Assessment of Knowledge, Attitudes, and Practices KAP Regarding Coronary Heart Disease Risk Factors in Ramadi City, Iraq

B. N. Abdul-Fatah^{1*}; Y. T. Sarhan²

^{1,2}The University of Anbar- Medical College, Al-Anbar, 31001, Iraq

Corresponding Author: B. N. Abdul-Fatah^{1*}

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Abstract: Cardiovascular diseases (CVD) is the most leading cause of death in the world. Corresponding the knowledge, practices, attitudes KAP risk factors, and behaviors decrease mortality or minimize the possibility of cardiovascular disease (CVD) attacks. This study aimed to assess the KAP of (CVD) patients related to the risk factors. A cross-sectional study and non-probability sampling were done between 1st June and 30th September 2021 at AL-Andalus Healthcare Center, Ramadi City, Iraq. 200 (CVD) patients were interviewed face-to-face for data collection. Descriptive and bivariate analysis was performed using the chi-square test. The p-value >(0.05) was significant. The study revealed that out of the 200 respondents, (120)60% were males half graduated, over 55 years, and (30)25% were below 35 years while (80)40% were females, more than half were over 55 years, and (20)25% graduated. Most of the respondents were from urban areas. Regarding knowledge, 90(45%) demonstrated awareness, significantly linked to education (P<0.05), indicating that higher education is strongly associated. Only 40(20%) correctly identified the cut-off points of risk factors so there was a significant gap in the knowledge regarding critical thresholds for these major risk factors. For correct responses to cardiovascular risk factors, half of the patients responded accurately such as obesity, smoking, age, and diabetes, and 40% correctly answered questions about family history, lack of exercise, hypertension, and unhealthy diets. Regarding attitudes, the mean score was 43±3, more than half prioritized taking medication regularly but less focused on avoiding unhealthy behaviors like smoking, overeating, and eating unhealthy food with very few engaging in exercise. In terms of practices, the majority reported "always" taking medications but maintaining unhealthy lifestyles.

Keywords: Coronary Heart Disease Patients, Knowledge, Practice, Attitude, Risk Factors.

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I. INTRODUCTION

Cardiovascular diseases CVD include a group of cardiovascular disorders, whether congenital or acquired the 1st leading cause of death in the world which was estimated at 29% of deaths with a high range of burden [1]. By WHO The (World Health Organization) determines CVD as the main cause of death worldwide, as it approximately represents 18 million deaths every year [2]. These conditions are among the most expensive, highlighting the urgent need for effective prevention strategies to reduce their wide impact and associated healthcare costs. Several factors such as age, sex, genetics, race, bad habits, and unhealthy life lifestyles contribute greatly to developing coronary heart disease risk factors like elevating blood pressure, increasing blood cholesterol, diabetes, obesity, smoking, sedentary physical activity, stress, and unhealthy diet [3]. Several medications are available to manage and control CVD. The non-drug strategies for cardiovascular management CVD include a healthy diet, reduced body weight, and more physical activity [4]. Community-based campaigns such as smoking cessation and salt consumption [5]. However, the prevalence of cardiovascular diseases is still higher than other diseases despite the development of treatment. Three main factors (primary prevention, early diagnosis, and effective management practices) share in reducing the risk of cardiovascular disease (CVD) and narrowing its spread through initial prevention [6]. In the last five decades over seventy percent reduction in mortality rate has been achieved [7]. Training of the community and the health services providers can control these risk factors. In the male gender, aging can cause narrowing of the coronary arteries, especially when there is a family history of heart disease before the age of sixty [8,9]. Type II diabetes, emotional stress, and lack of exercise are also causative agents for the development of the disease [10].

Olive oil is an important article that avoids the oxidation of polyphenols with bad cholesterol and reduces the level of both bad and total cholesterol in the blood, so the people of Crete Island have fewer heart diseases because olive oil is the only source of fat intake [11,12]. KAP studies have been conducted in the context of CVD to provide insight into understanding, beliefs, and behaviors of individuals versus the risk factors prevention [13].

Such studies help identify gaps in knowledge and misconceptions and may inform the development of targeted interventions to improve patient outcomes. Research on KAP is crucial to enhancing our understanding of and behavior toward cardiovascular health within a community. This knowledge can be instrumental for public health initiatives by facilitating the development of targeted educational programs and evaluating the effectiveness of intervention strategies. Previous investigations have examined knowledge of CVD in diverse populations, including patients or the general population. [14,15,16].

