A CROSS SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSES, TAMIL NADU, INDIA– 2016.

Dissertation submitted to

THE TAMIL NADU Dr. MGR MEDICAL UNIVERSITY

In partial fulfillment of the requirements for the degree of

M.D. BRANCH XV

COMMUNITY MEDICINE

THE TAMIL NADU Dr. MGR MEDICAL UNIVERSITY,

CHENNAI, TAMIL NADU.

APRIL 2017

CERTIFICATE OF THE GUIDE

This is to certify that the dissertation titled "**A CROSS SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSES TAMIL NADU- 2016"** is a bonafide work carried out by **Dr. MAHESHWARI.V**, Post Graduate student in the Institute of Community Medicine, Madras Medical College, Chennai-3, under my supervision and guidance towards partial fulfillment of the requirements for the degree of M.D. Branch XV Community Medicine and is being submitted to The Tamil Nadu Dr.M.G.R. Medical University, Chennai.

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DECLARATION

I, solemnly declare that the dissertation titled **"A CROSS SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSES TAMIL NADU- 2016",** was done by me under the guidance and supervision of **Dr. R.ARUNMOZHI, M.D.,** Associate Professor, Institute of Community Medicine, Madras Medical College, Chennai-3. The dissertation is submitted to The Tamil Nadu Dr.M.G.R. Medical University towards the partial fulfillment of the requirement for the award of M.D.degree (Branch XV) in Community Medicine.

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ACKNOWLEDGEMENT

I gratefully acknowledge and sincerely thank **Dr. M.K.MURALITHARAN,M.S.,M.Ch.,** Dean, Madras Medical College, Chennai-3 for granting me permission tocarry out this community based study.

I would like to extend my sincere gratitude to **Dr.T.S.SELVAVINAYAGAM, M.D., DPH, DNB.,** Director, Institute of Community Medicine, Madras Medical College, Chennai-3, for his expert suggestions and encouragement during the course of this study.

I have no words to express my sincere and profound gratitude to **Dr. R.ARUNMOZHI, M.D.**, Associate Professor, Institute of Community Medicine, Madras Medical College, my guide who was with me from topic selection till my completion , guiding and driving force behind my study and without her this study would not have taken its present shape.

I extend my sincere gratitude **to Dr.JOY PATRICIA PUSHPA RANI, M.D.,** Associate Professor, Institute of Community Medicine, Madras Medical College who has been a constant source of inspiration of and who has helped me by extending her knowledge and experience.

I also thank to **Dr.A.CHITRA, M.D.,** Associate Professor, Institute of Community Medicine, Madras Medical College, who helped me immensely by her suggestions and experience during the course of this study.

I would like to thank **Dr. R.RAMASUBRAMANIAN, M.D.**, Assistant Professor,

Institute of Community Medicine, Madras Medical College, for his support rendered.

I would like to thank **Dr.S.SUDHARSHINI, M.D.,** Assistant Professor, Institute of Community Medicine, Madras Medical College for her help throughout the study particularly in

I extent my acknowledgement **The Deputy Director of Health Services, Villupuram HUD, Villupuram,** for giving me permission to conduct the study among Village Health Nurses of Villupuram.

I also wish to thank **Dr. Bharathidasan, M.B.B.S, In Charge Medical Officer, Nedimozhiyanur, Villupuram,** for helping me during data collection for the study.

I also wish to thank my colleagues and my seniors for their valuable suggestions given throughout the study.

My grateful thanks to all the participants of the study who patiently answered all my queries consented to be part of the study without whom this work would not have been possible.

I deeply thank my parents for their moral support and love they have for me.

Above all, I thank God for his grace and blessings which helped me to complete this task successfully.

ABBREVIATION

VHN	**-**	**Village Health Nurse**
CHW	**-**	**Community Health Worker**
ANM	**-**	**Auxillary Nurse Midwife**
NIOSH	**-**	**National Institute for Occupational Safety &Health**
CBDs	**-**	**Community Based Distributors**
ASHA	**-**	**Accredited Social Health Activists**
AWW	**-**	**Anganwadi Worker**
NS	**-**	**Not significant**
S	**-**	**Significant**
SES	**-**	**Socio economic status**
SD	**-**	**Standard Deviation**
SPSS	**-**	**Statistical Package for Social Science**
RN	**-**	**Registered Nurse**

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1. INTRODUCTION

"Primary health care … relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community" Declaration of alma atta international conference

1.1. PRIMARY HEALTH CENTER AND VILLAGE HEALTH NURSE

The skeleton of Primary Health Centre in India comprises of two medical officers, two nurses, male multipurpose worker, an extension educator, a statistician and a laboratory technician. Each PHC caters to of about 25000. Five to ten sub centers comes under each PHC. It consists of a community health workers whom in Tamil Nadu are called as Village Health Nurses[(1)].

Every VHN caters service to of about 5000 population in every seven or eight villages, and qualified with health care training of two years to render service to the people. They are entitled for salary of about US$120 per month, with uniform allowance and also travel allowance, and hence VHNs are paid well when compared to other rural occupations[(1)].

Many studies in other states have reported that Tamil Nadu VHNs have good knowledge levels and good rapport within the communities they serve compared to other community health workers in various states. Most of the VHNs stayed in the villages they served, and any emergency cases comes to them any time .Because of their close contacts with the community, and also their extensive record maintaining capacity VHNs have become familiar with the needs and problems of the community they serve. The services provided by the VHNs and the PHCs are mainly serving for women and children. VHNs carry house-to-house survey and render preventive health care facilities to children's and mothers. They cater the services which includes immunizations, antenatal care childbirth services, nutrition, referrals, and family planning and other health education.

1.2 OCCUPATIONAL STRESS

The performance of every organization is highly depends on the contribution of employees at work places. They are the measure of every organization's success and failure. The individual skills and ability are exposed by the way of exercising management pressure on them. The work pressure given for positive outcome may not bring expected results due to the other inevitable interferences like family, health, environment and situations. The strain encountered by individuals during the time of performing their given job or task and which prevents to focus towards results is known as occupational stress[(2)].

The magnitude of occupational stress experienced by each individual differs with each occupation and various sectors. The individuality of each person is also associated with occupational stress. Occupational stress is the direct effect of the physical, mental and emotional reactions of workers who experience that their work demands exceed their capacity to do the work. An employee's reaction for the stressors at work may be positive or negative for an employee depending upon numerous factors. In majority of times, people adjust to stressors and perform their duties. Stress itself is not a disease, if it becomes aggravated for longer duration it leads to mental and physical health problems[2].

The occupational stress is generally high in service sector compared to manufacturing and in addition to that, health care providing industry is sensitive in its operation and need timeless contribution from working staff who encounter occupational stress frequently. Women nurses encounter occupational stress due to the factors like personal, family, social, psychological, physical and environmental, among all, the personal factors are highly responsible for occupational stress among them[2].

1.3. JOB FUNCTIONS OF ANM (COMMUNITY HEALTH WORKERS)

A) **Maternal and Child Health**: register Antenatal Cases, ensure at least 3 checkups. TT immunization, refer abnormal cases to higher centers,

identify beneficiaries of Janani Suraksha Yojana, make atleast post natal visits

B) **Family Planning**: They maintain eligible couple register health education of family planning and motivate them, distribution of contraceptives and involve in Mahila Mandal meetings

C) **Medical Termination of Pregnancy**: Choose the woman who requires the medical termination of pregnancy and refers them to nearest approved institution. Promote about the consequences of septic abortion and educate them about the services.

D) **Nutrition**: Identify malnutrition cases among children give the necessary treatment and advice and also refer serious cases to the Primary Health Centre, Iron and folic acid and vitamin A solution distribution to children as per guidelines.

E) **Universal Immunization Programme (UIP):**Immunization of pregnant women with TT and the children as per UIP schedule.

F) **Communicable Diseases**: identify any abnormal increase in fever,diarrhea,dysenterycases, identify skin patches,malaria,TB and leprosy cases refer to the PHC for treatment, mass drug administration of drugs for filariasis in endemic areas.

G) **Vital Events**: Maintaince of the birth and death records child and eligible couples in that area.

H) **Record Keeping**: registers of pregnant women, eligible couple and child register, contraceptive records, IUD insertion records,prepare and submit the weekly records to the Health Assistant Female

I) Treatment of minor ailments

J) **Team Activities**: attend staff meeting and coordinate with other staff in their activities, maintaince of cleanliness and disposal waste at PHC[3]

1.4. OCCUPATIONAL STRESS AND COMMUNITY HEALTH WORKERS

Many studies suggested that the rural nurses are exposed to more stressors than the urban nurses. It was also suggested that rural practice of clinicians differs both clinically and personally when compared to urban services. Due to irregular visits by doctors, nurses in rural India are required to take decision individually; sometimes individual handling of outpatient and home visits, and also has to manage alone. inevitable patient numbers, that long queues may even push them to skip meal, breaks, and this has been suggested as a factor which increases the incidence of anemia among nurses[4].

The Bhore Committee in 1946 recommended the norms of one nurse for 400 people in India. In 2004, the total nurses per 1000 members of the population in India were 0.80. Similarly the nurses per 1000 members was 1.05 in China, 4.24 in Singapore, 12.12 in the UK, and 9.37 in the USA respectively (World Health Organization, 2006). The goal which was proposed in 1946 has not been succeeded yet. The National Health Policy of India (Ministry of Health and Family Welfare, 2004) emphasizes on nursing education as a major issue for improving the, nurse**:** patient and nurse**:** population ratios. The shortage of nurses is reflected in CHC, where nurses are needed desperately but are very few in number[(4)].

India has three divisions of CHWs. The first is the Auxiliary Nurse-Midwife (ANM). The second is the Anganwadi Worker (AWW). The most recently included cadre is the Accredited Social Health Activist (ASHA).[(5)].

Occupational Stress among health workers has been viewed seriously and the most researched topic nowadays. Increasing level of stress at work is a dangerous factor for both physical and psychological health of every person. As it affects the cognitive processes involving memory, recall of knowledge and attention. With regards to organization and management there is a negative relationship between nurses occupational stress and job satisfaction and it has been shown that higher the levels of Occupational stress higher the chances of them to leave their jobs .and also the more Occupational Stress caused by

heavy workload the more it reduces the quality of work . The available statistics reported that occupational stress has become more evident in causing expensive consequences over many decades in the past. The direct medical costs of stress and its associated problems comes to around $150 to $300 billion every in the USA[6].

Several other studies have reported that income, workload, lack of workspace, lack of resources, insufficient time to perform their duties, setting deadlines by the superiors to complete the work, have been identified as stressors in their working environment[6].

2. OBJECTIVES

1. To estimate the prevalence of occupational stress among the village health nurses.

2. To determine the associated risk factors for stress among the village health nurses.

3. JUSTIFICATION

1. Nursing is a very stressful career. There are major differences among the causes of stress among nurses in developed countries and in India. Nurses here in India are poorly represented in comparison to standards followed globally. They usually come from the lower socioeconomic class and also have less educational qualifications. Their main aim in joining the service is salary and benefits. In situations of shortage of staff, they accept more work with incentives voluntarily, at the cost of their health. Nurses work profile is different in rural and urban areas.[4].

2. In a report of a study conducted in India, the reasons given for the decreased number of registered nurses (RN) in CHC were discussed. These included, first and foremost, the government's negligence to employ qualified professionals, community leader's involvement and the general population attitude towards nurses, a shortage of facilities, and the presence of a hierarchical and corrupt system. All these factors led to lack of motivation and interest. The study has also reported that nurses quit job as they cannot tolerate the burden and treatment they receive from doctors and also from the public (Granstro¨m and Lindmark,

2000). As observed by MacLeod and Browne (1998)rural nurses experience increased stressors, which highlights the importance of this study[4].

1. Also the burden of VHN increases with addition of new programmes to the already existing health programmes in the public health system[5].
2. Contextual factors related to community, economy, environment, and health system policy and practice influenced the CHW performance and caused occupational stress. All contextual factors changes in them and affect the performance of CHW interventions or programmes they are involved in[7].
3. VHN's or the CHN's belong to the most stressed group who work at the grass root level of the health care system and they are more susceptible to occupational stress due to the above mentioned factors and functions.

Since there are very few studies reporting the occupational stress among the VHN's Tamil Nadu, India. This study was intended to estimate the prevalence of occupational stress among the VHN's and its associated risk factors.

4. REVIEW OF LITERATURE

2.1. OCCUPATIONAL STRESS

Occupational stress has become a great issue both globally and nationally. Employees who are at risk included police officers and prison officers, medical and paramedical professionals, banking staff, and community health care workers[8].

Selye classified stress into two categories as good or desirable stress (eustress) and bad or undesirable stress (distress). Eustress is pleasant, Ironically, without this positive type of stimuli, life becomes stressful. Whereas distress is a person perceiving himself or herself who does not have the ability to control a stressful event.[8].

Stress occurs in everyday life which is unavoidable. Many studies in the last fifteen years reported that the presence of increased level of stress as a risk factor for the cause of illness and disease[8].

The stress encountered by individuals at the time of executing their job functions which prevents them to concentrate on results leads to as occupational stress.job-related stress leads to changes in mental, physical and

emotional reactions of employees who perceive their work demands exceed their abilities or their resources to perform their work[2].

In many situations, people get accustomed to stressors and continue to perform their normal work duties. Stress is not a disease, but takes different transformations affecting physical ,mental and psychological well being if it persists for longer duration[2].

The factors causing occupational stress and its intensity differ among the individuals depending on their basic nature, environmental background, the perception of motivation. The magnitude of occupational stress is influenced by personal and work profile[2].

2.2. INCLUSION OF WORK RELATED STRESS IN NATIONAL LIST OF OCCUPATIONAL DISEASE GLOBALLY

Many European countries like Denmark, Italy, Latvia, Lithuania, Hungary Netherland, Belgium, France etc. Have included occupational stress in their National list of occupational disease[9].

Several American countries include occupational stress in their lists of occupational diseases and mental health diseases or specific related disorders like Argentina, Brazil, Chile, Colombia[9].

Many countries in Africa and the United Arab States do not include stress or its related mental disorders in their national lists of occupational diseases[9].

4.3. PREVALENCE OF OCCUPATIONAL STRESS.

4.3.1. Prevalence of occupational stress among community health workers globally

Several studies [10–13]have reported that the prevalence of occupational stress among the community health workers to be of 14% of high occupational stress, Anxiety symptoms due to occupational stress was found to be 38%, occupational stress to be 26.2 and occupational stress to be 45.5% respectively**.**

Nasiripour AA. PhD**,**et al[6].Reported that the community health workers suffered from 40% of mild to severe occupational stress.

4.3.2. Prevalence of occupational stress among community health workers in India

Several studies[10,11].Has reported that the prevalence of occupational stress to be 93.3%, workload among the public health nurse to be 75.26%.

Shobh.S.Karikatti et al[12]. Has reported that the occupational stress among the community health workers to be 6.92% respectively.

Padma Mohanan et al[13].Has reported that the occupational stress among anganwadi workers was found to be 12%.

4.3.3. Prevalence of occupational stress among community health workers in Tamil Nadu

As reported by Mrs. Kanthimathi [14] that there was a high level of stress score found among the participants towards the opinion about too much works to do in very little time. The mean value for question relating too much work to do in very little time is 2.96 with standard deviation of 0.88.

4.4. RISK FACTORS FOR OCCUPATIONAL STRESS

4.4.1. Socio cultural factors

4.4.1.1.Social and cultural norms:

Social and cultural norms, values, practices, and beliefs are an important community factors that affected CHW work performance; these were reported in studies related to maternal health programmes. For e.g., Cultural belief in Ethiopia of women's interest for giving birth at home was reported, this results in them choosing to deliver with a traditional birth attendant than with a community health worker . In many societies, the husband and mother-in-law are the main decision takers.

Cultural practices, like importance for herbal treatment, Social factors also form hindrance for CHW duties. In India, Abbott et al. reported that female community based distributors (CBDs) had to face challenges and risk in convincing the women with a lower social status.

4.4.1.2. Gender roles

Gender roles and norms along with social and cultural norms, affected the women's to receive CHW services and hence hinder CHW performance. For example, in Swaziland, limitations on women's agency and decision-making resulted in difficulty in accessing to HIV prevention and interventions by CHWs. A CHW strategy in Malawi on prevention of mother-to-child transmission of HIV found that women without partners involvement never take the required treatment regularly.

The sex of the CHW has also shown to be influencing factor for the utilization of services. In Afghanistan, Viswanathan et al. reported that there was preference for female CHWs. For executing the reproductive health services female CHW's are preferred. A family planning programme in Guinea assigned work for both female and male CBD in each village. Only the female community based distributors (CBD), were allowed to cater service to women about family planning. However, male community based distributors (CBDs) were allowed to communicate with men and convince them for family planning. Where as in India like in Guinea only female community based

distributors (CBDs) were allowed to distribute contraceptives, which again hindered their performance. The same scenario was found for women health volunteers in Iran.

