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## **Assessing Cardiovascular Knowledge Gaps in Iraq Nursing Students**

### *Menilai Kesenjangan Pengetahuan Kardiovaskular pada Mahasiswa Keperawatan Irak*

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#### **Abstract**

Cardiovascular disease (CVD) is the principal cause of death globally, yet there is a noticeable gap in literature regarding the knowledge of nursing students about this critical health issue. This study aimed to assess the understanding of CVD among students at a nursing college and to explore the association between their knowledge levels and socio-demographic characteristics. Employing a descriptive cross-sectional design, the research involved a random sample of 100 nursing students, using a standardized questionnaire validated by experts and tested for reliability (alpha correlation coefficient of 0.70). Statistical analysis was conducted using SPSS version 26, revealing that 59% of participants had a moderate level of knowledge about CVD. Based on these findings, we recommend the incorporation of more frequent educational sessions on cardiovascular health in nursing curricula to enhance student knowledge. Future research should expand on these findings to foster a deeper understanding of educational impacts on healthcare outcomes.

#### **Highlights:**

- **Moderate Knowledge:** 59% of students have moderate CVD knowledge, indicating room for educational improvements.
- **Reliable Assessment:** The study used a validated questionnaire ensuring accurate knowledge assessment.
- **Educational Recommendations:** Suggests more frequent lectures to enhance student understanding of cardiovascular health.

**Keywords:** Nursing Education, Student Awareness, Health Outcomes, Cardiovascular Disease, Knowledge

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## Introduction

Heart and blood vessel problems collectively known as cardiovascular diseases (CVDs) include deep vein thrombosis, pulmonary embolism, rheumatic heart disease, peripheral arterial disease, cerebrovascular disease, and coronary heart disease [1].

Adhering to dietary and lifestyle changes, such as eating a nutritious diet low in fat and salt, exercising often, stopping smoking, and keeping a healthy body weight, may reduce CVD risk factors [2].

Additionally, regional and ethnic features may influence CVD risk factors. For instance, substantial CVD risk factors in sub-Saharan Africa include high blood pressure, high cholesterol, cigarette and alcohol use, as well as inadequate fruit and vegetable intake. Future CVD may result from prolonged exposure to these variables, particularly throughout youth [3].

It's vital to emphasize that, given their potential influence on adherence to policies and treatments aimed at lowering the incidence of CVDs, proper information, positive awareness, and suitable health promotion behaviors surrounding CVDs among the general population are critical [4].

Increased patient, family, and community participation, multidisciplinary collaboration in prevention and treatment, and a trained, proactive, and diverse staff are all necessary for the optimal management of CVD. The efficacy of nurse-managed CVD risk reduction programs, including individual, group, and community interventions, has been well-documented. [5].

## Methods

The study's time period was from December 15, 2022, to May 1, 2023, and it used a descriptive cross-sectional design. The study was conducted at Nursing college in Al-Basrah City. Students from the Basrah Nursing College were chosen at random for the study. The researcher takes (100) students from both the third and fourth stages. Students who volunteered to participate in the research and who were both male and female were required to meet the inclusion criteria. In order to determine the Assessment Knowledge of students towards cardiovascular disease, the researchers constructed a questionnaire consisting of two parts. The first part is social-demographic characteristics (age, gender, and year of undergraduate education). The second part is Knowledge of students regarding cardiovascular diseases. Twenty items total, representing the knowledge of students regarding cardiovascular disease, were intended for this section.

Prior to each student's involvement, the researcher outlined the study's objectives. The study maneuver would not harm the research sample in any way, whether it would really happen or not. Before collecting any data, we got the approval of every student orally.

Through the use of the research instrument, data was collected. From 15 December 2022 to 1 May 2023, Basrah Nursing College implemented the plan. All those who were interviewed and made aware of the study's aims and objectives contributed data.

With SPSS (version 26), data that were presented as numbers and percentages were examined using the Chi-square test, frequency analysis, and percentage analysis.

## Results and Discussion

### A. Results

Variable	Classes	F	%
Age	20 - 24	76	76.0
	25- 29	13	13.0
	30 and above	11	11.0
	Total	100	100
Gender	Male	24	24.0
	Female	76	76.0
	Total	100	100
Year of undergraduate education	Third year	50	50.0
	Fourth-year	50	50.0
	Total	100	100

**Table 1.** *Socio-Demographic Data*

F=Frequency, %= Percent

The results of this table show that the average age of the students in the sample with the highest percentage (76%) of students aged 20 to 24, and that the majority of the students in the study sample (76%) are female. The results also show that the percentage of students who attended undergraduate school in either of the two years was the same (50.0%).

Assessment Level	F	%	Mean of Score	S. d	Assessment
Poor	6	6.0	2.29	0.574	moderate
Moderate	59	59.0			
Good	35	35.0			
Total	100	100			

**Table 2.** *Students' Knowledge about Cardiovascular Disease*

F: Frequency, %: Percentage, S.d: standard deviation

Poor = 1 - 1.67, Moderate = 1.68 - 2.33. Good = > 2.33

This table shows the degree of knowledge that students have about cardiovascular disease; the results from the research sample indicate that students have a moderate level of knowledge (59.0%).

