Association of Knowledge, Attitude and Practice with Socio-Demographic and Anthropometric Indices related to Cardio-Vascular Disease among the Bhumij of North 24 Parganas.

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ABSTRACT

Background: Studies on knowledge, attitude and practices has been proved to be valuable tool in research for assessing the effectiveness of the study and intervention on participants. Cardiovascular disease is the silent killer among every age group and population. This study aimed to determine the association of knowledge, attitude and practice with both socio-demographic and anthropometric indices of CVD, among Bhumij.

Methods: This cross-sectional study was conducted among 195 Bhumij participants residing in North 24 Parganas in West Bengal. The data on socio-demography, anthropometry and KAP were collected. The KAP questionnaires consist of 12 questions each from knowledge, attitude and practice. For measuring the weight, BMI and percent body fat the Karadascan (Omron HBF375) was used. Anthropometric measurements and blood pressure were taken using standardized method and tools. For the reliability of the KAP question module, Cronbach Alpha test was performed. For the analysis of the data both MS Excel and SPSS were used.

Result: The mean score of knowledge, attitude and practice is 18 (SD=3.2), 17(SD=2.5) and 10(SD=2.99) respectively. Out of 195 nearly 61, 52 and 49 participants fall under the average category of knowledge, attitude and poor practices respectively. The family history of disease is co-related with weight (r=0.156, p<0.05). The total score of practice is having correlation with substance intake like smoking and alcohol with r=0.223 and 0.232 with p value<0.01. More over a co-relation has been seen among the weight, hc with occupation and education status.

Conclusion: The results highlight that there is a wide gap between the attitude and practices. Though people know, but their practice is far away from the attitude. There is a gender difference in KAP score. The social factor is affecting the physical attribute of the body. An awareness intervention should be there.

Keywords: Cardio-vascular disease, KAP, social-demographic, risk factors, awareness, knowledge.

INTRODUCTION

The word cardiovascular disease is not only about the heart and its associated vessels. It is the result of the combined misbalance in the parameter of physiological, social, and psychological attributes. In a deep sense, CVD proved to be one of the silent killers among any given population and age group. With the development and advancement of science and knowledge, it has been noted that CVD is the outcome of dependent variables (hypertension, FBG, Imbalance parameter of lipid profile, and different psychological factors) and independent variables (socio-economic, demographic profile, and lifestyle factors). It has been estimated that 29.2% of global death occurs due to CVD and the main highlighted reason is unhealthy diet, physical activity, lack of sleep, improper lifestyle, etc. (Mazloomy et.al in 2012 and Oguoma et. al in 2014).

Cardiovascular disease is the biggest burden of all time because it creates devastating effects on the population. Therefore, WHO has adopted a target to decrease CVD-associated and premature death by 25% by the year 2025 (Duber et. al in 2018). Throughout the last two decades, the effect of non-communicable diseases has increased like fire. It is true that with the advancement of medical science, this effect of CVD can be controlled up to a certain limit but parallelly increasing a change in lifestyle behaviours will determine the final output. It has been recorded that most immature or premature death occurred among individuals with imbalanced lifestyle behaviours (Mohamud et. al in 2022). Many studies had proven the fact that CVD is an emerging problem among lower and middle-income countries. The main reason behind CVD is Metabolic syndrome, it acts as a base for every non-communicable disease. Basically, metabolic syndrome is a cluster of factors interdependent on each other by disturbing the physiological parameter are hypertension (Mahajan et.al in 2012), insulin resistance, abdominal obesity, lipid profile, etc. The factors discussed above are the major factor and the minor factors are psychological misbalance such as excess stress, anxiety, depression, etc. not only these others are intake of substances (alcohol, smoking and chewing) and drugs like sex hormones, birth control pills, etc. (Ejaz et.al in 2018 and Jadhav et.al in 2021).

Apart from these the factors were also divided into modifiable (Sojan et.al in 2021) and non-modifiable because modifiable factors can be modified as per our wish such as stopping the intake of substances, proper sleep, exercise, maintaining diet, etc. whereas the non-modifiable factors are sex, age, family history of the disease.

The advancement of science applies various methods and tools to assess the impact, association, and various attributes of CVD risk factors (Mazloomy et.al 2012). In the case of Anthropology and Health studies, they employ the tools like anthropometry, KAP (Koohi et. al 2021), etc. This present study is using the Knowledge, Attitude, and Practice model with anthropometric and socio-demographic variables.

