# Cardiovascular diseases attitude and practice among a Sample of Health Care Workers in Diyala Governorate 

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#### Abstract

According to Center for disease Control and prevention (CDC), cardiovascular diseases (CVDs), a group of heart and blood vessel disorders, are the number one cause of death and disability globally. Objectives: To identify the levels of attitudes and practices of health care workers regarding Cardiovascular Diseases.

Method: A structured questionnaire created by the researcher was used to gather attitude and practice information in a descriptive cross-sectional study on 700 participants from health care workers that took place at 4 hospitals and 23 health centers (multistage sampling) in Diyala Governorate between 7 February 2022 and 10 May 2022.

Results: Results regarding attitude observed that most of health care workers had responded at a Good level and assigned 14(87.5\%) items, while leftover items has recorded an accepted level ( $12.5 \%$ )for 2 item. As well as ,result regarding practice observed that most of health care workers had responded at a Good level and assigned ( $64.29 \%$ ) for 9 items, while leftover items has recorded an accepted level ( $28.57 \%$ ) for 4 item, and 1 ( $7.14 \%$ ) of poor evaluation only.

Conclusion: Results shows that there is a strong relationships between Attitudes with "Age Groups, Years of experience, and Educational level ".


Recommendation: It is recommended to prepare an appropriate educational booklet for health services staff and quality retraining courses regarding cardiovascular Disease

Keywords: Cardiovascular Diseases; Attitude; Practice: health care worker.

## 1. INTRODUCTION

According to Center for disease Control and prevention (CDC), cardiovascular diseases (CVDs), a group of heart and blood vessel disorders, are the number one cause of death
and disability globally (CDC, 2023). Cardiovascular diseases (CVD) are well established as leading contributors to the burden of diseases in the developing countries, as well as the developed world. An estimated 16.7 million, or $29.2 \%$ of total global deaths,
result from the various forms of CVDs, many of which are preventable by action on the major primary risk factors such as unhealthy diet, physical inactivity and smoking

BACKGROUND Coronary Artery Disease (CAD) is the foremost single cause of mortality and loss of Disability Adjusted Life Years (DALYs) globally. A large percentage of this burden is found in low and middle income countries. This accounts for nearly 7 million deaths and 129 million DALYs annually and is a huge global economic burden. OBJECTIVE To review epidemiological data of coronary artery disease and acute coronary syndrome in low, middle and high income countries. METHODS Keyword searches of Medline, ISI, IBSS and Google Scholar databases. Manual search of other relevant journals and reference lists of primary articles. RESULTS Review of the results of studies reveals the absolute global and regional trends of the CAD and the importance and contribution of CAD for global health. Data demonstrates which region or countries have the highest and lowest age-standardized DALY rates and what factors might explain these patterns. Results also show differences among the determinants of CAD, government policies, clinical practice and public health measures across the various regions of world. CONCLUSION CAD mortality and prevalence vary among countries. Estimation of the true prevalence of CAD in the population is complex. A significant number of countries have not provided data, the estimation of the exact figures for epidemiological data is a barrier. The incidence of CAD continues to fall in developed countries over the last few decades and this may be due to both effective treatment of the acute phase and improved primary and secondary preventive measures. Developing countries show considerable variability in the incidence of CAD. The globalization of the Western diet and increased sedentary lifestyle will have a
dramatic influence on the progressive increase in the incidence of CAD in these countries.

Currently, CVD is the leading cause of death in Asia and contributes to over half of global deaths. Ischemic heart disease (47\%) and stroke ( $40 \%$ ) account for $87 \%$ of these deaths in Asia (Zhao, 2021). Heart failure is also emerging as a major health crisis in Asian countries where individuals with heart failure are relatively younger, receive limited medical attention and are likely to be more disabled (Dokainish et al., 2016).

