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Original Research Article

Professional stress levels among healthcare workers of Nelamangala: a cross sectional study

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ABSTRACT

Background: Occupational stress can impair one's health and reduce the efficiency and productivity of work. Delivering health services in rural areas is a tedious job for healthcare workers due to various factors. Inadequate staffing of workers leading to overloaded work and many other factors make them less motivated and experience work stress.
Methods: A cross sectional study done in Nelamangla, rural field practice area of BMCRI. A multi stage random sampling technique was applied for the study. 5 PHCs were randomly chosen. Healthcare workers (such as LHV, ANM, Health Assistants, ASHA workers and AWWs) were recruited by probability proportion to sample size. 140 study participants were interviewed using pre tested semi structured questionnaire to collect socio demographic details and work related details; validated professional life stress scale was used to assess stress levels. Descriptive statistics and chi square test were used.
Results: 37.1% (52) had mild stress, 52.1% (73) were moderately stressed, 10.7% (15) were severely stressed and none of them were very severely stressed that needed immediate intervention. Working hours, job satisfaction, clarity about work, amount of work exceeding stipulated time, loss of interest at work, not being rewarded and valued for their work are few of the factors that are found to be associated with stress levels.
Conclusions: Work related factors have been the main stressors and higher stress levels might impede the performance of the workers and hence addressing this is necessary.

Keywords: Stress level, Healthcare workers, Professional life stress scale

INTRODUCTION

India has three tier system of health care. At the primary level are the healthcare workers such as lady health visitor (LHV), auxiliary nurse midwives (ANM), health assistants, accredited social health activists (ASHA), Anganwadi workers (AWW) and they are the first level of contact to health system in the periphery.[1] The healthcare workers have multitude responsibilities such as providing basic medical care, health services, maternal and child health services, sanitation, national health programme, health education etc. Delivering health services in rural areas is a tedious job for healthcare workers due to various factors. Inadequate staffing might lead to overloaded work and has created very tight bottlenecks in the provision of services. In addition to this, the ASHAs and AWWs have restricted opportunities for promotion and low salaries. Such situations may make the workers less motivated and experience work stress which in turn might effect on delivery of healthcare.

According to Lazarus and Folkman's cognitive theory of stress and coping, work stress was defined as the

interaction between the individual and the environment. This theory suggested that when demands from the environment exceed the available resources, the result was either stress or coping, depending on the individual's appraisal of the stressors.[2] Nakasis and Ouzouni defined work stress as the harmful physical and emotional responses that occur when job requirements do not match workers' capabilities, resources and needs.[3] The effort–reward imbalance model proposed that work stress resulted from a mismatch between high commitment and effort at work and low rewards, including salary, recognition and career promotion.[4] These are some of the theories on the concept of stress.

Stress is not always harmful. There are certain levels of permissible stress in every profession which are tolerated and can actually stimulate the body and enhance work performance. But once it shoots above the threshold level which is individualistic, then it would begin to affect a person's productivity leading to possible unwanted consequences or psychosomatic symptoms of stress on a person's health.[5,6] Long term stress may be harmful to the health of workers themselves and may also affect community health service centres through employee dissatisfaction, burnout, poor performance or turnover intention.[7,8]

There are several studies conducted on assessment of stress levels in doctors and nurses but almost nil on healthcare workers of the community. Hence this study is being taken up to explore the professional stress levels and elicit factors associated with stress levels in healthcare workers of the rural area.

METHODS

A cross sectional study conducted in Nelamangala after obtaining Institutional ethical clearance and permission from Nelamangala Taluk Health Officer between August to November 2016. The Nelamangala taluk has 10 Primary health Centres (PHCs). One PHC out of 10 was randomly chosen and a pilot study was conducted among Healthcare workers, which included LHVs, ANMs, Health Assistants (male and female), ASHAs and Anganwadi workers. The pilot study revealed 42% of healthcare workers were moderate to severely stressed. Based on the above proportion at 20% relative precision, the sample size was calculated and was found to be 140.

