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RESEARCH ARTICLE

A CROSS SECTIONAL STUDY OF CLINICAL PROFILE, MANAGEMENT AND LEVELS OF AWARENESS IN YOUNG HYPERTENSIVES AT A TERTIARY CARE HOSPITAL IN CHENGALPET

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Abstract

Introduction: Hypertension is a condition in which the force of blood against the arterial walls is excessive. Our study aims to describe the clinical profile and management of young hypertensives and to assess the levels of awareness of health care facilities.

Material and Methods: This cross sectional study is conducted on young adult hypertensives 20-40 years of age attending the Out Patient Department of General Medicine, Karpaga Vinayaga Institute of Medical Sciences and Research Centre, Chinnakolambakkam. Study duration is about 6 months. Young adults (males as well as females) in the age group of 20 to 40 years, who are diagnosed as hypertensives based on with/without comorbidities, visiting the General medicine out patient department who were willing to be a part of the study were included after obtaining an informed consent. Based on this reference and assuming a 95% confidence interval, 5% the minimum required sample size were 112 ~ 120. Data were collected and entered in Microsoft excel 2007. According to the data collected, appropriate statistical tests like Chi-square test was used.

Results: In our study mean age of the study participants were 38.56 ± 12.34 years. There were about 63.3% males and 36.7% females. About 62.8% were from rural areas and 37.2% from urban areas. Females comparatively had more awareness, treatment and control of hypertension than males. Urban areas and rural areas had around same percentage of awareness, treatment and control of hypertension. Knowledge about risk factors awareness present among 25.9% of the study participants. Around 58.7% checked blood pressure at least once in the past year among the study participants.

Conclusion: Headaches were the most common symptom that young people with hypertension presented with when they were diagnosed. Enhanced awareness would assist in the adoption of healthy lifestyle behaviors and highlight the significance of maintaining adherence to medication.

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Introduction:-

Hypertension is a condition in which the force of blood against the arterial walls is excessive. Worldwide, hypertension is one of the most significant preventable contributors to mortality and morbidity, including myocardial infarction, peripheral vascular disease, stroke, renal failure, and retinal impairments, amongst other

conditions. One quarter of the world's population has been diagnosed with hypertension.¹⁻³ Hypertension has been linked to around 9 million deaths worldwide. Complications that are life-threatening can arise from hypertension if it is not recognized early (at a young age) and treated in the appropriate manner. Increasing numbers of young adults in India are being diagnosed with hypertension. Increased arterial stiffness as a result of the activation of the Renin Angiotensin Aldosterone System and increased sympathetic overactivity as a result of stress, improper dietary habits, physical inactivity leading to obesity, and abuse of harmful substances such as smoking, drinking alcohol, cocaine, and other drugs. According to Joint national committee guidelines, Hypertension classification is as follows: ---Normal: Blood pressure < 120/80 mmHg, pre-hypertension: Blood pressure 120-139/80-89 mmHg, stage 1 blood pressure 140-159/90-99 mmHg, stage 2 blood pressure > 160/100 mmHg.

Worryingly, hypertension is often asymptomatic, earning it the moniker "the silent killer" by some. Patients may be asymptomatic not only of hypertension but also of the organ damage it causes. The risk of cardiovascular disease increases as blood pressure rises, beginning at 115/75 mm Hg. Historically, hypertension has been associated with people of advanced age. The profile of hypertension has evolved over time. Population studies have revealed that the prevalence is rising across the board. The incidence is also rising among younger people.⁴⁻⁶

Blood pressure should be examined on a regular basis since hypertension is a serious disease that can harm important organs. Because hypertension hits without warning and can result in a life-threatening emergency, it is important to raise awareness about it. Hypertension is a preventable lifestyle condition. Young hypertensives have lower blood pressure awareness, slower diagnostic rates, and poorer blood pressure control. More than 90% of young hypertensives have Essential/Primary hypertension (without any cause). Secondary hypertension affects 10% of the minority. A High Blood Pressure diagnosis is based on two or more blood pressure readings done on separate occasions.⁷⁻⁹

This study has been chosen to assess health care visits and awareness levels regarding the prevention, early detection, control of hypertension among young adults, which were found to be lacking in previously done research studies. Certain studies on this topic done in Western countries and other states of India. Only few studies done in Tamil Nadu. Our study aims to describe the clinical profile and management of young hypertensives.

