

A Need of Saudi Health Promotion Staff for Training on Cardiovascular Diseases Prevention

Metrek Ali Almetrek^{1*}, Mohammad AlQahtani², Abdulrahman Qatomah², Rakan Alqahtani², Laila Abdelnaeim³

¹Health Promotion Administration, Directorate General of Health Affairs in Aseer Region, Abha - Saudi Arabia.

²Internship Dean, College of Medicine in King Khalid University, Abha - Saudi Arabia.

³Aseer Central Hospital, Abha – Saudi Arabia.

ABSTRACT

Background: Heart disease describes a range of conditions that affect the heart. However, the awareness and knowledge about its risk factors among the healthcare educators in Aseer Region play a role in cardiovascular diseases health promotion, educating those who are at risk of developing such disease would greatly reduce its outcomes.

Objective: The main aim of this study is to study and determine the knowledge, attitude and practice towards cardiovascular risk factors among healthcare educators in Aseer region.

Methodology: A cross-sectional design conducted on 52 health promotion coordinators in 21 hospitals and 17 primary health care sectors. A web-based self-administered questionnaire was used consisting of four sections, socio-demographic data, knowledge of, attitude toward and practicing cardiovascular diseases prevention.

Results: The response rate of the survey was 86.5%. The participants were 71% male participant and 30% female participant and most of them employed as nursing job 53% and diploma qualified 73%. In general, 16% (n=7) of the participant had good knowledge ($\geq 80\%$ correct answers), 71% (n=32) had accepted knowledge ($\geq 60 \leq 80\%$ correct answers) and 13% (n=6) had poor knowledge ($< 59\%$ correct answers). Regarding their attitude, the majority 82.2% (n=37) agreed for periodic health examination for CVD as an important part of health promotion while 4.4% (n=2) disagreed and 13.3% (n=6)

were neutral. Most of them showed well impressed practice of three parts of cardiovascular health promotion services.

Conclusion: The competencies of cardiovascular diseases preventions among the health promotion staff found in the study ensure the health promotion 2030 vision in Saudi Arabia. There have been areas need to be improved by continuous medical education for any health provider in contact with general population and working health promotion services, which can impact the quality of life, literacy positively and the mortality and morbidity of cardiovascular diseases.

Key words: Cardiovascular Disease, Health Promotion, Knowledge, Attitude, Practice, Prevention.

*Correspondence to:

Dr. Metrek Ali Almetrek,
Health Promotion Administration,
Directorate General of Health Affairs in Aseer Region,
Abha - Saudi Arabia.

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INTRODUCTION

The global burden of disease has dramatically burdened the nations biologically, psychologically and socially and recognized as the leading cause of death and disability worldwide.^{1,2} Cardiovascular diseases describe a variety of conditions that affect the heart and blood vessels. Diseases that affect the heart include blood vessel diseases, such as coronary artery disease, stroke; heart rhythm problems (arrhythmias, congenital heart defects), rheumatological diseases, heart failure, cardiomyopathy, peripheral vascular disease, deep venous thrombosis and pulmonary embolism and others.³ Many of conditions which are related to atherosclerosis can be life threatening. Cardiovascular diseases are the number one causing of death globally. A lot of people die annually from cardiovascular disease.⁴

The WHO found that 17.5 million people were a victim of CVD in 2005 representing 30% of all global deaths. 7.6 million from cardiovascular disease and 5.7 million from stroke by 2015, 20 million people die from CVD mainly from heart disease and stroke.⁵ The prevalence of CVD in Saudi Arabia is 5.5% and the annual incidence of strokes ranged from 27.6 to 57 per 100,000 in the Gulf.^{6,7} According to the INTERHEART and INTERSTROKE studies, hypertension, diabetes, dyslipidemia, obesity, smoking, physical activity, poor diet, and alcohol consumption are the most common risk factors for myocardial infarction (heart attack) and strokes worldwide.^{8,9}

Health promotion programs should take the highest priority for cardiovascular disease preventions. Knowing that CHD

development is caused by several RFs, prevention of CHD concentrates on risk factor modification; reducing the extent of the RF or reducing the number of RFs one presents with.¹⁰

However, the awareness and knowledge about its risk factors of among the healthcare providers play role in CVD health promotion.¹¹ Educating those who are at risk of developing such disease would greatly reduce its outcomes.^{12,13} However, it cannot be achieved without a competent health promotion staff, healthcare providers and health educators in primary, secondary and tertiary healthcare centers.¹⁴

Several studies showed the importance and impact of the knowledge, attitude and practice of health care providers on cardiovascular diseases preventions. In Europe, variety of levels of knowledge and awareness found according their setting of practice either in primary or secondary health care setting.¹⁵⁻¹⁷

Within national guidelines and local needs, the study of health promotion providers' knowledge, attitude and practice towards achieving of Saudi Arabia Health 2030 Vision currently needed. Worldwide studies about knowledge, attitude, and practice are abundant. Good understanding of these three domains (knowledge, attitude and practice) will enable the decision maker to identify factors that impede or facilitate the improving of such program at different levels of health care service. Attitude could be improved through training. Knowledge could be corrected through dissemination of specific designing of educational materials. Understanding how health promotion staff attribute, facilitate or impede the CVD prevention programs, will help in designing the health policies that could improve the desired level of the adoption of health promotion.