Total global mortality estimates show that the top 3 causes of death in industrialized countries are hypertension, tobacco use, and high levels of cholesterol-all high-profile risk factors for CVD. However, CVD is no longer the preserve of affluent nations. Similar trends are now emerging in economically developing countries, where the prevalence of obesity and high cholesterol has been shown to correlate strongly with increasing national income (Dahlöf, 2010).A recent systematic review has found that there is a lack of studies regarding attitude, and perception of healthcare providers regarding cardiovascular health.

## 2. Research method:

A descriptive cross-sectional study began on February 7, 2022, and ended on May 10, 2022, at four hospitals and 23 health care centers in Diyala Governorate (Baquba First Sector, Baquba Second Sector, Baladrooz Sector, Muqdadiyah Sector) using a multistage sampling technique, information about knowledge from health care workers collected through a structured questionnaire developed by the researcher based on previous research (Salahshoori et al., 2015; Muhamad et al., 2012). To achieve the present study goals, all feedback from the supervisors and experts regarding the questionnaire's content, clarity, and sufficiency was taken into account.

### 2.1. Ethical approval \& administrative arrangement

One of the most important measures taken by the researcher before collecting the information from the sample is ethical considerations.

The College of Health and Medical Technology in Baghdad, the Community Health Department, and the research committee at Middle Technical University provided their ethical approval and all necessary administrative agreements. Protect the values and dignity before collecting the data, this is one of the most fundamental principles. Followed by a formal agreement from Baquba First Sector, Baquba Second Sector, Baladrooz Sector, Muqdadiyah Sector and then from the hospitals and health centers that belong to these sectors in which the data collection will occur in them.
2.2. Study sample, study population, and sample size

The study population comprises medical staff and Supportive Medical staff who work in Diyala Governorate Health Directorates, and there were 700 participants in the convenient sample ( 88 Medical Staff and 612 Supportive Medical Staff), which was selected at random from the places of study. The sample size was estimated using the Raosoft sample size calculator and according to the following equations:
$\mathrm{x}=\mathrm{Z}(\mathrm{c} / 100) 2 \mathrm{r}(100-\mathrm{r})$
$\mathrm{n}=\mathrm{N} \mathrm{x} /((\mathrm{N}-1) \mathrm{E} 2+\mathrm{x})$
E=Sqrt [(N -n) x/n(N-1)]
By using this calculation, the suggested sample was 597 participants. The researcher added $25 \%$ (95.5) to ensure compensation for the loss or refusal to participate by some respondents, so the total number becomes $597+95.5=677.5 \approx 700$ more accurate.
2.3. Instrument of the Study

The questionnaire is divided into four main parts:

Part 1:
Demographic data contain four items including age, gender, years of experience, educational level and profession, Health care worker's sources of information regarding cardiovascular diseases.

## Part 2:

Contains 16 questions to measure attitude of health care workers regarding cardiovascular diseases.

## Part 3:

Contains 14 questions to measure practices of health care workers regarding cardiovascular diseases.
as well as 16 items for attitudes main domain are consisting with setting of five likert scales, such as (Strongly disagree, Agree, Not sure, Not sure, and Strongly disagree) with integer numbers (1, 2, 3, 4, and 5) respectively, then finally 14 items for the practices main domain and has a similarly scored as shown in the attitudes domain.

In addition to that, evaluation intervals are symbolized due to relative sufficiency statistic for the attitudes, and practices items by: [(20.00 - 46.66) for Poor (P) evaluation; (46.67 - 73.33) for an Accepted (A) evaluation; and (73.34-100) for the Good (G) evaluation].

## 3. Statistical Data Analysis

Multiple statistical analyses of data methods were used to analyze and make an assessment of the results of this study using statistical package (SPSS) ver. (20) application and analysis of Descriptive data as the following points:
a) Tables (Percentages and Frequencies) with, standard deviation (SD) and Arithmetic mean.
b) Where relative sufficiency ( $\mathrm{RS} \%$ ) is calculated.
c) Transformed domains of the study for estimators of screening by the score of the grand and global mean of overall assessment by the transformation of the responses in each period at a quantitative measure scale using the technique of percentile transformation.