A multi stage random sampling technique was applied for the study. Nelamangala has 10 PHCs, 5 PHCs were randomly chosen by lottery method. The healthcare workers were selected from each PHC according to probability proportionate to sample size. Two visits were given to the PHCs, all the LHVs, ANMs, health assistants of the PHC were recruited. ASHA and AWW were further chosen by simple random sampling by lottery method. Those diagnosed with psychiatric illness and under treatment for the same were excluded. The study subjects were explained about the study and informed verbal consent was taken.

Data was collected using pre-tested, semi structured, validated, self-administered questionnaire in local language (Kannada). It had two parts:

Part I: Socio demographic variables, work related details and personal history

Part II: Professional life stress scale by David Fontana, The British Psychological Society and Routledge Ltd, Leicester, England, 1989.[9] It consists of 22 questions. It has different variables like personality perception by others, optimism for life, satisfaction to self and work, adjustment with the professional environment and so on. A total score 60, was classified into

0–15: Stress is not a problem in life;
16–30: Moderate stress, which can reasonably be reduced;
31–45: Stress is clearly a problem and needs remedial action;
46–60: Stress is a major problem and something must be done.

Investigators were present during data collection and explained the questions to study units thus maintaining the quality assurance of the data. Data was tabulated and analyzed in SPSS 23 version. Descriptive statistics and chi square tests are used to present the results and $p<0.05$ is considered to be significant. Tables and graphs are used wherever necessary.

RESULTS

Demographic details

A total of 140 study subjects participated in the study. In our study 92.1% (129) were females and 7.9% (11) were males. In our study it was found that 49.3% (69) of the study subjects were in the age group of 30-39 years.

About 96.4% (135) were Hindus, 3.6% (5) belonged to Muslims. About 90.7% (127) were married. Almost 65% (91) belonged to nuclear family, 35% (41) belonged to joint family.

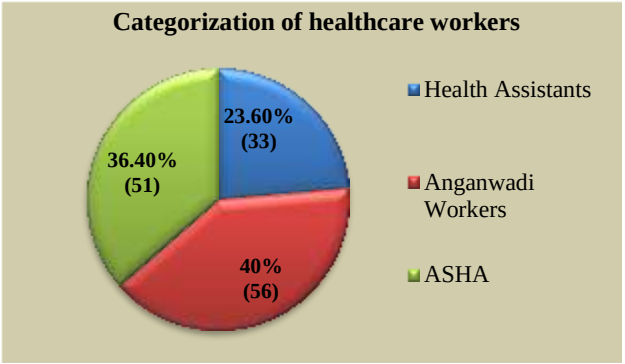

Figure 1: Distribution of healthcare workers based on designation of the post.

About 52.9% (74) of them had studied up to 10th standard, 33.5% (47) had studied up to PUC and 13.6% (19) of them had attained graduation (Table 1). In our study the 140 participants were divided into 3 groups: Health assistants [LHV, ANM, health assistants male and female] 23.6% (33), Anganwadi workers 40% (56), ASHA workers 36.1% (51) (Figure 1).

Table 1: Distribution of socio demographic details.

Variable		Number (n=140)	Percentage (%)
Age	20-29 years	17	12.1
	30-39 years	69	49.3
	40-49 years	34	24.3
	50-59 years	20	14.3
Gender	Female	129	92.1
	Male	11	7.9
Religion	Hindu	135	96.4
	Muslim	5	3.6
Marital status	Married	127	90.7
	Unmarried	8	5.7
	Widow/widower	5	3.6
Type of family	Nuclear	91	65
	Joint	49	35
Education	SSLC	74	52.9
	Intermediate	47	33.5
	Graduate	19	13.6

Table 2: Distribution of lifestyle and family support.

