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Prevalence of Hypertension, Diabetes mellitus and nutritional status of adult traders in Ariaria International market Aba, Abia state

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Abstract

This study was conducted in Ariaria International market Aba in Abia State to determine the prevalence of hypertension, diabetes mellitus and nutritional status of adult traders. Data was drawn from 200 respondents, 153 males and 47 females. Biochemical test was carried out on the respondents to determine their blood pressure and blood glucose levels and also structured questionnaire was administered and information was collected on demographic, socio-economic data, food consumption pattern, food preference and anthropometric attributes. A total of 46.0% of the respondents had low blood glucose, 1.5% had high blood glucose and 52.5% had normal blood glucose and 35.3% of the respondents have optimal blood pressure, 0.5% have normal blood pressure and 24.5% had normal body mass index, 43.4% are overweight and 32.8% are obese. The study has provided information on the prevalence of hypertension, diabetes mellitus and nutritional status of adult traders in Aba and have also provided a frame work that could be used in designing appropriate intervention programmes to reduce low blood glucose level, high blood pressure and obesity in Aba, Abia State.

Keywords: hypertension, diabetes mellitus, nutritional status, obesity.

Introduction

Hypertension

Hypertension is persistent elevation in blood pressure to systolic > 140 and diastolic > 90 mmHg (Cappuccino, 2000) which extent force on the walls of the arteries, it is associated with a lot of dangers like damage of the brain, vascular system, arteries that supply oxygen to the brain , kidneys and leading to cerebrovascular accidents (strokes), kidney failure and partial loss of sight (AHA,1980; WHO, 2002).
Amoah (2003) reported that the prevalence of hypertension in Accra is 28.3% which is much higher than the 14. 5% found in Nigeria and 16.9% in Cameroon but lower than the value of 32.6% for blacks in the united states (cooper, 1997), more so, in Accra the prevalence of hypertension (BP> 160/ 95 mrnHg) was found to be 4.5% in the rural areas and 8% to13% in the city and is common among women than men.

Akinkugbe (1996) reported that hypertension has prevailed over approximately 4.33 million Nigerians. The American Heart Association (1980), exposes us to the risk factors associated with high blood pressure, which include obesity, cardio vascualar failure, renal damage and can be as a result of sedentary life style and poor food habit, consumption of high saturated fatty foods.

Aba is an Urban City in Abia State in Nigeria, which was created in 27th August 1991, with population of

897,613 ("Aba" Encyclopaedia Britanmical 2000) people whose occupation is mainly trading.

Diabetes Mellitus.

Diabetes mellitus often referred to as simple diabetes is a syndrome of disordered metabolism, usually due to a combination of hereditary and environmental causes, resulting in abnormally high blood sugar levels (hypoglycermia) (Tierney et al., 2002). Blood glucose levels are control by the hormone insulin made in the beta cell of the pancreas (Rother, 2007). The two most common forms of diabetes are due to either a diminished response by the body to insulin (type 2 and gestational) (WHODNDS, 1999). Both lead to hyperglycemia, which largely causes the acute signs of excessive urine production, resulting compensatory thirst and increased fluid intake, blurred vision, unexplained weight loss, lethargy and changed in energy metabolism .

Blood glucose that ranged above 90mg1d1 can be used to defect hypertension because blood glucose that ranges between 80/90mg/dl is normal , using glucometer (Emmanual, 2003).

Therefore , patient education, understanding and participation is not vital since the complications of diabetes are fearless common less server in people who have well controlled blood sugar level (Nathan et al., 2005; DCCTRG, 1995).

Objectives of the study

The major objective of this study is to determine the prevalence of hypertension, diabetes mellitus and nutritional status of adults traders in Ariaria International Market Aba.

The specific objectives of this study are:

1.To assess the nutritional status of the study population.
2.To investigate their food consumption pattern.
3.To determine the blood pressure and blood glucose level of the study population
4.To ascertain the relationship between the prevalence of hypertension and diabetes mellitus.

Materials and Methods

Area of study

This study will be conducted in Ariaria international market, in urban city of Aba Abia state which was carried out of Imo State in 1991 (Camby, 2005). It is located at m the southern zone of Nigeria. The state (Abia) has boundaries with River, Enugu, Imo and Akwa- Ibom State. Aba city has the co-ordinates of $5^0$07N,$7^0$22'E/5.117, 7.367, with a population of 897,613 (The world Gazetter, 2007) and is located on the Aba river.