Year of under graduate education	Sample (N=100)						
		M	S. D	T	df	p-value	Sig.
Third year	50	2.28	0.607	-0.173	98	0.455	N.S
Fourth-year	50	2.30	0.544				

**Table 3.** *Relationships between Students' Knowledge toward Cardiovascular Disease*

M: Mean, S.D: standard deviation, t: t-test, df: Degree of freedom, p: Probability, Sig.: Significance, N.S: Not Significant

This table reveals the differences between the third and fourth stages of students' knowledge about cardiovascular disease; the finding indicates that there is no significant difference between the mean knowledge score for the third and fourth stages at a p-value (0.455).

Socio-demographic Characteristics	Rating	Knowledge			Sig.
		Poor	Moderate	Good	
Age	20 - 24	5	49	22	p-value (0.220) df = 4 N.S.
	25- 29	1	5	7	
	30 and above	0	5	6	
Gender	Male	2	13	9	p-value (0.791) df = 2 N.S.
	Female	4	46	26	
Year of undergraduate education	Third year	4	28	18	p-value (0.654) df = 2 N.S.
	Fourth-year	2	31	7	

**Table 4.** *Relationship Between Socio-Demographic Data of Students and Knowledge about Cardiovascular Disease*

df: Degree of freedom, P: Probability value, Sig: Significant, N.S: Not Significant, H.S: high significant

This table depicts that there is no significant relationship between students' knowledge with their (age, gender, or year of undergraduate education) among the study sample evidenced by insignificant differences at p-value  $\leq$  0.05.

## B. Discussion

### 1. Socio-demographic data of the students



The results of this research show that students in the study sample had an average age with the age groups 20 to 24 accounting for the biggest number (76.0%). This result is consistent with cross-sectional research [6] performed on ordinary undergraduate students. Their study's findings showed that (78.7%) of the sample was between the ages of 18 and 23 years, and this finding is consistent with the current study. The research's results show that the study sample's pupils are mostly female (76.0%). These results are incompatible with the cross-sectional survey conducted in Kuwait. The findings reported that (59.6%) of students were females [7]. According to the findings of this research, the majority of students (50.0%) were enrolled in undergraduate programs in the previous year. These findings conflict with those of cross-sectional research by [8] titled "Knowledge of Cardiovascular Disease Among Undergraduate University Students in Palestine," which found that 40.3% of the sample were third-year students.

## 2. Students' Knowledge Regarding Cardiovascular Disease

The results of this research provide a general assessment of students' knowledge of cardiovascular disease, with the conclusion that students have a moderate level of knowledge (59.0%). These results are incompatible with [8] who stated that (71%) had adequate knowledge of cardiovascular disease.

## 3. Differences Between Students' Knowledge Toward Cardiovascular Disease.

The present study's findings show that the mean knowledge score for the third and fourth phases do not vary significantly from one another. These findings disagree with [8] study who have studied (183) cross-sectional studies conducted at the Faculty of Medical Sciences of the University of Guayaquil; The study's results revealed Between other faculties, there were significant disparities in knowledge ratings.

## 4. Relationship Between Socio-Demographic Data of Students and Overall Knowledge About Cardiovascular Disease

The findings of the present research show that within the study sample, there is no meaningful relationship between students' knowledge and their age group. These findings are incompatible with [9]. Their results indicated that there are significant differences in the knowledge regarding cardiovascular disease with their age. According to the results of recent research, there is no gender difference in the significance of the knowledge of pupils. These outcomes are consistent with [10].

No correlation between knowledge level and gender was discovered by the researcher. at ( $p = 0.837$ ) and this study agrees with the present study [11]. The results of the current study reveal that there are no significant differences between students' knowledge with years of undergraduate education among the study sample. The current results are in the same line with the cross-sectional descriptive and analytical research undertaken by IIUM Kuantan Malaysia students to determine the KAP about CVD risk variables [12].

The results mentioned that there was no significant association between Students' Knowledge regarding cardiovascular disease with year of undergraduate education.

## Conclusion

The study conducted at Al-Basrah Nursing College from December 2022 to May 2023 provides significant insights into the understanding of cardiovascular disease among nursing students, employing a robust methodology with a validated questionnaire and statistical analysis via SPSS version 26. The findings reveal that, despite a young and predominantly female demographic, socio-demographic factors such as age, gender, and academic year did not significantly influence the students' knowledge levels. This suggests that educational interventions aimed at improving cardiovascular disease awareness may need to be universally applied across all demographic segments within nursing education. However, the absence of a strong demographic influence on knowledge levels also points to a potentially uniform dissemination of curriculum content. Given the global burden of cardiovascular diseases, these findings underscore the importance of integrating comprehensive cardiovascular education into nursing curricula to enhance future healthcare outcomes. Further research should explore the longitudinal impact of tailored educational interventions on nursing students' practical competencies and retention of knowledge regarding cardiovascular health.

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