

## Primary School Teachers and Occupational Health: Blood Pressure, Voice Hoarseness, Allergy

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**Abstract**— this study aims to analyze occupational disorders prevalent on female teachers of primary schools in comparison with official employees in Mashhad, Iran. Totally 200 educational and official staffs were randomly chosen by cluster sampling method. Then they have been questioned using structured questionnaires in person with reliability (Cronbach's Alpha measures more than 0/7). Research hypothesis have been analyzed using inferential statistics namely Chi-square and regression. Results have shown that there has been a significant difference on systolic blood pressure, Voice Hoarseness, Allergy mean between two study groups. In addition, the relations of age, job experience, anxiety and depression have been analyzed. Moreover, only job experience factor showed a meaningful significance on the rate of high systolic blood pressure. The findings highlight substantial support for teachers in a number of areas, which need to be addressed by managers. Our study confirms the need for rehabilitation and teacher support services in order to try and retain experienced teachers in the profession.

**Keywords**- occupational health; Teachers; Blood Pressure; voice hoarseness; allergy

### I. INTRODUCTION

People have to work hard to meet their needs all around the world. Sometimes the circumstances are such that affect individual's physical and mental condition which in turn leads to the reduction of individuals life qualities. As Bertalanffy, L. notes bio-balance unlike closed ecosystem balance is not static but dynamic. Bio balance is the target goal of every living creature. Accordingly, the effects of job on human beings are inevitable while it will be possible to lower this damages and disorders.

However, in industries and due to the clarity of disease causing factors, it is easier to control the circumstances, while in educational systems, specifically classroom setting, these factors are less tangible and so it theoretically and in application would be difficult to identify and study them. As a result, less attention has been paid to these factors. It is clear-cut that in any society developments on the side of work force are highly effective in optimizing of economy and improvement of social status. Therefore, maintaining and increasing the number of work force without paying attention to employee's health and considering financial, spiritual, psychological, physical, and emotional conditions is not effective. Also without caring about occupational health factors development would not be gained.

According to WHO and ILO, occupational health means the science and the art of providing employees with the highest rate of health, maintaining this high quality, and enhancing the health of work force. While maintaining this capital by providing a safe workplace, choice of appropriate workers for different positions, matching work condition with workers psychological and physical condition, accident preventions, and occupational disease, training personal hygiene and work related issues, precocious diagnosis and treatment of diseases, paying attention to employees problems and issues and their relatives to help every individual worker to benefit from utmost health.

Occupational disorder as a "disease related to a specific occupation which is the outcome of a specific condition created has been defined by that specific occupation. In this study the prevalence of occupational disorders in primary school teachers have been discussed.

There has been an enormous increase in research into occupational health over the last decade. Many studies have implicated occupational disorders in the etiology of a number of physical and psychiatric ailments such as Coronary heart disease, skin diseases, Ulcers [1][2]. In addition, occupational disorders can hinder effectiveness at work and lead to low performance, job dissatisfaction, poor motivation, absenteeism and turnover [3]. Reference [4] and [5] opined that, teachers regardless of what level they teach are exposed to high levels of stress. In some extreme cases, they may suffer from burn out as well [6]. The fact that teachers are exposed to high level of stress can be an international phenomenon [7]. The relationship between blood pressure and self-reports of physical symptoms and job-related problems has shown different significantly with respect to reported physical symptoms, with THT reporting the most and UHT the fewest symptoms. In addition, it revealed an inverse association between diastolic blood pressure and the number of reported physical symptoms in untreated subjects. However, no significant results with respect to work-related problems were obtained, except for a group gender interaction on job-related irritation [8]. Chronic work stress and exhaustion is associated with higher allostatic load in female schoolteachers [9]. To analyze the prevalence and impact of voice problems in primary school teachers, has been identified many risk of occupational voice disorder. Results suggest that 27% suffered from a voice problem, 53% an intermittent voice problem, while only 20% had no voice problem. Teachers of the junior classes

were more vulnerable to developing a voice problem than those of senior classes. The most common symptoms were dry throat and vocal fatigue [10]. Ill health retirement in Scottish teachers: process, outcomes and re-employment to identify retirement experience and predictors of re-employment in Scotland [11]. Prevalence of job stress among primary school teachers in South-west, Nigeria determined the job stress among primary school teachers. It also has found the symptoms of job ill health that teachers have developed after they became teachers [12]. Relationship between quality of life and occupational, stress among teachers explored major changes in education system and limited resources supplied by the government in Chinese teachers. They have been suffering from greater occupational stress in recent years. In china, teachers have a lower health status than general population. The quality of life of female teachers is worse than of male teachers and deteriorates with age. Occupational strains induce worsening physical and mental conditions for teachers. This study suggested that having adequate coping resources, especially social support, in workplaces may be an important factor for improving teacher's quality of life. [13].