The using of the KAP model will help to understand how knowledge, attitude, and practice are interrelated and associated with selective cvd risk factors. It will further help to determine the gap between the KAP and their underlying causes (Shen et.al in 2017). The primary goal of the KAP study is to highlight the changes occurring in the community, society, and institution regarding their knowledge, attitude, and practices about different disease condition and their problems. Does it basically deal with:

1. What is the perception of the people about disease?
2. How they feel, and
3. How they manage the condition.

The KAP studies are essential because of the jumping rate of non-communicable diseases in India. The using of the KAP model will help to understand how knowledge, attitude, and practice are associated and correlated with selective CVD risk factors. It will further help to determine the gap between the KAP and its underlying causes.

Objectives:
1. To find the association of KAP with the socio-demographic condition.
2. To find the relation between KAP between KAP score and CVD risk factors.
3. To find the reason behind the underlying cause of the gap.

MATERIAL AND METHODS

The ethical clearance was obtained from the esteemed Institutional Ethical Committee (IEC) of Sidho-Kanho-Birsha University.

Study Area:
This study is conducted in the areas of North 24 Parganas in West Bengal of India. This study is part of a main study, therefore data from Haroa block an area of North 24 Parganas has been taken into consideration. The area was selected depending on the inhabiting of a particular indigenous population namely Bhumij. Further selection was done depending on their concentration.

Study design:
This is a cross-sectional and descriptive study completely based on observation and first-hand data collection. The study represents a part of another study in which the participants were selected depending on their inhabiting concentration. Moreover, this study used the KAP model among the participants to determine their basic level of awareness, knowledge, attitude, and practice about cardiovascular disease and its associated attributes.

Sampling:
Only young adults of the Bhumij community were considered for this study. This part of the study is from the main sample size of 400 individuals. A sample size of 200 individuals was selected for this study. Out of these 195 individuals, 92 and 103 are male and female respectively agreed to take part in this particular study. The sample was chosen using a simple random sampling technique to fulfil the purpose of the study because of the fixed age group and the availability of the participants.
The inclusion criteria were young adults (i) between 18-35 years and (ii) free from any deformities and disease. Not only this, the exclusion criteria were participants (i) taking any hormonal therapy or drugs (antihypertensive, diabetic, etc.) (ii) pregnant or recent delivery outcomes (less than 6 months).

Anthropometric measurement of selected variables:
The data were collected using a specific instrument to fulfill the requirement of the pre-designed schedule. All the data have been collected by the same researcher throughout the study using the same instruments. Apart from these, the instrument has been checked and calibrated for maintaining its accuracy. The data were collected using standard techniques and methods through tested and checked instruments. The standing height, MUAC, WC, HC, and weight were recorded nearest to 0.1cm and 0.1kg respectively (Lohman, Roche, and Martorell 1988). The standing height was measured with an anthropometric rod and the measurement of the MUAC, HC, and WC was done through non-elastic measuring tape, and the weight was recorded using a karada scan (Omron HBF 375, Japan). Moreover, the

body composition was measured and calculated with an automatic Bioelectrical Impedance Analyzer (Omron HBF 375, Japan) The Participants were instructed to wear loose and light clothes during the measurements. Apart from these, the body composition was automatically calculated using the karada scan. The BMI was calculated using the formula of weight in kg divided by height in the metered square. The aneroid sphygmomanometer was used to measure the Blood Pressure (systolic and diastolic) and it was taken twice in the right arm after the participant relaxed for a minimum of 15 minutes and the gap between the two measurements was 5 minutes. Not only this but the pulse pressure was also recorded.

About the schedule and KAP model:
The questionnaire was based on the basic socio-demographic (Name Age, Sex, education status, marital status, etc.), anthropometric measurements (height, weight, WC, HC, MUAC, etc.), substance intake (alcohol, chewing and chewing), family history of diseases (hypertension, diabetes, heart attack, etc.), etc. Apart from this, the questionnaire on knowledge, attitude, and practice is based on the basic knowledge and risk factors of CVD and its attributes. The relevant items were based on a literature review, pilot survey, and discussion. First a deep literature search from previous studies regarding the KAP on CVD, lifestyle, socio-demographic, etc from different online data bases. The question was taken from kinds of literature that were pretested in similar different studies.

Scoring of the KAP outcomes:
There were 12 set questions from each knowledge, attitude, and practice which make a total score of 36. These questions of KAP are interrelated with each other. The answer to these questions is given in "YES", "I DON'T KNOW" and "NO" with their score "2", "1" and "0" respectively. A sum of the total score was calculated and further assigned with remarks for each KAP like "GOOD = 20-24", "satisfactory = 15-19" and "POOR =1-14" for every individual. This scoring cutoff has been adopted from Bloom's cut-off points as follows: Good=80-100%, Satisfactory =60-79%, and Poor= <60%.