Sample size

This study will be a cross-sectional survey involving adult treaders in Ariaria international market Aba, whose range falls between <30-> 70 years. The sampling strategy ,will be done on selecting randomly adults tread on different items, including male and female at every 4^{th} shop, A total of 200 adults will be used for this study the sample size (n) was calculated using the formula; sample size (n) = Z x P (100-P) X 2
W^2

Where:

P = prevalence of hypertension in adults aged 15 and above in Accra (28.3%) (Amoah; 2003).

Z= acceptable margin of error of 1.5 at 95% confidence interval .

W= width of confidence interval taken to be 5% (100-P) = percentage of adult assumed not to be hypertensive.

$$N= \frac{1.5 \times 28\ (100 - 28) \times 2}{5^2} = 24.192$$

Instrument of study

This study used questionnaire, biochemical and anthropometric method of analysis to obtain information's. The biochemical method of analysis was used to identify information's on the health status of the population, which involve the use of sphygmomanometer for blood pressure assessment, the use of glucometer for the measurement of blood glucose level, comparing them with Wardlaw et al., 2004 range.

The questionnaire was designed to collect representative information on the nutritional status of the study population.

Questions were constructed based on information found during the course of reviewing related literature.

The questionnaire had 4 sections:-

- demographic and socio- economic characteristics
- medical / assessment
- mini nutritional assessment (MNA)
-

Anthropometric method

The measurements used in this study are weight and height measurements.

Weight determination

A bathroom scale (Harson model weight scale) was used. The weight scale was set at zero before each reading, subjects were weighed without their shoes on and with minimum clothing, the reading was taken to the nearest 0.1kg.

Height determination

Height of each subject was measured against a feat vertical surface and the subject without shoes on, stood upright as possible on firm level ground without raising the heels from the ground. The head piece was gently lowered crushing the hair and making contact with the top of the head. The point at which the head surface was marked with a pencil and then the reading was taken on a 2 meters length ruler.

Then, from the height and weight measurement, the body mass index

(BMI) was calculated using the formula:

$$BMI = \frac{\text{weight (kg)}}{\text{Height } (M^2)}$$

Statistical Analysis

The mean and standard derivation and frequencies of data obtained in the survey where calculated for the biochemical analysis and anthropometric measurements. The results obtained from the food intake we compared with standard from using statistical package for social sciences (spss) version 13 Anthropometric measurement were compare with reference standards for body mass index (BMI).

Comparison of high blood pressure, blood glucose level between adults males and females, using an indicator age range was done using Analysis of variance (ANOVA) significance was judged at $P< 0.05$.

Results

TABLE 4.1: SOCIO- ECONOMIC/ DEMOGRAPHIC DATA

VARIABLE	FREQUENCY	PERCENTAGE
SEX		
Male	153	7.65
Female	47	23.5
AGE		
<30 Years	73	36.5
30-40,,	58	29.0
41-50,,	36	18.0
51-60,,	19	9.5
61-70,,	8	4.0
>70,	6	3.0
RELIGION		
Christian	191	95.5
Muslim	3	1.5
Traditional	5	2.5
PLACE OF RESIDENCE		
Urban	188	94.0
Rural	12	6.0
MARITAL STATUS		
Single	76	38.0
Married	112	56.0

Widowed	11	5.5
Divorced	1	0.5
FAMILY TYPE		
Polygamous	24	17.4
Monogamous	114	82.6
FAMILY SIZE		
1-3	34	17.5
3-4	24	78.0
5-6	12	4.0
TYPE OF TRADE		
Distributor	51	25.8
Wholesale	110	55.6
Retailer	37	18.7
TRADEER'S AVERAGE MONTHLY INCOME		
<5000	14	8.0
5000-10,000	46	26.1
11,000-20,000	38	21.6
21,000-30,000	23	13.1
31,000-40,000	24	13.6
41,000-50,000	22	12.5
Others specify	9	5.1

In table 1 above majority of the subject interviewed were males (76.5%) and females (23.5%), most of the subjects fall under t he age range of less than 30 years (36.5%) and age of 30-40 years(29.0%) other age groups were (18.0%), 51- 60 years (9.5%), 61-70 years (4.0%) and less than 70 years (3.0%). A total of (96.0%) respondents were Christian while (1.5%) and (2.5%) were Muslim and traditional worshiped respectively.