4.4.2.Disease stigma

Several studies have reported disease related stigma influencing the work performance of CHWs. E.g. peer counselors to support the general population to strictly follow anti-retroviral therapy (ART) in Ethiopia and Uganda, Stigma also found in Uganda, where CHWs are not able to render family planning family planning services, etc.

4.4.3.Safety and security among CHW

Adding to hindrance for female CHWs mentioned above, safety and security issues may also affect their work performance. A study in Papua New Guinea, described that the social factors influenced motivation of rural health workers, emphasized work safety problems as a factor hindering CHW performance. Especially (young) female health workers felt targeted, due to drug abuse, assaults, abuse.

4.4.4.Education and level of knowledge among general population

Deficiency of education and health knowledge among the population were shown to impose a greater challenge at work for CHWs in Kenya. Community reproductive health workers in Uganda reported that

misconceptions about contraception were the major factors for executing the programme services.

4.4.5. Economic situation of CHW

The economic context and the work performance of CHWs were highlighted in a many studies. Decreased compensation for services could lead to an inability of CHWs to support their family and is more seen in areas with poverty which affects their performance. The interest to become a CHW influenced by the wish to earn incomeor the getting incentives.

4.4.6. Working environment

Many studies reported that geographical reasons and challenges and the need to cover longer distances hampered CHW performance. Mukanga et al., in a study on CHWs working in child health in Uganda, described that households residing 1 to 3 km from a health facility were 72% more likely to utilize CHW services compared to households residing within 1 km of a health facility. People having residence between 1 and 3 km from a CHW were 81% less likely to make use of CHW services compared to those people living within 1 km of a CHW. Thus, proximity of CHWs and health facilities affected utilization of CHW services.

4.4.7. Health system policy

The literature showed four important factors relating to health system policy having influence on CHW performance: the existence of a CHW policy, a human resources policy, legislation related to CHWs, and political commitment.

4.4.7.1. CHW policy

Researchers reported the importance of having a national CHW policy in studies from several countries: Pakistan Afghanistan Malawi , India Ethiopia Iran and South Africa. In Thailand and Bolivia, there was no clear policy for community health care workers. The lack of policy led to insufficient support for CHWs in in terms of salary and trainingwhich limited their ability to work in the community.

General human resource comprises of programmes and interventions that functions on incentives, working atmosphere, training, and job perspectives. Hence it has a very effective consequence on CHW performance. The literature review showed that, the rights of CHWs were not formally fully established.

4.4.7.2. Legislation related to CHWs

The health care profession follows certain norms in every country which put forward certain legislations which each medical professional has to follow.

Certain studies have reported job functions of CHW's. The CHWs in Bangladesh were allowed to prescribe medication and Nepal changed the policy for the CHWs to prescribe antibiotics. Nigeria was the first country in the world to allow CHWs to distribute misoprostol for the prevention and treatment of post-partum hemorrhage.

4.4.7.3. Political involvement

In certain occasions and in some countries political decisions influence CHW performance. In India, selecting local people to manage community-based drug distribution center's by local politicians is common and caused decrease in the number of the center's and also decreased the ability of CHWs to perform their job .

4.4.8. Health system practice

Many factors affected the CHW or programme performance related to the health system which includes health service functionality, job openings for community health workers the level of taking decisions, its costs, and the government and its coordination.

4.4.8.1. Health service functions

Several studies reported that a good functioning health service is required for CHWs to execute their duties, with proper equipment's, and supplies. For example, peer counselors in Ethiopia had good rapport and caring

for their patients, which resulted in frustration when found patients who are not on ART due to lack of drugs, good functioning and both the side referral and feedback is required to increase CHWs performance.

4.4.8.2. Human resources provisions and CHWs' performance

Studies quoted that motivation for CHW can be achieved by the health system to fulfill CHWs' expectations – like provision of giving them permanent job, improvement in the career, and giving incentives. The literature shows that CHWs find appreciation and incentives important.

Studies showed that for the CHWs to perform effectively, they should be subjected to certain guidelines, like clearly defining the roles and relationships with other working professionals. The lack of support from other health staff, lack of trust, over workload from other staff leads to decrease in motivation and performance of CHWs. Decreased support from the health system also results in lack of credibility of CHWs. Scott et al. reported the negative side based payment of ASHAs in India. ASHA gets incentives by bringing people to the clinic and helping with biomedical interventions but they don't get money for encouraging village health meetings or regarding health issue, while this is still their job function. This resulted in lack of performance on their tasks.

4.4.8.3. Decision-makinglevels

The level of decision-making and the implementation affects the CHW performance. In Laos,a public programme was shifted from the central level to provincial and district levels. This shift in responsibility may affect the performance of CHWs

4.4.8.4. Cost of health services

The costs of health services also affected the CHW performance. CHWs in Mali, obtained income by selling drugs, but have to compete with local vendors because they sell drugs at cheaper rates.

4.4.8.5. Governance and coordination structure

Studies suggested that the governance and coordination influenced on CHW performance. A hierarchical structure of the health system was a hindrance for communication across all levels of status, seniority, and income in India. This rigidity and distribution of power flow had severe drawbacks on ASHA[(7)].

4.4.9. Other sociodemographic risk factors

Certain studies showed that there is an association between age, gender, marital status, educational level, position, length of service and working experience with occupational stress.

In other studies external pressures, responsibility, inter relationship with co staff inadequate communication, inadequate feedback and organizational changes are the sources of occupational stress[6].

5. MATERIALS AND METHODS

5.1. STUDY DESIGN:

This study was conducted as a community based cross sectional study to estimate the prevalence of occupational stress and its associated risk factor for stress among the Village Health Nurses Tamil Nadu.

5.2. STUDY PLACE:

The study was conducted in Tamil Nadu.

5.3. STUDY PERIOD:

The study was carried out from April 2016 to August 2016.the period of field study was carried out from May 2016 to July 2016.

5.4. STUDY POPULATION:

The study population comprised of the Village Health Nurses in Tamil Nadu.

5.4.1. Inclusion criteria:

All the participants giving informed consent.

5.4.2. Exclusion criteria:

All the participants who were not available during the study

5.5. SAMPLE SIZE:

5.5.1. Sample size calculation

As there are very few studies available the prevalence of 50% was assumed in calculating the sample size. Considering confidence level of 95%, relative precision of 20%, with 10% excess sampling to account for non-response, sample size derived is 106

Sample size is calculated using the formula: $N = \frac{Z\ (1-\alpha/2)^2 pq}{D^2}$, where

$Z(1-\alpha)$= standard normal deviant at 95% confidence level i.e. 1.96

p = prevalence =50%

q=100-p=100- 50=50

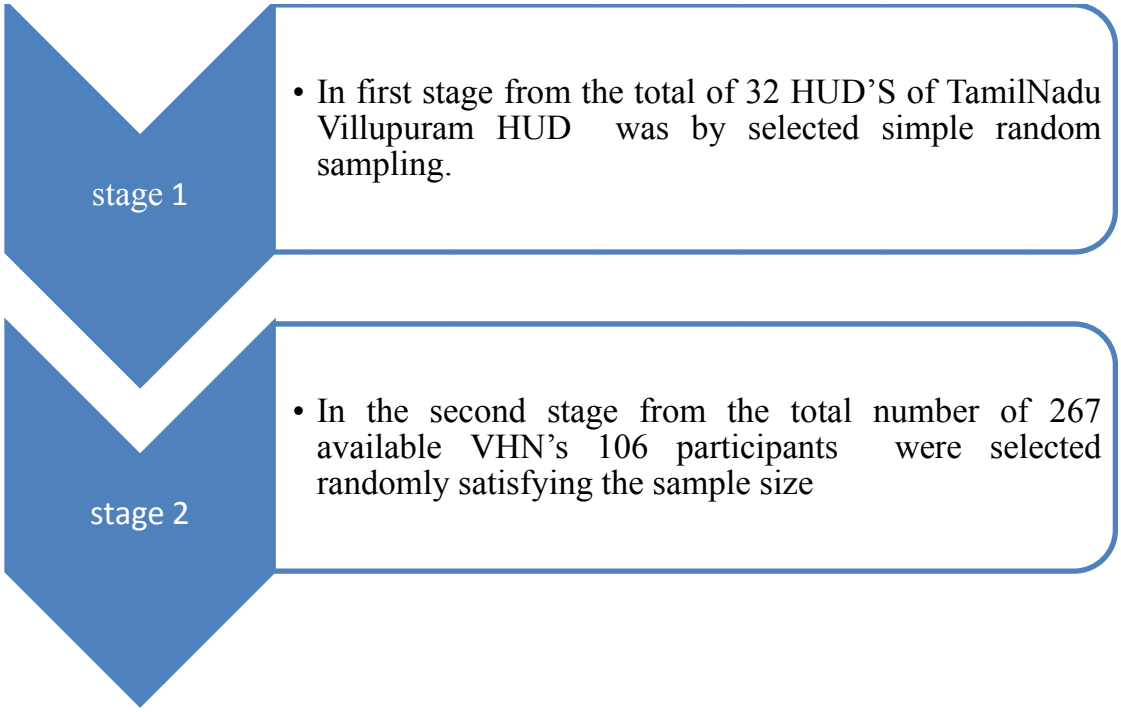
d =relative precision of 20%.

$N = \frac{(1.96)^2 * 50 * 50}{10^2} = 96.4$

Allowing a 10% non-response rate the sample size comes around 106.

5.6. MULTISTAGE SAMPLING METHOD:

- The sampling for the study population was carried out as Multi stage Sampling method.
- In first stage from the total of 32 HUD'S of Tamil Nadu Villupuram HUD was by selected simple random sampling.
- In the second stage from the total number of 267 available VHN's 106 participants were selected randomly satisfying the sample size.



5.7. STUDY TOOLS:

1. Self-administered questionnaire
2. Professional life stress scale by David Fontana

5.7.1. Questionnaire:

Questionnaire includes details of socio demographic profile like Name, Age, Educational status, Religion, Marital status, Monthly income etc., History regarding chronic illness, History related to risk factors leading to stress.

5.7.2. Professional life stress scale

Professional life stress scale developed by David Fontana, from the British Psychological Society and Routl edge Ltd, Leicester, England, 1989.

It had 24 set of questions and covered different variables like personality perception by others, optimism for life, satisfaction for individual and work, adaptation with the professional environment so on. A total score 60 was obtained, it was graded into

0–15	:	Stress is not a problem or manageable
16–30	:	Moderate stress
31–45	:	Sever Stress which requires remedial action
46–60	:	Very severe Stress and it is a major problem and requires intervention.

Professional life stress scale questions were translated in Tamil. These questions were back translated to English by another individual person and hence linguistic validity was ensured.

5.8. DATA COLLECTION AND METHODS

a. Data collection was done in the study area after obtaining permission from The Director, Institute of Community Medicine and the Dean, Madras Medical College, Deputy Director of Health Services of the District and approval from the Institute Ethics Committee of Madras Medical College, Chennai.(ANNEXURE 8,9)

b. Data was collected whenever the subjects were available in the study area. The members who were not available during the study period were excluded from the study

c. The individuals were contacted by going to the respective PHC's and visited during their field visit. Each participant was given a brief introduction about the study and informed consent was obtained from all the participants. (ANNEXURE 1)

d. Relevant information was obtained from the respondent using the self-administered questionnaire in the local language. Questionnaire was administered to the study participants and sufficient time was given to the subjects to respond.

e. It was a self-administered questionnaire.

5.9. STATISTICAL ANALYSIS:

The collected data was entered for analysis in Microsoft Excel. This data was exported to Statistical Package for Social Sciences software version 16 for analysis. Descriptive statistics (mean, standard deviations and range) were employed to descry be continuous variables, while frequency distributions were obtained for dichotomous variables. Associations between qualitative variables were done using Chi square tests, Fisher's exact test; correlation and regression. Odds ratio and their confidence intervals was calculated to assess the estimate of the risk. A p value of less than 0.05 has been considered to be significant.

5.10. OPERATIONAL DEFINITIONS

Occupational stress:

Occupational stress is a stress which occurs in working environment. It usually occurs whenever there is unexpected responsibility and pressure beyond their capabilities.

In this study stress was graded according to the scoring using standardized professional life stress scale developed by David Fontana. England, 1989.

A total score of 60 and was graded into, 0–15: mild Stress, 16–30: Moderate stress, 31–45: Severe Stress, 46–60: Very Severe Stress and it is a major problem.

6. RESULTS AND ANALYSIS

This cross sectional study was conducted among the VHN's in Tamil Nadu. The sample size was calculated to be 106. The study was conducted to estimate the prevalence of occupational stress among the VHN's of Tamil Nadu and also to identify the associated risk factors among the same population.

PLAN OF ANALYSIS:

I. Socio demographic profile

1. Age
2. Religion
3. Educational status
4. Socio economic status
5. Marital status

II. Occupational stress

1. Prevalence of occupational stress
2. Grading of occupational stress

III. Association of Occupational stress with risk factors

A. Socio demographic risk factors

1. Age
2. Education
3. Socioeconomic status
4. Marital status

B. Occupation related risk factors

1. Single earning member
2. Duration of sleep at night(hours)
3. Time taken to reach PHC
4. Salary satisfaction
5. Duration of service

C. Morbidity related risk factors

1. Chronic illness
2. Number of chronic illness
3. Duration of chronic illness
4. Taking regular treatment for chronic illness

IV BINOMIAL LOGISTIC REGRESSION

6.1. SOCIO DEMOGRAPHIC DETAILS OF THE STUDY POPULATION

6.1.1. Distribution of age among the study population.

Table 1. Age distribution of the population

Age in years	Frequency N=106	percentage
31-40 yrs	4	3.8
41-50 yrs	54	50.9
51-60 yrs	48	45.3

Table 1 shows that almost half of the population belong to the age group of 41-50 yrs.

Mean age of VHN's (SD) = 49.17(4.892) yrs

6.1.2. Distribution of religion among the study population

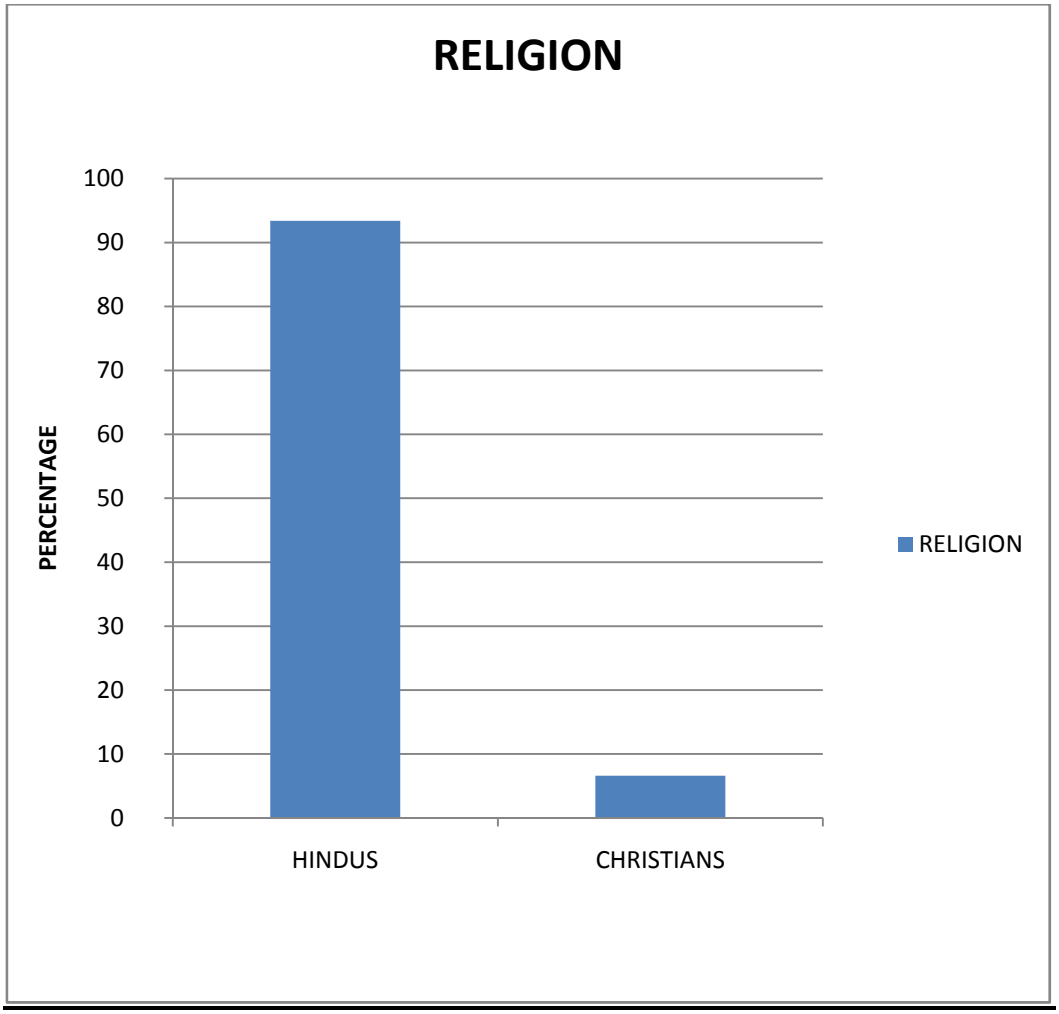


Fig.1. Distribution of Religion

Figure 1 shows, that majority of the study participants were Hindus.

