

Review Article

Health Implications of School Teachers - A Review

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ABSTRACT

Teaching is considered as a noble profession as it moulds the future of children. However, studies have indicated that this profession is one of the most stressful occupations in the world. It involves many aspects of an individual's life such as mental, organizational, physical and cognitive disturbances. Studies have pointed out that several risk factors are associated with teaching job and in the long run, it will induce many health problems such as CVD, Obesity, hypertension, hyperlipidemia, glucose intolerance, IR, and may cause discomfort and dysfunction in many organs. Some of the disease identified after an individual take up the teaching profession in schools are generalized health problems due to environmental conditions prevailing in the school are musculoskeletal disorders, hypertension, voice problem to name a few. This review paper gives a condensed version of the research done on this topic during the past two decades both in India and globe wise. More research are required to classify the disease pattern based on the workload of school teachers. The contents of this review article will serve as an eye opener for future research and to bring out standardized guidelines to be followed for school teachers.

Key Words: QWL, QOL, CVD, Teachers health, Stress, BP, Disorder.

INTRODUCTION

Lifestyle and nutritional status are inextricably linked and both interplay to influence health and well-being of individuals. Lifestyles are known to determine the risks for developments of cancers, stress, circulatory diseases, and other chronic health problem.

Teaching has been reported to be one of the most stressful occupations in the world. Workload is a common reason for teachers to leave the profession. Workload is a term that introduces how much an operator uses epistemological and physical sources for doing a job. Workload is a multi-dimensional and complicate structure that is impressed by external needs of task, mental, organizational factors and cognitive

capabilities. Work environment is formed by physical, mental and social motives and each of these factors could be one of the burnt-out factors, which in turn could induce undesirable effects on the both physical and mental welfare. [1]

Numerous studies related to teaching profession have pointed out the impact of physical activity upon the risk factors for the development of cardiovascular diseases (CVD), overweight/obesity, arterial hypertension, hyperlipidemia, glucose intolerance; insulin resistance (IR) may cause discomfort and dysfunction of various organs. The different forms of work, reflected in their organizational aspects, may cause various health consequences and compromise the quality of life of teachers.

According to the World Health Organization (WHO), quality of life (QOL) is based on the individual's position in life, in the context of culture and the system of values in which they live in as well as their goals, expectations, standards, and concerns. The overall risk for CVD development has been significantly higher in the group of male than in the group of female physical education teachers. Mild systolic hypertension (>159 mmHg) was found in 32.3 percent of male and 9.2 percent of female teachers, and hence it is important to maintain good nutrition and regular physical activity for teachers to maintain good health and be a role model for their students. To overcome occupational stress, studies have suggested some measures which could prove beneficial to teachers in coping with stress are: improved self-esteem, build self-confidence, work on building emotional intelligence competencies, develop a good sense of humor, practice yoga and meditation, exercise regularly, foster a supportive friend circle, cultivate hobbies, develop effective communication. [2]

The percentage of teachers with long-term diseases in the schools in Germany was around 3.8 % in 2013. Female teachers suffer from long-term diseases more frequently than male teachers (4.5 vs 3.3%). The percentage of long-term diseases was 5.3% in the former East Germany and 3.0 percent in the former West Germany. Psychological and psychosomatic diseases (32% to 50%) are the most common reasons for early retirement among teachers, and women tend to suffer more frequently than men. Disorders of the musculoskeletal system, cardio vascular system, and digestive system were the most common complaints among teachers and other working individuals in the former German Democratic Republic. The other stress factors cited by teachers themselves are time pressure, working hours, noise in school, excessively large class sizes, problems with school authorities, lack of autonomy, student's behavioral problems, lack of motivation, parent's behavior and low social

status. Teachers always rate stresses caused by school as high to very high. However, this should not only be interpreted as a risk to health. According to a study, 9.6 percent of teachers had systolic hypertension and 17 percent had diastolic hypertension. In addition, 36.8 percent and 35.8 percent of teachers were overweight and obese respectively and 28.1 percent of teachers had abnormal Plasma Glucose (PG) level, 9.9 percent had impaired fasting glucose (IFG) and 18.2 percent had diabetes. For male's teachers, the prevalence of both pre-hypertension (50.7 percent) and hypertension (29.5 percent) was significantly higher than female's teachers. The prevalence of hypertension was 14.4 percent for normal weight teachers compared to overweight and obese, respectively. In Austria, 14 percent of teachers rate their health as excellent, and 37 percent as very good and 28 percent as no illness. The dominant psychosomatic complaints are found to be exhaustion and fatigue, headaches, tension, sleep and concentration disorders, inner restlessness, and increased irritability. [3]