## 4. Result

Table 1 Socio-Demographical Characteristics of the studied Health Care Workers

| Characteristics | Groups | No. | \% | C.S. ${ }^{(*)}$ <br> P-value |
| :---: | :---: | :---: | :---: | :---: |
| Gender | Male | 242 | 34.6 | $\begin{aligned} & \mathrm{P}=0.000 \\ & \text { (HS) } \end{aligned}$ |
|  |  |  |  |  |
|  | Female | 458 | 65 |  |
| Age Groups Yrs. | 20 | 447 | 63.9 | $\begin{aligned} & \chi^{2}=599.26 \\ & \mathrm{P}=0.000 \\ & (\mathrm{HS}) \end{aligned}$ |
|  | 30 | 148 | 21.1 |  |
|  | 40 | 61 | 8.7 |  |
|  | 50_60 | 44 | 6.3 |  |
|  | Mean $\pm$ SD | 30.2 |  |  |
| Marital Status | Single | 274 | 39.1 | $\begin{aligned} & \chi^{2}=663.06 \\ & \mathrm{P}=0.000 \\ & \text { (HS) } \end{aligned}$ |
|  | Married | 404 | 57.7 |  |
|  | Divorced | 12 | 1.7 |  |
|  | Widowed | 10 | 1.4 |  |
| Years of Experience Yrs. | 1 | 422 | 60.3 | $\begin{aligned} & \chi^{2}=730.19 \\ & \mathrm{P}=0.000 \\ & (\mathrm{HS}) \end{aligned}$ |
|  | 5 | 114 | 16.3 |  |
|  | 10 | 64 | 9.1 |  |
|  | 15 | 45 | 6.4 |  |
|  | > 20 | 55 | 7.9 |  |
| Educational Level | Nursing prep | 90 | 12.9 | $\begin{aligned} & \chi^{2}=616.91 \\ & \mathrm{P}=0.000 \\ & \text { (HS) } \end{aligned}$ |
|  | Diploma | 339 | 48.4 |  |
|  | Bachelor | 247 | 35.3 |  |
|  | M.Sc. | 17 | 2.4 |  |
|  | Ph.D. | 7 | 1 |  |
| Profession | Doctor | 37 | 5.30 | $\begin{aligned} & \chi^{2}=348.24 \\ & \mathrm{P}=0.000 \\ & \text { (HS) } \end{aligned}$ |
|  | Pharmacist | 51 | 7.30 |  |
|  | Health \& Medical technical | 83 | 11.9 |  |
|  | Laboratory | 126 | 18.0 |  |
|  | Nurse | 260 | 37.1 |  |
|  | Skilled Nurse | 83 | 11.9 |  |
|  | Others | 60 | 8.60 |  |

(*) HS: Highly Sig. at $\mathrm{P}<0.01$; NS: Non Sig. at $\mathrm{P}>0.05$; Testing based on One-Sample ChiSquare test, and Binomial test.

Table (2): Distribution of the studied Health care worker's sources of information regarding cardiovascular diseases with comparisons significant

| Health care worker's sources of information regarding Cardiovascular disease | Groups | No. | \% | C.S. ${ }^{(*)}$ <br> $P$-value |
| :---: | :---: | :---: | :---: | :---: |
| Radio \& TV | Absent | 667 | 95.3 | $\mathrm{P}=0.000$ <br> (HS) |
|  | Present | 33 | 4.7 |  |
| Internet | Absent | 370 | 52.9 | $\mathbf{P}=0.140$ <br> (NS) |
|  | Present | 330 | 47.1 |  |
| Academic Lecturers \& Magazines | Absent | 489 | 69.9 | $\bar{P}=0.000$ <br> (HS) |
|  | Present | 211 | 30.1 |  |
| All of sources | Absent | 470 | 67.1 | $\mathrm{P}=0.000$ <br> (HS) |
|  | Present | 230 | 32.9 |  |