Different subjects for teacher's occupational health have been indicated in other studies. In Japan (1938), approximately 40% of teachers have been suffering from diseases like chronic headaches, depression and anxiety. Teacher's occupational stress and exhaustion have studied in southern Illinois [14]. Stress due to severe emotional-physiological problems of male teachers [15]; sex differences and teachers occupational exhaustion [16]; viral gastroenteritis epidemic [17]; The influences by situational and personal variables/tension providers in work environments/ functional misperceptions/social support on the teacher's occupational exhaustion [18]; arterial blood pressure prevalence among teachers of Sophia, Bulgaria due to age, weight and smoking [19]; the relation between retirement and occupational stress in Quebec, Canada [20]; hand eczema (Atomic Dermatitis) among teachers [21]; Teachers stress related to symptoms of stress in adult schools of Australia [22] respiration disorders among teacher teaching industrial design planning of Sweden [23]; ocular health in Brazil [24].

According studies, majority of the teachers usually need to identify the symptoms of job ill health that teachers have developed after they became teachers. The role of occupational health engaged as two important work-related self-regulatory dimensions and teachers' instructional performance in the classroom. Particularly primary school teachers are at risk as they have little opportunity for rest during the working day.

This study seeks to find out various disorders of teachers that teachers are exposed to. It also seeks to identify the symptoms of job disease that teachers have developed after they became teachers that will also suggest recommendation to how teachers control the effects of job and solve the problems.

## II. METODOLOGY

Identify and comprise teachers' occupational health with official staffs is aspect of research that have rarely been studied in Iran.

This research has been conducted because of a description of scientific - comparative methodology. Researchers in three sections have prepared completing preliminary studies and literature review, a questionnaire consisting of 14 multiple-choice questions. In section one the records of personal information related to age, education, job experience, disorders history of the individual and his/her family, the history of taking medicines were obtained using digital stethoscope (Omron R1), centimeter tape, and scale. Section 2, which contains questions on disorders, their symptoms and disorders on 12- body systems, was provided based on Barbara Betides recording accounts form. Part three, which is on psychological disorders consisting of five subcategories of depression, anxiety, phobias, obsessive-compulsive disorder and suspicion. This is based on diagnostic criterion of DSM\_IV.

To analyze validity of the information specialists were consulted. In addition, in analyzing reliability of the test, SPSS software has been applied and a result cronbach's alpha (more than 0/7) was obtained.

Sample study group consisted of 100 female primary school teachers and 100 official staff members of schools in Mashhad, Iran. They were randomly chosen by cluster sampling method, they, after being homogenized, have been tested. Table 1 shows the comparison between two groups based on their homogeneity on different interfering variables, while in table II the comparison between age and job experience of both sample groups (teachers and staffs) has been offered.

TABLE I. THE COMPARISON BETWEEN TWO GROUPS BASED ON THEIR HOMOGENEITY ON DIFFERENT INTERFERING VARIABLES

History survey	p	df	sig
Level of education	0/91	6	NSig
Pass medical history	0/201	1	NSig
Surgery history	0/247	1	Sig
Cause of hospitalize	0/756	35	NSig
Occupational accident history	0/887	1	NSig
Sport activity history	0/156	1	NSig
Drug history	0/323	18	Sig
Family history	0/546	1	NSig

TABLE II. THE COMPARISON BETWEEN AGE AND JOB EXPERIENCE OF BOTH SAMPLE GROUPS (TEACHERS AND OFFICIAL STAFF)

group	teacher					Official staff					t
	Me an	SD	n	Mi n	M a x	M e a n	SD	n	M in	M a x	
Age	46/39	5/49	95	38	60	45/8	5/67	99	38	63	0/104
Job experience	26/50	4/66	98	20	39	24/29	3/68	98	20	33	0/001

### III. RESULTS AND DISCUSSION

Concerning occupational disorders, Table III shows prevalent disorders among teachers and staff. Studying and comparing 12 body system disorders, only skin diseases; vasco-cardial deficiencies, high blood pressure disease, and voice hoarseness have showed a significant difference on both teachers and staff.