Majority (94.0%) of the respondents were urban dwellers while (6.0%) were rural dwellers. About thirty eight percent (38.0%) of the respondents were single, whereas (56.0%) were married, 5.5% were widowed and 0.5% were divorced.

A lower percentage (12.0%) of the respondents were polygamous and (57.0%) were monogamous which indicates that most families were monogamous. Also 17.5% of the respondents had 1-3 family size while (20.6%) had 4-6 and (61.9%) had less than 6. About 10.6% of the respondents completed their primary education, while 11.1% did not complete their primary education and 51.5% completed their secondary education while 20.70% did not complete their secondary education and 61.4% attended other forms of tertiary education. Seventy eight percent (78.0%) of the respondents had 1-2 people supporting family up- keeping. Majority of the respondents were wholesalers (55.6%) while (25.8%) were distributors and (18.7%) were retailers. Eight percent (8.0%) trader's average monthly income is less than 5000, (26.1%) were between 5,000-10,000, (21.6%) 11,000-20,000, (13.1%) 21,000-3,000, (13.6%) 31,000-40,000 and (12.5%) 41,000-50,000, while others (5.1%) earned above 50,000.

TABLE 4.2a: FOOD CONSUMPTION PATTERN

VARIABLE	MALE FQ	%	FEMALE FQ	%	TOTAL FQ	TOTAL PERCENTAGE
AMOUNT OF MONEY SPEND ON FOOD WEEKLY						
<2,000	10	5.208	8	4.167	18	9.4
2,100-3,000	30	15.625	24	12.5	54	28.1
3,100-4,000	20	10.413	16	8.333	36	18.8
4,100-5,000	16	8.333	10	5.208	26	13.5

>5,000	38	19.791	20	10.416	58	30.2
HOW THEY GET MOST FOOD ITEMS						
From my garden/ farm	0	0	4	2.083	4	2.0
Purchased	100	52.083	53	27.604	153	76.5
Provided by my children	0	0	7	3.645	7	3.5
Partly purchased and partly from my garden	30	15.625	4	2.083	34	17.0
Others	2	1.041	0	0	2	1.0
HOW MANY TIMES THEY EAT IN A DAY						
Once	1	0.5	0	0	1	0.5
Twice	50	2.5	20	10	70	35.0
Thrice	104	5.2	10	5	114	57.0
More than thrice	13	6.5	2	1	15	7.5
THOSE ON SPECIAL DIET						
Yes	15	7.692	6	3.076	21	10.5
No	100	51.281	74	37.948	174	89.2
WHICH ONE						
Low fat	0	1.3	7	24.137	7	24.1
Low carbohydrate	10	34.482	5	17.241	15	51.7
Low protein	0	1.3	4	13.793	4	13.8
Others	3	10.344	0	0	3	10.3
WHAT THEY EAT IN BETWEEN MEALS						
Nothing	26	13.065	15	7.537	41	20.6
Fruits	42	21.105	40	20.100	82	41.2
Vegetable	6	3.015	3	1.507	9	4.5
Beverages	3	1.307	3	1.507	6	3.0
Juices	2	1.005	1	0.502	3	1.5
Confectionaries	38	19.095	20	10.050	58	29.1
HOW OFTEN THEY EAT FRUITS						
Regularly	55	28.350	30	15.463	85	43.8
Occasionally	69	35.566	40	20.618	109	56.2