(*) HS: Highly Sig. at $\mathrm{P}<0.01$; NS: Non Sig. at $\mathrm{P}>0.05$; Testing based on Binomial test.
Table (3): Summary Statistics of Attitude's items toward cardiovascular diseases among health care workers

| Attitude's Items | Resp. | No. | \% | MS | SD | $\begin{aligned} & \hline \text { RS\% } \\ & \text { (Ev.) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Do exercise to maintain healthy lifestyle | Strongly disagree | 1 | 0.1 | 4.77 | 0.49 | $95.4$ <br> (G) |
|  | Disagree | 3 | 0.4 |  |  |  |
|  | Not sure | 6 | 0.9 |  |  |  |
|  | Agree | 134 | 19.1 |  |  |  |
|  | Strongly agree | 556 | 79.4 |  |  |  |
| 2. Bad eating habits should be changed | Strongly disagree | 2 | 0.3 | 4.61 | 0.61 | $92.2$ <br> (G) |
|  | Disagree | 7 | 1.0 |  |  |  |
|  | Not sure | 14 | 2.0 |  |  |  |
|  | Agree | 219 | 31.3 |  |  |  |
|  | Strongly agree | 458 | 65.4 |  |  |  |
| 3. It is necessary to eat without restrictions as one feels comfortable | Strongly agree | 53 | 7.6 | 3.54 | 1.10 | $70.8$ <br> (A) |
|  | Agree | 91 | 13.0 |  |  |  |
|  | Not sure | 66 | 9.4 |  |  |  |
|  | Disagree | 407 | 58.1 |  |  |  |


|  | Strongly disagree | 83 | 11.9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. A normal weight must be maintained | Strongly disagree | 2 | 0.3 | 4.52 | 0.65 | 90.4 <br> (G) |
|  | Disagree | 9 | 1.3 |  |  |  |
|  | Not sure | 21 | 3.0 |  |  |  |
|  | Agree | 256 | 36.6 |  |  |  |
|  | Strongly agree | 412 | 58.9 |  |  |  |
| 5. It is wrong to enjoy life without a healthy lifestyle | Strongly disagree | 25 | 3.6 | 4.08 | 1.08 | $\begin{aligned} & 81.6 \\ & (G) \end{aligned}$ |
|  | Disagree | 60 | 8.6 |  |  |  |
|  | Not sure | 49 | 7.0 |  |  |  |
|  | Agree | 265 | 37.9 |  |  |  |
|  | Strongly agree | 301 | 43 |  |  |  |
| 6. Smoking is bad for health | Strongly disagree | 7 | 1.0 | 4.72 | 0.67 | 94.4 <br> (G) |
|  | Disagree | 12 | 1.7 |  |  |  |
|  | Not sure | 9 | 1.3 |  |  |  |
|  | Agree | 111 | 15.9 |  |  |  |
|  | Strongly agree | 561 | 80.1 |  |  |  |
| Attitude's Items | Resp. | No. | \% | MS | SD | $\begin{aligned} & \text { RS\% } \\ & \text { (Ev.) } \end{aligned}$ |
| 1. Take treatment as | Strongly disagree | 1 | 0.1 | 4.63 | 0.56 | $92.6$ <br> (G) |
|  | Disagree | 3 | 0.4 |  |  |  |
|  | Not sure | 13 | 1.9 |  |  |  |
|  | Agree | 221 | 31.6 |  |  |  |
|  | Strongly agree | 462 | 66.0 |  |  |  |
| 2. Do regular medical | Strongly disagree | 5 | 0.7 | 4.46 | 0.7 | 89.2 <br> (G) |
|  | Disagree | 11 | 1.6 |  |  |  |
|  | Not sure | 20 | 2.9 |  |  |  |
|  | Agree | 286 | 40.9 |  |  |  |
|  | Strongly agree | 378 | 54.0 |  |  |  |
| 3. Traditional medicine should be preferred over others | Strongly agree | 89 | 12.7 | 3.32 | 1.28 | 66.4 <br> (A) |
|  | Agree | 100 | 14.3 |  |  |  |
|  | Not sure | 133 | 19.0 |  |  |  |