Statistics
For the analysis of the data MS excel and SPSS (statistical package for social sciences), version 20 has been used. Moreover, the data has been doubled checked before the processing. For the reliability of the KAP questionnaire, the Cronbach alpha test was conducted using the SPSS, which score 0.751 and 0.776 for standardized 36(12x3) items. The non- parametric test like the chi-square test is used for testing the association between the categorical variable (not normally distributed) like socio-demographic characteristics and the KAP scores, while the Spearman correlation is performed to check the correlation of KAP scores with anthropometric variables.

RESULT

A Total of 195 from the total participants of 200 had took part in this present study, with a response rate of 97.5%. out of this 47.2 % and 52.8% were male and female respectively. As shown in table 1, the percentage of female were more in three educational categories like can't sign, can sign, and primary by 2.1, 5.1 and 2.3 times respectively. the interesting fact is that, the males were more in percentage as compare to secondary, higher secondary and graduation by 1.31, 1.23 and 2.81 times respectively than their counter parts. This table also shows the

marital status, occupational status, FHD and substance intake of both male and female.

Table 1: Participants demographic data with their frequency

Demographic variables		Male		Female		Total	%
		N	%	N	%		
Gender		92		103		195	100
Mean age		27.58		27.15			
Education status	Can't sign	5	5.4	12	11.7	17	8.7
	Can sign	3	3.3	16	15.5	19	9.7
	Primary	5	5.4	13	12.6	18	9.2
	Secondary	54	58.7	46	44.7	100	51.3
	Higher Secondary	10	10.9	10	9.7	20	10.3
	Graduation Above	15	16.3	6	5.8	21	10.8
Marital status	Unmarried	42	45.7	17	16.5	59	30.3
	Married	50	54.3	86	83.5	136	69.7
	Widow	0	0.0	0	0.0	0	0.0
Occupational status	Stu, Hw, Dependent	7	7.6	62	60.2	69	35.4
	Agriculture labor	4	4.3	5	4.9	9	4.6
	Labor	52	56.5	0	0.0	52	26.7
	BUSINESS, Own Earning	15	16.3	9	8.7	24	12.3
	Job	7	7.6	0	0.0	7	3.6
	Farming	7	7.6	27	26.2	34	17.4
Family history of disease	Yes	31	33.7	29	28.2	60	30.8
	No	61	66.3	74	71.8	135	69.2
Substance's intake	Chewer	36	39.1	22	21.4	58	29.7
	Non-Chewer	56	60.9	81	78.6	137	70.3
	Smoker	41	44.6	2	1.9	43	22.1
	Non-Smoker	51	55.4	101	98.1	152	77.9
	Alcoholic	59	64.1	5	4.9	64	32.8
	Non-Alcoholic	33	35.9	98	95.1	131	67.2

Graph 1. Represent the education status of the both male and female participants in percentage. It is clear from the graph that female is more illiterate than counterparts. They are more than double in percentage than counterparts in primary categories, but males are more in percentage in the categories of secondary, HS and graduation.

Graph 1. Education status of the participants in percentage
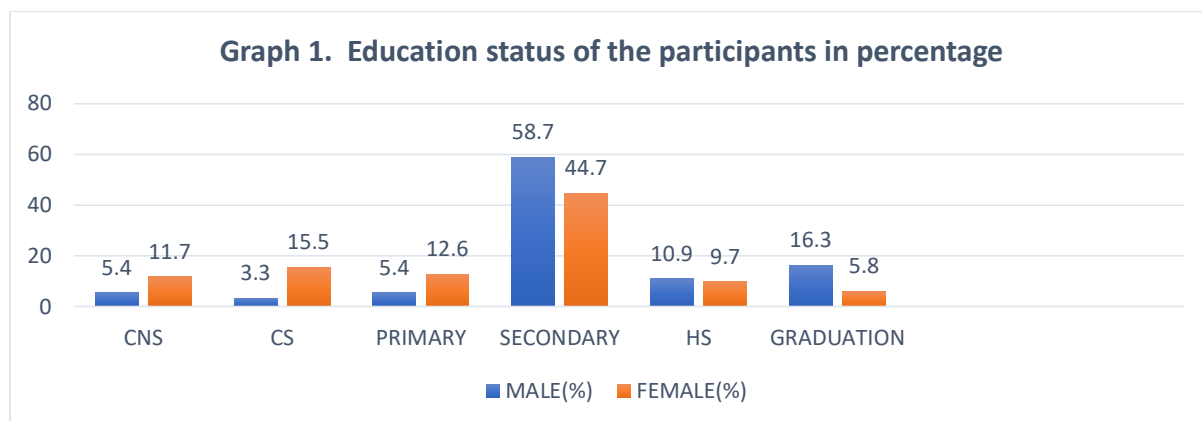
Graph 2. Represent the percentage of participants and their substances intake category. The graph below is clearly showing that only very less percentage of female fall under the category of substances intake, where as in case of male 44.6, 39.1 and 59 % were associated with positive intake of substance.