6.1.3. Educational status of the study population

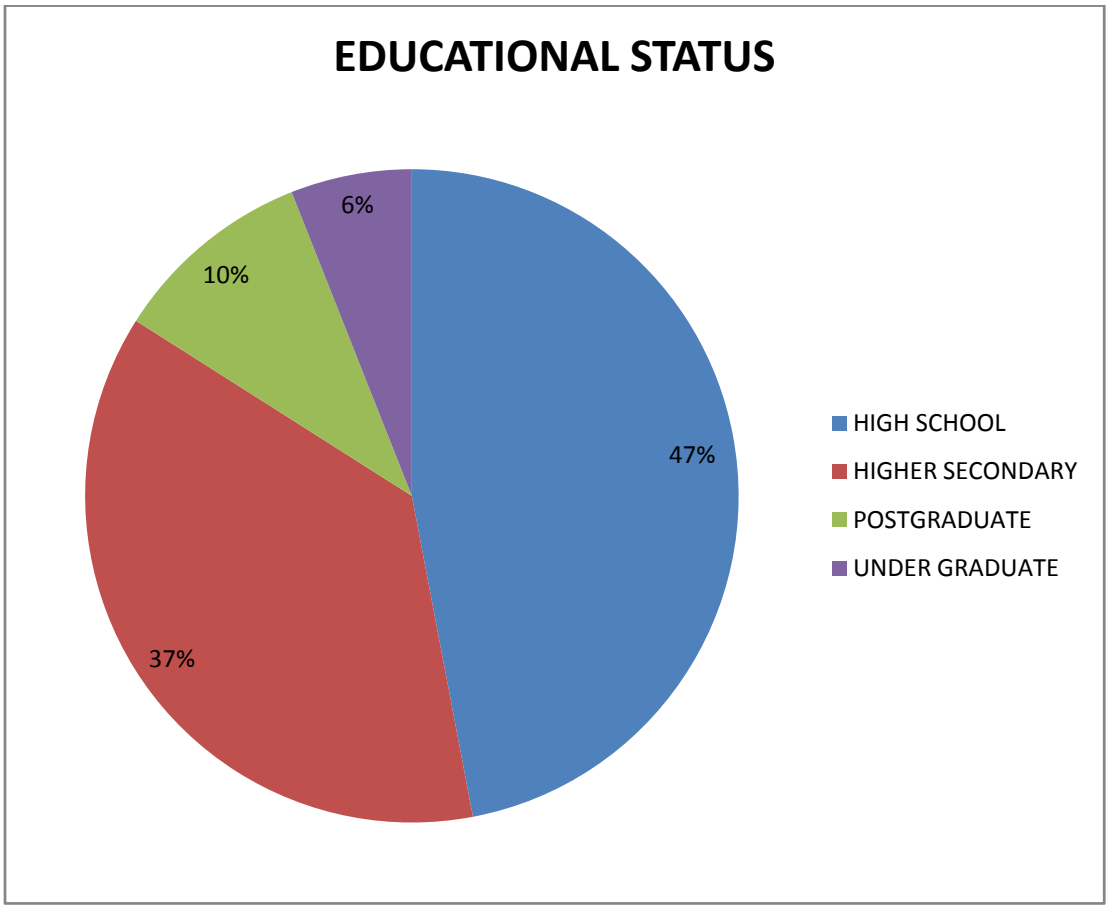


Fig. 2. Educational Status Distribution

Figure 2 shows that majority of the study participants educational qualification was high school followed by higher secondary, post graduate and undergraduates.

6.1.4 Socio economic status of the study population

Table 2 Distribution of socio economic status (SES) among the study population

SES	FREQUENCY N=106	PERCENTAGE
CLASS I	58	54.7%
CLASS II	40	37.7%
CLASS III	6	5.7%
CLASS IV	2	1.9%
TOTAL	106	100%

Table 2 shows that more than half of the study population belongs SES class I , based on B.G.Prasad classification, June (Consumer Price Index) CPI.

6.1.5 Marital status of the study population

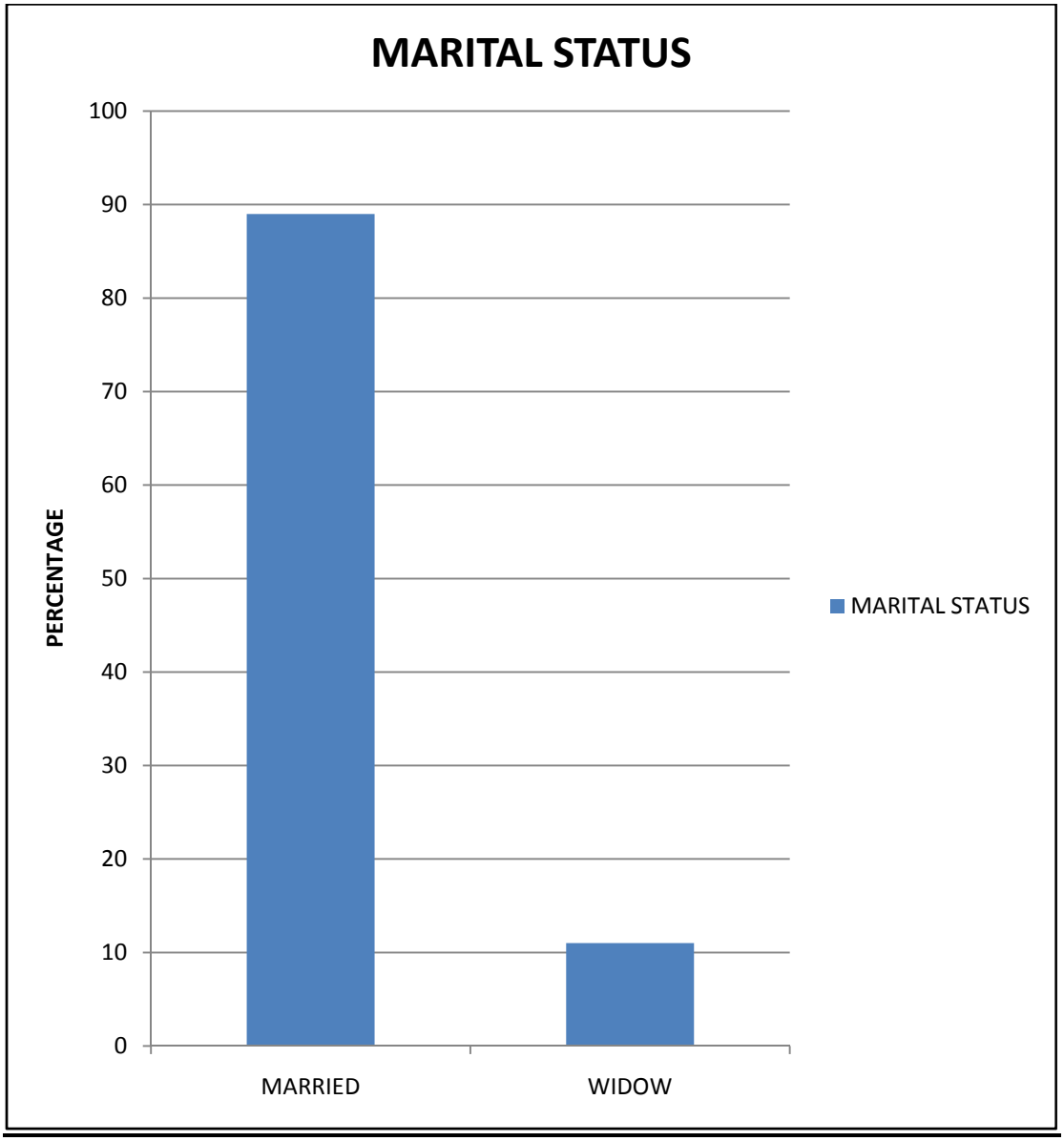


Fig. 3. Marital Status Distribution

Figure 3shows that the majority of the study populations are married.

6.2 OCCUPATIONAL STRESS AMONG THE VHN's

6.2.1 Prevalence of occupational stress

Table 3.Prevalence of Occupational Stress.

OCCUPATIONAL STRESS	FREQUENCY N=106	PERCENTAGE
PRESENT	84	79.2%
ABSENT	22	20.8%

Table.3.Shows that almost 80% of VHN have occupational stress

6.2.2 Distribution of grading of occupational stress among the VHN

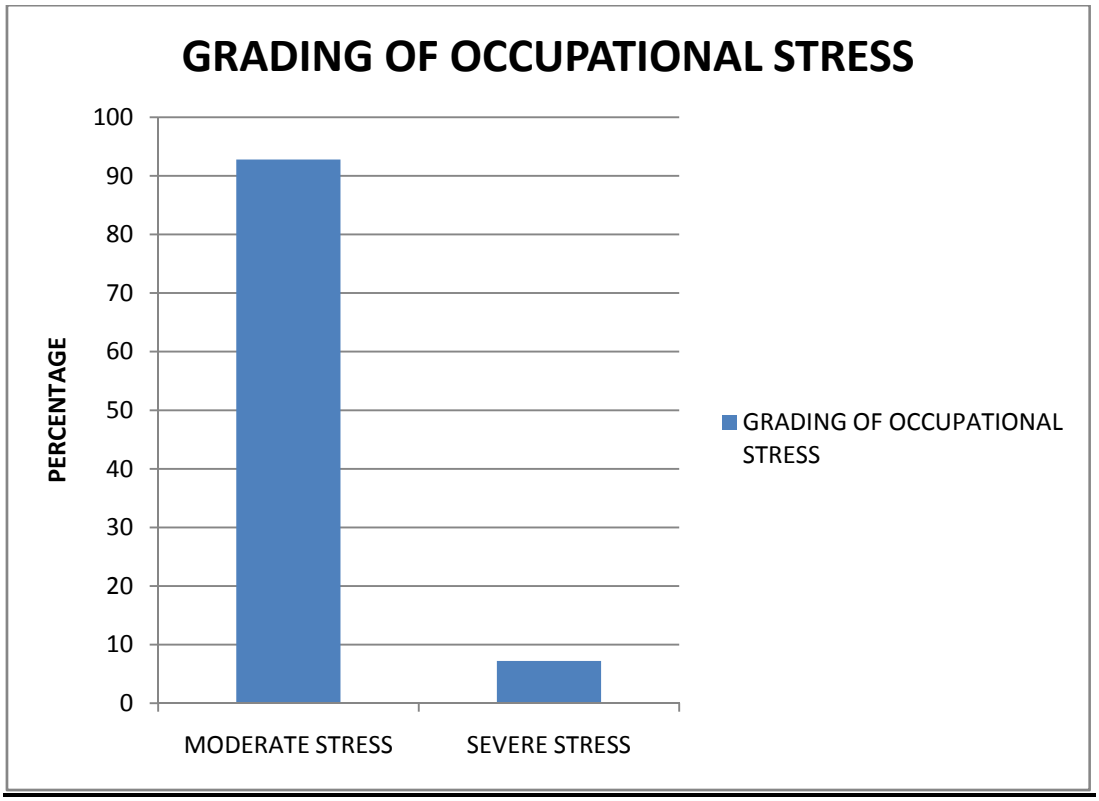


Fig.4. Grading of Occupational Stress

Figure 4 shows that among those with occupational stress majority of them suffer from moderate level of occupational stress and the remaining suffer from sever level of occupational stress

6.3 ASSOCIATION BETWEEN RISK FACTORS AND OCCUPATIONAL STRESS

6.3.1 *SOCIODEMOGRAPHIC RISK FACTORS*

6.3.1.1 Association between age and occupational stress

Table.4. Association between age and occupational stress

AGE IN YEARS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	ABSENT (N=22)
31-40	4(100%)	0(0%)
41-50	40(74.1%)	14(24.9%)
51-60	40(83.3%)	8(16.7%)

Fisher exact test using Monte Carlo simulation p value =0.411(NS) Nearly three fourths of all the age groups were found to have occupational stress but there is no significant statistical association between the age and occupational stress among the study population.(p =0.411)

6.3.1. 2Association between educational status and occupational stress

Table.5. Association between educational status and occupational stress

EDUCATIONAL STATUS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
HIGH SCHOOL	36(72%)	14(28%)
HIGHER SECONDARY	33(84.6%)	6(15.4%)
UNDER GRADUATES	5(83.3%)	1(16.7%)
POST GRADUATES	10(90.9%)	1(9.1%)

Fisher exact test p value =0.41

Study population with higher educational status with post graduate(90.9%) are more stressed as compared to study population with high school qualification but there isno statistically significant association between the educational status and occupational stress.(p=0.41)

6.3.1.3 Association between marital status and occupational stress

Table.6. Association between marital status and occupational stress

MARITAL STATUS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
MARRIED	75(79.8%)	19(20.2%)
WIDOW	9(75%)	3(25%)

Fisher's exact test, p value=0.71 (NS)

Table 6 shows that the study population who are married are more stressed (79.8%)as compared to those who are widow but there is no statistical significant association between the maritalstatus of the VHN's and stress.(p=0.71)

6.3.1.4 Association between socio economic status and occupational stress

Table.7. Association between socioeconomic status and stress

SOCIOECONOMIC STATUS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
SES I	48(82.8%)	10(17.2%)
SES II	29(72.5%)	11(27.5%)
SES III	6(100%)	0(0%)
SES IV	1(50%)	1(50%)

Fisher exact test using Monte Carlo simulation test p value=0.18(NS) Study population with SES I (82.8%)are more stressed as compared to those belonging to SES IV(50%)but there is no statistically significant association between the socioeconomic status and stress among the study population.(p=0.18)

6.3.2 *OCCUPATION RELATED RISK FACTORS.*

6.3.2.1 Single earning members among the study population

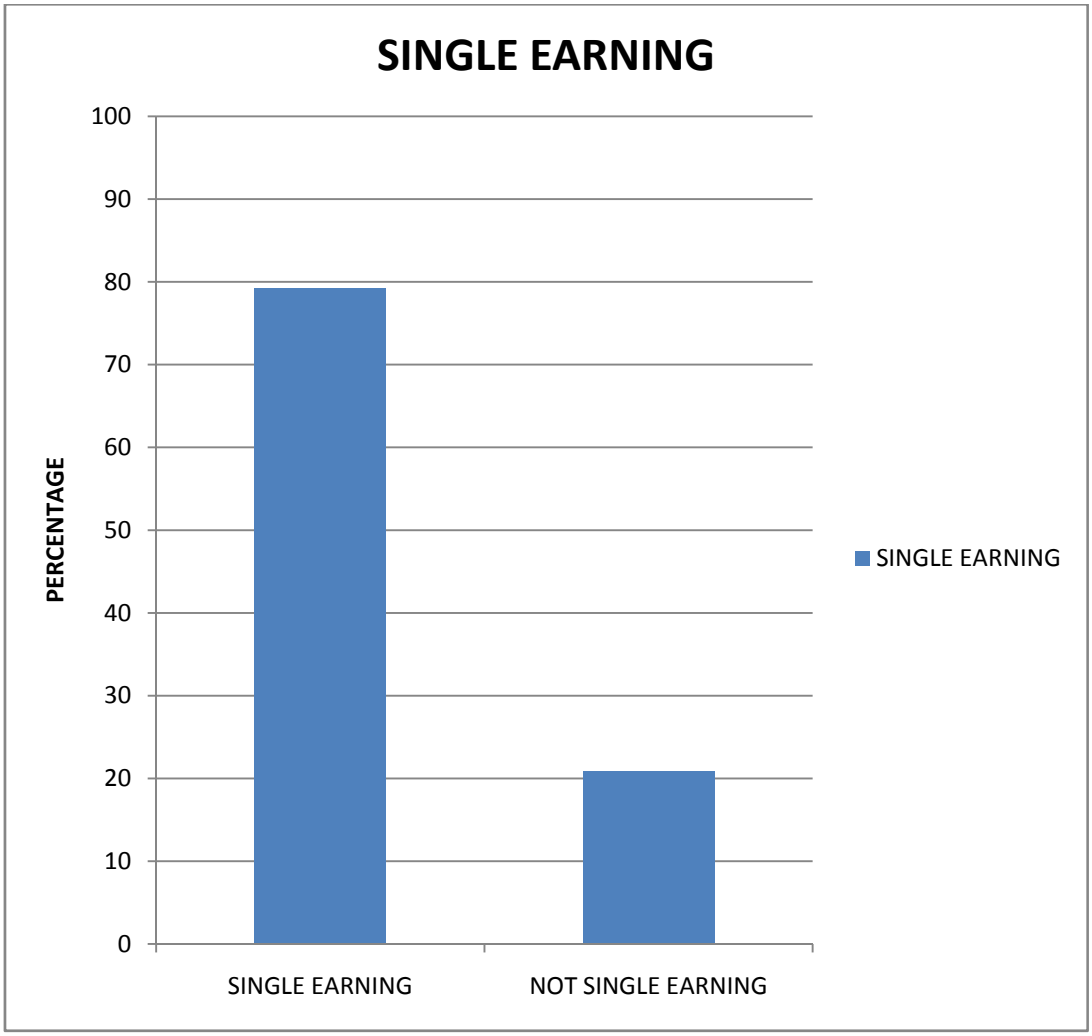


Fig.5. Distribution of Single Earning among the Study Population

Figure5 shows that majority of study population are single earning members

6.3.2.2 Association between single earning member and occupational stress

Table.8. Association between single earning member and occupational stress

SINGLE EARNING	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
NO	13(59..1%)	9(40.9%)
YES	71(84.5%)	13(15.5%)