TABLE 4.2b: FOOD CONSUMPTION PATTERN

VARIABLE	MALE		FEMALE		TOTAL	TOTAL
	FQ	%	FQ	%	FQ	PERCENTAGE
WHICH MEAL THEY SKIP						
Breakfast	30	15.151	20	10.100	50	25.3
Lunch	28	14.141	10	5.050	38	19.2
Dinner	4	2.020	0	0	4	2.0
Breakfast and lunch	2	1.010	0	0	2	1.0
Lunch and dinner	3	1.515	0	0	3	1.5
None	56	28.282	45	22.726	101	51.0
THEIR FAVOURITE FOODS						
Fish	30	15.288	40	20.304	70	35.5
Meat	31	15.736	10	5.076	41	20.8
Fruits	7	3.553	10	5.076	17	8.6
Vegetable	5	2.538	6	3.045	11	5.6
Fatty foods	4	2.030	3	1.522	7	3.6
Sugary foods	24	12.182	10	5.076	34	17.1
Starchy foods	10	5.076	4	2.030	14	71
Others	3	1.522	0	0	3	1.5
HOW OFTEN THEY DRINK ALCOHOL						
None	30	15.228	47	23.857	77	39.1
Daily	20	10.132	3	1.522	23	11.7
Weekly	51	25.888	20	10.152	71	35.5
Others	20	10.12	6	3.045	26	13.2
THEIR SMOKING HABIT / SNUFF						
Cigarette	16	8.040	0	0	16	8.0
Snuff tobacco	2	1.005	0	0	2	1.0
None of the above	100	50.251	78	39.195	178	89.4
Others	3	1.507	0	0	3	1.5
DO THEY ADD SALT TO THEIR FOOD AT THE TABLE						
Yes	16	8.333	10	5.208	26	13.5
No	106	55.207	60	31.249	166	86.5

In table 2 above 9.4% of the respondents spend 2,000 on food weekly, 28.1% spend 21,00 - 3,000, 18.8% spend 3,100- 4000, 13.5% spend 41,00 - 5,000 and 30.2% spend more than 5,000 weekly which shows that greater number of the respondents spend much money on food items.

Also 2.0% of the respondents got most of their food from their garden/ farm, 76.5% purchased their food items and (3.5%) of the respondents their food items were provided for them by their children while 17.0% got their food items partly purchased and partly from their garden.

Very few (0.5%) respondents eat once in a day (35.0%) ate twice, (57.0%) eat thrice a day and (7.5%) ate more than thrice a day .

Few respondents (10.8%) were on special diet while (89.2%) were feeding normally, (24.1%) of the respondents were on low fat diet,(51.7%) were on low carbohydrate, (13.8%) were on low protein and (10.3%) were on other special diets.

The table also shows that 20.6% of the respondents ate nothing in between meals, 41.2% eat fruits, 4.5% ate vegetables, 3.0% ate beverages, 1.5% ate juices and

29.1% ate confectionaries in between meals. As show on the table (2) 43.8% of the respondents ate fruits regularly while (56.2%) ate fruits occasionally. A small proportion (25.3%) of the respondents skip breakfast, (19.2%) skip lunch, (2.0%) skip dinner, (1.0%) skip breakfast and lunch, (1.5%) skip lunch and dinner while
(51.0%) skip none of their meals.

More so, 35.5% of the respondents ate fish as their favourite food, (20.8%) meat, (8.6%) fruits, (5.6%) vegetable, (3.6%) fatty foods (17.3%) sugar foods, (7.1%) starchy foods and (1.5%) ate other food as their favourite food.

An appreciable proportion (39.1%) of the respondents do not drink alcohol, (11.7%) drink alcohol on daily bases, (36.0%) drink alcohol weekly few (8.0%) of the respondents smoked cigarette, (1.0%) use snuff and majority (89.4%) use neither cigarette nor snuff.

Few (13.5%) of the respondent add salt to their food at the table, while majority (86.5%) do not add salt. In the result above majority (41.2%) ate vegetable and (35.5%) ate fish which are major sources of omega -3 fatty acid which significantly reduce blood triglycenda level and regular intake reduces the risk of secondary and primary hypertension (Burt et al., 1996). The respondents (11.7%) drank alcohol daily and (36.0%) drank alcohol weekly, Sorochan (1981) reported that secondary hypertension can be caused by excessive alcohol consumption and the use of salt during meals.

TABLE 4.3: MEDICAL / HEALTH ASSESSMENT

VARIABLE	MALE FQ	%	FEMALE FQ	%	TOTAL FQ	TOTAL PERCENTAGE
NUMBER OF TIMES THEY HAVE VISITED HOSPITAL THIS YEAR						
None	34	17	20	10	54	27.0
Once	26	13	20	10	46	23.0
Twice	26	13	15	7.5	41	20.5
Thrice	37	18..5	20	10	57	28.5
Others	2	1	0	0	2	1.0
WHY THEY VISITED HOSPITAL						
Was sick	36	24.657	10	7.042	46	31.5
Went to visit a sick person	45	30.821	20	14.084	65	44.5
Went for check up	18	12.328	10	7.042	28	19.2
Advised to do so	5	3.424	2	1.408	7	4.8
HOW OFTEN DO THEY CHECK THEIR BLOOD PRESSURE						
Do not check	100	50.250	58	29.145	158	79.4
Daily	3	1.507	1	0.502	4	2.0
Weekly	4	2.010	2	1.005	6	3.0
Monthly	20	10.080	10	5.025	30	15.1
Others	1	0.502	0	0	1	0.5

