

# Stress, Obesity and Selected Health Problems among Nursing Professionals

Anilkumar Jarali<sup>1</sup>, Sanjay M. Peerapur<sup>2</sup>, Tejaswini B.H<sup>3</sup>

<sup>1</sup>Asst. Professor & HOD, Dept. of Mental Health Nursing, <sup>2</sup>Principal & HOD, Dept. of Medical Surgical Nursing,

<sup>3</sup>Asst. Professor, Dept. of Mental Health Nursing, KLES' Institute of Nursing Sciences, Hubballi, Karnataka

## Abstract

**Background:** Obesity and stress go hand in hand with one another. However, obesity is never the real problem. The real cause of obesity is usually hidden beneath the surface. It will generally turn out to be stress, boredom, pressure, poor self image, and tense lifestyle. As the person feels and things going on around them affect what they eat. People learn to eat as a way to cope with stress.

**Objective:** This study aimed to correlate stress, obesity and selected health problems among nursing professionals in Belgaum city, Karnataka.

**Methods:** Researcher adopted quantitative research approach with non-experimental research design. The present study was conducted among 75 nursing professionals of selected organizations of Belgaum city. Samples were selected by using purposive and snow-ball sampling technique for the study and data are collected through a self-administered questionnaire and analyzed concurrently.

**Results:** Findings revealed that majority i.e. 56 (74.7%) of nursing professionals suffering with mild level of stress and 10(13.3%) with moderate level of stress. Regarding obesity majority 69(92%) of them had a normal BMI and 4(5.3%) and 2(2.7%) had overweight and obese accordingly. About health problems 59(78.7%) of them were suffering with mild and 16(21.3%) with moderate degree of selected health problems. There was a positive correlation between level of stress and selected health problems ( $r= 0.5495$ ). There is a very low positive correlation between level of obesity and selected health problems ( $r= 0.026$ ) and there is a negative correlation between level of stress and obesity ( $r= -0.026$ ). There was significant association between level of stress and demographic variables such as monthly income, type of family, occupation of family members, monthly family income, pattern of diet, years of experience at work and habits. Regards to obesity age, sex, education and years of experience at work has significant association with obesity. About selected health problems monthly income has significant association with selected health problems.

**Key words:** *Stress, Obesity, Selected health problems, Nursing professionals.*

## Introduction

In medical terms stress is described as, “a physical or psychological stimulus that can produce mental tension or physiological reactions that may lead to illness”. But there is not always necessary to say that stress is harmful as Hans Selye says, “stress is not necessarily something bad – it all depends on how person take it. The stress of exhilarating, creative successful work is beneficial, while that of failure, humiliation or infection is detrimental.” Stress can be therefore negative, positive or neutral. <sup>1</sup>

Stress may be caused by a number of factors namely, stress at home, work and other. Causes of stress at home are death of spouse, family, near relative or friend, injury or illness of any family member, marriage of self or son or daughter or brother or sister, separation or divorce from partner, pregnancy or birth of a new baby etc.<sup>2</sup>

Obesity and stress go hand in hand with one another. However, obesity is never the real problem. The real cause of obesity is usually hidden beneath the surface. It will generally turn out to be stress, boredom, pressure, poor self image, and tense lifestyle. As the person feels

and things going on around them affect what they eat. People learn to eat as a way to cope with stress.<sup>3</sup>

Stress Syndrome (SS) is a state of emotional strain often brought on by overwork, prolonged study, emotional pressure, or a host of other physiological or psychological factors. The connection between stress and disease is a topic that is researched extensively in the scientific literature.<sup>4</sup>

WHO latest projections indicate that globally in 2005: approximately 1.6 billion adults (age 15+) were overweight; at least 400 million adults were obese. At least 20 million children under the age of 5 years are overweight and also projects that by 2015, approximately 2.3 billion adults will be overweight and more than 700 million will be obese.<sup>5</sup>

The Investigator felt that stress is commonly experienced by each individual which will be extending from mild to severe level. It depends on how a person reacts to the situation. When the stress is over leading it mainly affects behavior, physiological, emotional and cognitive functioning which leads to obesity, hypertension, heart disease, anxiety and depressive disorders, sleep disorders etc.

Stress may be experienced by nursing professionals due to sedentary life style and day to day stressful life events where they have to manage at home as well as at working organization. On focusing this point the researcher assumed that stress may leads to obesity, stress related health problems and vice versa. That's why the investigator took an effort to rule out the relation between stress, obesity and other health problems.

