1)* | 15 |
| df=(2-1)(2-1) =1 | 33 | 17 | N = 50 |

In the table, (O) represents, observed frequency and (E)* represents expected frequency.

The calculated Chi-Square value is 1.5321. At $\alpha = 0.05$ and $df = 1$, the critical table value for Chi-Square = 3.84.

Here, the calculated chi-square value $1.5321 < 3.84$ (Table value). Thus, the Null-Hypothesis is accepted. Therefore it is proved that there is a relationship between marital status and psychological problems faced by faculty members.

Anova

Analysis of variance is a technique used to test equality of means, when more than two populations are considered. Two-Way Classification method is used in this case. In this, we consider one classification along column-wise and the other along row-wise.

The methodology involved find **N**, the total number of observations and then find **T**, the total of all observations. After that, find **T²/N** which is called as the correction factor. Then calculate the total sum of squares (SST)

$$SST = \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \dots - T^2/N$$

Calculate column sum of squares(SSC).

$$SSC = (\sum X_1)^2 + (\sum X_2)^2 + (\sum X_3)^2 + \dots - T^2/N$$

$$\begin{array}{ccc} \text{-----} & \text{-----} & \text{-----} \\ N_1 & N_1 & N_1 \end{array}$$

In the same way calculate row sum of squares (SSR). Then, $SST = SSC + SSR + SSE$ (Error)

H_3 - H_0 : There are no significant differences between mental health problems faced by the faculty members and there is no significant difference between the factors that contributes to the mental health problems faced by the faculty.

Table 8: Table for ANOVA Test for Hypothesis 3

| Source of Variation | Sum of Square | Df | Mean Sum of Square | Variance Ratio |
|---------------------|---------------|-----------|--------------------|--------------------------------|
| Between Rows | 4.15 | 4 | 1.0375 | $F\{r\}=1.0375/0.675 = 1.537$ |
| Between Columns | 4.3 | 3 | 1.4333 | $F\{c\}=1.4333/0.675 = 2.1234$ |
| Error | 8.1 | 12 | 0.675 | |
| Total | 16.55 | 19 | | |

The calculated ANOVA value between rows is 1.537. At $\alpha = 0.05$ and $df = (4,12)$, the critical table value for ANOVA = 5.91.

Here, the calculated chi-square value $1.537 < 5.91$ (Table value). Thus, the Null-Hypothesis is accepted. Therefore are no significant differences between rows.

The calculated ANOVA value between columns is 2.1234. At $\alpha = 0.05$ and $df = (3,12)$, the critical table value for ANOVA = 8.12.

Here, the calculated chi-square value $2.1234 < 8.12$ (Table value). Thus, the Null-Hypothesis is accepted. Therefore is no significant relationship between mental health problems faced by the faculty members and there is no significant difference between the factors that contributes to the mental health problems faced by the faculty.

Recommendations and suggestions:

Recommendations to the managements of Eng. colleges

- The Management of the various colleges must set up an advisory committee for faculty assistance with counsellors for guidance.

- Provide training to the faculty members on the means to manage psychosomatic and physiological problems at work on the areas like need for prevention of hazards and means to overcome in case it occurs.
- Develop realistic expectations on work load.
- Allot reasonable time limits for completion of various tasks like acquiring higher qualification.
- Adopt a joint action approach to silent issues rather than putting the teachers alone in the front.

Suggestions for Faculty

- Assess Physical, Mental and Social wellbeing on a regular basis to monitor the current standard of health.
- Seek out discussion with knowledgeable peers and experts concerning specific clinical and professional challenges.
- Pay attention to balancing work and life.
- Be aware about the occupational risks that pose a threat to health.

Conclusion

The result of the study indicates that the health indicators are not high at the negative mark. But still the health of the faculty members must be a great concern, though the indications are not that alarming. As an individual, every faculty member must take care about their personal health and the management should also give a thought on this dimension, as teachers are the pillars of any educational institution.

Limitations of the study & scope for future Research:

While this research has focused on the physical and psychological based health hazards faced by teaching professionals, the area of psycho-social based factors is left to be explored. The sample size and base were limited to about 50 respondents in Chennai region and only the faculty members working in private engineering colleges were considered for the study; further studies could include larger sample base with respondents from different states of the country to comprehend the diverse regional perspective on the same.

This research can be further complemented by doing comparative study on the impact levels of occupational hazards among faculty members in government aided and private colleges, to get into broader perspective of the case.

References

- [1]. Milan Shrestha (2011). Occupational health hazards among university teachers of Nepal, http://wwwmilanshrestha.blogspot.in/2011/09/occupational-health-hazards-among_549.html
- [2]. T. Mariammal et al (2012). Work influenced occupational stress and cardiovascular risk among teachers and office workers, Journal of Chemical and Pharmaceutical Research, 2012, 4(3):1807-1811, ISSN : 0975-7384.

[3]. Dr Juliana Jalaludin (2012). Association between Occupational Stress and Respiratory Symptoms among Lecturers in University Putra Malaysia, *Global Journal of Health Science*; Vol. 4, No. 6; 2012 ISSN 1916-9736 E-ISSN 1916-9744.

[4]. Alan H.S.Chan et al (2010). *Work Stress of Teachers from Primary and Secondary Schools in Hong Kong*, IMECS, Hong Kong, 2010. ISBN: 978-988-18210-5-8, ISSN: 2078-0958.

[5]. Pooja Holeyannavar (2009), *Stress and Emotional Competence of Primary School Teachers*, *J Psychology*, 3(1): 29-38 (2012)©Kamla-Raj 2012.

[6]. Chong and Yin Ling (2006). *Occupational health problems for teachers from primary and secondary schools in Hong Kong* City University of Hong Kong, 2006.

[7]. Viviane Kovess-Masfety et al (2006). Do teachers have more health problems? Results from a French cross-sectional survey, *BMC Public Health* 2006, 6:101 DOI:10.1186/1471-2458-6-101, © 2006 Kovess-Masfety et al; licensee BioMed Central Ltd.

About the Authors

R. Harini Hingnekar, Assistant Professor in Meenakshi Sundararajan School of Management, Ph.D scholar at Bharathiar University: rhh.mssm@gmail.com

Dr. D. Nisar Ahmed, Director and Professor in Management Studies, MEASI Institute of Management, Research Supervisor of HariniHingnekar:d_nisar@yahoo.com