DISEASES THAT RUN IN THE FAMILY						
Diabetes mellitus	7	12.068	5	8.620	12	20.7
Dental problem	10	17.241	8	13.729	18	31.0
Hypertension	6	10.344	3	3.172	9	15.5
Obesity	3	5.172	5	8.620	8	13.8
Arthritis	2	3.448	2	3.448	4	6.9
Others	4	6.896	3	5.172	7	12.1
IF THEY HAVE PSYCHOLOGICAL STRESS OR ACUTE DISEASE AND HOW LONG						
>1 month	4	44.444	1	11.111	5	55.6
1-2 months	3	33.333	1	11.111	4	44.4

In table 3 above 27.0% of the respondents have not visited the hospital this year, 23.0% have visited the hospital once this year, while (20.5%) have visited twice and (28.5%) have visited thrice in this year, 31.5% visited the hospital because they were sick, 44.5% went to visit a sick person, 19.2% went for a check- up and 4.8% were advised to visit the hospital.

Majority (79.4%) of the respondents do not check their blood pressure, (2.0%) check theirs on daily bases, (3.0%) check theirs on weekly bases, (20.7%) of the respondents had diabetes mellitus run in their family, (31.0%) dental problem run in their family, (15.5%) hypertension run in their family, (13.8%) obesity run in their family and (6.9%) arthritis run their family.

Majority (55.6%) of the respondent suffered psychological stress or acute disease >1 month while 44.4% suffered it in a period 1-2 months. It was discovered that the respondents do not go for body check up which predispose them to hypertension and diabetes because Adler et al. (2000) stated that body check up is necessary to identify health status.

TABLE 4.4: ANTHROPOMETRIC ASSESSMENT

VARIABLE	MALE FQ %	FEMALE FQ %	TOTAL FQ	TOTAL PERCENTAGE
BODY MASS NDEX CATEGORIES				
Normal (18.5 – 24.9)	27 13.636	20 10.100	47	23.7
Overweight(25 -29.9)	40 20.201	46 23.232	86	43.4
Obese(>30)	20 10.100	45 22.727	65	32.8

In table 4 above 23.7% of the respondents had a normal basal metabolic index, 43.4% were overweight and 32.8% were obese. Majority of the respondents were over weight (47.0%) and obese (25.8%) for male and female (31.9%) were overweight, while 55.3% were obese, mailloux (2007) stated that to manage hypertension there is need to control or maintain a healthy body weight.

TABLE 4.5: BIOCHEMICAL ASSESSMENT

VARIABLE	MALE		FEMALE		TOTAL	TOTAL PERCENTAGE
	FQ	%	FQ	%	FQ	
BLOOD PRESSURE CATEGORY						
Optimal BP (< 120/ and <80)	41	20.5	30	15	71	35.5
Normal (<130/ and <85)	0	0	1	0.5	1	0.5
High normal (130-139/ or 90-99)	47	23.5	20	10	67	33.5
HBP- stage 1 (140-159/ or 90.99)	20	10	29	14.5	49	24.5
HBP- stage 3 (>=180/ or>=110)	7	3.5	5	2.5	12	6.0
BLOOD GLUCOSE CATEGORY						
Low Blood Glucose	60	30	32	16	92	46.0
Normal blood glucose	55	27.5	50	25	105	52.5
High blood glucose	3	1.5	0	0	3	1.5

In table 5 above 35.5% of the respondents have an optimal blood pressure, 0.5% have normal blood pressure, where as 33. 5% fall under high normal stage, 24.5% and 60% fall under high blood pressure – stage 1 and 3 respectively. Also in this same table 46.0% of the respondents have low blood glucose, 52.5% fall under normal blood glucose range and 1.5 have high blood glucose level and this may predispose them to hypertension (Mailloux,2007)

TABLE 4.6: BODY MASS INDEX (BMI)* SEX

BMI CATEGORIES	MALE		FEMALE	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
Normal (18.5 -24.9)	41	27.2	6	12.8
Overweight(25-29.9)	71	47.0	15	31.9
Obese (.300	39	25.8	26	55.3
Total	151	100.0	47	100.0

$X^2 = 14.504$

P =0.001

Table 6 shows that among the males 27.2% are normal, 47.0% were overweight while 25.8% were obese. For the female subjects 12.8% were normal, 31.9% are overweight while 55.3% were obese.

