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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PERCEPTION OF ADULTS ON CHILDHOOD HYPERTENSION IN THE HIGHER TEACHERS' TRAINING COLLEGE OF THE UNIVERSITY OF YAOUNDE I.

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Abstract

Background: Hypertension is the commonest non-communicable disease in the world affecting both sexes in all races. The morbidity and mortality burden of adult hypertension is definitely more significant and quite tremendous when compared to childhood hypertension which is less common and generally not known to occur by the population.

Objectives: This study was conducted to ascertain the knowledge, Attitude and Perception of childhood hypertension among the adults in the Higher Teachers' Training College of the University of Yaounde I, Cameroon.

Methodology: A cross sectional study was conducted in the Higher Teachers' Training College of yaounde, Cameroon between 19th to 20th December 2017. The study was carried among available adults at the study time and a self-administered questionnaire was filled for data collection.

Results: The majority of participants belong to the age group of 21-30 years. Most of them were males (56.4%). Majority of the participants were single (57.3%) and more than half (50.9%) of the participants were students. (88.2%) of the participants had university level. 65.5% respondents that knew hypertension implied high blood pressure. However 43.6% respondents did not think that childhood hypertension exist, while 85.5% respondents were not aware of any child diagnosed with hypertension. 52.7% of the respondents had the overall high level knowledge towards childhood hypertension. Only 38.4% of the respondents had positive attitude and 57.1% had good perception towards childhood hypertension.

Conclusions: There is still a low awareness about the existence, diagnosis and management of childhood hypertension in our population. Childhood hypertension education program should be set among communities.

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Introduction:-

Hypertension remains a major global public health challenge that has been identified as the leading risk factor for cardiovascular morbidity and mortality (1). It increases hardening of the arteries, thus predisposing individuals to heart diseases, peripheral vascular diseases, stroke, heart failure and kidney failure (2). Hypertension is the commonest non-communicable disease in the world affecting both sexes in all races. The morbidity and mortality burden of adult hypertension is definitely more significant and quite tremendous when compared to childhood hypertension (3). Childhood hypertension is less common and not known to occur by the general population when compared to adult hypertension.

Generally, the definition of hypertension in both adult and children is the same which can be defined as average systolic blood pressure and/or diastolic blood pressure that is greater than or equal to the 95th percentile for sex, age, and height on three or more occasions (4). There is evidence that childhood hypertension can lead to adult hypertension which is a known risk factor for coronary artery disease (CAD) in adults and so the presence of childhood hypertension then may contribute to the early development of CAD (4).

The prevalence and rate of diagnosis of hypertension in children and adolescents appear to be increasing (5). This is due in part to the increasing prevalence of childhood obesity as well as growing awareness of this disease (6). According to World Health Organization, the prevalence of hypertension is reported in 4 to 15% children worldwide, with increasing trends during recent decades. This increase is attributable to particular stress of mega cities in industrialized countries lifestyle and diet whose impact on body size is well established with estimated population prevalence of 1-2% in the developed countries (7). Small surveys in school children in India suggest a prevalence ranging from 2-5%. In sub-Saharan Africa which is facing epidemiological transition, the prevalence of hypertension in children varies by regions: 4.9% in schools from Sudan and 29.4% from South Africa. This increasing burden of non-communicable diseases is particularly true for cardiovascular diseases (CVD). Hypertension, once rare in traditional African societies has become a major public health problem because of high prevalence rates contrasting with low awareness, treatment and control rates. The high prevalence of hypertension in Africa is due to both urbanization and a shift towards western habits such as smoking, unhealthy diets with excess salt and fat intake, physical inactivity.

In Cameroon, Multiple hypertension studies have been carried out but mostly in the adult population hence a recent study determine the prevalence of pre-hypertension and hypertension among rural preschool children aged between 2-5 years (8). Among the multiple hypertension studies, no previous study has deal with knowledge, attitude and perception of adults on childhood hypertension among Cameroonians. This study sought to determine the level of knowledge, attitude and perception of adults on childhood hypertension in the Higher Teacher Training College in University of Yaounde I Cameroon.