|  | Disagree | 252 | 36.0 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Strongly disagree | 126 | 18.0 |  |  |  |
| 4. It is necessary to know the level of sugar in the blood | Strongly disagree | 6 | 0.9 | 4.43 | 0.71 | $\begin{aligned} & 88.6 \\ & (G) \end{aligned}$ |
|  | Disagree | 7 | 1.0 |  |  |  |
|  | Not sure | 32 | 4.6 |  |  |  |
|  | Agree | 293 | 41.9 |  |  |  |
|  | Strongly agree | 362 | 51.7 |  |  |  |
| 5. It is necessary to know the level of lipid profile | Strongly disagree | 2 | 0.3 | 4.52 | 0.62 | $90.4$ <br> (G) |
|  | Disagree | 5 | 0.7 |  |  |  |
|  | Not sure | 19 | 2.7 |  |  |  |
|  | Agree | 278 | 39.7 |  |  |  |
|  | Strongly agree | 396 | 56.6 |  |  |  |
| 6. Sugar intake in diet should be reduced | Strongly disagree | 2 | 0.3 | 4.43 | 0.69 | 88.6 <br> (G) |
|  | Disagree | 14 | 2.0 |  |  |  |
|  | Not sure | 26 | 3.7 |  |  |  |
|  | Agree | 298 | 42.6 |  |  |  |
|  | Strongly agree | 360 | 51.4 |  |  |  |
| 7. Fat intake in diet should be reduced | Strongly disagree | 1 | 0.1 | 4.48 | 0.63 | 89.6 <br> (G) |
|  | Disagree | 8 | 1.1 |  |  |  |
|  | Not sure | 22 | 3.1 |  |  |  |
|  | Agree | 295 | 42.1 |  |  |  |
|  | Strongly agree | 374 | 53.4 |  |  |  |
| 8. Salt intake in diet should be reduced | Strongly disagree | 3 | 0.4 | 4.4 | 0.69 | 88.0 <br> (G) |
|  | Disagree | 11 | 1.6 |  |  |  |
|  | Not sure | 33 | 4.7 |  |  |  |
|  | Agree | 309 | 44.1 |  |  |  |
|  | Strongly agree | 344 | 49.1 |  |  |  |
| 9. Take fruits and vegetablein diet for maintaininghealth | Strongly disagree | 1 | 0.1 | 4.76 | 0.51 | 95.2 <br> (G) |
|  | Disagree | 5 | 0.7 |  |  |  |
|  | Not sure | 7 | 1.0 |  |  |  |
|  | Agree | 135 | 19.3 |  |  |  |


|  | Strongly agree | 552 | 78.9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10. Controlling stress to avoid the diseases | Strongly disagree | 2 | 0.3 | 4.45 | 0.65 | $\begin{aligned} & 89.0 \\ & (\mathbf{G}) \end{aligned}$ |
|  | Disagree | 10 | 1.4 |  |  |  |
|  | Not sure | 21 | 3.0 |  |  |  |
|  | Agree | 306 | 43.7 |  |  |  |
|  | Strongly agree | 361 | 51.6 |  |  |  |