Variable		Frequency (n=140) (%)
Sleep duration	<8 hours	130 (92.9)
	>8 hours	10 (7.1)
Smoking	Yes	3 (2.1)
Alcohol consumption	-	-
Physical exercise	Yes	65 (46.4)
	No	75 (53.6)
Co-morbidities	Diabetes	5 (3.6)
	Hypertension	11 (7.8)
	No co-morbidities	124 (88.5)
Family support	Yes	121 (86.4)
	No	19 (13.6)
Able to speak their mind to family members *	Yes	131 (93.5)
	No	9 (6.4)

Table 3: Work related details.

Variable		Number [n=140] (%)
Work experience	< 5 years	38 (27.1)
	6-10 years	39 (27.9)
	>10 years	63 (45)
Working hours	< 8 hours	90 (64.3)
	> 8 hours	50 (35.7)
Mode of commuting to field/outreach	Walk	102 (72.9)
	Two-wheeler	32 (22.9)
	Other	6 (4.3)

Table 4: Distribution of PLSS healthcare workers.

Variable	Mild (0-15)	Moderate (16-30)	Severe (31-45)	Very severe (46-60)
Frequency (n=140)	52	73	15	Nil
Percentages	37.1%	52.1%	10.7%	Nil

Table 5: Symptoms of stress in the study population.

Variables	Frequency (n=125)
Sleep disturbances	62
Indigestion and poor appetite	60
Dizziness, tiredness and palpitations	15
Excessive sweating	7
Hopelessness	10
Irritation	12
Lack of enthusiasm	18
More responsibility than can be managed	50
Difficulty in making decisions	15
Panic and tearfulness	17

Table 6: Association between work and professional stress.

Variables		Mild stress (n=52) %	Moderate-severe stress (n=88) %	<0.05
Working hours	>8hrs	12	38	0.018
Job satisfaction	Often	17	9	
	Sometimes	30	53	0.000
	Occasionally	5	26	
Amount of work exceeds available time	Habitually	11	51	0.000
	Sometimes	18	20	
	Occasionally	23	17	
Clarity about work	Yes	46	36	0.000
	Sometimes	3	31	
	Hardly never	3	21	
Loss of interest at work	Often	12	46	0.001
	No	40	42	

Lifestyle and personal habits

In our study, we looked into details about sleeping pattern, habits, physical exercise and co morbidities. We found out that about 92.9% (130) spent less than 8 hours for sleep. Only about 2.1% (3) of them gave history of smoking. About 46.4% (65) of them indulged themselves into some sort of physical exercise. About 11.4% (16) had co morbidities such as diabetes, hypertension (Table 2).

Work related details

About 45% (63) of the healthcare workers have working experience of more than 10 years, 27.9% (39) have working experience of 6-10 years, 27.1%(38) have experience for less than 5 years. About 64.3% (90) work for less than 8 hours in a day. When asked about mode of commuting to the field or outreach activities, we found out that 72.9% (102) walked from one place to other and about 27.2% (38) used vehicle for commuting (Table 3).

Stress levels according to professional life stress scale (PLSS)

37.1% (52) had mild stress, 52.1% (73) were moderately stressed, 10.7% (15) were severely stressed and none of them were very severely stressed that needed immediate intervention. Amongst the health assistants, 69.7% (23) moderate-severely stressed (Table 4). About 66.7% (34) of ASHA workers and 55.4% (31) of Anganwadi workers were found to have moderate-severe stress levels (Figure 2).

Around 89.7% (125) gave history of one or more physical or psychological symptoms of stress. Symptoms that are most commonly experienced and troublesome are presented in table 5. About 62 of the respondents had

sleep disturbances. Indigestion, poor appetite, dizziness, palpitations, tiredness, excessive sweating were few of the physical symptoms that were elicited. Hopelessness, irritation, lack of enthusiasm, inability to take up more responsibilities, panic, tearfulness, difficulty in making decisions were the most common complaints of psychological symptoms of stress (Table 5).

Figure 2: Distribution of PLSS in healthcare workers.

