

*Research Article***Health complaints of teachers in Minia district**Shimaa Anwer Emam¹, Omnia Kamal¹¹Department of Public Health and occupational Medicine, Minia University**Abstract**

Background: Stressful working conditions for teachers became a problem in several countries especially in Egypt. The aim of the study is to describe the prevalence of most common self-reported symptoms of teachers in Minia, Egypt. **Methods:** Cross-sectional study included 485 teachers from 17 randomly selected schools in Minia district, Egypt. Teachers were filling out self-administrated questionnaire. **Results:** Teachers with overweight represented (49.4%). Joint pain and headache were the most common complaints in teachers ≤ 40 years by (30.4% and 25%), while tiredness and lower back pain were the dominant complaints in teachers > 40 years by (65.3% and 60%). Errors of refraction were the most reported complaint in males by (33%), while most of females were suffering from tiredness by (61.7%). **Conclusion:** Teachers in Minia district suffering different health problems. Age, sex and BMI were found to be the most important determinants.

Keywords: Teacher, Minia, BMI, Health complaints**Introduction**

Teaching could be a physically and mentally challenging occupation, as the teacher uses a lot of energy in his daily work in the class-room additionally to his personal and familial commitments, which are continuous source of stress. done to assess OS (Occupational Stress) across twenty-six jobs, and located that teaching was one of the most nerve-racking jobs ⁽¹⁾. Stressful working conditions for teachers have more and more become a problem in several countries (2). The World Health Organization together with UNESCO promotes principles of quality teaching by means that of a Recommendation Concerning the Status of Teachers ⁽³⁾. This Recommendation provides a definition of teachers' responsibilities and rights and sets guidelines for a dialogue among educational authorities, teachers and their respective associations.

Teaching is acknowledged as a strenuous activity ^(4, 5). The stressful conditions faced in a teacher's daily routine would possibly lead to an imbalance between work, physical and mental health resulting in the development of stress ⁽⁶⁾.

The Egyptian education system is facing a lot of challenges including low teachers' salaries, shortage of resources at schools and poor organizational climate for teachers. Those problems were expressed by Egyptian teachers through protests and strikes within the past five years. There complains included salaries, work environment, work pressure and lack of involvement and supervisor's support ⁽⁷⁾. Musculoskeletal disorders (MSD) represent one of the most common and important occupational health

problems in the teaching profession, which although long neglected, has attracted increasing concern in recent years⁽⁸⁾. By definition, MSD include a wide range of inflammatory and degenerative diseases affecting the muscles, joints, tendons, ligaments, nerves and bones, that may be caused by or aggravated by work tasks and by the effects of the immediate environment in which work is carried out⁽⁹⁾.

Working teachers are exposed to different harmful factors in the workplace that may have an effect on their general and vocal health by creating competing sounds resulting in greater vocal strain and demand. Environments with internal and external background noise, classrooms with inadequate acoustics, excessive number of students in a classroom, exposure to dirt and chalk in the classroom are some of the harmful agents that may negatively affect teachers' vocal health⁽¹⁰⁾. Age-related changes, gender-related variation in human vocal anatomy, allergies, upper respiratory infections, drug use, smoking and dehydration of vocal cord surface have also been related to voice disorders⁽¹¹⁾.

Aim of work:

to describe the prevalence of most common self-reported symptoms of teachers in Minia district, Egypt and describe effect of age, sex, physical activity and BMI in these complaints

Patients and methods

Study design: Cross-sectional study was conducted in schools in Minia district, Egypt during the period from January to June 2019.

Study sample: Random sample included 485 teachers from different 17 schools representing private and governmental, urban and rural, boys and girls schools.

Data collection: Self-administrated questionnaire including sociodemographic data, school type and grade, physical activity, watching television and Body Mass Index was calculated and normal weight was designed as $BM I \leq 24.9 \text{kg/m}^2$,

overweight $BMI 25-29.99 \text{kg/m}^2$ and obesity $BMI \geq 30 \text{kg/m}^2$.

Ethical considerations: The study was approved by the ethical committee of the Faculty of Medicine, Minia University. Prior to data collection, official permissions were obtained from the authorities of Directorate of Education in Minia. Following the ethical guidelines of epidemiological research, a written informed consent was taken from each participant.

Statistical analysis:

Data analysis was performed IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp. US). Frequency distribution and percentage for categorical data. Chi square was used. Crude and adjusted odds ratios (ORs) and their 95% confidence intervals (CI_{95}) were calculated. The probability of less than 0.05 was used as the cutoff point for statistical significance.