Chi square=6.856 p value=0.009 (S)

Table shows that the study population who are single earning member of the family are more stressed as compared to those who are not single earning member and there is statistically significant association between the occupational stress and being the single earning member of the family(p=0.009)

6.3.2.3 Duration of sleep at night(hours) among the study population

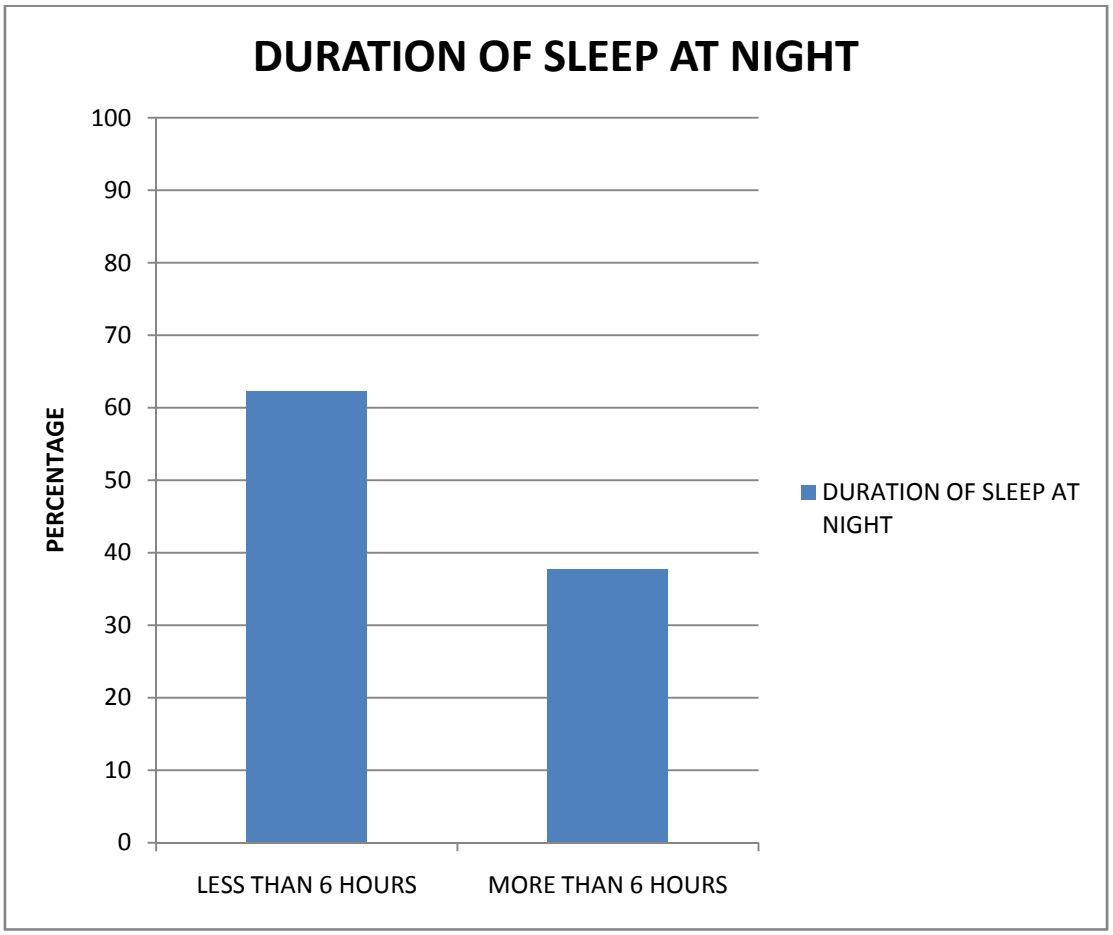


Fig.6. Distribution of Sleep Hours among the Study Population

Figure 6 shows that majority of study population sleep less than 6 hours

6.3.2.4 Association between duration of sleeping at night and occupational stress

Table.9. Association between Duration of Sleeping at Night and Occupational Stress

DURATION OF SLEEP AT NIGHT	OCCUPATIONAL STRESS	
	PRESENT (N=84)	ABSENT (N=22)
< 6 HOURS	57(86.4%)	9(13.6%)
≥6 HOURS	27(67.5%)	13(32.5%)

Chi sqare-5.388, P value=0.020 (S)

Table 9 shows, that VHN's who sleep for less than 6 hours at night have significantly more occupational stress compared to those who sleep at least 6 hours at night and this association is found to be statically significant.(p=0.02)

6.3.2.5 Time taken to reach PHC among the study population

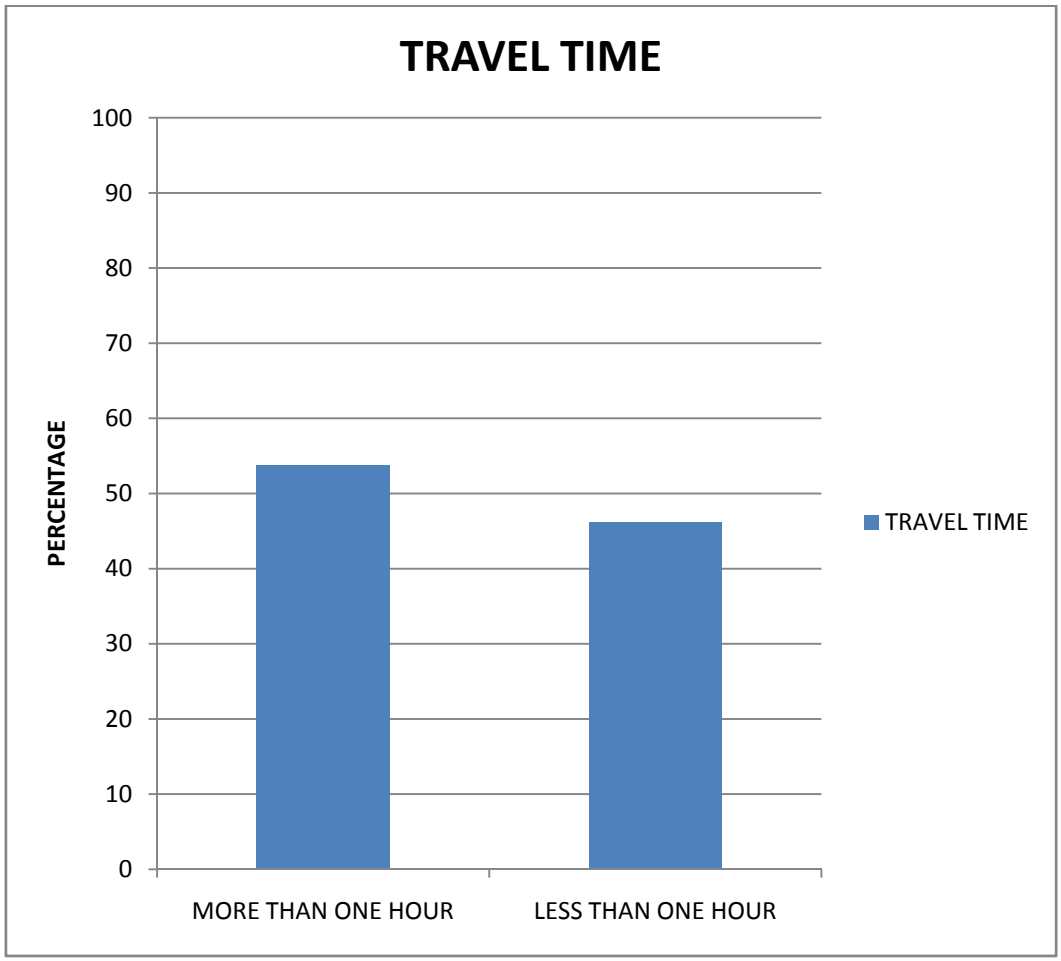


Fig.7. Distribution of Travel Time among the Study Population

Figure 7 shows that majority of study population travel more than 1 hour for work.

6.3.2.6 Association between travel time taken to reach PHC and occupational stress

Table.10. Association between Travel Time and Occupational Stress

TRAVEL TIME	OCCUPATIONAL STRESS	
	PRESENT (N=84)	ABSENT (N=22)
< 1 HOURS	34(69.4%)	15(30.6%)
> 1 HOURS	50(87.7%)	7(12.3%)

chi-square value=5.384, df=1, p value=0.020(S)

Table 10 shows, that VHN"s who travel for more than 1 hour to work place have significantly more occupational stress than who take less than 1 hour to reach work place and this association is found to be statistically significant.(p=0.020)

6.3.2.7 Salary satisfaction among the study population

Fig.8. Distribution of Salary Satisfaction among Study Population

Figure 8 shows that majority of the study population are not satisfied with the salary they get.

6.3.2.8 Association between salary satisfaction and occupational stress

Table.11. Association between Salary Satisfaction and Stress

SALARY SATISFACTION	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
NO	52(86.7%)	8(13.3%)
YES	32(69.6%)	14(30.4%)

Chisquare-4.63 df=1 p value=0.031(S)

Table 11 shows that the VHN''s who do not have salary satisfaction are more stressed compared to the VHN's who have salary satisfaction and this association is found to be statistically significant.(p=0.031)

6.3.2.9 Distribution of years of service

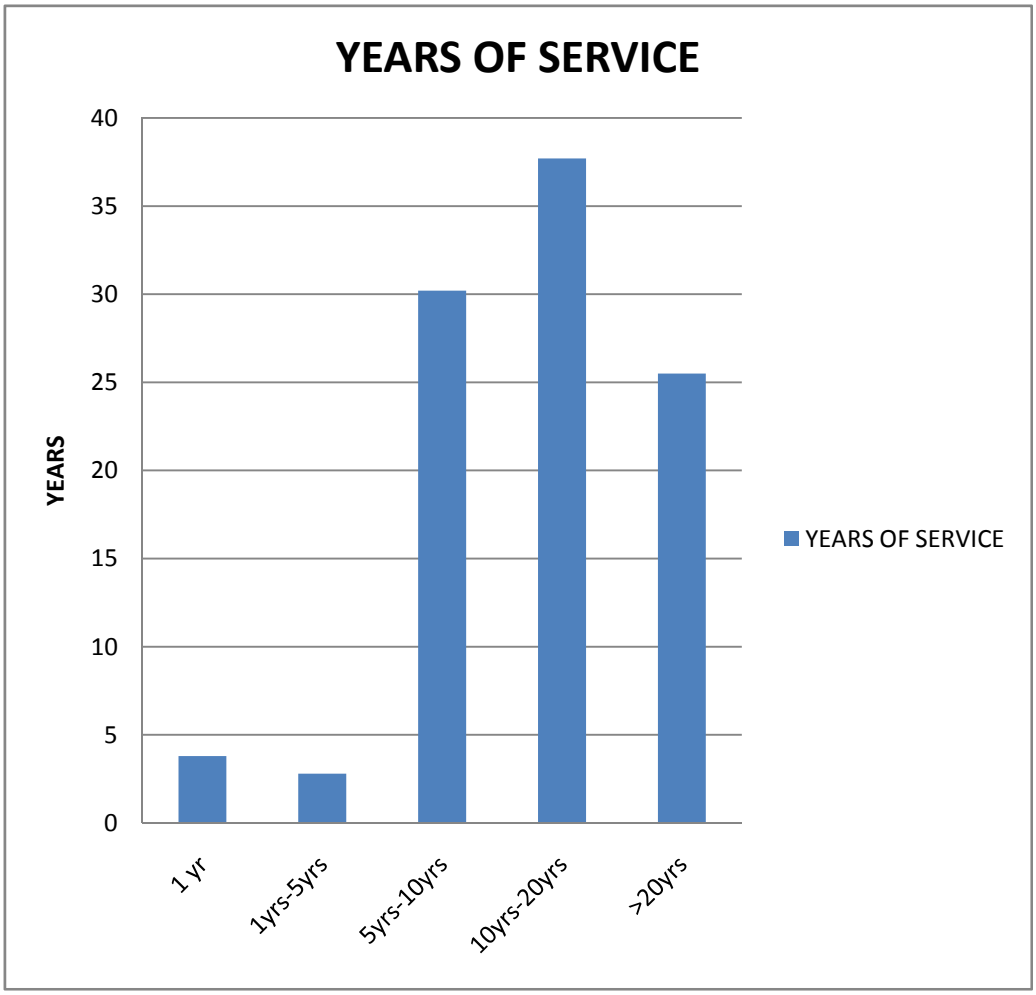


Fig.9. Distribution of Years of Service

Figure 9 shows that most of them have rendered 5 years of service.

6.3.2.10 Association between years of service and occupational stress.

Table.12. Association between Years of Service and Stress

YEARS OF SERVICE	OCCUPATIONAL STRESS	
	PRESENT (N=84)	ABSENT (N=22)
≤ 1	3(75%)	1(25%)
1- 5	2(66.7%)	1(33.3%)
5 – 10	24(75%)	8(25%)
10 – 20	32(80%)	8(20%)
>20	23(85.2%)	4(14.8%)

Fisher exact test p value = 0.73(NS)

Mean years of service (SD) = 15.91 (7.9) yr

Proportion of VHNs with occupational stress increases with duration of their service except among those with less than 1 yr of service. But statistical analysis does not show any association between duration of service and occupational stress (p = 0.73)

6.3.3. *MORBIDITY RELATED RISK FACTORS*

6.3.3.1 Distribution of chronic illness among the study population

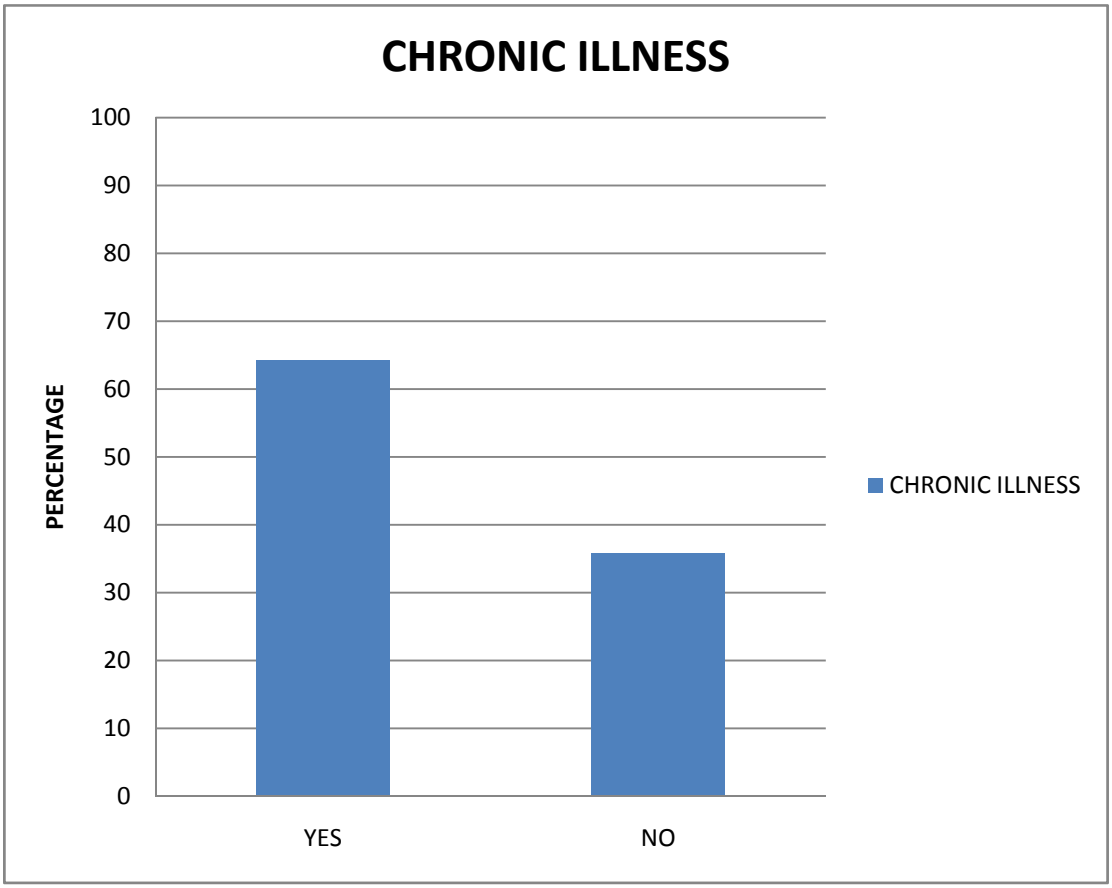


Fig.10. Distribution of Chronic Illness among the Study Population

Figure 10 shows that majority of study population are suffering from chronic illness