Teachers have been increasingly presented with significant occupational health problems. They have been assigned an increasing number of activities, which exceed those traditionally allocated to this profession. These activities are held mainly responsible for the success or failure of educational results. In a study conducted in Vellore district in Tamil Nadu with Twenty Seven higher secondary teachers, concluded that both male and female teachers were at higher risk of physical health problems due to occupational stress. [4]

The concept of Quality of Work Life (QWL) is based on the assumption that a job is the core of a person's life, and this value progression is to meet the twin goals of enhanced effectiveness of organization and improved quality of life at work for employees. High quality of work life is to be ensured by educational department to attract and retain teachers. Program should be designed to improve QWL of teachers

and high quality indicate a deep and stable values among teachers job security, equitable pay, rewards, justice in the work place, control over self, and contribution to individual and school effectiveness. Hence the school environment and school practices cater to the improvement of these components of QWL. Significant difference was found between male and female secondary school teachers with respect to QWL. It is found that the female teachers have a better QWL than their male counterparts. In the post-modern era, several factors which have evolved have led to an increase in concern for QWL, and its concept for a teacher is based on the assumption that a job is more than just a job. It is the core of a person's life. [5]

THE IMPACT OF TEACHING ON THE QUALITY OF LIFE

The employment of women whether by choice or necessity had a deep impact on basic institution of family. The increase in the activities of women at work may not only result in paucity of time of association with family members but also mark a change in the behavioral characteristics of women. Teachers carryout the role of moulding the life of children effectively, but at the same time face stress as they are dealing with young children who are difficult to handle. A study indicated that 40 per cent of teachers had average and low physical and personal stress, while 20 per cent showed high level. The sources of stress for the school teachers are heavy workload, delayed salaries, duties other than teaching, lack of co-operation from head and colleagues, political interference, students' misbehavior and negative community attitude. All these stress factors have an impact on the health of the teachers. [6]

Strongly motivated, skilled, well-supported teacher, the arch of excellence sometimes may collapses. The teacher is the keystone of quality." Education research has continued to show that an effective teacher is the single most important factor of

student learning. It is also helping professions in which practitioners are normally committed to giving their best for the welfare of those entrusted in their care. While the commitment is laudable, the consequences can be detrimental when the job demands overshadow of the individual's coping resources, as well as the job rewards; thus leaving the practitioner feeling unhappy and unable to perform well. [7]

PREVAILING SCENARIO ON THE ROLE OF SCHOOL TEACHERS

Teachers around the world decide to enter the profession for different reasons, but they all share the need for appreciation, autonomy and affiliation during their professional careers. Research has shown that wherever teachers have been asked about their priorities and satisfiers, in South America, Sub-Saharan Africa, Europe, or North America, they refer to the importance of recognition and respect for their daily challenges all of which shape the status of the teaching profession and play a crucial role in delivering quality and ensuring equity in education. Teaching profession is highly valued in society, such as Finland, Singapore, and South Korea and students seem to learn more effectively. Moreover, teachers' positive sense of their status is closely linked to other aspects of quality education, including continuous professional development, engagement in research, collaboration and exchange with other teachers as well in decision-making. [8]

California female teachers are truly at risk of endometrial and cervical cancers (i.e., those with an intact uterus), among all women irrespective of hysterectomy status compared to the California incidence rates which do not exclude women with hysterectomies. They have substantially at higher risk of lymphoma, and the majority of lymphoma patients diagnosed with Non-Hodgkin's lymphoma and their breast cancer incidence rate was 51 percent higher than the incidence rate for California non-Hispanic white women. The risks of both ovarian cancer and breast cancer have been

related directly to a female teacher's cumulative lifetime number of ovulatory menstrual cycles. As such, low frequencies of lactation are risk factors for both cancers. Being teaching women, reduced her time in lactation may be a cause for cancer. Endometrial cancer also shares risk factors with breast cancer, particularly postmenopausal obesity. Endometrial cancer is also related to use of estrogen replacement therapy and breast cancer risk is also increased by use of postmenopausal hormones, particularly combined estrogen and progestin regimens. [9]