Professional stressors in healthcare workers

The stress levels were dichotomously categorized into mild stress and moderate-severe stress. There were no significant association between demographic parameters such as age (p=0.556), religion (p=0.89), gender (p=0.956) and stress.

Work related details such as working hours (p=0.018), job satisfaction (p=0.000), clarity about work (p=0.000), amount of work exceeding stipulated time (p=0.000), loss of interest at work (p=0.001) are few of the factors that are found to be statistically significant with stress levels as depicted in Table 6.About 55.7% (78) of the study subjects felt that they were not valued for their work and 62.9% (88) expressed that they weren't rewarded for their work (Figure 3) and these were statistically associated with stress levels.

Figure 3: Distribution of healthcare workers valued or rewarded for their work.

The study subjects were assessed for interpersonal relationship with their colleagues and superiors. In this context, it was found that 95% (133) of them were able to speak their mind to their colleagues and a majority of them 90.7% (127) were helped by their superiors at work but these factors did not have any significant association with stress.

In our study, it was found that about 86.4% of the healthcare workers had a supportive family encouraging them to go to work. About 93.5% of them expressed that they were able to speak their minds to family members which was found to be statistically significant.

There were no statistically significant association found between lifestyle and stress levels.

History of dog bite found in study population is 11% and 56.3% victims have taken treatment at government hospital.

DISCUSSION

Healthcare workers being an integral part of health system in rural side are most of the time working in the field delivering healthcare to the door step. Indulgence of them into new health programmes along with the existing ones, carrying out multitude of responsibilities, working against inadequate manpower and other short-comings might stress them out. Hence the present study has tried to explore the same.

Majority of them were Hindus and most of them were married. Since most of them were females and belonged to nuclear family, women might have to play dual role at home and in work place which might be stressful. All were literates.

In our study it was found that majority of them were mild to moderately stressed and about 10.7% of the healthcare workers were severely stressed and none were very severely stressed. Mild to moderate degrees of stress can be handled with modifications at working conditions and lifestyle habits such as exercising and meditation. It is significant to note that few of the study subjects had severe stress levels which need remedial actions else it would have its effect on health and work efficiency of a person.

There are no studies on assessment of stress levels in health assistants, ASHA and AWW and hence findings of other studies are not comparable. However, an effort has been made to look into stress levels of other professionals in health system. In a study done by Sushmitha et al on doctors, paramedical and nursing staffs, stress was severe for 33.3% of nurses, 20% of technicians and paramedical staffs and 13.3% of doctors.[10] Study done by Parul et al revealed 42% of nurses being moderate-severely stressed.[11]

There was a comparative difference of stress levels among healthcare workers with health assistants being at a higher band than ASHA and AWW. This could be due

to vacant posts among health assistants in most of the PHCs and as a result it had increased the job responsibilities due to shortage of manpower. In addition health assistants also had difficulties such as difficulty in field work, not getting a helping hand from ASHAs as they do only incentive based work, too much of documentation, not acquainted to use of modern technologies like operating computers and use of mobile phones for sending SMS to beneficiaries.

It was worth noting that most of the individuals experienced one or other psychological or physical manifestations of stress and the most common being sleep disturbances followed by gastrointestinal symptoms. The psychological symptoms experienced by study subjects were very much pertinent with high stress levels. However, causes other than stress for the symptoms reported were not assessed in our study. These findings were found in other studies done in other professionals.[12,13]

In the present study, work related stressors were mainly identified. It was found that the healthcare workers were overloaded with field activities and they had difficulty in commuting to places covering the population under them. Many reported that they were unable to finish the work in time.