### **Objectives**

1. To assess the level of stress among Nursing professionals as measured by David Fontana's Professional Life Stress Scale.
2. To assess the obesity and selected health problems among Nursing professionals.
3. To correlate the stress, obesity and selected health problems among Nursing professionals.
4. To find out the association between the level of stress, obesity and selected health problems with selected demographic variables of Nursing professionals.

### **Methods**

Non-experimental, correlational study was carried out among 75 nursing professionals to assess the level of stress, obesity and selected health problems among nursing professionals in Belgaum city, Karnataka. Participants were selected by using purposive and snow-ball sampling technique according to the inclusion criteria. Selected sociodemographic variables were included in the study. In addition to the sociodemographic data, level of stress was assessed by using David Fontana's Professional Life Stress Scale, obesity was assessed by using BMI and stress related health problem was assessed by using structured questionnaire on other health problems such as sleep problems, hypertension, and diabetes mellitus and heart related problems which consists of 40 items. Based on the responses by study participants reliability of the instrument was analysed by using split half method. The reliability score was 0.81 and found to be reliable. Ethical clearance was obtained from the concerned authority. And obtained informed consent from the study participants and assured about confidentiality of data.

### **Results**

#### **Organization and Presentation of the Data**

The data collected were edited, tabulated, analyzed, interpreted and findings obtained were presented in the form of tables and diagrams represent under following sections.

**Section I:** Demographic variables of study samples

**Section II :** Assessment of level of stress among nursing professionals.

**Section III :** Assessment of obesity and selected health problems among nursing professionals.

**Section IV :** Assessment of selected health problems among nursing professionals.

**Section V :** Correlation between level of stress, obesity and selected health problems among nursing professionals.

**Section VI :** Association between the level of stress, obesity and selected health problems with selected demographic variables of nursing professionals.

**Section I: Demographic variables of study samples****Table 1: Frequency and percentage distribution of demographic Variables of Nursing Professionals****(N=75)**

Sl. No.	Demographic Data	No. of Samples	Percentage
1.	Age		
	a. 25 to 30 Years	36	47.7
	b. 31 to 35 Years	15	20.3
	c. 36 to 40 Years	12	15.7
	d. 41 to 45 Years	7	9.7
	e. 46 to 50 Years	5	6.7
2.	Sex		
	a. Male	30	39.7
	b. Female	45	60.3
3.	Area of residence		
	a. Urban	54	71.3
	b. Rural	21	28.7
4.	Religion		
	a. Hindu	47	63.0
	b. Muslim	9	12.3
	c. Christian	9	11.7
	d. Jain	7	9.7
	e. Others	3	3.3
5.	Education		
	a. Graduate	55	73.7
	b. Post graduate	20	26.3
6.	Working organization		
	a. Government	27	35.7
	b. Semi-Government	14	18.7
	c. Private	34	45.6
7.	Monthly income (in rupees)		
	a. 5000 /- and below	12	16.3
	b. 5001 /- to 10,000 /-	30	40.3

**Cont... Table 1: Frequency and percentage distribution of demographic Variables of Nursing Professionals****(N=75)**

	c.	10,001 /- to 15,001 /-	15	19.0
	d.	15,001 /- and above	18	24.4
8.		Type of family		
	a.	Nuclear	42	56.3
	b.	Joint	29	38.7
	c.	Extended	4	5.0
9.		Occupation of family members		
	a.	Employed	47	63.0
	b.	Unemployed	28	37.0
10.		Monthly income (in rupees)		
	a.	10,000 /- and below	19	25.3
	b.	10,001 /- to 15,000 /-	23	30.3
	c.	15,001 /- to 20,000 /-	13	18.4
	d.	20,001 /- and above	20	26.0
11.		Pattern of diet		
	a.	Vegetarian	42	56.0
	b.	Non Vegetarian	33	44.0
12.		Years of experience at work		
	a.	< 5 Years	39	52.3
	b.	6 to 10 Years	18	23.3
	c.	11 to 15 Years	11	16.0
	d.	16 to 20 Years	3	3.4
	e.	> 21 Years	4	5.0
13.		Habits		
	a.	No	5	6.0
	b.	Yes	70	94.0

Section II: Assessment of level of stress among nursing professionals.