Material and Methods:-

This cross sectional study is conducted on young adult hypertensives 20-40 years of age attending the Out Patient Department of General Medicine, KarpagaVinayaga Institute of Medical Sciences and Research Centre, Chinnakolambakkam. Study duration is about 6 months. Young adults (males as well as females) in the age group of 20 to 40 years, who are diagnosed as hypertensives based on AMERICAN HEART ASSOCIATION/AMERICAN COLLEGE OF CARDIOLOGY guidelines, with/without comorbidities, visiting the General medicine out patient department who were willing to be a part of the study were included after obtaining an informed consent. Persons less than 20 years of age, persons more than 40 years of age, pregnant women and persons not willing to give consent for the study were excluded. Purposive sampling method was adopted to choose young adults of 20-40 years of age diagnosed as hypertensives. The proportion of Knowledge in hypertension was reported as 74% by Ital DaniseRajan J. (2021)¹⁰ in the recent edition of International Journal of Basic & Clinical Pharmacology. Based on this reference and assuming a 95% confidence interval, 5% absolute precision value, and with the available population size of 180, the minimum required sample size were 112 ~ 120.

The study was started only after obtaining due permission from the Ethical Committee. All those willing to participate in the study, subject to inclusion and exclusion criteria, were explained about the procedure. Written informed consent was obtained from study participants. Data were collected and entered in Microsoft excel 2007. According to the data collected, appropriate statistical tests like Chi-square test was used.

Results:-

In our study mean age of the study participants were 38.56±12.34 years. There were about 63.3% males and 36.7% females. About 62.8% were from rural areas and 37.2% from urban areas. About 58.3% studied till higher secondary school, 40.83% from studied till primary school and 0.83% were illiterate. We studied risk factors in our study. There were 40.8% with obesity, 63.6% high salt intake, 97% were on on-veg diet, 97% were on junk foods and 15% sedentary life style. There were about 23.7% tobacco usage in our study, 44.9% had alcohol consumption.

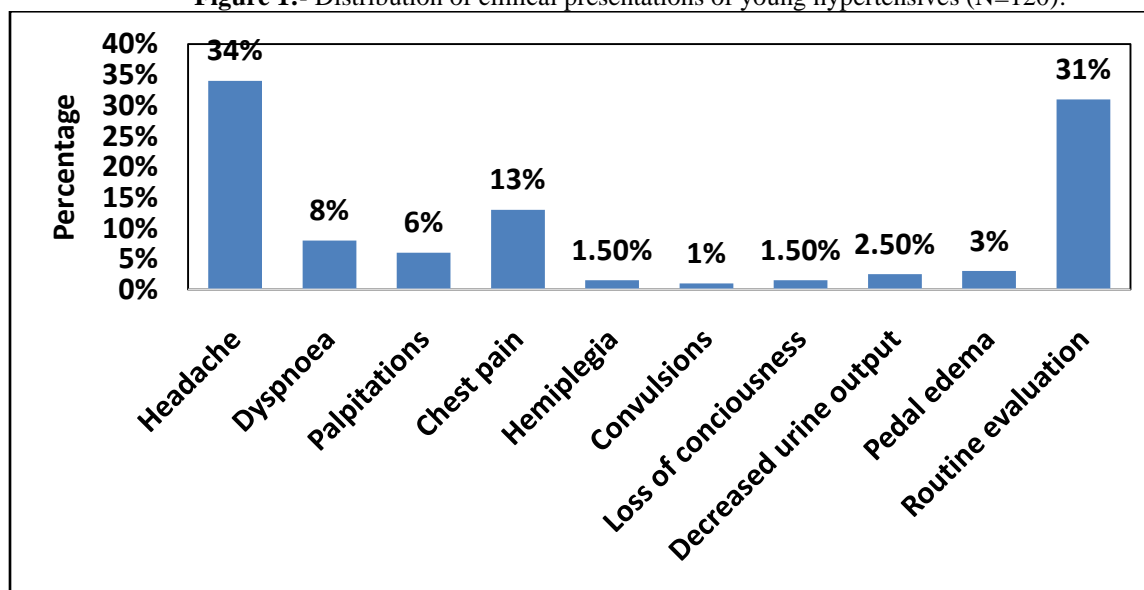
Knowledge of risk factors were assessed in our study; around 42% had poor knowledge and only 23.5% checked blood pressure only once in their past year (Table 1).