6.3.3.2 Association between chronic illness and occupational stress

Table.13. Association between Chronic Illness and Occupational Stress

CHRONIC ILLNESS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
NO	23(60.5%)	15(39.5%)
YES	61(89.7%)	7(10.3%)

Chisquare-12.62 df=1 p value=0.001(S)

Table 13 shows that VHN''s who have chronic illness are more stressed as compared to VHN's who do not have chronic illness and this association is found to be statistically significant.(p=0.001)

6.3.3.3 Types of disease present among the study population

Distribution of the diseases among the study population

Table.14. Distribution of the Different Types of Diseases among the Study Population

Diseases	Present
Diabetes	14
Hypertension	10
musculoskeletal	19
CAD	2
Gastritis	15
Others	22

6.3.3.4 Number of chronic illness among the study population

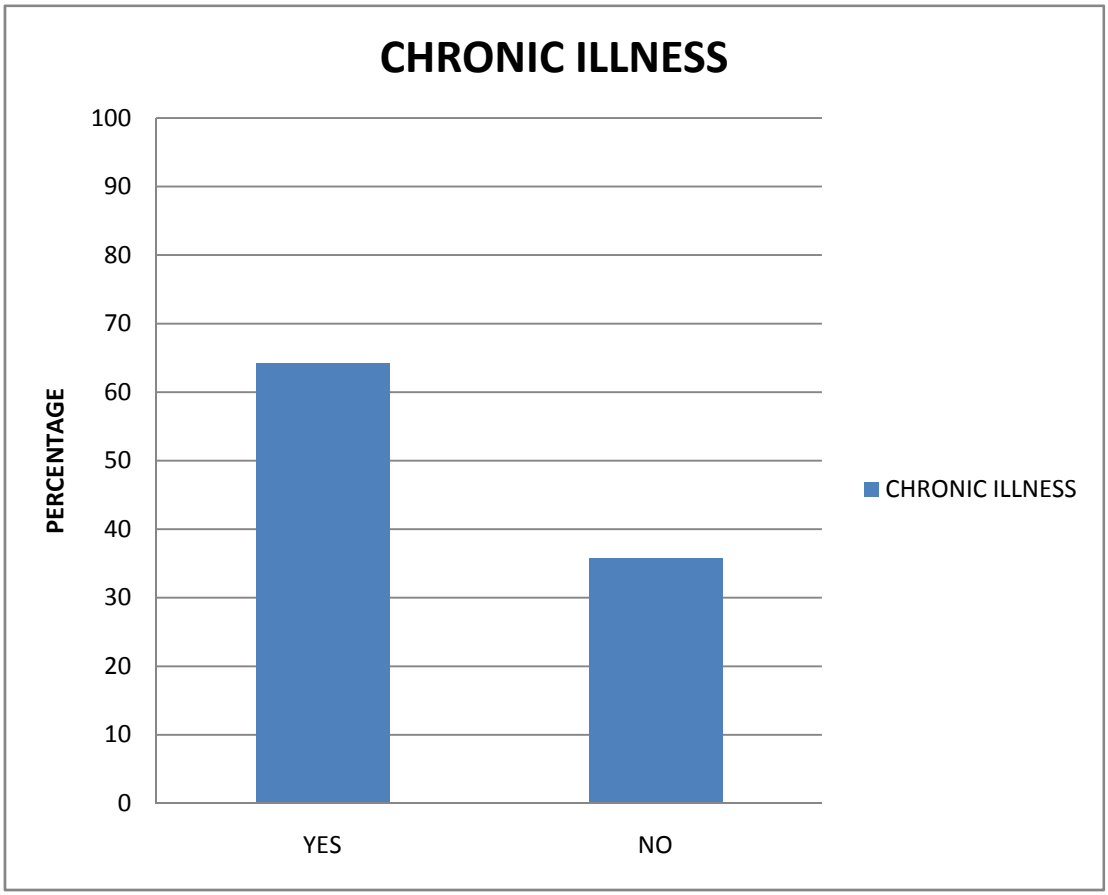


Fig.11. Distribution of Number of Chronic Illness among the Study Population

Figure 11 shows that majority of study population are suffering from one chronic illness.

6.3.3.5 Association between number of chronic illness and occupational stress

Table.15. Association between Number of Chronic Illness and Occupational Stress

NO OF CHRONIC ILLNESS	OCCUPATIONAL STRESS	
	PRESENT (N=84)	**ABSENT (N=22)**
0	23(60.5%)	15(39.5%)
1	49(89.1%)	6(10.9%)
2	12(92.3%)	1(7.7%)

Fisher exact test P value = 0.002(S)

Table 15 shows that the proportion of VHN's suffering from occupational stress significantly increases with the increasing number of chronic illness. (p=0.002)

6.3.3.5 Duration of chronic illness among the study population

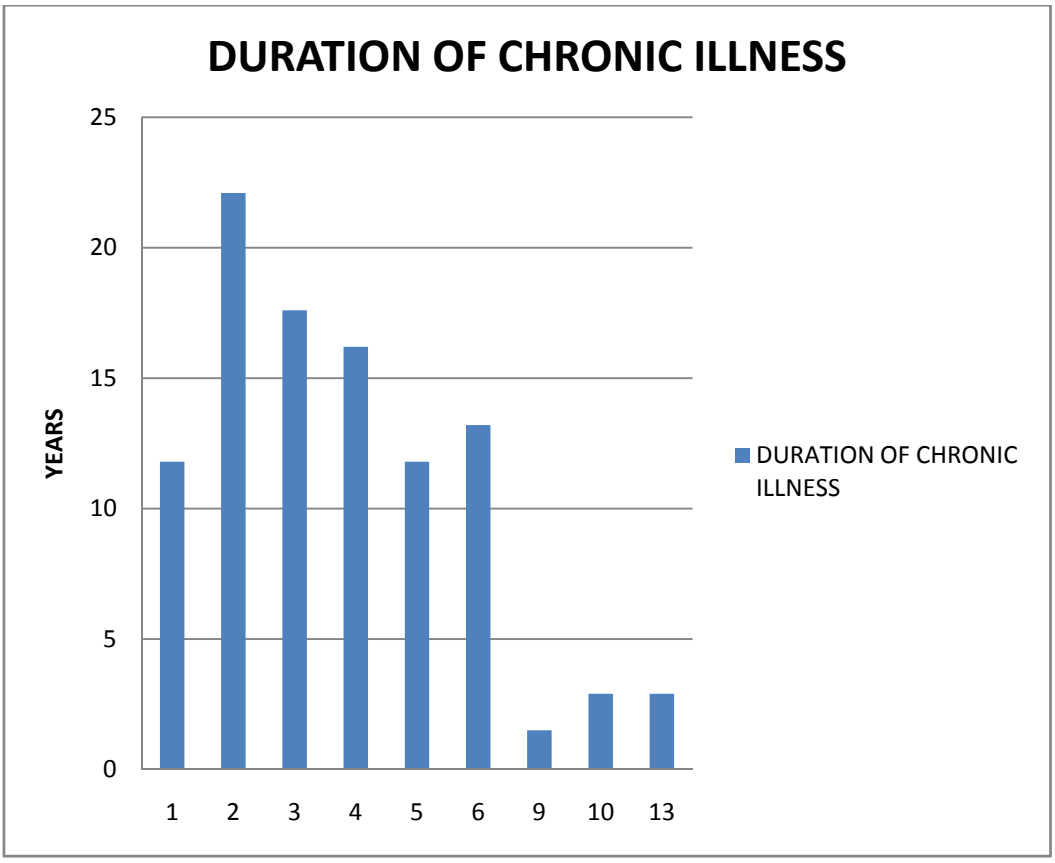


Fig.12. Distribution of duration of Chronic Illness among the Study Population

Figure 12 shows that the study population suffers from minimum of one year duration to maximum of thirteen years of chronic illness duration.

6.3.3.6 Association between duration of illness and occupational stress .

Table.16. Association between duration of Illness and occupational stress

Duration of chronic illness (yrs)	OCCUPATIONAL STRESS	
	Present (N=61)	Absent (N=7)
≤ 1	6(60%)	4(40%)
2-5	31(96.9%)	1(3.1%)
6-10	16(94.1%)	1(5.9%)
11-15	8(88.90%)	1(11.1%)

Fisher exact test p value = 0.015(S)

Table shows that except those with less than 1 year of duration of illness, almost 90% of those with duration of illness greater than 1 year have occupational stress and there is statistically significant association ,that is longer the duration of illness ,more the probability of developing occupational stress.(p=0.015)

6.3.3.7 Distribution of participants taking regular treatment for chronic illness

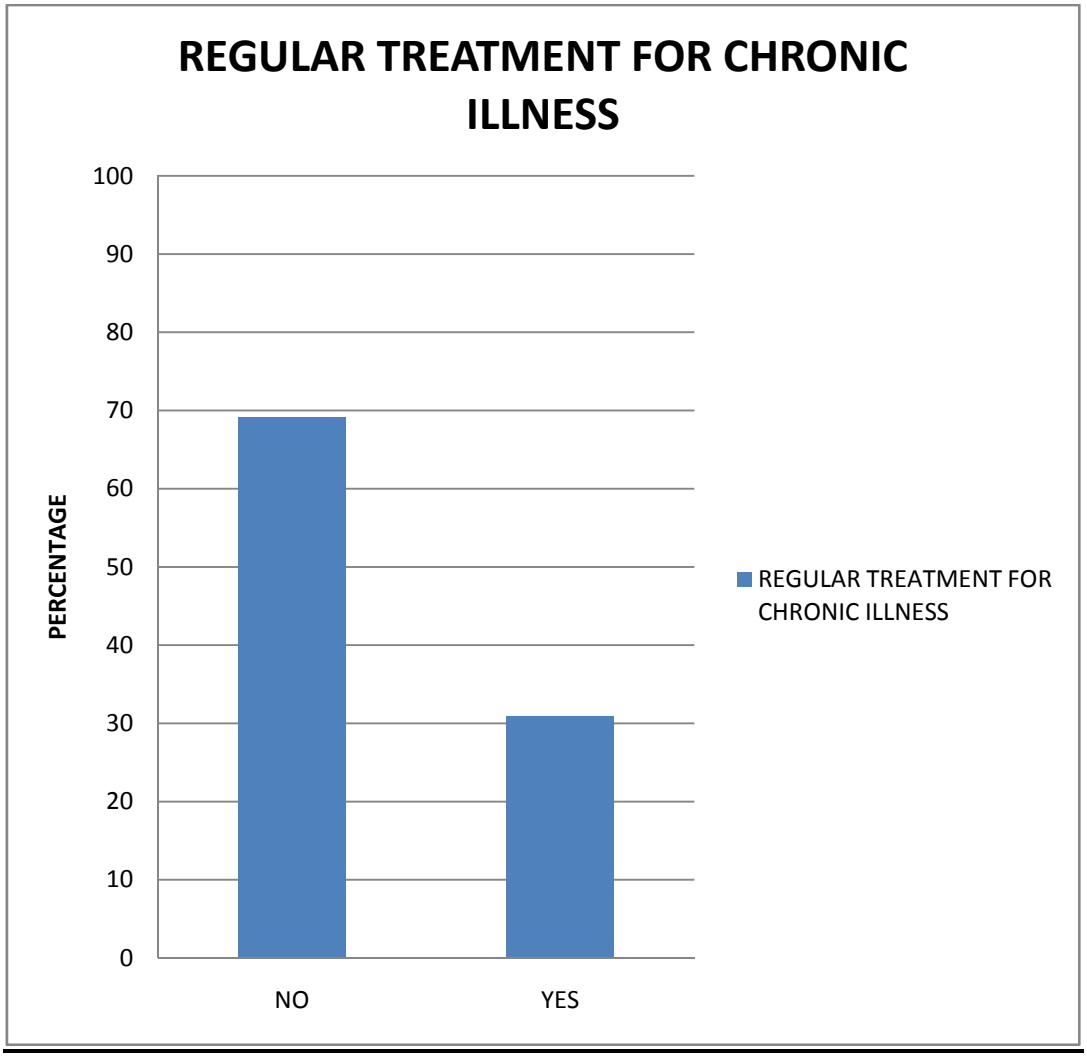


Fig.13. Distribution of Participants taking Regular Treatment for Chronic Illness

Figure13 shows that majority of study population do not take regular treatment for chronic illness.

6.3.3.8 Association between Regular Treatment for chronic illness and occupational stress.

Table.17. Association between Regular Treatment for Chronic Illness and Stress

Regular Treatment for Chronic Illness	OCCUPATIONAL STRESS	
	Present (N=61)	**Absent (N = 7)**
NO	45(95.7%)	2(4.3%)
YES	16(76.2%)	5(23.8%)

Fisher exact test p value = 0.025(S)

Table 17 shows that among those with chronic illness VHN's who take regular treatment have significantly less occupational stress compared to those who do not take regular treatment.(p =0.025)

6.4 IV BINOMIAL LOGISTIC REGRESSION

6.4.1 Factors associated with stress by multivariate analysis:

Binary logistic regression analysis showed that the difference in the prevalence of study population having stress due to various risk factors like single earning member, chronic illness, sleeping hours at night, travel time to work after adjusting for other significant demographic variables and risk factors.

Table .18 BINOMIAL LOGISTIC REGRESSION FOR STRESS AMONG VHN

Variables in the Equation	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
SINGLE_EARNING	1.372	.618	4.925	1	.026	3.942	1.174	13.240
CHRON_ILLNESS	1.795	.583	9.478	1	.002	6.021	1.920	18.884
SLEEP_HOURS	-1.040	.562	3.430	1	.064	.353	.117	1.063
TRAVEL_TIME	1.057	.572	3.411	1	.065	2.878	.937	8.836
Constant	-.598	.699	.732	1	.392	.550		

Adjusted odds ratio for Single earning member of the family to become stressed is 3.942 (1.174 – 13.240) and for suffering from chronic illness is 6.021(1.920 – 18.884)

Adjusted odds ratio to become stressed for sleeping hours at night is 0.353 (0.117 -1.063) and for travel time to work is 2.878 (0.937 – 8.836). This implies that sleeping hours at night provides a protective effect of 64.7% against occupation stress.

7. DISCUSSION

The current study is a community based cross sectional study conducted to estimate the prevalence of occupational stress and its associated risk factors among the Village Health Nurses in Tamil Nadu.

The number of study participants involved was 106 Village Health Nurse. Among the study participants, all participants were females. The age of the study participants ranged from 30 years to 60 years with almost half the number of study participants belonging to 41-50 years age group.

Majority of the Village Health Nurses were Hindus 99 (93.4%). Among the total study population 50 (47.2%) of them have high school education and 39 (36.8%) of them have higher secondary school education, 11(10.4%) of them have post graduate education, and 6(5.7%) of them have undergraduate education. According to modified B.G. Prasad socio economic classification, June (Consumer Price Index) CPI. More than half of the study population belongs SES class I. (Annexure -3).

7.1 PREVALENCE OF OCCUPATIONAL STRESS

Health care providers are a known high risk group for mental health problems also coupled with physical health problems. In addition, health care providers are burdened by educational and administrative commitments. Therefore, it is highly expected for them to have more level of occupational stress. Among the 106 Village Health Nurses screened, 84 (79.2%) of them were suffering from occupational stress. Based on the Professional life stress scale by David Fontana, England, 1989. There are very few studies about the occupational stress among the community health workers in Tamil Nadu .especially there are no studies to assess the prevalence of occupational stress among the Village Health Nurses. In the present study Professional Life Stress scale was used to screen occupational stress among the Village Health Nurse for diagnosis.

Table 19. Various studies for prevalence of occupational stress

Study	Year	Sample size	Scale used	place	Prevalence
Badrinarayan Mishra,et al[10]	2011	406	General Health Questionnaire (GHQ)-12 and Holmes-Rahe Scale	Rural India	49.2%
Kannan et al[11]	2012	1238	(RODS)scale	kerala	75.26%
Padma Mohanan et al[13]	2011	82	GHQ-12	Mangalore ,karnataka	12%
Shobha S Karikatti et al[12]	2012	130	GHQ-12	Belagavi,karnataka	6.92%
Mrs Kanthimathi[14]	2014	110	Questions relating to stress factor	Coimbatore,Tamil Nadu	Mean score=2.96

The difference in prevalence estimates between these studies and the present study could be due to various reasons like;

1. The different survey methods, particularly the various scales used for screening occupational stress, are a serious problem, preventing the valid comparison of such studies. Also, the criteria of symptoms used for screening occupational stress varies. Some symptoms included in the present study has not been included in other comparable studies. It seems that possible variations in the sample size also plays a major role
2. There are no recent studies on occupational stress among the Village Health Nurses to compare the prevalence estimates of the present study.