Materials and methods:-

A cross sectional study including available adults of higher teacher training college of university of yaounde i was implemented during the higher teacher training college of university of yaounde i open doors. Data was collected through face to face interview, using structured questionnaire adapted from previous similar studies. There were a total of 24 questions and the questionnaire was divided into four sections: namely; a, b, c and d. Section a consisted five (5) items dealing with demographic variables (age, gender, marital status, level of education, occupation). Section b, c and d comprised nineteen (19) items on knowledge (9), attitude (5) and perception (4) on childhood hypertension. The data collection tool was developed in english and translated to french for those that were french speaking by investigator to ensure accuracy and desired results. To evaluate the understandability and the applicability of the instruments, a pre-test was done. Following the analysis of the pre-test study data, ambiguous or unclear questions were rephrased to make it more understandable

Statistical analysis:-

Each questionnaire was properly cross-checked for completeness, missed values and unlikely responses and then manually cleaned up on such indications before living the study area. Data was coded and entered in to epi info version 7. Data was cross checked for consistency and accuracy, cleared and exported to spss version 11.0 for statistical analysis. Descriptive statistics like frequencies, proportions and measures of dispersions were employed to describe socio-demographic, knowledge, attitude and perception variables.

Overall knowledge: it is the summary of all the 9 questions. Each question contains 1 point for positive response and 0 for negative response the total response contains 9 points. The overall knowledge of the study participants was assessed using the sum score of each outcome. The scores were classified in 2 levels as follows:-

High level knowledge:-knowledge score that fell below 5 points.

Low level knowledge:- knowledge score that fell between 5 to 9 points.

Attitude: includes 6 items to assess the outlook regarding causative factors and preventive measures of childhood hypertension. All individual answers were summed up for total scores. Each question contains 1 point for positive response and 0 for negative response the total response contains 6 points. The scores were classified into 3 levels;

positive attitude: - attitude score fell between 5 to 6 points

Neutral attitude: - attitude score fell between 3 to 4 points

Negative attitude: - attitude score less than 3 points.

This section utilized 5 points like scale to assess the attitude in terms of strongly agree, agree, uncertain, disagree and strongly disagree.

perception: is the out viewing about childhood hypertension. 4 questions were used to assess the awareness of respondents. Each question was assigned 1 point for positive response and 0 point for negative response and were classified as follow:

Good perception: - perception score that fell between 2 to 4 points

poor perception: -perception score that fell below 2 points.

Results:-

More than half of the respondents (56.36%) were in the aged group of 21-30 years and 28.1% of them were in the age group of 31-40 years over 40 years, we had 14.4 participant. About 56.4% were males. Majority of the participants were single (57.3%), followed by those who were married (35.5%), widowed (4.5%), and divorced (2.7%). Most (50.9%) of the participants were students followed by (31.8%) of teachers and (17.3%) other socio-professional categories such as sellers, medical doctors, nurses etc. Majority 97 (88.2%) of the participants were with university education, 11(10%) secondary education and 2 (1.8%) with just primary education (table1).

65.5% of the respondents could give the right definition of hypertension which is the increase in bp above 140/90 mmhg. Out of total 52(47.3%) of respondents attested that hypertension is detected by the measurement of the blood pressure. Stress was reported as the main factor by the participants with 25(22.7%), follow by age with 21.9%, hereditary (19.1%), a particular drug or food (15,1%) and those that didn't knew any risk factors were 22%.

Most of respondents 25(22.7%) mentioned headache, dizziness and nausea as sign and symptom of hypertension while 42.2% of the participants didn't knew the signs and symptoms of this disease(table 2).

The overall knowledge score, 58 (52.7%) of the respondents have high level of comprehensive knowledge against 52(47.3%) of the respondents with low level knowledge as shown in (table 3).

36(32.7%) of respondents strongly agreed to the statement " high blood pressure is preventable, 33.6% agreed to the statement "avoiding salt in their food is good", only 0.9% strongly agreed that hypertensive patients can take fat rich food and 19.1% strongly agreed to the statement hypertensive patients need to maintain their weight within normal limit(table 4). The overall attitude score include 55(49.6%) of the respondents with a negative attitude, 13(12%) with neutral attitude (table 5).

(43.6%) of the respondents think regular checking of children blood pressure level is important, (50. 9%) of the respondents knew the presence of hypertension ina child indicate an illness. (61.8%) of respondents think hypertension is a serious health problem and 67.3% knew there are local remedies of hypertension. The summary of perception towards hypertension (table 6).the overall perception score 47(42.9%) of the respondents had a poor perception, with good perception 63(57.1%) (table7).