Graph 2. Percentage of participants against substance intake
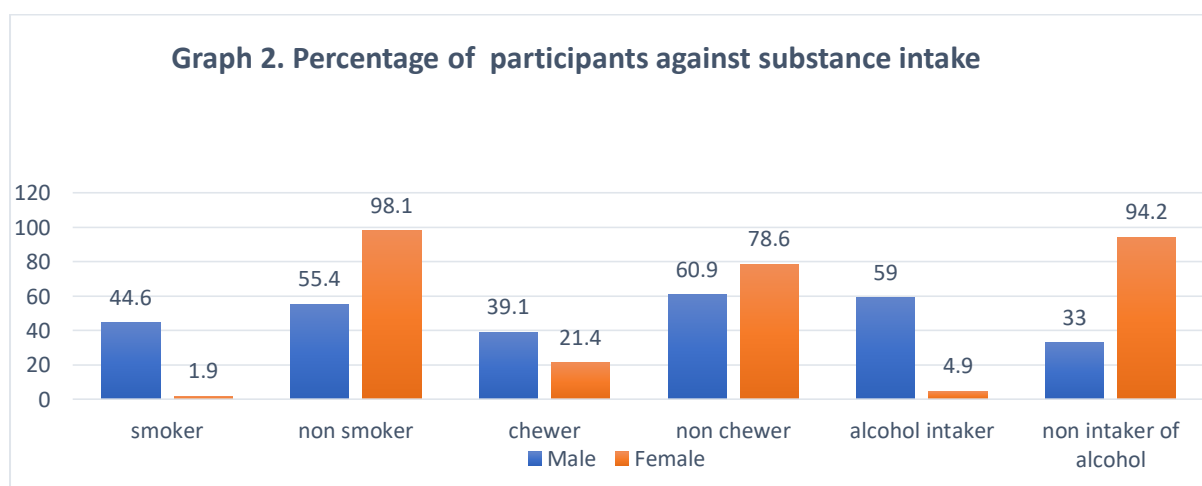
Graph 3. Represent the sex-combine percentage of KAP score under the category of good, satisfactory and poor. It is clear from the graph that only 37.9% and 554 % participants fall under good knowledge and attitude respectively and no practice under the good category. Moreover, 43.6 % knowledge, 41.5% attitude and 95.4% practice fall under the category of satisfactory. Only 4.6, 3.1 and 18.5 % participants fall under the category of poor.

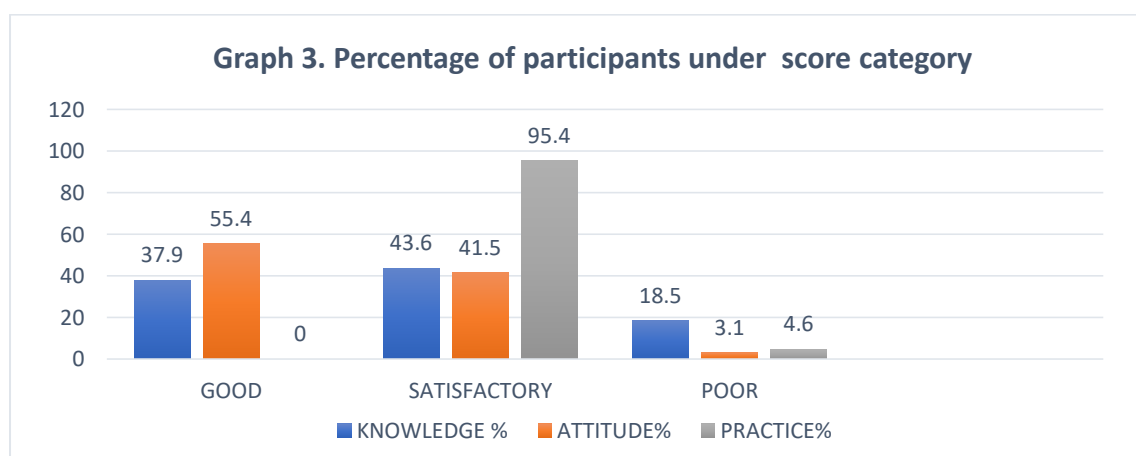**Graph 3. Percentage of participants under score category**

Table 2 represent the descriptive statistics of the anthropometric variables of both male and female with their values like Mean, SD, SE of Age, Weight, Height, WC, HC etc. The mean height, weight, WC, BMI, visceral fat and MAP of the male is nearly 14 cm, 11 cm, 4 cm, 0.8kg/m², 3.6 and 1mm/hg more than their counterparts, where as in case of HC, % body fat females were having 1 cm and 9% more than their counterparts.