Table 1:- Baseline characteristics of study participants (N=120).

Sno	Variable	Frequency	Percentage
1	Gender		
	Male	75	63.3%
	Female	45	36.7%
2	Place of residence		
	Rural	75	62.8%
	Urban	45	37.2%
3	Education		
	Higher secondary	70	58.3%
	Primary	49	40.83%
	Illiterate	1	0.83%
4	Risk factors		
	Obesity	48	40.8%
	High salt intake	76	63.6%
	Non vegetarian diet	116	97%
	Junk foods	116	97%
	Sedentary life style	18	15%
5	Tobacco usage	29	23.7%
6	Alcohol consumption	54	44.9%
7	Knowledge of risk factors		
	Poor	50	42%
	Others	70	58%
8	Checked BP at least once past year		
	Yes	28	23.5%
	No	92	76.5%

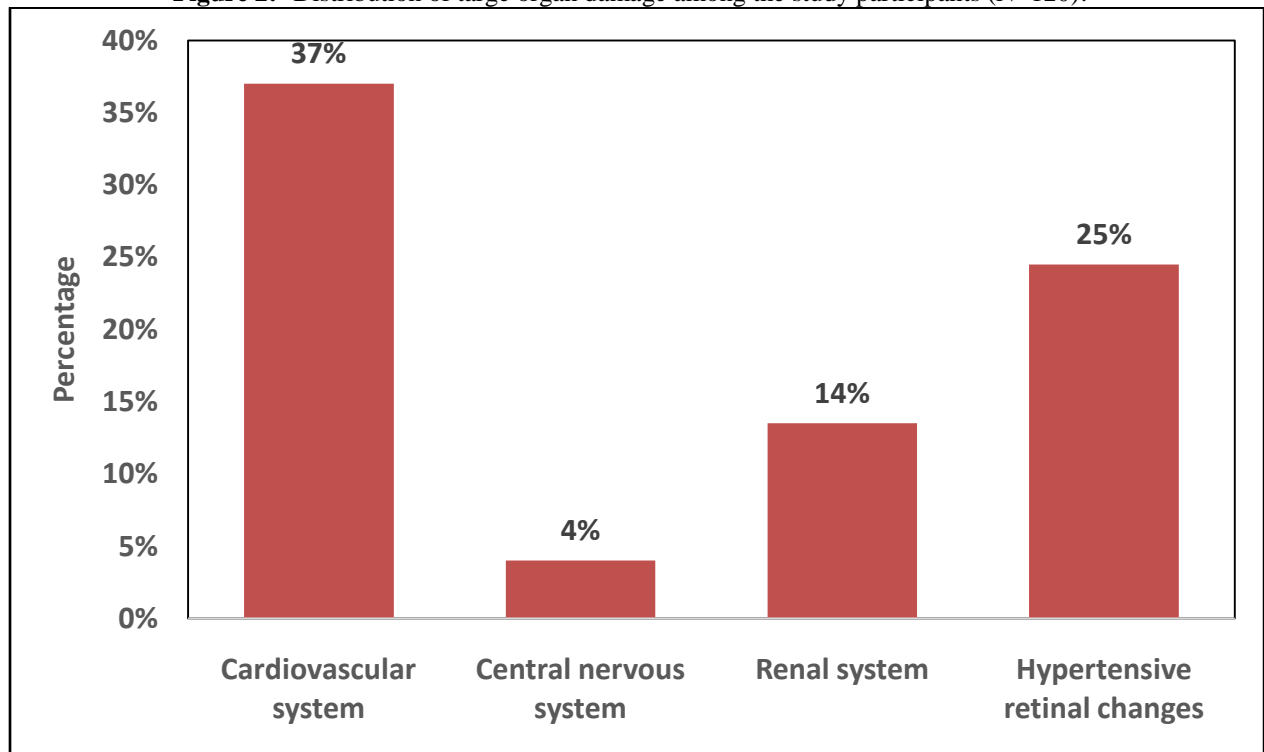
Clinical presentation of young hypertensives were illustrated in figure 1. Around 34% had headache, 8% dyspnoea, 6% palpitations, 13% chest pain, 1.5% hemiplegia, 1% convulsions, 1.5% loss of consciousness, 2.5% decreased urine output, 3% pedal edema and 31% routine evaluation.