Results:

Table 1 shows that the majority of teachers were from urban areas (395; 81.4%) and female (243; 50.2%). The mean age was 38 years ($SD \pm 14.3$ years). University graduates represented 87% of teachers. Married teachers were 86.65%. Tiredness, Headache and diabetes mellitus were the most predominant and highly significant complaints in females, while errors of refraction were the most frequent in males (Table 2). Joint pain was the most common complaint in teachers ≤ 40 years old and tiredness was dominant complaint in teachers > 40 years old (Table 3). The adjusted odds ratios (OR) and 95% confidence intervals (CI) for the association between the combined effect of independent variables and the outcome variable (reported complaints). These estimates were obtained by logistic regression analysis. Age, sex, BMI, physical activity and marital status were statistically associated with. Age, sex and BMI were found to be the most important determinants (Table 4).

Table 1: Socio-demographic and lifestyle characteristics of the studied teachers

Socio-demographic and lifestyle characteristics		Total No= 485 No (%)
Age	≤40 years	240 (49.4%)
	>40 years	245 (50.6%)
Sex	Male	242 (49.8%)
	Female	243 (50.2%)
Marital status	Single	49 (10.2%)
	Married	420 (86.6%)
	Widow	10 (2%)
	Divorced	6 (1.2%)
Smoking	Smoker	60 (12.4%)
	Non-smoker	425 (87.6%)
Education	Below university	18 (3.8%)
	University	422 (87%)
	Postgraduate	45 (9.2%)
Residence	Urban	395 (81.4%)
	Rural	90 (18.6%)
School grade	Primary	130 (26.8%)
	Preparatory	150 (30.9%)
	Secondary	140 (28.8%)
	Secondarytechnical	65 (13.5%)
School type	Governmental	410 (84.6%)
	Private	75 (15.4%)
Physical activity	Yes	440 (90.8%)
	No	45 (9.2%)
Using computer >2h/ day	Yes	250 (51.5%)
	No	235 (48.5%)
Watching TV > 2h/ day	Yes	445 (91.7%)
	No	40 (8.3%)
Body Mass Index (BMI)	Normal	80 (16.7%)
	Overweight	240 (49.4%)
	Obesity I	135 (27.8%)
	Obesity II	30 (6.1%)

Table 2: Health complaints in relation to teachers' gender

Health complaints	Male = 242 No (%)	Female= 243 No (%)	Total (485) No (%)	p
Hoarseness of voice	55 (22.7%)	40 (16.4%)	95 (19.5%)	> 0.05
Varicose veins	15 (6.1%)	30 (12.3%)	45 (9.2%)	> 0.05
Errors of refraction	80 (33%)	65 (26.7%)	145 (29.8%)	> 0.05
Headache	30 (12.3%)	80 (32.9%)	110 (22.6%)	<0.0001
Tiredness	50 (20.6%)	150 (61.7%)	200 (41.2%)	<0.0001
Upper back pain	20 (8.2%)	23 (9.4%)	43 (8.8%)	>0.05
Lower backpain	55 (22.7%)	125 (51.4%)	180 (37.1%)	<0.0001
Joint pain	78 (32.2%)	110 (45.2%)	188 (38.7%)	<0.05
Hypertension	65 (26.8%)	85 (34.9%)	150 (30.9%)	<0.05
Diabetes mellitus	15 (6.1%)	90 (37%)	105 (21.6%)	<0.0001
Colon troubles	45 (18.5%)	48 (19.7%)	93 (19.1%)	>0.05

Table 3: Health complaints in relation to teachers' age

Health complaints	≤ 40 years (240) No (%)	> 40 years (245) No (%)	Total (485) No (%)	p
Hoarseness of voice	53 (22%)	42(17.1%)	95 (19.5%)	> 0.05
Varicose veins	8 (3.3%)	37 (15.1%)	45 (9.2%)	<0.0001
Errors of refraction	35 (14.5%)	110 (44.8%)	145 (29.8%)	<0.0001
Headache	60 (25%)	50 (20.4%)	110 (22.6%)	>0.05
Tiredness	40(16.6%)	160(65.3%)	200 (41.2%)	<0.0001
Upper back pain	15(6.2%)	28(11.4%)	43 (8.8%)	>0.05
Lower backpain	33(13.7%)	147(60%)	180 (37.1%)	<0.0001
Joint pain	73(30.4%)	115(46.9%)	188 (38.7%)	<0.05
Hypertension	49(20.4%)	101(41.2%)	150 (30.9%)	<0.0001
Diabetes mellitus	50(20.8%)	55(22.4%)	105 (21.6%)	>0.05
Colon troubles	45(18.7%)	48(19.5%)	93 (19.1%)	>0.05

Table 4: Logistic regression analysis of factors affecting reported complaints of teachers

Variables	OR	95% CI	P-value
Age	3.95	2.86-6.04	0.0001
Sex	3.2	2.07-5.5	0.0001
BMI	2.9	1.7-4.04	0.0001
Physical activity	1.9	1.28-3.6	<0.05
Marital status	2.6	1.1-2.7	<0.05
Smoking	4.5	0.4-51.5	>0.05

Discussion

In the current study, females showed a higher prevalence than males for most subjective health complaints especially musculoskeletal disorders (MSDs) in form of upper and lower back pain and joint pain (9.4% vs 8.2%), (51.4% vs 22.7%), (45.2% vs 32.2%) respectively. A similar gender difference was found in previous studies of Elaine and Alan 'study as they reported high percentage of females than males in lower-back pain (52.6 vs. 45.1%), upper-back pain (50.8 vs. 41.5%), joint pain during physical activity (51.4 vs. 40.0%)⁽¹²⁾. That was contrary to Camilla's findings and his colleagues⁽¹³⁾.