**Table 2: Distribution of Level of Stress among nursing professionals****(N=75)**

Sl. No.	Category	Score	Frequency	Percentage
1.	No stress	0 – 15	9	12
2.	Mild	16 – 30	56	74.7
3.	Moderate	31 – 45	10	13.3
4.	Severe	46 – 60	0	0

Table 2 describes that 56(74.7%) nursing professionals were having **mild** level of stress, 10(13.3%) of them had **moderate** level of stress and 9(12%) of them had no stress.

Section III: Assessment of Obesity among Nursing Professionals.

**Table 3: Distribution of Obesity among Nursing Professionals****(N=75)**

Sl. No.	Category	Score	Frequency	Percentage
1.	Normal	18.5 – 25	69	92
2.	Over Weight	25.1 – 30	4	5.3
3.	Obese	> 30.1	2	2.7

Table 3 shows the assessment of obesity and its percentage. Majority 92(70.3%) of nursing professionals were having normal BMI, 4 (5.3%) were overweight and have a risk of becoming obese and 2(2.7%) were obese.

Section IV: Assessment of Selected Health Problems among Nursing Professionals.

**Table 4: Distribution of Selected Health Problems among Nursing Professionals****(N=75)**

Sl. No.	Category	Score	Frequency	Percentage
1.	Normal	0 – 40	0	0
2.	Mild	41 – 80	59	78.7
3.	Moderate	81 – 120	16	21.3
4.	Severe	121 - 160	0	0

Table 4 describes that 59(78.8%) nursing professionals were having mild degree of selected health problems and 16(21.3 %) had moderate degree of selected health problems.

Section V: Correlation between Level of Stress, Obesity and Selected Health Problems among Nursing Professionals.

**Table 5: Correlation co-efficient between level of stress, obesity and selected health problems**

(N=75)

Variables	Level of stress (r)	Level of obesity (r)	Selected health problems (r)
Level of stress	1	-0.026	0.5495***
Level of obesity	-0.026	1	0.026
Selected health problems	0.5495***	0.026	1

\*\*\* Indicates highly significant at  $p < 0.001$

Table 5 denotes that there is a positive correlation between level of stress and selected health problems ( $r = 0.5495$ ). There is a very low positive correlation between level of obesity and selected health problems ( $r = 0.026$ ) and there is a negative correlation between level of stress and obesity ( $r = -0.026$ ).

### **Section VI: Association between the Level of Stress, Obesity and Selected Health Problems with Selected Demographic Variables of Professionals.**

#### **1. Association between the level of stress and Selected Demographic Variables of Professionals**

There was no association between level of stress and demographic variables such as age, sex, area of residence, religion, education, working organization and occupation of family members. But monthly income, type of family, occupation of family members, monthly family income, pattern of diet, years of experience at work and habits has significant association with level of stress.

#### **2. Association between the Obesity and Selected Demographic Variables of Professionals.**

There was no association between obesity and demographic variables such as area of residence, religion, working organization, monthly income, type of family, occupation of family members, monthly family income, pattern of diet and habits. But age, sex, education and years of experience at work has significant association

with obesity.

#### **3. Association between the Selected Health Problems and Selected Demographic Variables of Professionals.**

There was no association between selected health problems and demographic variables such as age, sex, area of residence, religion, education, working organization, type of family, occupation of family members, monthly family income, years of experience at work, pattern of diet and habits. But monthly income has significant association with selected health problems.

### **Discussion**

In the present study researcher found that majority i.e. 56 (74.7%) of nursing professionals suffering with mild level of stress and 10(13.3%) with moderate level of stress. The study findings supports with the findings of the study conducted by Han, K, Alison M, Storr L, Geiger-Brown where majority i.e. 55% of the samples were suffering with mild level of stress and 10% of them were suffering with severe level of stress.<sup>6</sup>

Regarding obesity majority of nursing professionals 69(92%) had a normal BMI, 4(5.3%) of the nursing professionals had overweight and 2(2.7%) of them were obese. The study findings contradicts with the findings of study conducted by sally & Miller, Sally & Alpert, Patrica & cross where majority 54% of the nursing professionals were overweight or obese and 46% of

them were had normal BMI.<sup>7</sup>

About selected health problems majority 59(78.7%) of nursing professionals were suffering with mild health problems and 16(21.3%) with moderate degree of selected health problems. The findings of the study supports with the study findings conducted by Serap Parlar Kilic where 48.6 % of the nurses suffered with viral infections and 64.9% of the nurses had complaints of waist and backaches.<sup>8</sup>