Figure 1:- Distribution of clinical presentations of young hypertensives (N=120).



Target organ damage were studied. Around 37% had cardiovascular system complications, 4% central nervous system complications, 14% renal system and 25% had hypertensive retinal changes (Figure 2).

Figure 2:- Distribution of target organ damage among the study participants (N=120).



Awareness, treatment, and control of hypertension were studied (Table 2). Females comparatively had more awareness, treatment and control of hypertension than males. Urban areas and rural areas had around same percentage of awareness, treatment and control of hypertension. Similarly there was no difference in awareness, treatment and control of hypertension across the educational status. Knowledge about obesity as a risk factor was present among 41.8% of the study participants. High salt intake as a risk factor were present among 70% of the study participants. Knowledge about risk factors awareness present among 25.9% of the study participants. Around 58.7% checked blood pressure at least once in the past year among the study participants.

Table 2:- Distribution of awareness, treatment, and control of hypertension among the young adults in relation to baseline characteristics (N=120).

Sno	Variable	Awareness	Treatment	Control
1	Gender			
	Male	23.9%	18.5%	12%
	Female	51.7%	37.9%	25.9%
	p value	<0.001	0.045	0.012
2	Place of residence			
	Urban	32.6%	23.3%	11.6%
	Rural	37.5%	29.7%	25%
	p value	0.604	0.452	0.045
3	Education			
	Higher secondary	36.3%	25%	16.3%
	Primary	32.9%	27.1%	18.6%
	p value	0.73	0.85	0.12
4	Obesity	41.8%	35.4%	25.3%
	P value	0.06	0.009	0.009
5	High salt intake	70%	40%	35%

	p value	<0.001	<0.001	<0.001
6	Sedentary life style	21.2%	12.1%	9.1%
	P value	0.09	0.04	0.02
7	Knowledge of risk factors			
	Poor	25.9%	20.4%	13%
	Others	39.6%	29.2%	19.8%
	p value	0.109	0.253	0.371
8	Checked BP at least once past year			
	p value	58.7%	41.3%	26.1%
		<0.001	0.008	0.066

Discussion:-

In our research, we found that young hypertensives most frequently complained of having headaches. In addition to experiencing headaches, young hypertensives showed signs of injury to the organs that were the focus of the study, including chest pain, palpitations, shortness of breath, hemiplegia, convulsions, decreased urine production, and pedal edema.^{11,12} Headaches were the symptom that young hypertension patients in the trials carried out by Panja et al. and Kaplan NM et al. reported experiencing the most frequently.¹³ In our research, dysfunction of the cardiovascular system was identified as the most common type of harm to a target organ (37 percent). Young hypertensives have been found to have an increased risk of developing cardiovascular conditions such as left ventricular hypertrophy, heart failure, and coronary artery disease. In addition, young people who had hypertension were more likely to suffer from cerebrovascular complications such as ischemic and hemorrhagic strokes, in addition to other target organ damage like renal failure and hypertensive retinopathy. Both Helgel and others, as well as Hart JT¹⁴ and others, came at the same conclusions. Researchers Yano et al. found that younger and middle-aged people with hypertension had a greater relative risk of death from cardiovascular disease and coronary heart disease than those with optimal-normal blood pressure over an extended period of time.¹⁵ We looked at young hypertensives with and without risk factors such as smoking, drinking, obesity, dyslipidemia, and diabetes to determine the prevalence of damage to specific organs. When compared with hypertensives who did not have these risk factors, young hypertensives with these risk factors had a prevalence of target organ damage that was noticeably higher than that of hypertensives who did not have these risk factors. This was statistically significant when considering all of the risk factors. Gupta R¹⁶ et al examination 's of people living in rural India produced comparable findings.

Both studies found that women had higher levels of knowledge, therapy, and management of hypertension than men did; nevertheless, males had lower levels of all three factors. According to the findings of our research, just 12.0 percent of young males were able to keep their hypertension under control, while 25.9 percent of young women were. The greater rates of hypertension knowledge, treatment, and control in women are most likely related to increased health care visits by young women. The number of health care visits was not captured in our study, but it is highly likely that this is the cause of the increased rates of hypertension knowledge, treatment, and control in women. An examination of the available data found that the difference in hypertension control between men and women could be attributed, in part, to the younger women's tendency to seek medical attention more frequently. Better awareness and treatment in young subjects who had checked their blood pressure at least once in the previous year demonstrates that if facilities for checking blood pressure can be improved and the public is educated about the importance of checking blood pressure on a regular basis, blood pressure control is likely to improve. This was demonstrated by the fact that young subjects who had checked their blood pressure at least once in the previous year had better awareness and treatment. It's possible that more possibilities to interact with the health care system or a fear of developing hypertension or the consequences of having it are to blame for better treatment and control of hypertension in obese persons.