With the introduction of new schemes, changes in existing health programmes and improved Health management information system reporting, although the healthcare workers are trained they are still finding it difficult to adapt to it. Also the ASHAs being involved in multiple programmes are lacking clarity at work. The results show that the healthcare workers are also not being valued or rewarded at their work. There are restricted promotions in all the fields. In addition, ASHAs have incentive based jobs and AWW complaint of fixed salaries without any increment. This might have led to job dissatisfaction and loss of interest at work. However the interpersonal relationship with colleagues and superiors are pretty good as per the findings. Several researches related to work stress found that low salary, heavy workload and few promotion opportunities were the most frequently cited workplace stressors.[14]

Though personal details were not much looked into, it was found that the study subjects had a good family support encouraging them to work. Majority agreed that they were able to share their worries with the family which proves the point that families are a shock absorber to an individual.

Limitations of the study are to be viewed with respect to the following key points. Firstly the sample size was small and the results thus cannot be generalized to the whole population. Secondly there are various factors causing stress in an individual and in the current study only work related environment was considered.

CONCLUSION

The professional stress levels among healthcare workers were assessed by professional life stress scale and it was found that more than half of them were moderately stressed (52%) and about 10.7% were severely stressed. The main occupational stressors were inability to finish work in available time, not having clarity about work, loss of interest, not being valued or rewarded for their work, frigid attitude of higher authorities. High stress levels in healthcare workers can lower the quality/efficiency in delivery of healthcare.

Recommendations

There should be screening of stress incorporated during induction and training programmes. Individuals should be evaluated and counseled about psychological interventions of stress management. The Government should take measures in regular filling up of the vacant posts. There should also be regular trainings and assistance in terms of technology usage. The higher authorities should encourage the healthcare workers. The health system should also make sure that the workers receive appreciation, recognition and rewards for their work which keeps them motivated at work.

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REFERENCES

1. Park K. Park's Textbook of Preventive And Social Medicine. Health Care of the community. Chapter 21. 24th ed. Jabalpur: Banarsidas Bhanot. 2017: 927-957.
2. Folkman S, Lazarus RS, Dunkel-Schetter C, DeLongis A, Gruen RJ. Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. J Personality Social Psychol. 1986;50(5):992.
3. Konstantinos N, Christina O. Factors influencing stress and job satisfaction of nurses working in psychiatric units: a research review. Health Sci J. 2008;2(4).

4. Siegrist J. Adverse health effects of high-effort/low-reward conditions. J Occupational Health Psychol. 1996;1(1):27.
5. Gandham SR. Occupational stress: Time for a policy. Safety Health Practitioner. 2000;18(1):20.
6. Braithwaite M. Nurse burnout and stress in the NICU. Advances in neonatal care. 2008;8(6):343-7.
7. Chen X, Tan X, Li L. Health problem and occupational stress among Chinese doctors. Chinese Med. 2013;4(01):1.
8. Nabirye RC, Brown KC, Pryor ER, Maples EH. Occupational stress, job satisfaction and job performance among hospital nurses in Kampala, Uganda. J Nursing Management. 2011;19(6):760-8.
9. Fontana D. Professional life stress scale. Adapted from Managing Stress. Leicester: The British Psychological Society Routledge Ltd. 1989.
10. Halder S, Mahato AK. Stress and psychological well being status among health care professionals. Int J Occupational Safety Health. 2013;3(1):32-5.
11. Sharma P, Davey A, Davey S, Shukla A, Shrivastava K, Bansal R. Occupational stress among staff nurses: Controlling the risk to health. Indian J Occupational Environ Med. 2014;18(2):52.
12. Ramesh N, Joseph B, Kiran PR, Kurian J, Babu AT. Perceived Professional Stress Levels among Employees in an Information Technology Company, Bangalore. Stress. 2016;9(10):11-2.
13. Bhat R, Shet P, Nayanatara AK, Vinodini Na, , Anupama N, Bhagyalakshmi K, et al. Evaluation of professional stress among software professionals in South India. Int J Recent Sci Res. 2014;5(10):1842-1845.
14. Li L, Hu H, Zhou H, He C, Fan L, Liu X, et al. Work stress, work motivation and their effects on job satisfaction in community health workers: a cross-sectional survey in China. BMJ Open. 2014;4(6):e004897.

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