The teachers' lifestyle was characterized by low performance of physical activity, meal skipping and low dietary diversity. There was high rate of overweight among the male, and obesity among female teachers. These conditions may reduce their productivity and also predispose them to non-Communicable diseases later in life which may also negatively influence the dietary habits of students. [10]

CHALLENGES AND HEALTH IMPLICATION OF SCHOOL TEACHERS

It is a common understanding that teacher quality is a crucial input in explaining student outcome, but that observed measures of teacher quality like education and experience turn out to explain very little of the variation in student outcome. Teachers working in schools with many disadvantage students may be more often confronted with stressful and challenging situations. Female teachers are about 2.5 percentage points higher than average sickness among male teachers. [11]

Overall, teachers manifesting high levels of stress also show signs of high levels of psychological distress, usually demonstrated by high anxiety and low psychological wellbeing, as well as decreased job satisfaction. Burnout is a negative affective response occurring as a result of chronic work stress. While the early theories of burnout focused

exclusively on work-related stressors, recent research adopts a more integrative approach, where both environmental and individual factors are studied. As a teacher he/she will be pushed at a stage of multi task in their day to day life leading to different work related health problems in them. The three main types of occupational health problems of the teachers are voice problems, musculoskeletal disorders, and contact dermatitis. Apart from this, a major health problem that teacher's face, are cancer, CVD and hypertension. [12]

Across different countries, school teachers are among those professionals with the highest levels of job stress and burn-out on the job, and many teachers retire early because they feel burned out. Consequently, international research and practice has made great efforts to understand and prevent teacher burn-out. Moreover, there is yet no research on how perfectionism relates to teachers' coping with job stress. This robs the individual of the will to achieve, and contributes to the development of a lowered sense of self-esteem, decrements in work performance, cynicism and apathy. Since too much stress will affect the teacher's physical, psychological and behavioral responses, in return, it will have a negative impact on students. [13]

A study to determine teacher's perceptions regarding selected causes of stress by analyses of variance revealed significant differences between regular classroom and special education teacher's perceptions regarding causes of stress. Regular classroom teacher's perceived lack of respect for teachers and work overload as the most significant causes of stress. The special education teachers perceived excessive paperwork as the greatest cause of stress. In contrast, playground duties and learner violence were perceived by both regular classroom and special education teachers as the least significant causes of stress. It is also indicated that there are differences between special school and ordinary education. [14]

The five stressful working conditions listed by elementary school teachers include inadequate salary, inadequate or insufficient work material, size of the classroom being inadequate for the number of students, excessive activities and taking work home. Other working conditions mentioned by respondents address the difficulty keeping students focused in the classroom, lack of recognition of the profession, noise in the school, excessive workload, school and social demands, and difficulties getting along with colleagues. [15]

A set of related characteristics such as role preparation, job and life satisfaction, illness symptoms, focus of control and self-esteem when analysed showed a heightened sense of efficacy and confidence in their ability to teach and manage learners, may be less vulnerable to stress because they perceive themselves as having the necessary tools to do their jobs. [16]

A study has indicated that teachers working in neighborhoods with a low socioeconomic status have more mental health problems and health-risk behaviors and a poorer psychosocial work environment more often than teachers working in the wealthiest neighborhoods. It is further suggested that improving environmental factors may be important for improving the health of school teachers. [17]

It was interesting to note that increase in experience decreased the percentage of teachers with high stress in physical, personal, occupational, familial, social, psychological and emotional factors. With increase in the experience, the teachers learn to tackle all the stressors effectively. Hence, 70- 80 per cent of the teachers with more than 31 years of work experience indicated low stress with respect to all the stressors and overall stress. [18]

HEALTH PROBLEM OF SCHOOL TEACHERS

General health problems

Most past studies on teachers focused on work stress, mental health

problems, or a single type of physical health problem. Focusing on school teachers' occupational health is important, but little recent research is available. Hence, the health threats confronted by school teachers in most countries are relatively unknown. Varicose vein for teachers may be mainly caused by prolonged standing when teaching classes. It was reported that women were far more apt to suffer from varicose veins when compared with male teachers, although both men and women have chances for varicose vein. It is found that varicose veins in general were more prevalent among women because the prevalence of self-reported varicose veins of the lower limbs was shown to be significantly higher for female than male teachers. Female teachers showed a higher prevalence than male teachers for most subjective health complaints. Women were significantly more vulnerable to musculoskeletal pain, headache, migraine, and stomach pain. They also had a higher prevalence of lower-back pain and anxiety and the higher prevalence of health problems for females could be due to their lower physical strength, higher pressure from their family or career prospects, higher workload, or simply the fact that men and women have different traditions. [19]