The present study findings showed that there was a positive correlation between level of stress and selected health problems ( $r=0.5495$ ). There is a very low positive correlation between level of obesity and selected health problems ( $r=0.026$ ) and there is a negative correlation between level of stress and obesity ( $r=-0.026$ ). The study findings supports with the findings of the study conducted by Adolofo, Rujijia and David where the participants with stress exposure had significantly higher odds of obesity.<sup>9</sup>

There was no association between level of stress and demographic variables such as age, sex, area of residence, religion, education, working organization and occupation of family members. But monthly income, type of family, occupation of family members, monthly family income, pattern of diet, years of experience at work and habits has significant association with level of stress.

There was no association between obesity and demographic variables such as area of residence, religion, working organization, monthly income, type of family, occupation of family members, monthly family income, pattern of diet and habits. But age, sex, education and years of experience at work has significant association with obesity.

There was no association between selected health problems and demographic variables such as age, sex, area of residence, religion, education, working organization, type of family, occupation of family members, monthly family income, years of experience at work, pattern of diet and habits. But monthly income has significant association with selected health problems.

Present findings coincides with the findings of study conducted by University Sains Malaysia where they

concluded age, duration of work and psychological job demands were significantly associated with stress level.<sup>10</sup>

## Conclusion

Stress is not always necessarily harmful.”Stress is not necessarily something bad – it all depends on how person take it. The stress of exhilarating, creative successful work is beneficial, while that of failure, humiliation or infection is detrimental.” Stress can be therefore negative, positive or neutral. All human beings experience stress at one time or another. Without stress, there would be no life. However, excessive or prolonged stress can be harmful. Stress is unique and personal. Whenever body feels something not favorable, then it tries to defend itself. If this situation continues for a long time, then the body is working overtime. With the findings researcher concluded that stress, obesity and stress related problems are correlated to each other in some aspects. And it is very important for the nursing professionals to take care about stress in day to day working areas.

## Limitations:

1. The study was limited to purposive, snow- ball sampling technique.
2. The study was limited to nursing professionals.
3. The study was limited to the selected health problems.

**Source of Funding:** Self

**Conflict of Interest:** Nil

## References

1. Mary C. Townsend. Psychiatric mental health nursing: Concept of care. 4<sup>th</sup> ed. Philadelphia: F.A . Davis/company Publishers; 2003. p. 4-5.
2. Marekrail. Health & Nutrition: Diet & Nutrition; How to Measure Obesity. Oct 8th, 2010.
3. Tinker Bell. Does obesity cause stress, or stress cause obesity. February 23rd, 2009.
4. Elizabeth Scott, M.S. Stress and Health: How It Affects Your Body, and How You Can Stay Healthier: Medical Review Board. May 04, 2009.
5. Soma Gupta, Tapobrata Guha Ray, and Indranil Saha. Overweight, Obesity and Influence of Stress on Body Weight Among Undergraduate Medical

- Students. Indian Journal of Community Med. 2009 July; 34(3): p.255–7.
6. Han, K, Alison M, Storr L, Geiger-Brown. Job Stress and Work Schedules in Relation to Nurse Obesity. *Journal of Nursing Administration*: November 2011 - Volume 41 - Issue 11. p. 488-95.
  7. Sally & Miller, Sally & Alpert, Patricia & Cross, Chad. (2008). Overweight and obesity in nurses, advanced practice nurses, and nurse educators. *Journal of the American Academy of Nurse Practitioners*. 20. 259 - 265. 10.1111/j.1745-7599.2008.00319.x.
  8. Serap Parlar Kilic. Occupational Health Problems of Nurses Working at Emergency Departments. *International Journal of Caring Sciences*. 2016; 9 (3): p.1008.
  9. Adolfo G Cuevas, Ruijia Chen, MS, Katherine A Thurber, Natalie Slopen, David R Williams. Psychosocial Stress and Overweight and Obesity: Findings From the Chicago Community Adult Health Study, *Annals of Behavioral Medicine*. 53 (11), November 2019. Available from: <https://doi.org/10.1093/abm/kaz008>
  10. David W. Stress, Coping Strategies, and Psychological Distress among Secondary School Teachers in Malaysia. *Educational Research Journal*. March 20, 1998; 35 (1): 145-63.