A STUDY TO DETERMINE IMPACT OF LIFE STYLE, BODY MASS INDEX AND DIETARY HABITS ON BLOOD PRESSURE AMONG NURSING STUDENTS AT SELECTED NURSING COLLEGE , VIJAYAPUR

[1]Shwetha Hitnal [2]Shankarling B Javali
[1]Assistant professor [2]Assistant professor/statistician
[1]Department of OBG Shri B.M.Patil Institutes of nursing sciences, Vijayapur, Karnataka, India
[2]Department of community medicine, Al-Ameen medical college, Vijayapur Karnataka, India

Abstract: A study to evaluate the influence of body mass index, life styles and dietary habits on blood pressure among the nursing students at selected nursing college of Vijayapur. The objective of the study is to assess relationship of life style factors, body mass index and dietary habits with blood pressure. A sample of 500 nursing students was included in the study. The study result showed there is significant association between body mass index, life style dietary habits and blood pressure
Key words: BMI: Body mass index, BP: Blood pressure, CART: Classification & regression tree

Introduction:
Hypertension is major risk factors for coronary heart diseases, heart failure, renal diseases, and stroke. The development of hypertension is related to both genetic and life style factors. Genetic factors include age, gender, body shape, family history, and life style factors include excessive drinking, smoking, poor eating habits, and reduced physical activity. It is now widely accepted that atherosclerosis begins in childhood and has a similar risk factors as those identified in adults. One of the most potent risk factors of atherosclerotic disease is elevated blood pressure (BP) levels. As it has been well documented, BP levels tracked with age, from childhood into adulthood, whereas the presence of elevated BP at young age in a predictor of BP elevation later in life.

Title
A study to determine impact of life style, body mass index and dietary habits on blood press among the nursing students at selected nursing college of Vijayapur

Objectives
- To determine the life style factors, body mass index and dietary habits among the nursing students
- To determine the association between life style factors, body mass index and dietary habits with blood pressure among the nursing students
- To evaluate the influence of life style factors, body mass index and dietary habits on blood pressure using CART.

Research methodology
In this study we have used quantitative and qualitative research study design. Purposive sampling technique is used.
Setting of the study

The study was conducted in nursing college in Vijayapur (B.L.D.E.A'S Shri B. M. Patil Institute of Nursing Science Vijayapur).

SAMPLING CRITERIA
A) Inclusion criteria
The study includes the nursing students who are studying in
- B.sc nursing students.
- Diploma nursing students.

B) Exclusion criteria
The study excludes the nursing students who are studying in
- M.sc students.
- Not available at the time of data collection.
- Post basic b.sc nursing students.

Description of the tool
The present tool consists 3 sections as follows
Section A: socio demographical variable of the study participants.
Section B: Contains 52 items related to life style factors and 3 items related to dietary habits
Section C: Includes measurement of height (cm) and weight (in kg) and checking blood pressure by using sphygmomanometer. BMI is calculated using the formula BMI = weight (kg) / [height (m)]^2
The BMI category include underweight (<18.9), normal weight (19-24), overweight (24-29), Obesity (above 30). The BMI formula used to determine the weight status is bodyweight in kg/height in $m^{2.}$ Blood pressure category include high blood pressure (140/90mmHg), normal blood pressure (110/70-120/80mmHg), low blood pressure (100/60mmHg

Data collection procedure

Total 500 nursing students who are willing to participate in the study were included in the study using purposive sampling techniques. The data for the present study was collected for period of one month. The written and informed consent was obtained from study participants.

Statistical methods

- Descriptive statistical methods are used to asses socio demographical variables, life style , BMI, dietary habits and blood pressure
- Inferential statistical technique such as CART was used to identify influence of life style , BMI and dietary habits on blood pressure

Results

Table no 1: Frequency distribution of socio demographic variables by blood pressure

Age	BP			Total	d. f	Chi-Square	P-value
	High BP	Normal BP	Low BP				
18-20	250	81	14	345	4	439.9	0.0001(S)
21-23	0	0	150	150			
24-26	0	0	5	5			
Sex							
Male	124	34	76	234	2	1.77	0.412(NS)
Female	126	47	93	266			
Course							
B. Sc (Nursing)	150	49	101	300	2	0.012	0.994(NS)
Diploma Nursing	100	32	68	200			
Place of living							
Home	98	0	121	219			
Hostel	38	81	18	137	4	308.1	<0.000(NS)
Outside	114	0	30	144			