Table 2. Descriptive Statistics of Participants

		AGE (yrs)	HEIGHT (cm)	WEIGHT (kg)	WC (cm)	HC (cm)	BMI (kg/m²)	% BODY FAT	VISCERAL FAT	MAP (mm/Hg)
Male	Mean	27.6	162.3	57.7	74.6	88.5	22.0	20.2	6.1	106.8
	SEM	0.6	0.7	1.0	1.0	0.7	0.4	0.7	0.4	1.4
	SD	5.5	6.5	9.8	9.2	6.9	3.5	7.1	4.1	13.4
Female	Mean	27.2	148.4	46.8	70.9	89.5	21.2	29.4	3.7	107.8
	SEM	0.5	0.5	0.8	0.9	0.7	0.3	0.6	0.2	1.3
	SD	5.3	5.0	7.6	9.0	7.0	3.3	5.7	2.5	13.0

Table 3. represent the descriptive statistics of the total score of KAP. The tables shows that the mean score of knowledge, Attitude and Practice are 18, 17.9 and 10.9 respectively. From the table it is clear that their huge gap between the Knowledge/ Attitude and Practice score.

Table 3. Descriptive statistics of the total KAP score

Total score of	Mean	Std. Deviation
Knowledge	18.0154	3.20193
Attitude	17.9744	2.56952
Practice	10.9795	2.99133

Table 4 shows the Rho correlation among the score s of KAP. It is clear that the Attitude is positively correlated with both Knowledge and Practice because the p value is less than 0.01, but there is no correlation between Knowledge and Practice because p value is more than 0.05.

Table 4. Correlation between the scores of KAP

Total score of	Rho correlation
Knowledge & Attitude	r=0.681**, p=0.000
Attitude & Practice	r=0.368**, P=0.000
Knowledge & Practice	r=0.46, P=0.524

The Spearman Rho is used with in the KAP scores.
*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Table 5 representing the Association of socio-demographic characteristics with total score of Knowledge, Attitude and Practice among male. It is clear that the p value of the chi-square test between education status and knowledge is less than 0.05, therefore there is positive association between them. More over there is no association between the KAP and remaining component of Socio-demographic characteristics.

Table 5. Association of socio-demographic characteristics with KAP of males			
Socio-Demographic Characteristics	**Knowledge**	**Attitude**	**Practices**
	P VALUE	P VALUE	P VALUE
Age	0.890	0.855	0.620
Education Status	0.013	0.295	0.243
Marital Status	0.489	0.766	0.832
Occupation Status	0.161	0.183	0.095
Family History of Disease	0.602	0.312	0.606

Table 4 representing the Association(x^2) of socio-demographic characteristics with total score of Knowledge, Attitude and Practice among female. It is clear that the p value of the chi-square test between marital status and knowledge/Practice is less than 0.05, therefore there is positive association between them. More over there is no association between the KAP and remaining component of Socio-demographic characteristics.

Table 4. Association of socio-demographic characteristics with KAP of females.			
Socio-Demographic Characteristics	Knowledge	Attitude	Practices
	P VALUE	P VALUE	P VALUE
Age	0.332	0.069	0.058
Education Status	0.94	0.776	0.262
Marital Status	0.014	0.152	0.011
Occupation	0.246	0.316	0.173
Family History of Disease	0.396	0.899	0.514

The Spearman Rho is used with in the KAP scores.

*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Tables 5 represent the Rho Correlation of Knowledge scores with Anthropometric variables. From the table it is clear that, there is a negative but weak correlation between knowledge and percent body fat, DBP and Map with their respective significance level.

Table 5. Correlation of Knowledge scores with Anthropometric variables

Anthropometric Variables	Correlation Coefficient (Spearman's Rho)	Sig. (2-Tailed)
% Body fat	-.229**	.001
DBP	-.203**	.004
MAP	-.176*	.014

The Spearman Rho is used with in the KAP scores.
*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Tables 6 represent the Rho Correlation of Attitude scores with Anthropometric variables. From the table it is clear that, there is negative but weak correlation between Attitude and anthropometric variable like BMI, WEIGHT, DBP and Map etc. with their respective significance level.