The prevalence of occupational stress among the VHNs in the present study could be due to socio demographic profile like Age, Educational status, Marital status, and other occupational factors like single earning member of the family, travel time to work, sleeping hours at night ,duration of years of service, morbidity factors like study population with chronic illness, number of chronic illness and taking regular treatment for chronic illness.

7.2 PREVALENCE OF OCCUPATIONAL STRESS AND RISK FACTORS:

7.2.1 *SOCIO DEMOGRAPHIC RISK FACTORS*:

7.2.1.1 Occupational stress and age:

In the present study nearly three fourths of all the age groups were found to have occupational stress. occupational stress does not depend upon age.

Nasiripour AA. PhD, et al [6] stated that there is no association between the age and the occupational stress.

In the present study invariably all the age groups were found to have occupational stress.

7.2.1.2 Occupational stress and educational status:

In the present study the participants with higher educational status with post graduate (90.9%) are stressed as compared to study population with high school qualification.

Nasiripour AA. PhD, et al [6] stated that there is no association between the educational status and the occupational stress.

In the study occupational does not depend on educational status

7.2.1.3 Occupational stress and SES

In the present study the participants who belong SES class I are 82.8% stressed as compared to those belonging to SES class IV(50%)

Nasiripour AA. PhD, et al[6]stated that there is no association between the socioeconomic status and the occupational stress.

Another study Job by Zamee Hag m et al[15] also stated that there is no association between the socioeconomic status and occupational stress.

VHNs occupational stress level is not associated with the socio economic status.

7.2.1.4 Occupational stress and marital status:

In the present study the participants who are married are 79.8% stressed as compared to those who are widow

Parul Sharma et al[16] stated that there is no association between the marital status and occupational stress .

Another study by Nasiripour AA. PhD, et al[6] emphasised that there is no association between the marital status and the occupational stress

The marital status among the VHNs does not have influence on occupational stress

7.2.2 *OCCUPATIONAL RISK FACTORS:*

7.2.2.1 Occupational stress and time taken to reach PHC

In this study the VHNs who travel for more than 1 hour to work place have more occupational stress than those who take less than 1 hour to reach work place

Several studies [6,15] have stated that the occupational stress increases with increase in an travel time to work.

VHNs who travel more than one hour for work are stressed more.

7.2.2.2 Occupational stress and salary satisfaction

This study shows that VHN''s who do not have salary satisfaction are more stressed compared to the VHN's who have salary satisfaction

Parul Sharma et al[16] stated that there was high prevalence of occupational stress with decreased salary satisfaction by the study participants .

VHNs with have no salary satisfaction are more stressed in this study.

7.2.2.3 Occupational stress and duration of service

The current study shows that Proportion of VHNs with occupational stress increases with duration of their service except among those with less than 1 yr of service.

Many studies **[6,15]** have stated that occupational stress does not depend on duration of years of service.

Duration of years of service is not associated with occupational stress among the VHNs.

8. SUMMARY AND CONCLUSION

It is a population based cross sectional study done to find out the prevalence of occupational stress and its associated risk factors among 106 Village Health Nurses Tamil Nadu .A self administered questionnaire was used to collect information regarding the socio-demographic details, risk factor exposure and symptoms of occupational stress. Professional life stress scale by David Fontana was used to screen the study population for occupational stress.

The study revealed the following findings:

1) The prevalence of occupational stress among the study population was 79.2%,. among the Village Health Nurses screened, 84 study participants were found to have occupational stress

2) More than three fourths of the study population of all age groups were stressed and study participants who are graduates are more stressed.

3) VHNs belonging to SES class I are more stressed and VHNs who are married are more stressed

4) Study population who are single earning member of the family are 84.5% stressed compared to those who are not single earning member and the VHNs who sleep less than 6 hours are 86.4% stressed than those who sleep for more than 6 hours at night

5) Study population who travel for more than 1 hour for work suffer from more occupational stress and also the VHNs who do not have salary satisfaction are more prone for occupational stress.

6) Proportion of occupational stress among the VHNs increases as the duration of services increases and the study population shows that the prevalence of occupational stress is 89.7% with those who have chronic illness

7) The occupational stress among the VHNs increases with increase in the number of chronic illness and those having more than one year of duration of chronic illness are more susceptible for occupational stress and also the study population who are on regular treatment for chronic illness are less stressed when compared to who are not taking regular treatment

8) Logistic regression shows like single earning member, chronic illness, sleeping hours at night, travel time to work are independent risk factors associated to occupational stress, controlling for other variables. Sleeping for at least 6 hours at night is protective factor against occupational stress.

This study highlights the high prevalence of occupational stress among the Village Health Nurses in Tamil Nadu. This study was able to identify stressors among the Village Health Nurses like challenging working

environment like travelling hours to work, sleeping hours at night, income they take and also morbidity factors like chronic illness, the number of chronic illness they suffer with ,its duration and its regular treatment. All these contributed to decrease in motivation and lead to occupational stress, in addition to hindering their work functions. The identification of these stress-related factors could help implementation of appropriate interventions for the betterment of healthcare services

9. LIMITATION

1. The present study was done among the VHNs in Tamil Nadu as there was no previous study to calculate the sample size, it was arrived with 50% assumption of prevalence and the sample size calculated was 106 hence limits the generalizability of the findings.

2. In the present study, Professional life stress scale by David Fontana was used to screen the study population but the prevalence may increase or decrease depending on other scales used in other studies . No clinical examination was undertaken as it was not practical and not feasible. This may have lead to some misclassification of disease.

3. The mood of the Village Health Nurse the day on which they were interviewed may affect the results of the study.

4. Participants may not give the real picture of their work status, due to superior fear and also job fear. This may lead to a possibility of bias in this study.

The study carries the inherent limitations of cross sectional studies, thereby restrict the true temporal relationships between the risk factors and occupational stress

10. RECOMMENDATIONS

Based on the findings of the current study, the following recommendations are being put forward

1) Occupational stress is treatable if intervened earlier. This highlights the need for screening programmes for the community health care workers like Village Health Nurses who work at the grass root level in providing primary health care to the community. Hence on account of the huge social and economic burden it places on the community and country it has to be intervened at the earliest.

2) Health education regarding life style modification may actually prevent the emergence of occupational stress and many risk factors such as travel time to their work place, sleeping hours at night ,salary satisfaction, prevention of chronic illness, taking regular treatment for chronic illness which are amenable to modification, may be recommended to make the VHNs to spend their life , mentally and physically fit. Family members also should be involved in planning and implementing interventions.

3) Government community health worker policy should be established to maintain the interest of the community health workers like VHNs ,to set norms for ,salary, duration of service, travel allowance and incentives.

leave allowance after heavy work. As they are burdened with more work every day along with existing work.

1) Further many interventions like they can involve in physical relaxation like taking rest in between work and after work and also involving in physical activity, mental relaxation like practicing yoga at home, work environment interventions like talking with peer groups, developing rapport and communication skill with the community they work in order to convince them and make their work easy without stress.

2) Directions for future research

The present study being a cross sectional study is not able to assure causality association for occupational stress. Hence a prospective study on large scale may be undertaken to prove causal association.

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ANNEXURE – 1

INFORMATION SHEET

"A CROSS-SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSE, TAMIL NADU, 2016"

Occupational stress is stress related to one's job. Occupational stress often stems from unexpected responsibilities and pressures that do not align with a person's knowledge, skills, or expectations, inhibiting one's ability to cope. Job stress results from various interactions of the worker and the environment of the work they perform their duties. Location, gender, environment, and many other factors contribute to the buildup of stress. Occupational stress is the cause of approximately 40% of turnover and 50% of workplace absences.

Stressful working conditions can lead to three types of strains: Behavioral (e.g., absenteeism), physical (e.g., headaches or Fatigue), and psychological (e.g., anxiety), Long term stress leads to High Bp, cardiovascular disease, musculoskeletal disorders and psychological disorders. High levels of stress are associated with substantial increases in health service utilization. Workers who report experiencing stress at work also show excessive health care utilization. Hence the stress among the working people has to be identified at the earliest and the appropriate management skill has to be applied.

This study was intended to estimate the prevalence of occupational stress among the village health nurse. Sine Village Health Nurse is one most susceptible group of people for occupational stress they should aware about it to prevent its complication there by reducing the mortality and morbidity due to stress. We request you to participate in this study.

The privacy of the participants in the research will be maintained throughout the study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared. Taking part in this study is voluntary. You are free to decide whether to participate in this study or to withdraw at any time.

The results of the special study may be intimated to you at the end of the study period or during the study if anything is found abnormal which may aid in the management, treatment or prevention.

INFORMED CONSENT FORM

"A CROSS-SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSE, TAMIL NADU, 2016"

Name of the participant:

Age/Sex:

(1) I have been explained in detail about the study and its procedure. I confirm that I had completely understood the study and have had the opportunity to ask questions

(2) I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without their medical care or legal rights being affected.

(3) I understand that the principal investigator, others working on the investigator's behalf, the Ethics Committee and the regulatory authorities will not need my permission to look at my health records both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the trial. I agree to this access. However I understand that my identity will not be revealed in any information released to third parties or published.

(4) I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purpose(s).

(5) I agree to participate in the above study.

Signature of investigator:

Signature or Thumb impression of the participant:

Ma;tj;j fty;jhs;[

Ma;tj; j iyggl f|uhkggw Rfhjhu br t|y|ahf S f;F VwgLk; nt i y mGj;j k; mJ rkge;jggl;J t i fa|y; VwgLk; kd mGj;j k; kw;Wk; mj dhy; VwgLk; neha;f s; M f|a tw;i w Fw|j ;J 2016?k; tUl j ;j|y; j k|Hehlpy;nkwbfhs;sggLk;Xh; FWf;fha;t[

nt i y e|k|j ;j khf VwgLk; kd mGj;j k; mth;f S i la nt i y rkge;jggl;J jhFk;. nt i y e|k|j ;j khf VwgLk; kd mGj;j k; vj |hghuhj bghWggf;f s; kw;Wk; mGj;j ';f S f;F clgLj ;j| .mt;thW VwgLk; kd mGj;j k; kd mGj;j k; xU eghd; mw|t[kw;Wk; j|w i kf s; vj|hghhggf;f s; M f|a tw;i w bt s|f bfh z u Koahky; bra;J t|Lk;. nt i y rkge;jkhf VwgLk; kd mGj;j k; gy t|j j ;j|y; VwgLk;. c jhuz khf nt i yahl;f s|d; gy;ntWt|jkhd bray;f s; Rw;Wgg[w k; ghy|dk; nt i y bra;a[k;nt i ya|d;NHy;/g z|a|l j ;j|y;VwgLk;mG j ;j k;nj huhakhf 40# y|Ue;J 50# t i u nt i ya|l j ;j|d;NHyhy;kl;Lnk VwgL f|wJ/

kd mGj;j j ;J l d;gz|gl|t J KdWt i fahd J dg';f S f;F tH|t F f;Fk;.

1/el j ;i j 2/ c ly; h|j|ahf (vLj;J f;fhl;Lhf j i y t y| kw;Wk; f i sgg[gy ehl;f shf cs;s mGj;j k; cah; ,uj;j mGj;j k; ,Uja rkge jkhf VwgLk; neha;f s; j i rf s|y; VwgLk; neha;f s; cs t|ay; rkge;jkhd neha;f s; k|f t[k; mj| fkhd kd mGj;j k; c ly;e|i y rkge;j jkhf VwgLk; cghi j f i s mj| fh|f f;Fk;. gz| e|k|j ;j k; mj|fkhf kd mGj;j k; VwgL t jhf gf;fhh; ms|f;Fk; gz|ahsh;f S f;F mj| fkhf Rfhjhu ghJ fhgg[ms|f;f nt z;Lk;. vt;ts t[r f;f|ukhf gz|gl|a[k;gz|ahsh;f s| i lna VwgLk; kd mGj;j k; f z;Lg|of;fggL f|wnjh mt;ts t[r f;f|uk;mth;f S i la gz|a|y;mth;f S i la e|h;thf j|w i k bt s|ggLk;.

,e;j Ma;t|d; nehf;fk; f|uhkggw j ;j|y; gz|gl|a[k; Rfhjhu br t|y|ah;f S f;F kd mGj;j j ;j|d;Kyk;VwgLk;neha;j ;jhf;f j ;i j kj|ggL bra;t J Fw|j ;j jhFk;. f|uhkggw Rfhjhu br t|y|ah;f s; nt i y rkke;jkhf VwgLk; kd mGj;j|wF ghj|f;fggLtjw;fhd mghak; mj|fkhf ,Uggjhy; mth;f S f;F kdj|y; nt i y rkge;jkhf VwgLk; kd mGj;j j ;i j f z;Lwe;J mJ Fw|j ;J mth;f S f;F ghJ fhgg[ms|f;f t[k; kw;Wk; mj|y|Ue;J fhf;f t[k; kd mGj;j j ;j|dhy; VwgLk; ,wgg[kw;Wk; neha|d; j d;i k i a F i wf;f t[k; brhy;t i j f; Fw|j ;J/ eh';f s; ,e;j g; Ma;t|y; g'nfw;Wf;bfhs;s j ';f i s nfhU f|nwhk;.

,e;j Muha;r;r|a|d; Kotf;f i s myy J fU j ;J f;f i s bt s|a|Lk; nghnj myy J Muha;r;r|a|d; nghnjh j ';f s; bga i unah myy J m i lahs ';f i snah bt s|a|lkhl;nlhk; vdg i ja[k; bj h|t|j ;J f;bfhs;f|nwhk;.

,e;j Muha;r;r|a|y; g'nfwgJ j ';f S i la t|Uggj ;j|d; ngh|y; jhd; ,U f;f|wJ/ nkYk; e ';f s;veneuKk; ,e;j Muha;r;r|a|y|Ue;J g|d;th';fyhk;vdg i ja[k;bj h|t|j ;J f;bfhs;f|nwhk;.

,e;j r|wgg[ghnrhj i d f s|d; Kotf;f i s Muha;r;r|a|d; nghJ myy J Muhaa;r;r|a|d; Kot|d; nghJ j ';f S f;F mw|t|g;ghk;vdg i ja[k;bj h|t|j ;J f;bfhs;f|nwhk;.

ஆய்வு ஒப்புதல் கடிதம்

பெயர்: **வயது :** **பால்:**

ஆய்வு சேர்க்கை எண்: **தேதி:**

1. இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு தெளிவாக விளக்கப்பட்டது . எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டு நான் எனது சமதத்தைத் தெரிவிக்கிறேன்.
2. இந்த ஆய்வில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆய்விலிருந்து எந்நேரமும் வெளியேறலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.
3. இந்த ஆய்வின் விவரங்களை கொண்ட தகவல் தாளை பெற்றுக்கொண்டேன். நான் என்னுடைய சுயநினைவுடன் மற்றும் முழு சுதந்திரத்துடன் இந்த மருத்துவ ஆய்வில் என்னை சேர்த்துக்கொள்ள சம்மதிக்கிறேன்.
4. ஆய்வாளர் மற்றும் அவரை சார்ந்தவர்களோ நெரிமுறைக்குழு உருப்பினர்களோ நான் இந்த ஆய்விலிருந்து விலகினாலும் என்னுடைய அனுமதியின்றி எனது உடல்நிலை குறித்த தகவல்களை இந்த ஆய்விற்கோ இது தொடர்பான வேற ஆய்விற்கோ பயன்படுத்திக்கொள்ள முடியும் என்று புரிந்து கொண்டு சம்மதம் அளிக்கிறேன் . ஆனாலும் எனது அடையாளம் வெளியிடப்பட மாட்டாது என்பதை புரிந்து கொள்கிறேன்.
5. இந்த ஆய்வின் தகவல்கலையும் முடிவுகளையும் அறிவியல் நோக்கத்திற்காக பயன்படுத்துவதற்கு நான் அனுமதிக்கிறேன் . இந்த ஆய்வில் பங்குப்பெற நான் சம்மதிக்கிறேன்.