S-Significant NS-Not significant

From table 1, it was seen that out of 500 maximum no of study participants 345(69%) were in the age group 18-20amng them 250 had high BP followed by 14 had low BP and remaining 81 had normal BP. Very few 5(1%) were in the age group 24-26 who had low BP. Maximum no of study participants 266(53.2) were females and remaining 234(46.8%) were males. The maximum no. of study participants 300(60%) were studying B. Sc (Nursing) and remaining 200(40%) were studying diploma nursing. Out of 500 study participants maximum 219(43.8%) were staying at home followed by 144(28.8%) staying at hostel and remaining 137(27.4%) staying outside.

Figure no 1:
CART predicting the influence of socio demographic variables on blood pressure

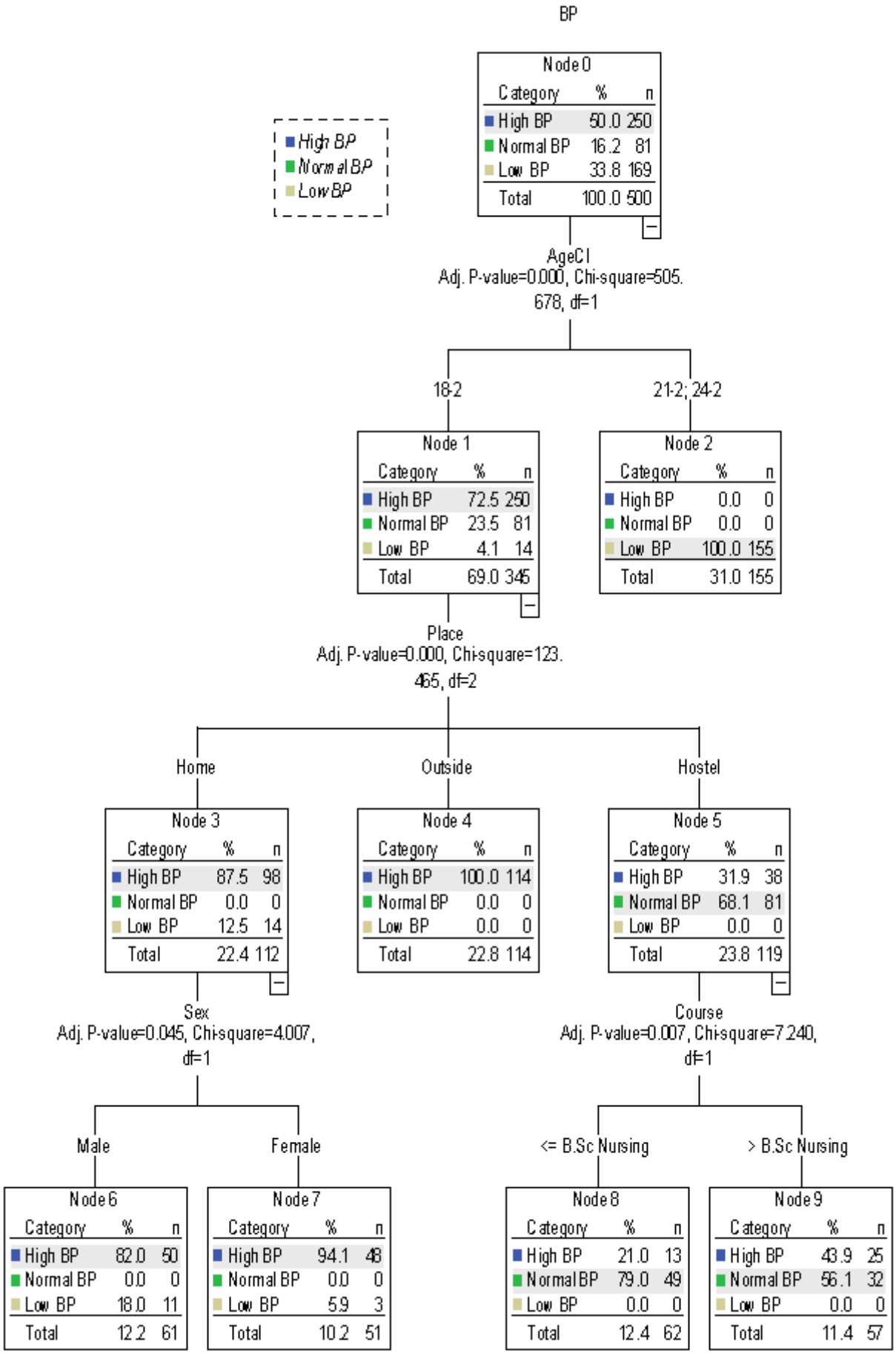
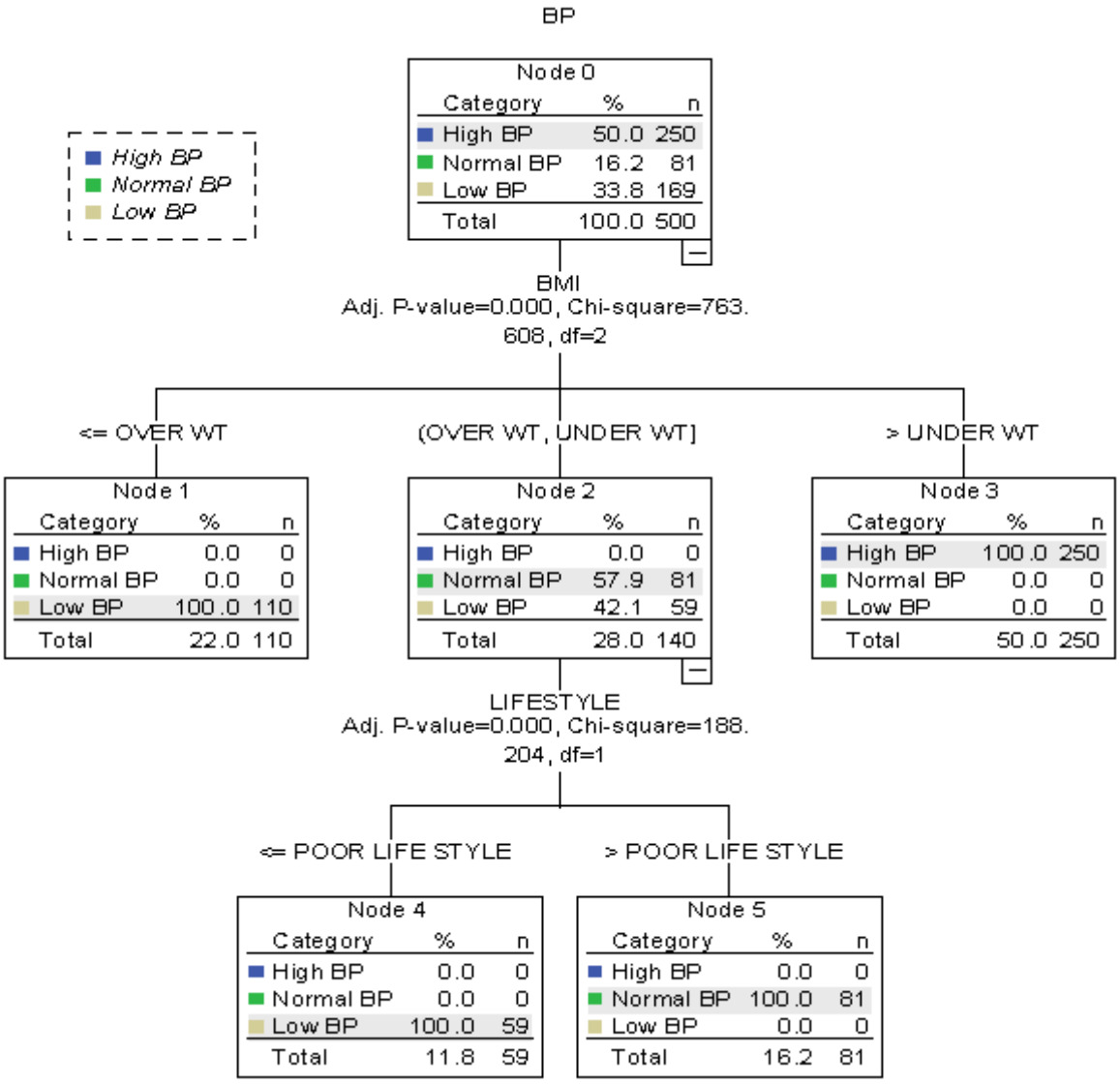