In current study the varicose vein was the most predominant and highly significant complaints in females than males (12.3% vs 6.1%) that was coincide with that recorded by Mitsumasa and his colleagues who found that varicosities were significantly more common among women than men (0.31% vs. 0.08%)⁽¹⁴⁾. The study conducted by Lee's and his colleagues also assumed that varicose veins occurred predominantly in women by 95%⁽¹⁵⁾.

The prevalence of eye problems and dysphonia were found to be higher in male teachers (22.7%, and 33%) respectively. That was completely coincide with Viviane's study and his colleagues⁽¹⁶⁾. The results in contrary to study conducted by Cláudia and Marco who found that the prevalence of self-reported voice problems in teachers was 47.6% and most of them were females (86.8%)(16). Female teachers more often reported more voice problems than their male colleagues as mentioned in Simberg's study and his colleagues⁽¹⁷⁾. The percentage of female teachers reported higher prevalence of watery eye than that of male as mentioned by Elaine and Alan⁽¹²⁾.

In our study female teachers had significantly higher means on tiredness, headache, and colon troubles (32.9%, 61.7%, and 19.7%) respectively. Also, women were significantly more vulnerable to headache, tiredness, and colon troubles (32.9%, 61.7%, and 19.7%) respectively. Also, the same results by Eriksen who noticed that female teachers were significantly more vulnerable to headache, tiredness and colon troubles⁽¹⁸⁾.

Influence of gender on hypertension and diabetes mellitus prevalence had been observed among female teachers who showed higher prevalence than male teachers (34.9% vs 26.8%) and (37% vs 6.1%) respectively. That was contrary to Nahla 's study that showed male teachers recorded higher prevalence (29.5 % vs female teachers 20.4%) and Al Nozha's study in Saudi Arabia (28.6% vs 23.9%)^(19,20).

Regarding influence of age on different complaints we found that older teachers above > 40 years showed significant high prevalence of most problems including Varicose veins (15.1% vs 3.3%), Errors of refraction (44.8% vs 14.5%), Tiredness (65.3% vs 16.6%), Upper back pain (11.4% vs 6.2%), Lower back pain (60% vs 13.7%), Joint pain (46.9% vs 30.4%), Hypertension (41.2% vs 20.4%), Diabetes mellitus (22.4% vs 20.8%), Colon troubles (19.5% vs 18.7%) respectively. Only the prevalence of hoarseness of voice and headache were higher among younger teachers ≤ 40 years (22% vs 17.1%, and 25% vs 20.4%) respectively.

The same results were recorded in the study conducted by Magdy and Shatha (2013)⁽²¹⁾ as they found that increasing age was associated with higher prevalence of MSDs. Our results were also agreed with studies about Brazilian⁽²²⁾ and Turkish teachers⁽²³⁾ which showed that teachers above 40 years were more likely to report MSDs. On the other hand, the Chinese study was showed that younger teachers have also been found to experience MSDs⁽²⁴⁾.

The prevalence of hypertension and diabetes mellitus were shown to be higher among those > 40 year, that were completely agreed with Ewis and Sensor's 2017⁽²⁵⁾. Other studies found that the prevalence of hypertension shown to increase with advancing age as reported Nahla, and colleagues⁽²⁰⁾.

Generally, varicose vein for teachers should be mainly caused by prolonged standing. It was reported that older teachers were far more apt to suffer from varicose veins as prolonged standing at work is

predisposing factor for varicose veins. That was coincided with Bowling's study ⁽²⁶⁾. Also, that was agreed with Elaine and Alan's results ⁽¹²⁾.

As regard dysphonia, the results in current study was opposite to results of Coyle and colleagues, who reported that most of the teachers who presented with laryngeal pathologies and functional voice disorders felt within the age range of 45–64 years old. However, Chi-square analyses in study of Kristen, and Allan indicated no significant relationships between voice disorder prevalence and age ⁽²⁷⁾

In current study the Logistic regression analysis of factors affecting reported complaints of teachers indicated that Age, sex and BMI were found to be the most important determinants. These results were parallel to what were illustrated in the study of Ewis and Sensoy among teachers in Beni-Suef, Egypt ⁽²⁵⁾.

Conclusion:

Teachers in Minia district suffering different health problems. Age, sex and BMI were found to be the most important determinants.

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