ஆராய்ச்சியாளர் கையொப்பம் **பங்கேற்பாளர்கையொப்பம்**

ANNEXURE 2

QUESTIONNAIRE

I. SOCIO DEMO GRAPHIC PROFILE

1. Name:
2. Age:
3. Educational status:
4. Religion: Hindu/Christian/Muslim
5. Marital status: married/single/divorcee/widower/ separated
6. Current designation:
7. Date of joining the service:
8. Monthly income:
9. Total no of family members:
10. Per capita income:
11. Are you a single earning member of the family: yes/no
12. How many hours do you sleep per day? <6hrs/>6hrs
13. How long does it take for you to travel everyday for work:<1hr/>1hr
14. Are you engaged in any physical activity eg (walking / cycling / jogging) : yes / no
    i. If no why _____
15. Do you feel that you have been paid adequately for the work: yes/no
16. Are you suffering from any of the chronic illness:
    a. Hypertension
    b. Diabetes
    c. Musculoskeletal disorder
    d. Cardiovascular disease
    e. Gastritis
    f. Others specify _____

16 (a). if yes for the above question are you on regular treatment :yes/no If no give reason_____

16 (b). if yes for the above question how long have you been suffering with the illness

17. If falling sick anytime do you go to: professional doctor/over the counter drugs If others specify_____
18. If falling sick do you take regular treatment for it: yes /no

II PROFESSIONAL LIFE STRESS SCALE

1. Two people who know you well are discussing about you,which of the following statements would they be most likely to use?
   a. 'X is very together. Nothing much seems to bother him/her.'
   b. 'X is great. But you have to be careful what you say to him/her at times.'
   c. 'Something always seems to be going wrong with X's life.'
   d. 'I find X very moody and unpredictable.'
   e. 'The less I see of X the better!
2. Are any of the following common features of your life?
   a. Feeling you can seldom do anything right
   b. Feelings of being hounded, trapped, or cornered
   c. Indigestion
   d. Poor appetite
   e. Difficulty in getting to sleep at night
   f. Dizzy spells or palpitations
   g. Sweating without exertion or high air temperature
   h. Panic feelings when in crowds or in confined spaces
   i. Tiredness and lack of energy
   j. Feelings of hopelessness ('what's the use of anything?')
   k. Faintness or nausea sensations without any physical cause
   l. Extreme irritation over small things
   m. Inability to unwind in the evenings
   n. Waking regularly at night or early in the mornings
   o. Difficulty in making decisions
   p. Inability to stop thinking about problems or the day's events
   q. Tearfulness
   r. Convictions that you just can't cope
   s. Lack of enthusiasm even for cherished interests
   t. Reluctance to meet new people and attempt new experiences
   u. Inability to say 'no' when asked to do something
   v. Having more responsiblity than you can handle
3. Are you *more* or *less* optimistic than you used to be (or about the same)?
   a. More
   b. About the same
   c. less

4. Do you enjoy *watching* television?
    a. Yes
    b. No
5. Can you get up late on weekends if you want to without feeling guilty?:
    a. Yes
    b. No
6. Within reasonable professional and personal limits, can you speak your mind to your boss?
    a. Yes
    b. No
7. Can you speak your mind to your colleagues?
    a. Yes
    b. No
8. Can you speak your mind to members of your family?
    a. Yes
    b. No
9. Who usually seems to be responsible for making the important decisions in your life?
    a. Yourself
    b. Someone else
10. When criticized by superiors at work, are you usually:
    a. Very upset?
    b. Moderately upset?
    c. Mildly upset?
11. Do you finish the working day feeling satisfied with what you have achieved?
    a. Often
    b. Sometimes
    c. Only occasionally
12. Do you feel most of the time that you have unsettled conflicts with colleagues?
    a. Yes
    b. No
13. Does the amount of work you have to do exceed the amount of time available?
    a. Habitually
    b. Sometimes
    c. Only very occasionally

14. Do you have a clear picture of what is expected of you professionally?
    a. Mostly
    b. Sometimes
    c. Hardly ever
15. Would you say that generally you have enough time to spend on yourself?
    a. Yes
    b. No
16. If you want to discuss your problems with someone, can you usually find a sympathetic ear?
    a. Yes
    b. No
17. Are you reasonably on course towards achieving your major objectives in life?
    a. Yes
    b. No
18. Are you bored at work?
    a. Often
    b. Sometimes
    c. Very rarely
19. Do you look forward to going into work?
    a. Most days
    b. Some days
    c. Hardly ever
20. Do you feel adequately *valued* for your abilities and commitment at work?
    a. Yes
    b. No
21. Do you feel adequately *rewarded* in terms of status and promotion for your abilities and commitment at work?
    a. Yes
    b. No
22. Do you feel your superiors actively *hinder you* in your work? Or do they actively *help you* in your work?
    a. Hinder
    b. Help

23. If ten years ago you had been able to see yourself professionally as you are now, how would you have seen yourself?
    a. Exceeding your expectations
    b. Fulfilling your expectations
    c. Falling short of your expectations
24. If you had to rate how much you like yourself on a scale from 1 (least like) to 5 (most like), what would your rating be
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

gFjp ?1

moggil tptu';fs;

1/ bgah;

2/ taJ

3/ fy;tpj;jFjp

4/ kjk;?, e;J . fpwp!;j th; , !yhkpah;

5/ jpUkz epiy :jpUkzkhdth; jdpegh; tpthfuj;jhdth;- tpjit - jdpikahdth;

6/ jwpnghi ja gzp epakdk;

7/ gzpapy;nrhp;j ehs;

8/ khj tUkhdk;

9/ bkhj;j FLkg cWggpdh;fs;

10/ MzL tUkhdk;

11/ jh';fs; jdp egh; tUkhdk;bgWg tuh> Mk;- , y;iy

12/ xU ehspy;vj;j id kzp neuk; cw';F fpwha;?

6 kzp neuk; fH;- 6 kzp neuk;nky;

13/ cd;nt iyf;fhf e ga zk;braak;neuk;vt;ts t[

1 kzp neuk; fH;- 1 kzp neuk;nky;

14/ VjhfpYk;c lwgapwrpapy;e';fs;<LgL fwh;fsh> (e i lgapwrp. i rf;fps; XLjy)

Mk; - , y;iy/

vJ t[k; , y;iybadwhy; Vd;>

15/ e';fs;MwpWk;gzpfF nghJkhd Cjpak; juggL fpwjh>

Mk;- , y;iy

16/ fH;fh q k; VjhtJ nehapdhy; c';fS fF ghjpgg[z ;Lh>

a. mjpf ,uj;j mGj;jk;

b. rh;f;f iutpahjp

c. j i rggpogg[neha;

d. ,Uja neha;

e. thag[f;nfhshW

f. ntWtpahjp

16/ (a) nkw;fh q k;nehapd;ghjpgg[,UfFnkahdhy;mjw;fhd rpfpr;ir ia bjhlh;J vLf;fwhfsh>

Mk;- , y;iy

, y;i ybadpwhy; fhu z k; Fwpggpl t[k;

16/ (b) v t;t s[t fhyk;mj;j i f a nehapdhy; J dgggL fpwha;

nkny Fwpggpl;J tpdht[f;F Mk;vdpwhy;

17/ tpahjpf;fhf kUj;J t i u m q fp brygtuhf > e ’;fns kUe;J vLj;J f;bfhs;th;fsh>

mggoahdhy; Fwpggpl t[k;

18/ tpahjpf;fhf e ’;fs;bjhlh;rpfpr;i r vLgg tuhf ? Mk;- , y;i y

bjhHpwpK i w thH;f;i fapy;kd mGj;j k;ms tpy;

1/ , U eghf s; c ’;f i s tpkhrpf;fpwhh; ve;j tp i l i a mth;f s; gadgLj;J th;>

a. mth;mt s;v i jggwpwpa[k; f t i ygglhj th;

b. $hf;fp i uahf mt i sg;- mt i u gwpwp ngR

c. mt s; - mth; thH;tpy; vgpngh Jk; VnjDk; xU j tW , Uggj dhy;VJk;braa Koahj epi y

d. ek;khy; rhpahf a{f k;braa KoahJ/

e. Vnjh xU tpj j;jpy; rpwe;j t s;

2/ fH;f z ;J tp i l f spy; vJ c d J thHf;i f f;F bghUe;Jk; tp i lahFk;>

a. v i ja[k; rhpahf bra;tnj mhpJ vdW c z h;fpnwd;

b. gpur;rp i d f spy; rpf;fpf;bfh z ;L khlpf;bfh z ;L , Uggjhf c z h;fpnwd;

c. m$u z k;

d. grpapd;i k

e. , ut py; J}f;fkpd;i k

f. ka f;f k;kwWk;glglgg[epfH;t[f s;

g. mjpf c l y; c i Hgngh. cahpt ggepi ynah , dpwpa[k; tpah;j;j y;

h. T l;J j;jpnyh myy J FWf pa , l ’;f spnyh , U f;f gak;

i. nrhh;t[- r f;jpapd;i k

j. ekgpf;i fapd;i kahy;nrh;t[

k. clyhjahf gurrid VJkdw kaf;feiy - the;j tUtJ nghdw czh;t[

l. rW gurrid vdwhYk; mst[f;F kwa tufjj - btWgg[tUjy;

m. khiy neujjy; mdW elej efH;t[fsyUe;J btstu Koahj eiy

n. tHf;fkhf eL,ut[myyJ toaw;fhiyay; KGjj;Jf; bfhs;Sjy;

o. KobtLf;f ,aytyiy

p. md;iwa jdk; elejitfis kdjyUe;J jdk; elejitfis kdjyUe;J mfww ,ayhik

q. MHj;njhdWjy;

r. elejtw;iw VwWf;bfhss; Koahj eiy

s. kfHrr bfhss;sntzoa t&a';fSf;Ff; Tl renjh&k; milahik

t. gjja kdjh;fsplk; gHfnth. gjja t&a';fis Kawrr braanth jaf;fk;

u. Koahj t&aj;ij KoahJ vdW brhyy jaf;fk;

v. j';fshy; braa Koejij tl mjf bghWg;ig bgwwUj;jy;

3/ Kdg Uejijtl mjfkhf nehkiw vgnghJk; rejid bfhzoUf;fwuh myyJ vgnghJk;nghynt csshuh

a. mjfk;

b. mnj mst[

c. Fiwt[

4/ e';fs;bjhiyf;fhlrria ghh;j;J ,urf;fwh;fsh>

a. Mk;

b. ,y;iy

5. thu ,Wjpay; vejj Fwpw czh;tpk; ,dwp j';fshy; jhkjkhf vGe;J bfhs;s Koa[k>

a. Mk;

b. ,y;iy/

6/ c';fSila gzpFwpj;J. tukgpw;Flgl;L j';fshy; j';fs; nkyjpfhpaplk;ngr ,aYkh>

a. Mk;

b. ,y;iy/

7/ j';fs; cld; gzpgpbgthplk; j';fshy; kdjpy; cs;sijg; ngr ,aYkh>

a. Mk;

b. ,y;iy/

8/ c';fs; FLkgj;jpdhplk; j';fs; kdjpy; njhdWtijg; ngr ,aYkh>

a. Mk;

b. ,y;iy

9/ c';fs;Kf;fpa Kot[fis vLf;Fk;bghWgg[ahhplk;cs;sJ>

a. e';fs;

b. ntWegh;

10/ ntiyapd;ekjpj;jk; c';fis nkyjpfhp fzpof;Fk;nghJ e';fs; tHf;fkhf

a. cile;jJ nghth;fs;

b. tUj;jkilth;fs;

c. nyrhd kdtUj;jkilth;fs;

11/ rhjpf;f epidj;jid mile;Jtpl;L jpUg;jpahd czh;tpld; c';fs;ntiy neuj;ij Kogg tuh>

a. mof;fo

b. r|y neuk;

c. vg;ngh j h t J

12/ e| ' ;f s; c l d; g z |ahsU l d; Vwg l ;J Ku z ghL f s; j |h;f ;f gg l t|y;i y vdW bgUkghYk; c z hg t uh>

a. Mk;

b. , y;i y/

13/ c ' ;f S f ;F juggl ;J neu j ;i j a[k; f l e;J c ' ;f s; g z |a|d; f hyk; , Ugg J z ;l h>

a. t H f ;f khd

b. r|yneuk;

c. b t F r|y rka ' ;f s|y;k l ;Lk;

14/ vg;ngh J k; c ' ;f s; b j hH|y; v j |hghhgg[v d ;d vdg i j Fw|j ;J b j s|t[j ' ;f S f ;F c z ;l h>

a. vg;ngh J k;

b. r|y neuk;

c. vg;ngh J k; , y;i y

15/ bgh J t h f n t c ' ;f S f ;b f dW ngh J khd neuk; c z ;L vdW b r hyg t uh>

a. Mk;

b. , y;i y/

16/ e| ' ;f s; c ' ;f s; g|ur ;r| i d f i s xU t U l d; f ye;J Mnyhr|f ;f e| i d f ;Fk; ngh J c ' ;f S f ;F f d|t[l d; br t|kL f ;Fk; xU t i u f z ;l w|t J c z ;l h>

a. Mk;

b. , y;i y

17/ e’;fs; e|idj;j Kf;fakhd Fwfnfhis eahakhd Kiwa|y; milth;fsh>

a. Mk;

b. ,y;iy

18/ e’;fs;cs;s ntiya|y;ry|j;J bfhs;th;fsh>

a. mof;fo

b. r|y neuk;

c. vgbghGjht J

19/ e’;fs;ntiyf;F bry;tjw;F Kf;fa|j;J tk;bfhLf;fwh;fsh>

a. vyyh ehl;fSk;

b. r|y ehl;fs;

c. vgngh jthJ

20/ c’;fSila ntiya|y; c’;fSf;F rhahd Kiwa|y;’ kj|ggL braangg Lf|wjh>

a. Mk;

b. ,y;iy

21/ c’;fSila ntiya|y; e’;fs; kj|f;fggl;L gjt| cah;t[gz|a|y; f|ilf;f|wjh>

a. Mk;

b. ,y;iy

22/ c’;fs; nkyj|fhh| c’;fs; ntiya|y; jl’;fy; bra;tjhuh myyJ cjt| bra;tjhuh>

a. jilahdtuh

b. cjt[f|wtuh

23/ gj;J tUljj|w;Fk; Kdgk; ,gngh J ntiy bra;tjw;Fk; j’;fs; vggo ghh;j;J f;fbfhs;f|wh;fs;>

a. nji tf;F nky;mj|fkhf ntiy bra;f|nwd;

b. **nj i t f;F Vwg nt i y bra;f nwd;**

c. **nj i t f;F fH;nt i y bra;f nwd;**

24/ **1 y Ue;J 5 t i u e’;f s; c’;f s; j uj;i j kj gg L bra;j hy; v t;t s t[kj gb bg z ; j ’;f S f;F b fh Lgg h;f s/**

a **1**

b **2**

c **3**

d **4**

ANNEXURE 3

Modified B.G. Prasad's Classification

The BG Prasad scale was formulated in 1961 keeping the base of Consumer Price Index (CPI) for 1960 as 100. This was revised in 1982 by introducing a linking factor of 4.93 to convert CPI (1982) from the new base of 100 to the old base CPI (1960). Again a need was felt in 2001 to revise the base, which was done by introducing the linking factor of 4.63. These linking factors have been given by the Labour Bureau. To calculate the new income values, first we have to find out the current All India Consumer Price Index (AICPI) for industrial workers (IW; base 2001 = 100). Then we have to calculate the multiplication factor and new income value which is given by the following equation:

Multiplication factor = Current index value/base index value in 2001 (i.e., 100). New income value = Multiplication factor × old income value × 4.63 × 4.93 **Revised BG PRASAD Scale for june 2016**

CLASS	OLD CLASSIFICATION 1961 (Rs./m)	FOR JUNE 2016 (Rs./m)
SES I	100 and above	6323 and above
SES II	50 - 99	3161 - 6322
SES III	30 - 49	1897 - 3160
SES IV	15 - 29	948 - 1896
SES V	Below 15	947 Below 947

ANNEXURE 4

Study Area Map

ANNEXURE 5

Key To Master Chart

VARIABLE	VARIABLE LABEL	CODING
S.NO	Serial number	
AGE	Age of the VHN	
EDU	Educational qualification of VHN	0 – High school 1 – Higher secondary 2 – UG 3 – PG
RELIGION	Religion followed by the VHN	1 – Hindu 2 – Christian
MARITAL	Marital status of the VHN	1 – Married 2 – Single
SERVICE	Duration of services for the VHN	0 - <= 1 year 1 – 1 to 5 years 2 – 5 to 10 years 3 – 10 to 20 years 4 - >= 20 years
FAMILY INCOME	Monthly family income	
FAMILY MEM	Number of family members	
SINGLE EARNING	Single earning member for the family	1 – No 2 – Yes
SLEEP HRS	Duration of sleep per day	1 – less than 6 hours 2 – more than 6 hours
TRAVEL TIME	Travelling time for the VHN	1 – Less than 1 hour 2 – more than 1 hour
PA	Involvement in physical activity	1 – No 2 – Yes
SALARY	Salary satisfaction	1 – not satisfied

VARIABLE	VARIABLE LABEL	CODING
		2 – satisfied
CHR ILLNESS	Any chronic illness	0 – Absent 1 – Present
CHR ILL NO	Number of chronic illness	
REG TREAT	Whether taking regular treatment for chronic illness?	0 – no 1 – Yes
Q1	Professional life stress scale question – 1	0 – Option a 1 – Option b 2 – Option c 3 – Option d 4 – Option e
Q2	Professional life stress scale question – 2	Number of correct responses
Q3	Professional life stress scale question – 3	0 – More optimistic 1 – about the same 2 – less optimistic
Q4	Professional life stress scale question – 4	0 – Yes 1 – No
Q5	Professional life stress scale question – 5	0 – Yes 1 – No
Q6	Professional life stress scale question – 6	0 – Yes 1 – No
Q7	Professional life stress scale question – 7	0 – Yes 1 – No
Q8	Professional life stress scale question – 8	0 – Yes 1 – No
Q9	Professional life stress scale question – 9	0 – Yourself 1 – Someone else
Q10	Professional life stress	2 – very upset

