

Assessment on Incidence of Prehypertension and its Association with Stress among Students in Nursing College, Kelambakkam, Kancheepuram District, Tamil Nadu, India

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Abstract

Assessment on incidence of prehypertension and its association with stress among students in nursing college, Kelambakkam, Kancheepuram District, Tamil Nadu. A study was carried out among 80 nursing students to assess the stress level. The objectives were to assess the incidence of prehypertension, assess the level of stress and association of pre-hypertension with stress of nursing students with their selected demographic variables. The review of literature was done and organised under various aspects on studies related to pre-hypertension, stress and prehypertension and its association with stress among students. The research approach used for the study was quantitative approach and the design selected was descriptive research design 80 samples were participated in the study by using the convenient sampling technique. Demographic variables were assessed by using the statistical measurement. The level of significance selected was $p < 0.05$ level. The study showed that there is no significant association between level of stress and demographic variables like socio economic status ($\chi^2 = 7.302$), types of diet, type of stay, height, weight, BMI, habits and co-morbidity. But age shows statistically significant with level of stress and statistically significant of association between prehypertension and stress.

Keywords: Pre hypertension and stress (first year nursing students).

Introduction

Mounting from adolescence to adulthood, students are facing challenges with academics and change of environment today to day. This forces a change in lifestyle and thereby makes them vulnerable to hypertension. As Pre-hypertension is an early pointer to hypertension, our focus remained the same to establish an association of Pre-hypertension with stress and anxiety, the major contributors to clinical hypertension. Stress is one of the

contributors to hypertension by recurrent blood pressure (BP) fluctuations as well as by stimulation of the sympathetic nervous system to produce large amounts of hormones causing vasoconstriction. Factors influencing BP through stress include white coat hypertension, nature of job, race, environmental factors and emotional status. In addition when one factor is coupled with other factors contributing to stress, the consequence is that BP is multiplied. The second important factor that influences hypertension is anxiety and is under study for several years. Anxiety causes activation of the autonomic nervous system through hypo-thalamo-pituitary axis thereby increasing circulating catecholamines⁽¹⁾.

Hypertension and prehypertension have been increasing among children and adolescents since the 1990s. During 2003–2006, among children and adolescents aged 8–17 years, the prevalence of prehypertension was approximately 14% in boys and approximately 6% in

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girls and the prevalence of hypertension was estimated to be 3%–4% in various studies . During 1997–2006, hospitalization rates for children and adolescents with a diagnosis of hypertension doubled, from approximately 18 cases per 100,000 pediatric hospital discharges in 1997 to approximately 35 cases per 100,000 in 2006 . Among children and adolescents with hypertension, as many as one in three has target organ damage, especially left ventricular hypertrophy . Accumulating evidence supports the theory that elevated blood pressure levels in adolescence are a precursor of elevated blood pressure in adulthood, making it important to identify elevated blood pressure in childhood . An analysis of the National Childhood Blood Pressure database found that 14% of adolescents with prehypertension developed elevated blood pressure within 2 years .⁽²⁾

Using the recent 2017 American Academy of Pediatrics Clinical Practice Guideline, a new CDC study shows that many more youth are now considered to have hypertension. High blood pressure during childhood and adolescence is linked to health problems later in life. The good news is that it is controllable and treatable. Medical guidelines define hypertension as a blood pressure higher than 130 over 80 millimeters of mercury (mmHg), according to guidelines issued by the American Heart Association (AHA) in November 2017. Hypertension and heart disease are global health concerns. The World Health Organization (WHO) suggests that the stress and anxiety also plays an important role in hypertension⁽³⁾.

Statement of the Problem: Assessment on Incidence of Prehypertension and its Association with Stress Among Students in Nursing College in Kelambakkam, Kanchipuram District, Tamil Nadu, India.

Objectives:

1. To assess the incidence of Pre hypertension among Nursing students
2. To find out the stress level of students in selected Nursing College
3. To find out the association between the incidence of Pre-Hypertension and its association with stress of Nursing students with their selected demographic variables.

Materials And Method

This study is a quantitative approach. Descriptive design was used. This study conducted on Annai-velankanni college of nursing, Kancheepuram District. 1st year nursing students were used as population of the study. In this study we used 80 samples by convenient sampling technique for this study. The inclusion criteria is students belonging to 1st year in nursing, students who can read and write. And we have excluded other year students. We have two parts in tool description. Part 1 is questionnaire on demographic variable. Part 2 is questionnaire on stress scale. The researcher got clearance from under graduate committee and clearance from institutional human ethical committee. After getting permission from college we got prior permission and consent from the samples, after getting prior permission self administered questionnaire on demographic variables and standard questionnaire on stress . They read and answered the questions. Biophysical measurement were uses to assess the prehypertension. Sphygmomanometer was uses to measure Bloodpressure. The date collecting duration was one week.