II. METHODS

Study Design:

A cross-sectional study was designed to survey cardiac patients regarding KAP of cardiovascular diseases risk factors at the AL- Andalus Primary Health Care Center, Ramadi City, Anbar Province, Iraq. The random sampling technique was used to directly interview the patients who attended the center from 1st June to 30th September 2021.

Inclusion and Exclusion Criteria

The target population was the CVD patients as routine visitors of PHCC, both genders, aged eighteen years and more, respective of, and willing to participate. Non-Cardio Vascular Disease individuals, children, and those unwilling to participate were excluded.

➤ Sample Size

An estimated sample of the study was gathered by assuming that the knowledge rate was 50% among the respondents and \pm 7% standard error), confidence level was 95%, and rate of non-response was10% (. The calculated sample size is equal to 215 (195+20) as per the following formula: N= [C.F² x P XQ/(M.E.)²[17].

Study Tool

The study instrument was a semi-structured questionnaire comprised of two parts. The first part was the demographically features such as sex, age, residence, and education. The 2nd part was subdivided into three categories: knowledge (14 items), attitude (8 things), and practice (9 things). Knowledge of cut-off CVD risk factors like elevated blood pressure BP. Hypertension consideration is when the BP \geq 140/90mmHg, diabetes (FBS) \geq 120 mg/ml, Obesity (BMI) \geq 30 kg/m², Hyperlipidemia \geq 200mg/dl. KAP of cardiovascular risk factors and preventive measures include smoking, exercise, stress, fast food, carbohydrates, carbonated drinks, heavy meals, fruit-vegetable intake, and Tea with sugar, regular intake of medical drugs, and how to avoid these risk factors and.

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> Statistical Analysis

The SPSS (v. 23) software used to analyze the data. The KAP scores and continuous variables were presented as mean and standard deviation, while the categorical variables were reported as frequency and percentage. Bivariate analysis, including the chi-square was used to study the relationship between KAP grades and demographic factors in the gender group. Confidence Interval was 95%, and statistically significant was considered below 0.05.

• Ethics Approval:

The protocol of the study was approved by the Ethics Committee of the College of Medicine, Anbar University, Ramadi, Iraq, on 1 June 2021. Before filling out the questionnaire, verbal consent was taken from the participants, and their participation was voluntary after explaining the study objectives with the guarantee of secrecy.

III. RESULTS

> Table1:

Demographic characteristics, the study showed that 60% were males 25% were below years, the same picture was between 36-55 years, and 50% were >55 years while 40% were females. 37% of the patients were below 55 years, 63% were above 55 years, and 70% were from urban areas. For education, 25% of the females were illiterate, 50% completed primary-secondary school, and 25% graduated while 50% of the males completed primary-secondary schools, and the same picture graduated.

Variables	Characteristics	Total N (%)	Men N (%)	Women N (%)		
Observation		200(100.0)	120 (60)	80 (40)		
Age	<35years	30 (15.0)	30 (25)	-		
	36-45 years	30(15.0)	15 (12.5)	15(18.5)		
	46-55 years	30(15.0)	15 (12.5)	15(18.5)		
	>55 years	110(55.0)	60 (50)	50(63)		
Education	Illiterate	20(10.0)		20 (25)		
	1stschool	50(25.0)	30 (25)	20 (25)		
	2nd school	50(25.0)	30 (25)	20 (25)		
	Graduated	80(40.0)	60 (50)	20 (25)		
Residence	Urban	130(65.0)	80 (60)	50 (70)		
	Rural	70(35.0)	40 (40)	30 (30)		

Table 1 Distribution of Demographic Characteristics

➤ Table 2:

Association between knowledge and education, 45% of the patients had awareness of CVD risky factors, while 55% were unaware. Among those with higher education, 60 (30%) had awareness, compared to just 10 (5%) of those with primary or secondary education and 5% of the illiterate group. In contrast, the majority of participants with primary and secondary education, 40 individuals (20%) from each group, lacked awareness. The statistical analysis shows a significant relationship indicating that higher education is strongly linked to better knowledge of CVD risk factors.