Ev.: Evaluated (20.00 - 46.66) Poor (P); (46.67-73.33) Accepted (A); (73.34 - 100) Good (G).
Red Color items has a revere scored
Table (4): Summary Statistics of Practice's items toward cardiovascular diseases among health care workers

| Practice's Items | Resp. | No. | \% | MS | SD | $\begin{aligned} & \hline \text { RS\% } \\ & \text { (Ev.) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Exercising for more than 20 minutes about 3 times a week | Strongly disagree | 2 | 0.3 | 4.49 | 0.67 | 89.8 <br> (G) |
|  | Disagree | 7 | 1 |  |  |  |
|  | Not sure | 37 | 5.3 |  |  |  |
|  | Agree | 256 | 36.6 |  |  |  |
|  | Strongly agree | 398 | 56.9 |  |  |  |
| 2. Add salt to food randomly | Strongly agree | 38 | 5.4 | 3.94 | 1 | 78.8 <br> (G) |
|  | Agree | 35 | 5 |  |  |  |
|  | Not sure | 36 | 5.1 |  |  |  |
|  | Disagree | 411 | 58.7 |  |  |  |
|  | Strongly disagree | 180 | 25.7 |  |  |  |
| 3. Walking is a type of exercise that can reduce the risk of heart disease | Strongly agree | 2 | 0.3 | 4.5 | 0.64 | $\begin{aligned} & 90.0 \\ & (\mathbf{G}) \end{aligned}$ |
|  | Agree | 7 | 1 |  |  |  |
|  | Not sure | 21 | 3 |  |  |  |
|  | Disagree | 279 | 39.9 |  |  |  |
|  | Strongly disagree | 391 | 55.9 |  |  |  |
| Practice's Items | Resp. | No. | \% | MS | SD | $\begin{aligned} & \hline \text { RS\% } \\ & \text { (Ev.) } \end{aligned}$ |
| 1. Taking fatty food more than 3x/week | Strongly disagree | 56 | 8 | 3.47 | 1.12 | 69.4 |
|  | Disagree | 91 | 13 |  |  | (A) |



|  | Agree | 314 | 44.9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Strongly agree | 340 | 48.6 |  |  |  |
|  | Strongly agree | 277 | 39.6 |  |  |  |
|  | Agree | 231 | 33 |  |  |  |
| 8. Taking omega 3 for | Not sure | 131 | 18.7 | 2 | 1.05 |  |
|  | Disagree | 38 | 5.4 |  |  |  |
|  | Strongly disagree | 23 | 3.3 |  |  |  |
|  | Strongly disagree | 47 | 6.7 |  |  |  |
|  | Disagree | 66 | 9.4 |  |  |  |
| 9. Eating fast food | Not sure | 94 | 13.4 | 3.66 | 1.09 |  |
|  | Agree | 365 | 52.1 |  |  |  |
|  | Strongly agree | 128 | 18.3 |  |  |  |
|  | Strongly disagree | 7 | 1 |  |  |  |
|  | Disagree | 31 | 4.4 |  |  |  |
| about CVD through | Not sure | 64 | 9.1 | 4.21 | 0.86 |  |
| mass media or internet | Agree | 302 | 43.1 |  |  |  |
|  | Strongly agree | 296 | 42.3 |  |  |  |
| Practice's Items | Resp. | No. | \% | MS | SD | $\begin{aligned} & \hline \text { RS\% } \\ & \text { (Ev.) } \end{aligned}$ |
| 1. Eating food between meals (snacks) | Strongly agree | 99 | 14.1 | 2.76 | 1.15 | 55.2 <br> (A) |
|  | Agree | 227 | 32.4 |  |  |  |
|  | Not sure | 153 | 21.9 |  |  |  |
|  | Disagree | 182 | 26 |  |  |  |
|  | Strongly disagree | 39 | 5.6 |  |  |  |

Ev.: Evaluated (20.00 - 46.66) Poor (P); (46.67-73.33) Accepted (A); (73.34-100) Good (G).