Table 1:- socio-demographic characteristics of the study participants.

Variables	Categories	Number (%)
Age group (years)	21-30	56.3
	31-40	28.1

	>40	14.4
Gender	Male	56.4
	Female	43.6
Marital status	Married	35.5
	Single	57.3
	Widow	4.5
	Divorced	2.7
Education level	Primary	1.8
	Secondary	10
	University	88.2
Occupation	Students	50.9
	Teachers	31.8
	Others	17.3

Table 2:-knowledge of respondents about childhood hypertension.

Questions	Response	Frequency	Percentage (%)
What is meant by hypertension	Correct answer	72	65.5
	Wrong answer	30	27.3
	No answer	08	7.3
How is hypertension detected?	Correct answer	52	47.3
	Wrong answer	49	44.5
	No answer	09	8.5
Have you seen any person (adult) suffering from hypertension	A)yes	84	76.4
	B) no	26	23.6
If yes, how many of them?	A)1	30	27.3
	B)2	24	21.8
	C)3	12	10.9
	D)>3	18	16.4
	C)0	26	23.6
Do you think a child could develop hypertension?	A)yes	62	56.4
	B)no	48	43.6
Are you aware of any child diagnosed with hypertension?	A)yes	16	14.5
	B)no	94	85.5
If yes, how many of them?	A)1	12	10.9
	B)2	4	3.6
	D)0	94	85.5
Childhood hypertension risk factor (a: Stress, b:hereditary, c:age, d;a particular drug or food, e:don't know)	A)	25	22.7
	B)	21	19.1
	C)	24	21.9
	D)	17	15.5
	E)	23	22
Childhood hypertension sign and symptom (a: Headache, b: nausea, c:dizziness, d:headache + dizziness + nausea, e:don't know)	A)	27	24.5
	B)	7	6.4
	C)	4	3.6
	D)	25	22.7
	E)	47	42.7

Table 3:-Knowledge score of respondents.

Score	Frequency	Percentage
Low level knowledge	52	47.3%
High level knowledge	58	52.7%
Total	110	100

Table 4:-Distribution of attitude towards hypertension.

Statement	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
High blood pressure is preventable	36(32.7%)	26(23.6%)	18(16.4%)	22(20%)	8(7.3%)
It is good to avoid extra added salts in a child diet.	30 (27.3%)	26(33.6%)	18(16.4%)	12(10.9%)	24(21.8%)
Bp should be checked periodically	27(24.5%)	47(42.7%)	25(22.7%)	7(6.4%)	4(3.6%)
Hypertensive patient can take fat rich food	1(0.9%)	5(4.5%)	3(2.7%)	7(6.36%)	94(85.5%)
Hypertensive patients need to maintain their weight within normal limit	21(19. 1%)	24(21.9%)	25(22.7%)	23(20.9%)	17(15.5%)

Table 5:-Attitude score of respondents.

score	Frequency	Percentage
Negative attitude	55	49.6%
Neutral attitude	13	12%
Positive attitude	42	38.4%

Table 6:-Distribution of perception towards hypertension.

Questions	Response	Frequency	Percentage (%)
Do you think regular checking of children blood pressure level is important?	A)yes	48	43.6
	B) no	62	56.4
Did the presence of hypertension in a child indicate an illness?	A)yes	56	50.9
	B)no	54	49.1
Is hypertension a serious health problem?	A)yes	68	61.8
	B) no	42	38.2
Are the any local remedies of hypertension?	A)yes	74	67.3
	B)no	36	33.7

Table 7:- Respondents perception score.

Score	Frequency	Percentage
Poor perception	47	42.9%
Good perception	63	57.1%
Total	110	100

Discussion:-

This study was done to determine the knowledge, attitude and perception of adults on childhood hypertension in the higher teacher training college. Hypertension starts in initial period of life. Early detection of hypertension translates into early interventions in childhood. The findings of this study will help to establish preventive measures to be taken in childhood for prevention of later morbidity and mortality.