TABLE III. PREVALENT DISORDERS AMONG TEACHERS AND STAFF

disorders	Chi-square	df	p	sig
skin disorders	14/1	7	0/049	Sig
head & neck disorders	0/1	1	0/778	NSig
ear, nose & throat disorders	0	1	1	NSig
mouth & tooth disorders	1/7	1	0/197	NSig
larynx disorders	59	1	0/014	Sig
cardiovascular disorders	0	1	1	NSig
Gastro intestinal disorders	1	1	0/321	NSig
Musculoskeletal disorders	0/3	1	0/572	NSig
Nervous system disorders	0/4	1	0/511	NSig
Hematologic disorders	1/3	1	0/253	NSig
Endocrine disorders	3	1	0/591	NSig
Psychological disorders	0/9	1	0/357	NSig

TABLE IV. SYSTOLIC BLOOD PRESSURE

group	systolic blood pressure								
	mean	SD	n	mi n	ma x	df	p	t	sig
Teacher	12/01	2/03	82	7	19	167	0/043	3/1	sig
Official staff	11/41	1/76	87	7	19				

### IV. CONCLUSION AND RECOMMENDATION

Developments in all societies depend on the type and the quality of school activities. Psychological and physical disorders as destructive phenomena not only do cause severe damages but also lead to increase in the number of absences, low energy, and less work efficiency by teachers. This in turn reflects itself into the whole functions of society.

Teaching in Iran, has been regarded by many as no job, to the extent that most people who engage in teaching today hold on to the job because they have nothing else to do. Even though, they teach to earn their living yet, they engage in the job pending the time they get a better offer.

Unfortunately, although teachers play a significant role in educational system, there have been a limited number of research basis on educational settings. It is necessary to enhance the quality of their lives to maintain their physical and psychological health. It is expected that if educational

ergonomics are put in place and applied in practice, occupational disorders among teachers would be eliminated.

This study indicated that three disorders have been more prevalent among teachers in comparison to staff namely systolic blood pressure, allergy and voice hoarseness. It is concluded here that a percentage of teachers suffer from high blood pressure, and factors such as age and job experience lead to high systolic blood pressure.

The main causes of this high pressure aside from age and job experience have been stress and emotional stress which have been considered as a sever risk for teachers in all studies conducted. Therefore, eliminating emotional and environmental stress is of a great importance to treat blood pressure. General provisions include elimination of stress, dietary treatments, regular exercise, losing weight and control of other hazardous factors leading to the emergence of the illness.

In the classroom setting and due to the use of allergic tools, unfavorable air conditioning and closed environment teachers are at risk of becoming allergic.

In teaching –learning process, diseases of larynx (voice hoarseness) are common. Voice disorders were very common in our study of primary school teachers. Those most frequently affected taught the younger classes. Further intervention is needed to identify and minimize risk factors and reduce the negative impact of voice on the individual and on work.

The limitations in the changeability of the frequencies and the effects on the vocal cords lead to this problem. It is suggested to proper provisions be taken in order to improve teachers occupational health.

The findings of the study have shown that teaching work needs to be restructured. This is because there are more non-trained teachers than trained teachers in primary schools are. In addition, the findings highlight substantial lack of support for teachers in a number of areas which need to be addressed by managers and employers. Our study confirms the need for rehabilitation and teacher support services in order to try to retain experienced teachers in the profession. Therefore, based on the findings of the study, the following recommendations were made,

- 1) Teachers' working conditions should be improved by Providing some social facilities
- 2) Teachers should also create time for themselves to relax in some designated recreation centers.
- 3) Teachers should cultivate the habit of playing sports as a means to cope with disorders
- 4) The school curriculum should be restructured to include both teachers-centered and students-centered co-curricular activities as regards to inter-house sporting activities in the schools
- 5) All teachers in the schools should have general knowledge of health education to be able to cater for their well-being at work and beyond
- 6) Rethinking policy and practice with the intention of identifying preventative action to improve the occupational health of professional educators.

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