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Education	Total N (%)	Awareness N (%)	No Awareness N (%)	* Chi-square, df, p-value
		90 (45.0)	110(55.5)	
Illiterate	20(10.0)	10 (5.0)	10 (5.0)	
1stschool	50(25.0)	10 (5.0)	40 (20.0)	
2nd school	50(25.0)	10 (5.0)	40 (20.0)	
Graduated	80(40.0)	60 (30.0)	20 (10.0)	59.03 < 0.05

*At 0.05 level of Significance

➤ Table 3:

Correct identification of the cut-off points of risk factors, only 20% of participants identified correctly. Across all risk factors—hypertension (BP \geq 140/90 mmHg),

diabetes (FBS \geq 120 mg/ml), obesity (BMI \geq 30 kg/m²), and hyperlipidemia (\geq 200 mg/dl)—80% were unable to do so. This highlights a significant gap in knowledge regarding critical thresholds for these major risk factors.

Table 3 Correct Identification of the Cut-off Points of Ris	k Factors
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Risk factor	Cut off point	N (%)
Hypertension	$BP \ge 140/90 mmHg$	40 (2.0)
	Unknown	160(80.0)
Diabetes (FBS)	\geq 120 mg/ml	40 (2.0)
	Unknown	160(80.0)
Obesity	BMI \geq 30 kg/m2	40 (2.0)
	Unknown	160(80.0)
Hyperlipidemia	\geq 200mg/dl	40 (2.0)
	Unknown	160(80.0)

Table 4: Correct Responses to Cardiovascular Risk Factors:

The results highlight that half of the participants (50%) correctly identified, elevated blood pressure, smoking, diabetes mellitus, and family history as risk factors. In

contrast, 40% of participants correctly recognized age, high cholesterol, fatty foods, obesity, lack of exercise, and diabetes as risk factors. These findings indicate varying levels of awareness, with certain risk factors being more widely recognized than others.

Fable 4 Frequency	Distribution	of Correct	Responses to	Risk Factors

Questions	N (%)
Age	80(40)
Family history	100(50)
High blood pressure	100(50)
High cholesterol	80(40)
Fatty foods	80(40)
Obesity	80(40)
Lack exercise	80(40)
Smoking	100(50)
Diabetes mellitus	80(40)

➤ Table 5:

Attitudes toward preventing cardiovascular disease risk factors, the study revealed that 60%, favored regularly taking medications, while 40% supported preventive behaviors like quitting smoking, reducing fast food, carbohydrates, carbonated drinks, heavy meals, and increasing fruit and vegetable intake. However, only 20% of participants advocated regular exercise, indicating the least favored preventive measure. Medication adherence was the most supported action, while lifestyle changes such as exercise and diet modifications received less emphasis.

Table 5 Attitudes	toward	Prevention	of Risk	Factors

Activity	Yes N (%)	No N (%)
Stop Smoking	80(40)	120(60)
Exercise	40(20)	160(80)
Taking drug regularly	120(60)	80(40)
Fast food intake	80(40)	120(60)
Intake carbohydrates	80(40)	120(60)
Intake carbonated drinks	80(40)	120(60)
Intake heavy meal	80(40)	120(60)
Intake Fruit-vegetables	80(40)	120(60)
Taking drug regularly	120(60)	80(40)
Fast food intake	80(40)	120(60)
Intake carbohydrates	80(40)	120(60)
Intake carbonated drinks	80(40)	120(60)
Intake heavy meal	80(40)	120(60)
Intake Fruit-vegetables	80(40)	120(60)

➤ Table 6:

Practices toward the prevention of CVD risk factors: Results highlighted the participants where a large proportion (70%) reported "always" taking medication, consuming carbohydrates, and drinking tea with sugar multiple times daily. Additionally, 60% admitted to "always" smoking, avoiding exercise, consuming heavy meals, and fast food, and experiencing stress. In contrast, only 40% consistently consumed carbonated drinks, fruits, and vegetables, while 20% reported regular exercise. Notably, 20% said they seldom or never smoked, while 60% "never" exercised. These findings indicate the participants' poor adherence to healthy lifestyle practices.