Table 6. Correlation of Attitude score with Anthropometric variables

Anthropometric variables	Correlation coefficient (Spearman's rho)	Sig. (2-tailed)
BMI	-.168*	.019
VISCERAL FAT	-.156*	.029
SBP	-.438**	.000
WC	-.229**	.001
DBP	-.389**	.000
WEIGHT	-.151*	.035
WHR	-.213**	.003
MAP	-.330**	.000

The Spearman Rho is used with in the KAP scores.

*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Table 7 represent the Rho Correlation of Practice score with Anthropometric variables. From the table it is clear that, there is negative but weak correlation between Practice and anthropometric variable like BMI, WEIGHT, VF, DBP, RM and Map with their respective significance level.

Table 7. Correlation of Practice score with Anthropometric variables.

Anthropometric variables	Correlation coefficient (Spearman's rho)	Sig. (2-tailed)
BMI	-.230**	.000
VISCERAL FAT	-.518**	.000
SBP	-.400**	.000
WC	-.329**	.000
DBP	-.336**	.000
WEIGHT	-.430**	.000
WHR	-.403**	.000
MAP	-.178*	.013
RESTING METABOLISM	-.491**	.000

The Spearman Rho is used with in the KAP scores.
*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Table 8 represent the Rho Correlation of total KAP score with Anthropometric variables. From the table it is clear that, there is negative but weak correlation between KAP and anthropometric variable like BMI, WEIGHT, VF, DBP, RM and Map with their respective significance level.

Table 8. Correlation of Total KAP score with Anthropometric variables.

Anthropometric variables	Correlation coefficient (Spearman's rho)	Sig. (2-tailed)
BMI	-.231**	.000
VISCERAL FAT	-.285**	.000
SBP	-.395**	.000
MUAC	-.245**	.001
WC	-.308**	.001
HC	-170**	.018
DBP	-.336**	.000
WEIGHT	-.242**	.001
WHR	-.306**	.000
MAP	-.287**	.000
RESTING METABOLISM	-.214**	.003

The Spearman Rho is used with in the KAP scores.
*Correlation is significant at p<0.05. **Correlation is significant at p<0.01.

Table 9 represent the statements regarding the knowledge regarding different component of CVD causing factors with their response rate in frequency and percentage.

	Statements about knowledge	Yes (2)		Don't know (1)		No (0)	
		FREQ	%	FREQ	%	FREQ	%
K1	Cardiovascular diseases are the leading cause of death	111	56.9	84	46.1	0	0
K2	Physical activity can prevent cardiovascular disease	164	84.1	31	15.9	0	0
K3	Daily eating of fruits and vegetables has a beneficial effect on cardiovascular health.	124	63.6	71	36.4	0	0
K4	Consumption of salty foods increases the risk of rising blood pressure and cardiovascular disease.	122	62.6	73	37.4	0	0
K5	There is a higher risk of cardiovascular disease in people who are overweight or obese.	99	50.8	95	48.7	1	0.5
K6	The history of cardiovascular disease in the family (father, mother, sister, or brother) can increase the risk of cardiovascular disease.	102	52.3	91	46.7	2	1.0
K7	Using tobacco (cigarettes, hookah, pipe, etc.) can increase the risk of cardiovascular disease.	79	40.5	116	59.5	0	0
K8	Alcohol can increase the risk of cardiovascular disease.	77	39.5	117	60.6	1	5
K9	Controlling blood glucose and the prevention of diabetes can reduce the risk of cardiovascular complications.	12	6.2	183	93.2	0	0
K10	Controlling high blood pressure is vital to prevent myocardial infarction.	97	49.7	98	50.3	0	0
K11	Stress is a risk factor for cardiovascular diseases.	50	25.6	145	74.4	0	0
K12	Consuming fatty foods can lead to cardiovascular diseases	118	60.5	77	39.5	0	0

Table 10 represent the statements regarding the attitude of different component of CVD causing factors with their response rate in frequency and percentage.