Result

Table 1: N=80

S.No.	Demographic variables	Category	No of sample	STRESS			X ² P Value
				No stress	Slight stress	A lot of stress	
1	Age in years	17	3	0	0	3	34.510 11.07 S
		18	14	4	6	4	
		19	51	27	22	2	
		20 above	12	4	8	0	
2	Socio-economic status	Lower	4	0	4	0	7.302 12.59 NS
		Upper lower	6	4	2	0	
		Lower middle	60	27	26	7	
		Upper middle	10	4	4	2	

S.No.	Demographic variables	Category	No of sample	STRESS			X ² P Value
				No stress	Slight stress	A lot of stress	
3	Type of diet	Vegetarian	6	2	3	1	0.366
		Mixed	74	33	33	8	5.99 NS
4	Family history of hypertension	Yes	6	1	5	0	3.935
		No	74	34	31	9	5.99 NS
5	Types of stay	Hostel	39	16	18	5	0.318
		Day scholar	41	19	18	4	5.99 NS
6	Height in cm	140-150 cm	13	6	6	1	4.305
		150-160 cm	55	21	26	8	9.49
		160cm above	12	8	4	0	NS
7	Weight in kg	30-40kg	17	9	6	2	10.123
		40-50kg	38	15	20	3	12.59
		50-60kg	17	10	6	1	NS
		60kg above	8	1	4	3	
8	BMI	Below 19	31	14	14	3	3.089
		19-20	35	14	15	6	
		Above 25	14	7	7	0	
9	Habits	Onychophagy	14	3	9	2	9.49
		Crackling joints	6	4	1	1	NS
		No other	60	28	26	6	
10	Co- morbidity	Thyroid problem	4	2	0	2	
		PCOS	3	1	2	0	
		Any other	73	32	34	7	

Table 1 shows the association of demographic with level of stress . The age is significant with stress other than the demographic variables such as socio

economic status, type of diet, type of stay, family history of hypertension, height, weight, BMI, habits and o-morbidity are non significant.

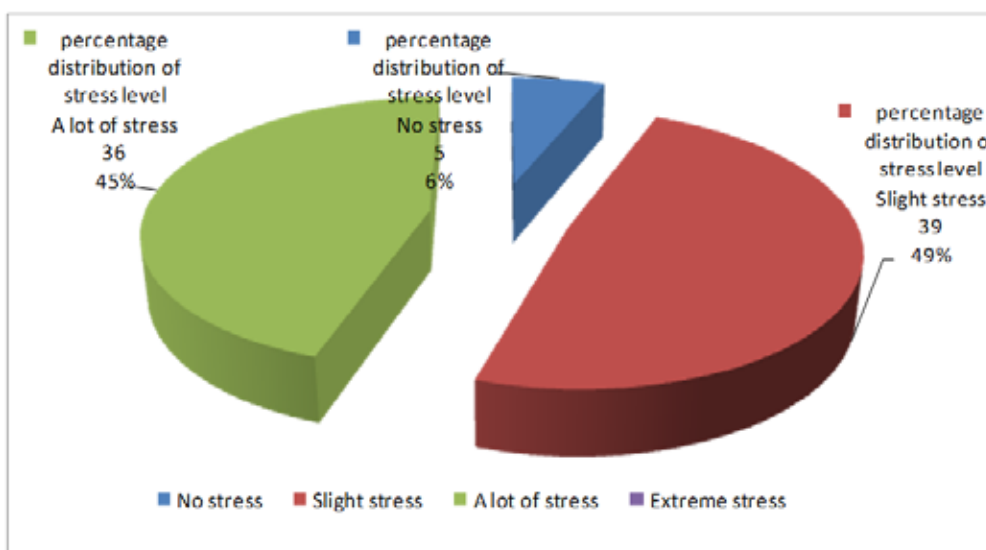


Fig. 1: Percentage distribution of stress level

This fig shows that the level of stress among the nursing students.

Table 2: N=80

S.No.	Variables	Categories	Frequency	Percentage
1.	Blood pressure	No hypertension	5	6.25
		Prehypertension	39	48.75
		Stage 1 hypertension	36	45

This table shows the level of blood pressure among the selected samples

Table 3: N=80

S.No.	Variables	Category	No of samples	Blood Pressure			X ² p value
				No hypertension	Pre-hypertension	Stage 1 hypertension	
1	Level of stress	No stress	5	0	2	3	9.49
		Slight stress	39	14	20	5	12.895
		A lot of stress	36	16	18	2	S

Table 3 shows that statistically association between the level of stress with blood pressure. It proved that stress has an effect on prehypertension. The association between the stress level and prehypertension is significant, x² value is 12.895 and DF is 4. The p value of 0.05 for DF 4 is 9.49.

Conclusion

This chapter deals with the discussion of major findings of the study. The study findings were presented based on objectives and hypothesis. Discussion of the findings under three main section viz. assess the prevalence of prehypertension, assess the stress level of the nursing students, assess the association of nursing students with demographic variables.

The main study was conducted in the month of April in Annaivelankanni college of nursing, Tamil Nadu. 80 samples were selected by non probability convenient sampling method. Collected information on demographic variables of nursing students and assessed the level of stress and blood pressure was monitored. The collected data were analysed by using descriptive and inferential statistics and further interpreted in terms of the objectives form. This chapter deals with the summary of the study and conclusion clarifies the implication for further research in the field

Hypothesis 2 was selected suggesting that there was significant association between prehypertension and stress among 1styr nursing students and hypothesis 1 was rejected suggesting that there was no significant association between stress of Nursing students with

their selected demographic variables among 1st year nursing students, except age. The student researcher found that there was significant association between the prehypertension and stress among 1st yr nursing students

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Chettinad Academy of Research and Education, Institutional Human Ethics Committee on 04/02/2019.(Proposal No:324/IHEC/1-19).

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