Table no 2:
Influence of life style, body mass index and dietary habits on Blood pressure of study participants

BMI	BP			Total	d.f	Chi-Square	P-value
	high BP	Normal BP	low BP				
Over wt	0	0	110	110	6	688.2	< 0.0001(S)
Under wt	0	81	59	140			
Normal	85	0	0	85			
Obese	165	0	0	165			
Life style							
Poor life style	250	0	169	419	4	500.00	< 0.0001(S)
Good life style	0	54	0	54			
Excellent life style	0	27	0	27			
Dietary habits							
Vegetarian	0	81	56	137	4	318.93	< 0.0001(S)
Non vegeterian	160	0	56	216			
Lacto-ovo-vegeterian	90	0	57	147			

S-Significant NS-Not Significant

Figure 2
CART predicting the influencing factor of blood pressure among the study participants



RESULT AND FINDINGS

Findings related to influence of socio demographical variables on blood pressure.

- From table 1, it was seen that there was high association between age and blood pressure with p-value < 0.0001.the maximum no. of study participants who were between the age group 18-20 had higher BP.
- There was high association between lacing of living and blood pressure. Those who were staying outside had higher BP

Findings related to association between life style BM, dietary factors and blood pressure.

- From table 2, it was observed that BMI is highly associated with blood pressure as it s chi-square p-value was < 0.0001.over weight and obese were at high risk of hypertension.
- Poor life style is highly associated with blood pressure as its chi-square p-value was < 0.0001
- Dietary habit is highly associated with hypertension (p-value < 0.0001) as the poor life style leads to higher blood pressure.

Findings related to prediction of selected risk factors of blood pressure among the study participants.

- CART in figure 1 showed that high BP is influenced by place of stay among the nursing students. Majority (100% &31.9%) who stay at outside and hostel had High BP.
- CART in figure 2, showed that BMI had influence on BP. Majority (100%) who are overweight had low BP due poor life style and 250(100%) had high BP due to Obesity

CONCLUSION

Body mass index, life style and dietary habits are the factors responsible for high blood pressure or low blood pressure. The poor life style is the leading factor responsible for high BP among the study participants. Non vegetarians are more prone to high BP. Increase in body mass index is tend to have higher BP. Socio demographic variables also had impact on blood pressure as it was seen in present study that those who stay either in hostel or out of home had higher/lower blood pressure.

REFRENECES

1. Kaushik Nag, Nabarun Karmakar, Indranil Saha, Samir Dasgupta, Bijay Prasad Mukhopadhyay andMd Rafiul Islam Mondal (2018): An Epidemiological Study of Blood Pressure and Its Relation with Anthropometric Measurements among Schoolboys of Burdwan Municipal Area, West Bengal. Indian J Community Med. 2018 Jul-Sep; 43(3): 157–160.
2. Erem C., Hacihasanoglu A., Kocak M., Deger O., Topbas M. Prevalence of prehypertension and hypertension and associated risk factors among Turkish adults: trabzon hypertension study. Journal of Public Health. 2009;31(1):47–58. doi: 10.1093/pubmed/fdn078
3. Mishra C. P., Kumar S. Risk factors of hypertension in a rural area of Varanasi. Indian Journal of Preventive and Social Medicine. 2011;42(1):101–111
4. Singh R., Sinha R. K., Mani C., Singh R., Pal R. Burden and vulnerability of hypertension in a rural population of Patna, Bihar, India. South East Asia Journal of Public Health. 2013;1(1)
5. https://www.ucsfhealth.org/education/risk-factors-for-high-blood-pressure-hypertension
6. Verma M, Chhatwal J, George SM. Obesity and Hypertension in Children. [Last assessed on 2018 Mar 28]. Available from: https://www.indianpediatrics.net/sep1994/1065.pdf .
7. Dorota Drozdz and Kalina Kawecka-Jaszcz(2014): Cardiovascular changes during chronic hypertensive states. Pediatr Nephrol. 2014; 29(9): 1507–1516.