The results of health status of teachers working in the mould damaged schools in relation to gender, age, working years in that school, exposure to biological dust under leisure time and mould problems are observed in the female teachers. Further female teachers had more sinusitis and fatigue and they used more irregular medication compared to male teachers and none of the male teachers reported sore throat, when compared with the female teachers. Teachers < 40 years are at the risk of allergic rhinitis, bronchitis, hand eczema and face eczema. [20]

In a study to estimate the relationship between teachers' somatic complaints and illnesses and their self-reported job-related stresses showed 79 percent of the secondary Catholic school

teachers were classified into one of two groups based upon their scores on the Burnout Inventory. Teachers could be correctly classified as burned out or not using 24 somatic complaints as discriminating variables. Burnout seemed to represent a potential health risk to these teachers. [21] The main classes of diagnoses of physical diseases (musculoskeletal, respiratory, cardiovascular, nervous and hormonal disorders) and is important to focus on cardiovascular disorders because female teachers working in Germany showed higher risk of CVD when compared to male teachers. [22]

Autoimmune disease mortality among teachers shows that Rheumatic diseases accounted for 53.1 percent of the total excess in mortality and multiple sclerosis accounted for 39.9 percent. Significantly elevated auto-immune disease mortality occurred for both male and female teacher, white teachers, non-white teachers, elementary school teachers, and secondary school teachers. Excess mortality was significantly greater in secondary school teachers than elementary school teachers. Results substantiate excess mortality from autoimmune diseases among teachers suggest that, relatively early in their careers teachers experience an occupational exposure that increases risk of autoimmune diseases. [23]

CVD are considered major health and economic burdens throughout the world. Risk factors for hypertension & IHD identified among school teachers in Benghazi and Libya are BMI, FPG, gender, smoking index, HDL & family history of hypertension. [24] Probably because of their occupational environment, characterized by permanent contact with people and particularly with children. A study opened the door to the idea that teachers could be at a higher risk of developing infectious diseases by documenting a significant increased risk of Hepatitis A infection in Israel among kindergarten staff and teachers in comparison to the general population. [25]

Musculoskeletal Disorder

Musculoskeletal disorders represent one of the most common and important Occupational health problems in teachers, being responsible for a substantial impact on QOL and incurring a major economic burden in compensation costs and lost wages. In many occupations, musculoskeletal disorder include a wide range of inflammatory and degenerative conditions affecting the muscles, ligaments, tendons, nerves, bones and joints and can occur from a single or cumulative trauma. The work tasks of school teachers often involves significant use of a 'head down' posture, such as frequent reading, marking of assignments and writing on a blackboard. Nursery school teachers, however, also perform a wide variety of tasks combining basic health childcare and teaching duties, and those that require sustained mechanical load and constant trunk flexion. Nursery school teachers have been found to have elevated prevalence of neck, shoulder, arm and low back disorders, and lower-extremity musculoskeletal disorder due to activities which require sustained periods of kneeling or bending. School teachers, in general, report a high prevalence of musculoskeletal disorder with prevalence rates of between 40% and 95%. During the course of their work, teachers may be subjected to conditions that cause physical health problems. [26]

Hypertension

Among risk factors for hypertension, work stress has drawn increasing attention among teachers. The stressful occupational activities are firefighting or school teaching. It is found that the estimated relative risk of arterial hypertension for female teachers was 1.5 times compared with other female employees (designers, researchers) served as controls. Age-related increase in Blood Pressure (BP) is a typical occurrence in most but not all populations. Accordingly, the prevalence of hypertension increases with increasing age, such that more than 1 of every 2 adults older than 60 years of age

has hypertension. Experience in the Framingham Heart Study suggests that the residual lifetime risk for hypertension is 90%, and the probability of receiving antihypertensive medication is 60% for middle-aged and elderly individuals. High BP increases morbidity and mortality from coronary heart disease, stroke, congestive heart failure, and end-stage renal disease. [27]