	Statements about attitude	Yes (2)		Don't know (1)		No (0)	
		FREQ	%	FREQ	%	FREQ	%
A1	I don't perceive myself to be at risk for heart disease or cardiovascular diseases.	162	83.1	3	1.5	3.	15.4
A2	I believe that I should have physical activity to have a healthy life.	191	97.9	4	2.1	0	0
A3	I believe that daily consumption of 2 to 4 units of fruit and 3 to 5 units of raw or cooked vegetables is beneficial for my health.	35	17.9	132	67.7	28	14.4
A4	I feel that optimal/required intake of salt helps in controlling bp or cardiovascular disease.	127	65.1	67	34.4	1	0.5
A5	I believe that having an appropriate weight (not overweight or obesity) helps keep me healthy.	178	91.3	17	8.7	0	0
A6	I can't change my family history, but I can reduce the risk by controlling other risk factors.	102	52.3	93	47.7	0	0
A7	I believe that using any tobacco (cigarette, hookah, pipe, etc.) is harmful to health.	147	75.4	44	22.6	4	2.1
A8	I believe that consuming alcohol is harmful to health.	109	55.9	79	40.5	7	3.6
A9	I believe that uncontrolled blood glucose in diabetic patients can cause myocardial infarction.	11	5.6	183	93.8	1	0.5
A10	I don't perceive myself to be at risk for high blood pressure.	116	59.5	27	13.8	52	26.7
A11	I believe that I should control my stress and mental pressure to prevent myocardial infarction.	27	13.8	167	85.6	1	0.5
A12	I believe that I must consume fewer fatty foods to maintain health.	87	44.6	105	53.8	3	1.5

Table 11 represent the statements regarding the practice of different component of CVD causing factors with their response rate in frequency and percentage.

	Statements about practices.	Yes (2)		Don't know (1)		No (0)	
		FREQ	%	FREQ	%	FREQ	%
P1	I follow periodic medical check-up schedule.	14	7.2	181	92.8	0	0
P2	I do have intense physical activity such as running, carrying heavy loads, etc at least 30 min a day.	178	91.3	17	8.7	0	0
P3	I include fruits and vegetable in my meals on daily basis.	149	76.4	46	23.6	0	0
P4	I consume less salt to prevent high blood pressure.	115	59.0	80	41.0	0	0
P5	I do have an appropriate weight to lead a healthy life.	152	77.9	43	22.1	0	0
P6	Family history: I follow a heart disease prevention plan.	8	4.1	187	95.9	0	0
P7	I would like to reduce smoking. or I DON'T Smoke or I will continue.	113	57.9	82	42.1	0	0
P8	I would like to reduce alcohol consumption or I DON'T consume or I will continue. Consume.	119	61.0	76	39.0	0	0
P9	I follow periodic blood glucose check-up schedule.	6	3.1	1	0.5	188	96.4
P10	I follow periodic blood pressure check-up schedule.	17	8.7	1	0.5	177	90.8
P11	Stress: I practice meditation, deep breathing etc to reduce my stress.	9	4.6	186	95.4	0	0
P12	I consume less fatty food.	189	96.9	1	0.5	5	2.6

DISCUSSION

Firstly, focusing on the 1st objective of the study, an association between demographic characteristics like education status, and marital status have been found in males and females respectively. Secondly, objective two is dealing with the relationship between the socio-demographic characters and selected anthropometric variables. This study has established a negative but significant relation between the two components of objective two. A good KAP will indeed lead to a better health condition, but poor KAP will elevate the level of selected variables from their normal parameter. As moving towards the 3rd objective, the gap between knowledge, attitude, and practice is highlighted by their correlation knowledge is correlated with attitude but not with practice but in some cases, attitude is correlated with practice, so every time awareness and attainment of education doesn't impact the KAP score. Moreover, most of the women who remain inside their local surroundings hardly get a chance to cross their defined area and are less prone to education, news, and awareness.

Nowadays every 8 families out of 10 were having access to a smart device, Television but very few were recorded to utilize it for their well-being, like gathering information, and knowledge about health, diet, and disease. Apart from these, it is clear that there is a clear gap between attitude and practice because it is dependent upon individuality like How they perceive a particular matter? Whether it does matter to them or not? What steps they are taking regarding it?

Ibrahim et al in 2016 reported a significant positive correlation between attitude and practice, but not between knowledge and practice/attitude whereas this study reported a correlation between attitude and practice /knowledge but not vice-versa. In 2017 Galbraith et. al reported that low attitude and practice can increase CVD outcome, similarly, this study found that poor attitude and practice will elevate or disturb the level of anthropometric variables.

According to Duber et.al in 2017, it has been observed that awareness plays a basic role regarding the disease stratum because proper awareness led to proper treatment seeking but improper cause problems, likely this study has noted that proper education and awareness can keep cvd causing factors under control. A wide gap between existing knowledge and the prevalent practices has been felt by Joshi et.al in 2018 their study, while this present study highlighted that some of the participants were not having enough knowledge, but those who were having were incomplete, which turn created problems in their perception and tackling the problems. This study reported that the mean MAP for combined sex is nearly 106mm/hg, for which 59% of participants had agreed to avoid their salt intake. A similar pattern has been observed in the study of Dayal et. al in 2018, where 72% agreed to avoid salt.