Conclusion:-

Headaches were the most common symptom that young people with hypertension presented with when they were diagnosed. Screening, followed by early detection of hypertension in young adults and prompt care, may minimize the likelihood of life-threatening complications occurring later in life. Enhanced awareness would assist in the adoption of healthy lifestyle behaviors and highlight the significance of maintaining adherence to medication.

References:-

1. Toni De Venecia. Marvin Lu, Vincent M Figueredo. Hypertension in young adults. Postgrad Med. Philadelphia, USA: Pub Med;2016.
2. Chaitanya R. Patil, Durgesh Prasad Sahoo, Manjusha Dhoble, Abhijit Kherde, Asim Inamdar. Prevalence of hypertension and its associated risk factors in young adults attending a tertiary care institute of Nagpur: a cross sectional study. Nagpur, Maharashtra: International Journal Of Community Medicine And Public Health;2017.
3. Heather M. Johnson, Carolyn T. Thorpe, Christie M. Bartels, Jessica R. Schumacher, Mari Palta, Nancy Pandhi, Ann M. Sheehy, Maureen A. Smith. Undiagnosed hypertension among young adults with regular primary care use. Vol32. Madison, Wisconsin :Journal of Hypertension; January 2014.
4. Robert M. Carey, Paul Muntner, Hayden B. Bosworth, Paul K. Whelton. Prevention and control of Hypertension. Virginia: Journal of the American College of Cardiology;2018 September.
5. Filip Pawliczak, Agata Bielecka-Dąbrowa, Marek Maciejewski & Maciej Banach. Treating mild hypertension in young adults: is pharmacotherapy necessary?, Poland: Expert Opinion on Pharmacotherapy;06 Feb 2020.
6. Kennedy, Cormac; Farnan, Richard; Aftal, Zainab; Hall, Mary; Hemyrck, Linda; Stinson, John; O'Connor, Patricia; Hennessy, Martina; Barry, Michael. CLINICAL CHARACTERISTICS OF YOUNG ADULTS WITH HYPERTENSION REFERRED TO A SPECIALIST HYPERTENSION CLINIC, Ireland: Journal of Hypertension; April 2021 - Volume 39.
7. Bethany Everett and Anna Zajacova . Gender differences in hypertension and hypertension awareness among young adults. USA: Biodemography and Social Biology;2015.
8. Carrie Armstrong . High Blood Pressure: ACC/AHA Releases Updated Guideline. National Library of Medicine;2018 Mar 15.
9. John M. Flack , Bemidekola . Blood pressure and the new ACC/AHA hypertension guidelines. Trends Cardiovasc Med. Springfield, United States:Science Direct;2020 Apr;30.
10. Rajan J., Sakthibalan M., Gerard Marshall Raj, Mangaiarkkarsi A , “Knowledge, attitude and practice of hypertension among hypertensive patients in a tertiary care teaching hospital”, International Journal of Basic & Clinical Pharmacology, 2019 May;8(5):1013-1018.
11. Stewart I et al.. Headache and Hypertension. Lancet 1953;1:1261-1266.
12. Kannel WB. Blood pressure as a cardiovascular risk factor. JAMA 1996;275: 1571-1576
13. Philips SJ, Whisnant JP. Hypertension and brain. Arch Intern Med 1992;152:938-945.
14. Harts JT, Edwards C, Jones J. Screening detected Hypertension under 40. British Medical Journal. 1993;306(6875);437-40.
15. Yano Y, Stamler J, Garside DB, Daviglius et al. Isolated systolic hypertension in young and middle-aged adults and 31-year risk for cardiovascular mortality: the Chicago Heart Association Detection Project in Industry study. J Am Coll Cardiol. 2015 Feb 3;65(4):327-35.
16. Gupta R, Sharma S, Gupta VD. Smoking and alcohol intake in a rural Indian population and correlation with hypertension and coronary heart disease prevalence. JAPI. 1995, April;43(4):253-8.