Chi square test indicated that there was a significant relationship ($X^2 = 14.504$, $P< 0.05$) between sex and BMI. More females have higher BMI values than males.

TABLE 7: BLOOD PRESSURE CATEGORY * BLOOD GLUCOSE CATEGORY

	BLOOD GLUCOSE CATEGORY					
	LOW BLOOD GLUCOSE		NBG		HIGH BLOOD GLUCOSE	
BLOOD PRESSURE CATEGORY	FQ	%	FQ	%	FQ	%
Optimal BP (<120/&<80)	31	33.7	40	38	0	0.0
Normal (<30/&<85)	1	1.1	0	0.0	0	0.0
High normal(<130-139/or 90-99)	34	37.0	33	3.4	0	0.0
HBP-Stage 1(140-159/or 90-99)	19	20.7	27	25.7	3	100.0
HBP- Stage 3 (>=180/ or>= 110)	7	7.6	5	48	0	0.0
Total	92	100.0	105	100.0	3	100.0

$X^2 = 12.434$
P =0.133

Table 7 shows that 33.7% of respondents have optimal blood pressure, 38.1% of those with normal blood glucose have optimal BP and 0.0% of those with high blood glucose have optimal BP, also 1.1% of those with low blood glucose have normal optimal BP also, 1.1% of those with low blood glucose have normal BP, 0.0% of those with normal blood glucose have normal blood pressure, 0.0% of those with high blood glucose have normal BP, 37.0% of those with low blood glucose have high normal BP, 31.4% of those with normal glucose have high normal BP and 0.0% of those with high blood glucose have high normal BP, 20.7% respondents with low blood glucose have HBP- stage 1, 25.7% of those with normal blood glucose have HBP- stage 1 and 100% of those with high blood glucose have HBP – stage 1 and 7.6% of respondents with low blood glucose have HBP- stage 3, 4.8% of those with normal blood glucose have HBP – stage 3 and 0.0% of those with high blood glucose have HBP- stage 3.

Chi-square test indicated that there was no significant relationship (X^2 =12.434, P> 0.133) between blood pressure category and blood glucose Category.

TABLE 8: BMI CATEGORIES * AGE RANGE

	AGE RANGE											
	<30 Yrs		30-40 Yrs		41-50 Yrs		51-60 Yrs		61-70		70 Yrs	
BIM CATEGORIES	FQ	%	FQ	%	FQ	%	FQ	%	FQ	%	FQ	%
Normal (18.5-24.9)	28	38.4	5	8.9	7	19.4	4	21.1	25.0	2	1	16.7
Overweight(25-29.9)	33	45.2	26	46.4	13	36.1	7	36.8	37.5	3	4	66.7
Obese(>30)	12	16.4	25	44.6	16	44.4	8	42.1	37.5	3	1	16.7
Total	73	100.0	56	100.0	36	100.0	19	100.0	100.0	8	6	100.0

$X^2 = 24.691$
P =0.006

Table 8 above shows that 38.4% of respondents under 30 years have normal BMI, 8.9% of those between 30 -40 years have normal BMI, 19.4% of those between 41-50 years have normal, 21.1% of those between 51-60 years have normal BMI ,25.0% of those between 61-70 years were overweight and 66.7% of those above 70 years were overweight and 16.4% of those under 30 years were obese, 44.6% of those between 41-50 years were obese, 42.1% of those between 51-60 years obese and 16.7% of those above 70 years were obese. Chi- squares test indicated that there was no significant relationship (X^2 = 24.691, P 0.006) between body mass index (BMI) categories and age range.

Conclusion

The study has provided information on the prevalence of hypertension, diabetes mellitus and nutritional status of adult traders in Aba, it was discovered that thirty six percent of the respondents were young adults, which shows that they were predisposed to low blood sugar, high blood pressure and obesity and this is as a result of their ignorant about the factors that can predispose them to this health hazard, which include lack of body check- up, overweight and obesity.

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