VARIABLE	VARIABLE LABEL	CODING
	scale question – 10	1 – moderately upset 0 – mildly upset
Q11	Professional life stress scale question – 11	2 – often 1 – sometimes 0 – only very occasionally
Q12	Professional life stress scale question – 12	0 – No 1 – Yes
Q13	Professional life stress scale question – 13	2 – Habitually 1 – Sometimes 0 – Only very occasionally
Q14	Professional life stress scale question – 14	0 – Mostly 1 – Sometimes 2 – Hardly ever
Q15	Professional life stress scale question – 15	0 – yes 1 – No
Q16	Professional life stress scale question – 16	0 – yes 1 – No
Q17	Professional life stress scale question – 17	0 – yes 1 – No
Q18	Professional life stress scale question – 18	2 – often 1- Sometimes 0 – very rarely
Q19	Professional life stress scale question – 19	0 – most days 1 – some days 2 – hardly ever
Q20	Professional life stress scale question – 20	0 – yes 1 – no
Q21	Professional life stress scale question – 21	0 – yes 1 – no

VARIABLE	VARIABLE LABEL	CODING
Q22	Professional life stress scale question – 22	1 – Hinder 0 – Help
Q23	Professional life stress scale question – 23	0 – exceeding your expectations 1 – fulfilling your expectations 2 – falling short of your expectations
Q24	Professional life stress scale question – 24	4 – 1 3 – 2 2 – 3 1 – 2 0 - 5

ANNEXURE 6

Master Chart

SNO	AGE	EDU	RELIGION	MARITAL	SERVICE	FAMILY IN	FAMILY M	SINGLE EA	SLEEP HRS	TRAVEL TI	PA	SALARY	CHR ILLNE	CHR ILL N	REG TREA	DUR CHR I	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24
1	52	3	1	1	4	42750	5	2	1	2	2	2	1	2	2	6	4	11	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	1	1	1	0	4
2	52	1	1	1	4	73765	3	2	1	2	1	1	1	1	1	3	4	10	1	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	1	1	1	0	0	3
3	48	1	1	1	2	25000	3	2	2	2	1	1	0	0	1		4	10	1	0	1	0	0	0	1	1	0	0	1	0	1	0	0	1	0	1	1	1	0	3
4	54	2	1	1	3	39200	3	2	2	1	1	2	0	0	1		3	8	1	0	0	0	0	0	0	2	1	0	1	1	0	0	0	2	0	0	0	0	0	2
5	45	1	1	1	2	24000	4	2	1	1	1	1	1	2	1	2	3	12	1	0	0	0	0	0	0	1	2	1	1	1	1	0	0	1	0	0	0	0	0	2
6	44	1	1	1	3	29000	6	1	2	1	1	2	0	0	1	3	3	12	0	1	0	0	0	1	1	1	2	1	1	1	1	0	0	1	0	0	1	0	0	2
7	42	1	1	1	3	26032	6	1	1	2	1	1	0	0	1		4	12	1	0	0	0	1	1	1	0	2	0	2	0	1	1	0	0	0	0	1	0	0	3
8	54	1	1	1	3	28000	2	2	1	1	2	2	1	1	1	2	4	11	0	0	1	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	1	0	0	1
9	54	1	2	2	3	28000	3	2	1	2	1	1	1	2	1	3	4	10	0	1	0	1	1	0	1	1	1	0	2	0	1	0	0	1	0	1	1	1	0	4
10	54	1	1	1	4	32750	4	2	1	2	1	2	1	1	1	6	2	11	2	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	1	1	1	0	0	2
11	39	2	1	1	0	16150	4	2	1	2	2	2	0	0	1		4	8	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1
12	55	0	1	1	3	30000	4	2	2	2	2	2	0	0	1		4	11	0	0	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	1	0	0	4
13	52	1	1	1	2	22000	3	2	2	2	2	1	1	1	2	3	4	12	0	0	1	1	0	0	0	2	0	1	2	0	0	0	0	0	0	0	1	0	0	4
14	45	0	1	1	2	10200	4	2	1	1	1	1	1	1	1	2	3	9	1	0	0	0	0	0	0	2	1	0	1	0	0	0	0	2	0	0	0	0	0	2
15	52	1	1	1	4	35000	4	2	1	2	2	1	1	1	1	3	0	18	0	0	1	0	0	0	0	2	0	1	2	0	1	1	0	2	0	0	1	0	0	4
16	57	0	2	2	3	40000	5	2	2	1	2	1	0	0	1		4	11	0	0	0	0	0	0	0	1	1	0	2	0	1	0	0	0	0	0	1	0	0	4
17	47	0	1	1	2	24000	5	1	2	1	1	1	1	1	2	4	4	16	1	0	0	1	0	0	0	1	0	0	1	0	1	1	0	1	0	1	1	0	0	1
18	48	0	1	1	2	24000	5	2	1	1	2	1	1	1	1	4	4	15	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	1	0	1	1	0	0	1
19	47	0	1	1	0	25000	4	2	2	1	1	2	1	1	2	2	4	8	1	0	0	0	0	0	0	0	1	0	1	0	1	1	0	1	0	0	1	0	0	1
20	51	0	1	1	3	23900	5	2	2	1	2	2	0	0	2	1	4	9	1	0	0	0	0	0	0	1	0	1	1	0	0	0	1	1	0	0	0	0	0	1
21	52	1	1	1	3	25000	8	2	1	1	1	2	1	1	2	4	4	9	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	1	1	0	1	1
22	55	0	1	1	4	47512	4	2	1	1	1	2	0	0	1		1	8	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	3
23	58	3	1	1	3	38995	4	2	1	2	1	1	1	1	1	1	1	16	0	0	0	1	0	0	0	1	1	0	1	0	1	1	1	0	1	1	1	0	0	3
24	52	3	1	1	3	38000	8	2	1	2	1	1	1	1	1	1	4	14	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	4
25	47	3	1	1	3	38000	3	2	2	2	2	1	0	0	1	1	1	9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1
26	50	1	1	1	4	43845	4	2	1	2	1	1	1	1	1	1	4	9	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	1	0	0	4
27	50	0	1	1	4	35000	4	2	2	2	2	2	1	1	2	5	4	9	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	0	0	0	0	1
28	52	1	1	1	4	30000	8	2	1	1	2	2	1	1	1	2	4	12	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1
29	44	0	1	1	2	25000	4	2	1	1	2	2	1	1	1	4	0	8	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1
30	52	1	1	1	4	34000	4	2	1	1	2	2	0	0	1		1	9	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	3
31	46	0	1	1	2	20000	4	2	1	1	1	1	0	0	1		1	11	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	3
32	47	1	1	1	4	26500	3	1	1	1	1	2	0	0	1		1	12	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	3
33	43	0	1	1	2	24475	3	2	1	2	1	1	0	0	1		0	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
34	48	0	1	1	2	24475	7	2	2	2	1	1	0	0	1		4	9	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1	0	1
35	48	0	1	1	2	24475	5	2	1	2	1	1	0	0	1		4	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
36	45	0	1	1	2	24475	7	2	1	2	1	2	0	0	1		4	16	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
37	48	0	1	1	2	24475	5	2	2	2	1	2	0	0	1		4	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
38	42	1	1	1	3	15000	8	1	2	1	2	2	0	0	1		0	7	1	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1
39	50	1	1	1	3	35000	2	2	1	2	1	1	0	0	1		4	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
40	42	1	1	1	3	38000	4	1	2	1	2	1	1	1	1	4	4	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1
41	41	0	1	1	1	18761	5	2	2	2	1	2	1	1	2	2	4	12	0	1	1	1	0	0	0	2	1	1	1	1	1	1	0	0	0	0	0	0	0	2
42	45	0	2	2	3	11070	2	2	2	2	1	2	1	1	2	2	4	9	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
43	54	0	1	1	3	11070	10	2	2	1	1	2	1	2	2	3	0	7	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0	0	0	0	0	2
44	50	0	1	1	2	18000	6	2	1	2	2	1	1	1	2	4	0	9	1	1	1	1	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	1	1
45	43	0	1	1	2	16000	4	2	1	2	1	1	1	1	1	5	4	13	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1
46	48	1	1	1	2	19200	5	2	2	2	1	1	1	1	2	4	4	9	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	0	1	1
47	53	1	1	1	3	30000	3	2	2	2	1	2	1	1	2	2	3	10	0	0	0	0	1	1	0	0	1	1	0	0	1	1	1	0	0	0	0	0	1	2
48	41	3	1	1	1	15000	5	2	1	2	2	1	1	1	1	2	4	9	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0	1	0	1
49	45	0	1	1	2	20000	5	1	2	2	1	1	1	1	1	6	4	9	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	1
50	51	0	1	1	4	20000	5	1	2	2	2	1	1	1	2	5	4	9	0	1	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	1	0	0	4
51	56	0	1	1	4	46500	2	2	1	2	1	1	1	1	1	5	4	11	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	0	0	1
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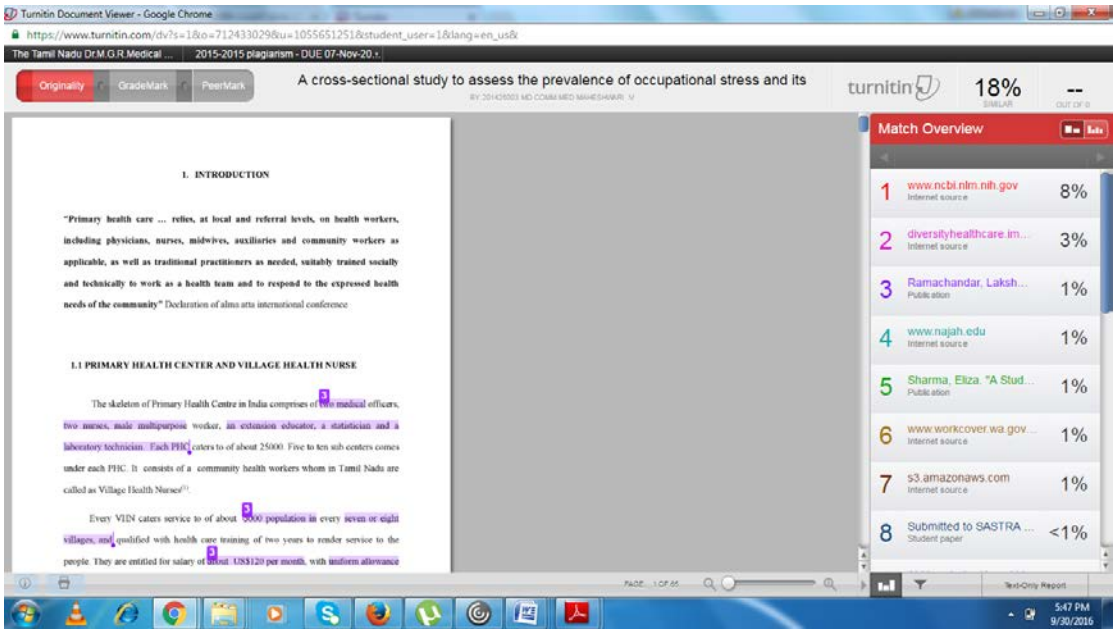
106	47	3	1	1	3	46428	4	1	1	1	1	1	1	1	1	6	4	10	2	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	1	0	0	4

ANNEXURE 7

Plagiarism



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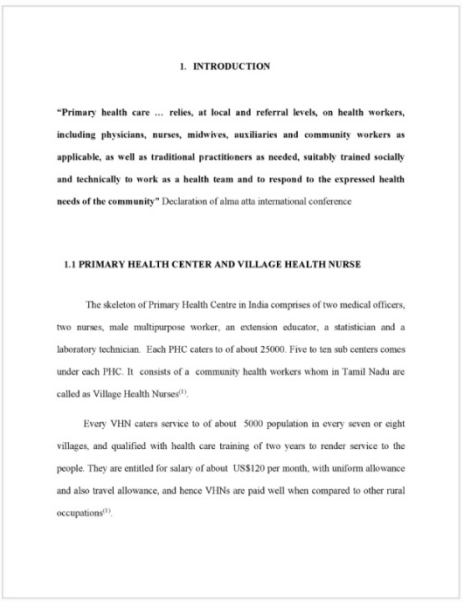
Assignment title:	2015-2015 plagiarism
Submission title:	A cross-sectional study to assess...
File name:	plagiarism_pdf_29th.pdf
File size:	825.63K
Page count:	65
Word count:	9,530
Character count:	49,047
Submission date:	29-Sep-2016 06:12PM
Submission ID:	712433029



1. INTRODUCTION

"Primary health care ... relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community" Declaration of alma atta international conference

1.1 PRIMARY HEALTH CENTER AND VILLAGE HEALTH NURSE

The skeleton of Primary Health Centre in India comprises of two medical officers, two nurses, male multipurpose worker, an extension educator, a statistician and a laboratory technician. Each PHC caters to of about 25000. Five to ten sub centers comes under each PHC. It consists of a community health workers whom in Tamil Nadu are called as Village Health Nurses[1].

Every VHN caters service to of about 5000 population in every seven or eight villages, and qualified with health care training of two years to render service to the people. They are entitled for salary of about US$120 per month, with uniform allowance and also travel allowance, and hence VHNs are paid well when compared to other rural occupations[1].

ANNEXURE 8

Ethical Committee Approval

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013
Telephone No.044 25305301
Fax: 011 25363970

CERTIFICATE OF APPROVAL

To
Dr.Maheshwari.V.
Post Graduate in M.D. Community Medicine
Institute of Community Medicine
Madras Medical College
Chennai 600 003

Dear Dr.Maheshwari.V,

The Institutional Ethics Committee has considered your request and approved your study titled **" A CROSS-SECTIONAL STUDY TO ASSESS THE PREVALENCE OF OCCUPATIONAL STRESS AND ITS ASSOCIATED RISK FACTORS AMONG THE VILLAGE HEALTH NURSES , TAMIL NADU 2016 " NO. 25062016.**

The following members of Ethics Committee were present in the meeting hold on **07.06.2016** conducted at Madras Medical College, Chennai 3

1.Dr.C.Rajendran, MD.,	:Chairperson
2.Dr.Isaac Christian Moses,MD.Ph.D.Dean(FAC)MMC,Ch-3	:Deputy Chairperson
3.Prof.Sudha Seshayyan,MD., Vice Principal,MMC,Ch-3	:MemberSecretary
4.Prof.B.Vasanthi,MD., Prof.of Pharmacology.,MMC,Ch-3	: Member
5.Prof.P.Raghumani,MS, Prof. of Surgery,RGGGH,Ch-3	: Member
6.Prof.Baby Vasumathi, Director, Inst. of O&G,Ch-8	: Member
7.Prof.K.Ramadevi,MD, Director,Inst.of Bio-Chem,MMC,Ch-3	: Member
8.Prof.M.Saraswathi,MD.,Director, Inst.of Path,MMC,Ch-3	: Member
9.Tmt.J.Rajalakshmi, JAO,MMC, Ch-3	: Lay Person
10.Thiru S.Govindasamy, BA.,BL,High Court,Chennai	: Lawyer
11.Tmt.Arnold Saulina, MA.,MSW.,	:Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

ANNEXURE 9

DDHS Permission Letter

R.No. 2967 /A1/2016

Office of the Deputy Director of
Health Services, Villupuram.

Dated:08.06.2016.

Sub: Public Health – Permission to conduct Study among Village Health Nurses –regarding.

Ref Requisition letter dated.08.06.2016 of Dr.Maheswari.V., III[rd] year PG Student (M.D.Community Medicine), Institute of Community Medicine, MMC, Chennai -3)

****

Dr.Maheswari, III[rd] year PG Student, (M.D.Community Medicine), Institute of Community Medicine, MMC, Chennai -3 is permitted to conduct study titled "A cross sectional study to assess the prevalence of occupational stress and its associated risk factors among the Village Health Nurses Tamil Nadu, India 2016" in Villupuram Health Unit District.

Deputy Director of Health Services,
Villupuram.

To:

8/6/16

Dr.Maheswari, III[rd] year PG Student, (M.D.Community Medicine),
Institute of Community Medicine,
Madras Medical College,
Chennai -3.

Copy to All Block Medical Officers of Villupuram Health Unit District (11 Block Primary Health Centres).
(They are requested to co-operate without any disturbance to the PHC activities.)

Copy submitted to

1. The Director of Public Health and Preventive Medicine, Chennai-6
2. The Director, Institute of Community Medicine Madras Medical College, Chennai.