Table 6 Practices toward Prevention of Risk Factors

Activity	Always N (%)	Seldom N (%)	Never N (%)
Smoking	120(60)	40(20)	40(20)
Exercise	40(20)	40(20)	120(60)
Stress	120(60)	80(40)	-
Fast food	120(60))	60(30)	60(30)
Carbohydrates	140(70)	60(30)	-
Carbonated drinks	80(40)	80(40)	40(20)
Heavy meal	120(60)	80(40)	-
Fruit –vegetables	80(40)	60(30)	60(30)
Tea with sugar	140(70)	60(30)	-
medical drugs	140(70)	60(30)	-

IV. DISCUSSION

In this study, sixty percent of the participants were males, and half were over 55. These results are compatible with earlier studies showing that the elderly population, especially males, are more likely to have risk factors-related cardiovascular diseases (CVD) [18]. Additionally, fifty percent, fewer had been highly educated, with approximately 65% of them living in urban areas, and this highlights that cardiovascular diseases prevail even among educated populations and those who live in the most advanced areas. This aligns with the literature, which indicates that the increasing urban expansion and the emergence of sedentary lifestyles increase the risk of cardiovascular diseases [19]. The results had proven a clear statistical significance between the educational level and awareness of coronary heart disease risk factors, which strongly associated with better knowledge. Specifically, thirty percent of the respondents with higher education had risk factors awareness, compared to only five percent of those with primary or secondary education, and the illiterate group, respectively. This was discovered in many studies

[20], indicating that higher education is one of the main determinants of health literacy, especially in understanding and managing chronic diseases such as CVD. For instance, other researches have highlighted that low education persons attainment are less likely to engage in health-promoting behaviors or recognize risk factors for CVD [21]. The results of this study showed that only twenty percent of the respondents managed to properly determine the cut-off points of the main (CVD) risk factors, such as elevated blood pressure, obesity, hyperlipidemia, and diabetes mellitus. The large knowledge gap found in this study was found in previous studies, that reported the relationship between levels of health literacy and the ability to detect CVD risk factors, especially among low and middle-income people. In this study, most of the participants have different levels of awareness about the risk of (CVD) [22]. In our study fifty percent managed to determine most of the main risky factors positively, but forty percent failed to determine the properly recognized factors such as elevated blood cholesterol, unhealthy fats, age, physical inactivity and obesity. This pattern of awareness is compatible with the results in the literature, where the most obvious or self-risky Volume 10, Issue 4, April – 2025

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factors such as elevated blood pressure and smoking tend to be recognized widely [23]. However, decreased awareness of risk factors including healthy diet and physical inactivity is also common in many populations, especially in areas where health education is limited [24]. The priority of taking medications to prevent cardiovascular risk factors (CVD) was adopted among 60% of patients, compared to 40% who preferred lifestyle changes such as quitting smoking and reducing unhealthy food. This approach is in line with previous studies that showed adherence to drugs is often seen as the most obvious way to manage cardiovascular diseases, but lifestyle-absolute modifications for long-term prevention are less certain [25]. Regular exercises, despite their interest in reducing the risk of cardiovascular diseases, 20% of respondents [26]. were advised among Unfortunately, seventy percent of respondents consumed medications, high-carbohydrates, and naive tea constantly [27], compared to forty percent who declared that they consume fruits, vegetables, and soft drinks, while twenty percent participate regularly in physical activity. This low engagement in exercise is in line with the results that individuals often neglect physical activity despite its decisive role in reducing the risk of cardiovascular diseases. These patterns reflect a tendency to rely on medication while neglecting essential lifestyle changes such as diet and exercise [28].

V. CONCLUSION

This study highlighted the importance of addressing gaps in knowledge, attitudes, and practices related to cardiovascular disease (CVD) risk factors. While 60% of participants favored medication for prevention, only 20% supported regular exercise. Knowledge of CVD risk factors was significantly higher among those with more education, yet only 20% of participants correctly identified key risk thresholds like hypertension and diabetes. Poor adherence to healthy lifestyle practices, including physical activity, smoking cessation, and diet, further underscores the need for targeted educational interventions that promote behavioral changes alongside pharmacological treatments to improve overall CVD prevention.

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Conceptualization, Methodology, Software, Data Collection, curation. Investigation. Supervision. Validation. Writing- Reviewing, Editing. Original draft preparation and visualization.

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