Further, this study found a positive correlation between Knowledge & Attitude (r=0.681**, p=0.000) and a non-correlation between Knowledge & Practice (r=0.46, P=0.524) similarly, the Ithnin et. al 2020 and Mohamud et.al in 2022 had reported the correlation between knowledge and attitude, but also a positive correlation between knowledge & practice in compare to this study.

A study by Oguoma et.al in 2014 and Shen et.al in 2017 reported that education and socio-demographic factors play an important role in the context of health, similarly, this study found that good knowledge is associated with the attainment of proper education. A study by Liu et.al in 2020 reported that lower education is related to low knowledge scores and may result in higher cardiovascular risk, similarly, this study found that the low education category is associated with low knowledge scores leading to the elevation of anthropometric variables toward devastating conditions.

This study reported that the mean MAP for combined sex is nearly 106mm/hg, for which 59% of participants had agreed to avoid their salt intake. A similar pattern has been observed in the study of Dayal et. al in 2018, where 72% agreed to avoid salt. Ithnin et. al 2020, in their study, reported that 51.7%, 72.3%, and 63.4% had poor knowledge, good attitude, and moderate practice respectively, whereas 18.5%, 95.4% and 55.4% had poor knowledge, satisfactory practice, and good attitude respectively. Ithnin et.al 2020, had reported that there is no association with education but, this study reported an association between education and knowledge score among male participants. The same has been reported by Shen et.al in a 2017 in their study. In this study, 30.8% of participants had a positive family history of disease associated with CVD. The same has been reported by Shalihin et.al in 2022, that 54.7 % have positive FHD. Moreover, this study hasn't found any association of FHD with KAP score but Shalihin et.al in 2022 reported a significant association. They reported that good KAP means having a low chance of CVD risk likely the same has been reported in this study.

Limitations: It is very much important to highlight the gaps and drawbacks felt during any study. Although the present study tried to overcome the gaps highlighted in previous studies but unable to do full justice since every study is having their limitation. Though researchers try hard to overcome due to certain circumstances and problems they can't meet their goals. One such highlighted limitation of this study is the absence of few categorical data and focused data on diet and physical activity. Moreover, increasing the sample to 400 then it would have given a different perception regarding KAP. Apart from these, the female participant was very few in the highest category therefore most of the females were getting confused or unable to understand the correct direction and proper reason behind a question and perception. Though this study had provided bilingual question mode along with the explanation provided by the researcher to the participants, sometimes creates biasness. It has been noticed that though they are educated up to a particular level they are absent knowledge about CVD and its outcomes. A problem faced during the fieldwork is the translation of a particular word in the nearly local language, which sometimes loses its value concerning context.

CONCLUSION
As much, as the study focused on the KAP, the highlighted factor is the proper attainment of education concerning age, because a proper will give a better ability and perception to understand anything. Apart from these awareness plays an important role in any society. Though most of the participants are aware of CVD, its types, outcomes, lifestyle, and psychological impacts on the cardiovascular system, the reasons which stop them from following the correct direction towards good health are lack of money, time, and sometimes the appropriate knowledge. For earning money, they work hard in any given condition, which leads to no time for themselves and ultimately results in carelessness towards health. From the result, it is clear that KAP is inversely proportional to cvd-causing attributes such as hypertension, BMI, WHR, MAP, etc.
So, it can be concluded that when the KAP score lies in a good category then the physical attributes will remain at a normal level like BMI, WHR, MAP, etc., but it will change when the KAP score will shift towards the poor criteria. Both the KAP and CVD factors are significantly bonded with each other.
From the overall study, it can be said that the anthropometric is playing an inverse role with KAP scores because a good KAP will lead to a good and healthy lifestyle which will further reflect the health level of an individual. Further, an association

between education and knowledge implies that more education means more knowledge which leads to a good awareness and conscious level regarding health. Though most of the participants were attached to the use of smartphones, television, and radio, they did have not so much interest in the awareness of CVD, which push towards underestimating their risk.

It is competently depending upon us, how we going to tackle this mess namely CVD. It is well said that "precaution is better than cure", so before the disease eliminates us, we have to eliminate those responsible factors causing the disease. Moreover, these diseases are the outcomes of socio-physical, and psychological attributes of human beings will are connected in certain bonds that a single unit change in a particular attribute will misbalance others' parameters. Hence if we wish to take action then we can control it or let them take control of us. The optimal choice remains in our hands.

Conflict of Interest: None

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