Results show that highly significant differences are accounted for at $\mathrm{P}<0.01$ amongst observed frequency distribution with their expected outcomes in each variable. Concerning "Gender", about two third of the studied samples are from females 458 (65.4\%), and for "Age Groups", most of the studied healthcare workers were found in the first two age groups, since they accounted for
(52.4\%). "Marital Status" shows that married health workers accounted for 404 (57.7\%), while single formed the next group, and accounted for 274 (39.1\%). As for the years of experience, more than three quarters are formed under ten yrs., and they are accounted for $536(76.6 \%)$, and had most of the studied healthcare workers have "Bachelor, and Diploma" degrees and they are accounted for

586 (83.7\%). Finally, regarding the "Professional" of the studied workers, nursing staff make up half of the studied numbers, and they are accounted for 343 (49.0\%), while medical staff are accounted for 88 (12.6\%) only.

Table 2 shows that highly significant differences are accounted at $\mathrm{P}<0.01$ amongst observed frequencies distribution with their an expected outcomes in each sources of information regarding cardiovascular diseases, except with using "Internet" source, since no significant different are accounted at $\mathrm{P}>0.05$ between selected numbers of health care workers in the studied sample, which confirms the widespread popularity of this source in obtaining information on the subject among the studied subjects.

Regarding table (3) results observed that most of health care workers had responded at a Good level and assigned 14(87.5\%) items, while leftover items has recorded an accepted level 2(12.5\%).

Table 4 observed that most of health care workers had responded at a Good level and assigned $9(64.29 \%)$ items, while leftover items has recorded an accepted level $4(28.57 \%)$, and $1(7.14 \%)$ of poor evaluation only.

## 4. Discussion

Based on the present findings, the majority of the study's samples were female ( $65.4 \%$ ). This is consistent with the results reported by AlAli (2021) in Karbala. However, it differs from the findings of (Alkhazrajy et al., 2014) and (Mengestie et al., 2023), who conducted a study in Baghdad and reported that the majority of the participants were male.

Regarding Age, the majority of studied samples, ( $85.0 \%$ ) were between the age group 20 and 30 years. This finding similar to what has been reported in Baquba by (Al-Salihy \& Enad, 2017). According to the Ministry of

Planning, this outcome might be explained as that the Iraqi society is young, as ( MOH ) stated that $56.5 \%$ of Iraqi population aged (1564) years (Iraqi Ministry of Planning, 2020).

The majority of the study participants were married which accounted (57.7\%), while a single formed the next group, and accounted (39.1\%). These results similar to what has been reported in a study done by (Taqi et al., 2021).

The majority of the research sample, ( $76.6 \%$ ), consisted of employees with 1 to 5 years of experience. This finding differs from that reported by Ejeh et al. (2020) in Nigeria, but is consistent with the results reported by Mohammed et al. (2017) in Iraq. One possible explanation for this difference is that the Iraqi Ministry of Health has recently increased its recruitment rates, leading to a higher number of newly hired personnel.

The results of the study indicate that the majority of healthcare workers ( $83.7 \%$ ) who participated had a degree of "Bachelor's or Diploma," falling within this category. This finding is consistent with similar studies conducted in Kuala Lumpur (Zainal et al., 2018). A study on health care workers showed that majority of study participants were have diploma degree (58.3\%) done by (Al-Ali 2021).

In terms of profession, nursing staff constituted the majority of the healthcare workers in the study ( $49.0 \%$ ), while medical staff accounted for only (12.6\%). This result is similar to a study conducted in Amman by Salahat and Faris (2014). Additionally, a supportive study conducted in Baquba revealed that the majority of healthcare workers were nurses (Lateef et al., 2021).

Internet was the most commonly used source for obtaining information on cardiovascular diseases among healthcare workers. As no prior studies were available, we compared our findings with a study conducted among people
living with HIV, which reported television as the primary source of CVD information in Kenya (Temu et al., 2015), Iraq (Molan et al., 2020). The difference in information sources between healthcare workers and other groups can be attributed to the healthcare workers' higher interest and motivation in developing their professional knowledge by accessing and staying up to date on the latest studies and research.

Results from this study reveal that staff have a "Good" attitude toward cardiovascular diseases. Although no prior study has been conducted specifically among health care workers, these results are consistent with a study conducted in India (Verma et al., 2019) and another study in Bangladesh (Mirza et al., 2016).