In our study, males respondents were more represented with 56.4% than 43.6% females. This low participation of the female may have been due to the lack of motivation of the female population present during the period of the study. This distribution is almost similar to a previous study carried out in Nigeria on hypertension (Adedoyin et al. 2006). Majority (50.9%) of our study population were students and (57.3%) mostly single this may be due to the fact that this group population was more accessible compared to the working class population who were too busy to participate in this study or due to the presence of the high population of students present.

The study revealed that, 47.3% of the respondents had low level knowledge which contradicts the findings of previous studies done by previous studies in Nigeria (10) and Mongolia (11) respectively. The possible explanation for this discrepancy may be due to the difference in study setting. This lack of knowledge may be due to the

presence of more males and a population of younger people. In this study, respondents recalled knowing 84(76.4%) adults, only 16(14.5%) children with hypertension which reflects higher numbers relatively compared to the results of a previous study carried out in Nigeria where the respondents knew 81 adults and 9 children (9). It is also important to note that a lot of the respondents knew 72(65.5%) hypertension to indicate high blood pressure and also knew that hypertension was recognized by measuring the blood pressure rather than through an anxious look, sad look, obesity, reserved personality, or the presence of many concerns in an individual. While these features may be contributory factors to hypertension, they do not indicate hypertension.

As attested to by our respondents, hypertension is common among the adult population. Most of our respondents 48 (43.6%) almost half of our population didn't think a child could develop hypertension, while 94(85.5%) of our respondents had never seen any child with diagnosis of hypertension. This is not surprising because renal disorder, which is a common cause of hypertension, has a low incidence in children." In children, there is usually an underlying cause for the hypertension with only about 3% being essential hypertension (Liebermann, 1994).

Only a small population of our respondents 17(15.5%) were aware that childhood hypertension could be related to drugs, or consumption of certain food items. It is however well known that certain drugs like steroids could cause hypertension and certain food substances such as salt, nicotine and caffeine could also contribute to hypertension (13). Many of the respondents 21 (19.1%) also believe that childhood hypertension is likely to be hereditary. This may have been from observation that children of parents with hypertension also get to develop hypertension which relatively corroborates with the results obtained in a previous study (14). Hereditary childhood hypertension could be just primarily essential hypertension or due to secondary causes that could also be hereditary e.g. Alport's syndrome and polycystic disease of the kidney. Hence, in any case of childhood hypertension the family pedigree should be studied to isolate a family history of hypertension or disorders associated with hypertension. Childhood hypertension is not fatal if promptly treated. Treatment of the underlying cause if there is any or the hypertension ensures a good quality of life in the child. In cases of essential hypertension or where it is due to a structural anomaly like polycystic disease, the treatment may be throughout life.

In the case concerning the attitude of the respondents, 49.6% of respondents had negative attitude, being higher than the study done in India (15). The possible explanation for discrepancy between the results may occur due to the fact that this study was held in a school where most of the respondents are well educated. The attitude of our population therefore was not good towards childhood hypertension. Here, we observed that 26(33.6%) of the participants agreed that it is good to avoid adding extra salts in the child diet and 47 (42.7%) respondents agreed that BP should be controlled periodically. Studies have confirmed how beneficial this activity is in improving hypertension control. 24(21.6%) of the general population attested to the fact that hypertensive patients need to maintain their weight within normal limit. 32.7% of our study population believed that high blood pressure is preventable, showing a positive attitude, which can be related to the study by Dugee Otgontuya *et al.* (16). Many studies showed that participants perceived medication and exercise as the only interventions moderately effective at preventing high blood pressure.

Regarding response to perception questions, showed that, 42.9% of the general population had an overall negative perception. Childhood hypertension is perceived to be rare by the study population with 42.5% of the respondents having a poor perception of this disease. Therefore it is mandatory to take any child's blood pressure with a renal, endocrine or cardiac disorder. There are a lot of beliefs that, alternative medicine is highly explored even though a lot of those medications need thorough investigations (9). Most of our respondents (61.8%) believe that hypertension is a serious health problem requiring urgent attention and 67.3% also believe that there are local remedies for childhood hypertension.

Conclusion:-

In conclusion there is still a low awareness about the existence of childhood hypertension by the population. Since this problem is not a priority health problem in the community, childhood hypertension education program should be set among communities.

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Declaration of conflicting interest:-

The authors declare that there are no conflicts of interest.

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