Voice problem

Teachers are likely to be at risk if they misuse their voice by yelling or use insufficient voice production techniques such as upper chest breathing. Further, teachers are likely to be at greater risk for voice disorders if they have health problems such as reflux, allergy, poor general health or high stress levels, using their voices in environments which are not conducive to safe voice production. There are many possible causes of voice problems and many contributing factors which, although not direct causes, increases person's risk for developing vocal problem. Further individuals vary widely in their susceptibility to voice problems and other factor which causes a voice problem in one person may have no adverse effect on another. The main contributing factors for vocal problems in teachers are lack of knowledge on vocal production techniques & voice care principles, health and stress patterns, characteristics of physical environment. [28]

NUTRITION AWARENESS AMONG SCHOOL TEACHERS

Nutritional status, health status and occupational stress are distinct but interrelated factors. Any variation in one factor will affect other two factors. If there is increase in occupational stress it affects nutritional status and it will create health problems. Changes in health status predispose the occupational stress and initiates nutritional problem. [29] Nutritional health is maintained by a state of equilibrium in which nutrient intake and nutrient requirements should be in balance.

Malnutrition occurs when net nutrient intakes (nutrient intake corrected for abnormally large fecal or urinary losses) is less than requirements. Malnutrition leads to a succession of metabolic abnormalities, physiologic changes, reduced organ and tissue function, and loss of body mass. Thus, individual's outcomes are multifactorial, and attempting to formulate the influence of malnutrition on outcome based on single parameters or simple models fails to consider the many interacting factors. [30] Malnutrition in teachers is the important factor which will influence both the morbidity and mortality as well as recovery. Assessment of the initial nutritional status, then its evolution during the disease or the treatment plays a role for tailoring the nutritional support. [31]

PREVENTIVE MEASURES TO OVERCOME HEALTH PROBLEMS

The social and physical environment of the workplace should be designed to be conducive to recommended behaviors. Optimal environmental modifications should promote healthy behaviors while simultaneously minimizing the physical, organizational, and occupational risk in the work environment. Occupational safety and health are integral components of worksite wellness; workplaces should be free from hazards. [32]

There is substantial evidence to suggest that adoption of an appropriate training regimen by individuals can decrease the rate of decline of many of the musculoskeletal manifestations of age and inactivity. Maximal oxygen uptake is an indicator of peak cardiac function and muscle oxygen utilization. Maximal oxygen utilization is an accurate indicator of the level of athletic fitness. Maximal oxygen utilization declines by 5 percent to 15percent per decade after the age of 25. Age associated changes in cardiovascular function may account for the greatest portion of this decline. Maintenance of an endurance exercise program throughout life can reduce this rate of decline by 50%.

Endurance training has been shown to lead to a 10 percent to 30 percent increase in maximal oxygen uptake in individuals up to the age of 70, after which the fitness training effect is lost. [33] An improper diet, inadequate physical activity, and mental stress are considered to be major components of an unhealthy lifestyle. Reducing chronic diseases and underlying risk factors through good nutritional practices may result in economic benefits, decreased healthcare costs, and greater employee productivity in the workplace. Those that can be adopted in the workplace include ensuring access to healthy foods (eg, fruits, vegetables, whole grains, skim milk dairy products, fish, lean meats and poultry, plant-based meat alternatives) increasing offerings of food choices that are low in saturated fat, trans fat, sodium, added sugar, and providing nutrition labeling at the point of purchase (e.g., in the cafeteria and vending machines). [34]

CONCLUSION

Many studies have been done on the role of school teachers, their life style, job demand, work load and environmental effect caused in the school. Many diseases have been said to occur for school teachers and is directly related to the number of years they have been in the profession as school teachers. The common disease prevalent among school teachers are BP, Obesity, Self induced DM, CVD, Skeletal disorder, Voice problem, digestive disorder, Anxiety disorder, Psychological distress, mental ill health and occupational health problem. All these disease are found to be the result of overwork, life job imbalance, poor and delayed salary, management resulted issues, duties other than teaching, lack of co operation from seniors, political interference, students behavior and negative community altitude. More in depth studies involving various types of schools are warranted to arrive at a standardized protocol to be followed in all government as well as private schools. Parents of the children should also actively participate in

helping teaching community to improve the living and health status of school teachers. Dietician and nutritionist role will be certainly help in maintaining good health among school teachers. More studies should be undertaken in this field to frame standardized protocol to be implemented in all schools.

Conflict of interest - None

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