While there are no previous studies on attitude toward cardiovascular disease among healthcare workers, this study's findings differ from a prior study that reported poor attitudes toward CVD among the Lebanese population (Machaalani et al., 2022). The difference in findings could be explained by the fact that healthcare workers have more knowledge about the risk factors for heart disease and the necessary measures to reduce the risk of infection due to their education and profession, which provides them with extensive information compared to the general population, whose knowledge may be limited.

The results of this study indicate that participants had a good evaluation regarding several healthy lifestyle behaviors, including maintaining a normal weight, regular medical check-ups, knowing their blood sugar, blood pressure, and lipid levels, and reducing sugar and fat intake. However, there is no prior research specifically among healthcare workers, but these findings are consistent with studies conducted among other populations such as those by (Muhamad et al., 2012) and (Mohammad et al., 2018).

Concerning the Answer of "A normal weight must be maintained", "Take fruits and vegetable in diet for maintaining health" and controlling stress to avoid the diseases" there is no previous study among our study sample, but came in the same line with (Mohammad et al., 2018).

About the answer "Traditional medicine should be preferred over others" there is no previous study among the staff, but it similar to what reported in another study group (Muhamad et al., 2012).

Regard the answer "Smoking is bad for health" most of health care worker strongly agree. Similar with another study among women Health Services Staff (Salahshoori et al., 2015). There is no previous study among health care worker participant so we will compare our results with another study.it is disagree with a study among Adults in Rural Community, Lahore (Ejaz, S. et al., 2018). This disagreement can be correlated to that health care worker more Knowledgeable about smoking risks than any other groups in the community especially rural community.

The majority of our sample showed a positive attitude towards exercising for more than 20 minutes, about 3 times per week, which is consistent with the recommendation of the American Heart Association (AHA), 2016, and another study by (Salem et al., 2021).

The majority of health staff have recording high Good level practices evaluation toward Maintain normal weight come in same line with (Salem et al .,2021).

Most of the health care workers agreed that quit of smoking is an absolute necessity to prevent CVD. This finding was consistent with the result of a study conducted in Kerala, India (Rajnarayan, T. et al., 2006).

The health care workers in this study showed an acceptable evaluation regarding the statement "It is necessary to eat without
restrictions as one feels comfortable". While no previous studies were found among health staff, the results disagree with a study that showed $47 \%$ of patients with coronary artery disease believed that there was no need to restrict their food consumption (Mirza et al., 2016). These differences may be due to the belief that unhealthy foods are more affordable and accessible to people with lower incomes, as well as lower levels of health and nutrition literacy among patients that can lead to disease.

In this study, most of participants strongly agree about items namely" exercising more than 20 minutes about 3 times a week", "maintain normal weight", "stress management", "quit smoking", "taking medication as recommend by doctors", "visit doctor for advice regularly", and "taking omega 3 for heart diseases prevention", while majority of participants respondent strongly disagree about add salt to food randomly. These findings indicated that health care worker have good practice regarding CVDs.

However, a descriptive and analytic study in Iran among 185 women health services staff (Including Physicians, Nurses, Midwives, Health experts and Health workers) to assess knowledge, attitude and practice by results showed that about $82.2 \%$ had poor practice, and only $1.1 \%$ had good practice. These differences might be due do different methods of collection data.

## 5. Conclusion

A "Good" evaluation had been assigned for the "Attitudes", as well as a "Good" evaluation had been assigned for the "Practices border to upper limit of a "Accepted" level, as an overall assessment; results shows that there is a strong relationships between Attitudes with "Age Groups, Years of experience, and Educational level ".

## 6. Recommendations:

In a future study, we will take the patient as a sample to know their attitude and practice regarding cardiovascular diseases: encouraging health care workers to increase their educational attainment and providing them with the opportunity by the Ministry of Health in order to increase scientific competencies and improve the health situation.

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