In the southwestern region of Saudi Arabia there are no such studies were done. This study aimed to study and determine the knowledge, attitude and practice towards cardiovascular risk factors among healthcare providers in Aseer region.

METHODOLOGY

Study Design

Cross Sectional Study.

Study Population

Health promotion staff (health educator) in Aseer region in a total 17 primary health care sectors and 21 hospitals 1437/1438 Hj.

Tools

An anonymous self-administered questionnaire was utilized for data collection. It was designed by the researcher, based on the National Periodic Health Examination Guidelines.

The questionnaire consisted of the following four parts:

Baseline Data: It consisted of eight questions assessing participant, age, gender, place of work, scientific level, specialization, years of experience, years of experience in awareness and chronic diseases.

Knowledge of International Guidelines: This part of the questionnaire comprised 5 questions about CVD prevention. These areas were counseling, screening and chemoprophylaxis: (primary prevention, dyslipidemia screening, cardiovascular disease prevention by aspirin, physical activity counseling, smoking cessation counseling,).

CVD participant were asked to respond by "true" or "false". A score of "1" was given to correct answers and "zero" for wrong answers. Then, the sum of scores was calculated then the percentages of the total were categorized into three levels: Good

knowledge, if the total score was >80%; Fair knowledge, if the total score ranged between 60% and 80% and Poor knowledge, if the total score was <60%.

Attitude: Included 4 statements regarding assessment of participant attitude toward CVD services, covering the following areas: importance CVD prevention to promote quality of life, pay more attention on screening for CVD risk assessment rather than laboratory investigations, CVD prevention should be over for all people from different backgrounds, CVD prevention causes burden for public and health care staff. Responses were: agree, uncertain and disagree.

Practice: This part included most common series of CVD services include behavioral counselling and health education for cardiovascular disease toward risk factors, evaluation of risk factors preventive screening for risk factors of CVD, medical preventive intervention, where participant were asked how often they provide these health services to their patients. The choices of practice were never, sometimes, always.

Validity of the questionnaire (face and content) was ascertained by three research experts (two in the field of Family Medicine and one in the field of Community Medicine).

Study Area

The samples will be taking from a total of 17 primary health care sectors and 21 hospitals in Aseer region 1437/1438 Hj.

Study Time

During December 2016

Ethical Consideration

The study was approved by Research Ethical Committee (REC) in Aseer Region.

Data Collection Procedure

After taking the approval from ethical research committee and covering letter directed to the administration of health promotion and health education in directorate general of health affairs in Aseer region. for data collection, a piloting study for 20 participants will be done to test the wording, validity and reliability of the data collection tool. The necessary modifications will be carried out accordingly.

After piloting, the questionnaires will be sent through their emails and mobile cell phone as SMS with link to the study survey to both genders of all health promotion staff. The objectives of the study will be clearly and briefly explained to participants who will be asked to respond to all questions and consent to participate in the study will be asked. Anonymity of respondents will be secured and they will be assured that the collected data are only for research purposes.

Data Management (Entering, Analysis of Data)

The Statistical Package for Social Sciences (SPSS version 22.0) it will be used for data entry analysis. Descriptive statistics will computed in the form of frequency and percentage for categorical data and in the form of measures of central tendency (arithmetic mean and median) and measures of dispersion (standard deviation and range) for continuous variables. Regarding analytic statistics, chi = square test have utilized to test for the association and /or difference between categorical variables. Fischer's exact test will be applied instead of chi-square test, if the frequency in at least one cell is less than five.

Budget and Fund

This study is self –fund. The total budget is estimated to be about 6000 SR.

Table 1: Personal Characteristics of Health Promotion Staff, 2016

Personal characteristics	(n=)	
	No.	%
Age		
Mean,± SD	35.57 ± 7.69	
Gender:		
Male	32	71.1
Female	13	28.9
Specialty:		
Nurse	24	53.3
Physician	5	11.1
Public health	8	17.8
Medical assistant	3	6.7
Administrative	4	8.9
Dentist	1	2.2
Qualification:		
Diploma	33	73.3
Bachelor	9	20
Post-graduate education	3	6.7
Place of Work:		
City	16	35.6
Village	29	64.4
Setting of Practice		
Hospital	9	20
Primary Health Care Center	36	80
Years of Experience		
Mean ±SD	5.6 ± 1.4	
Category of Year of Experience		
Less than 3 years	5	11.1
3 – 6 years	10	22.2
More than 6 years	30	66.7

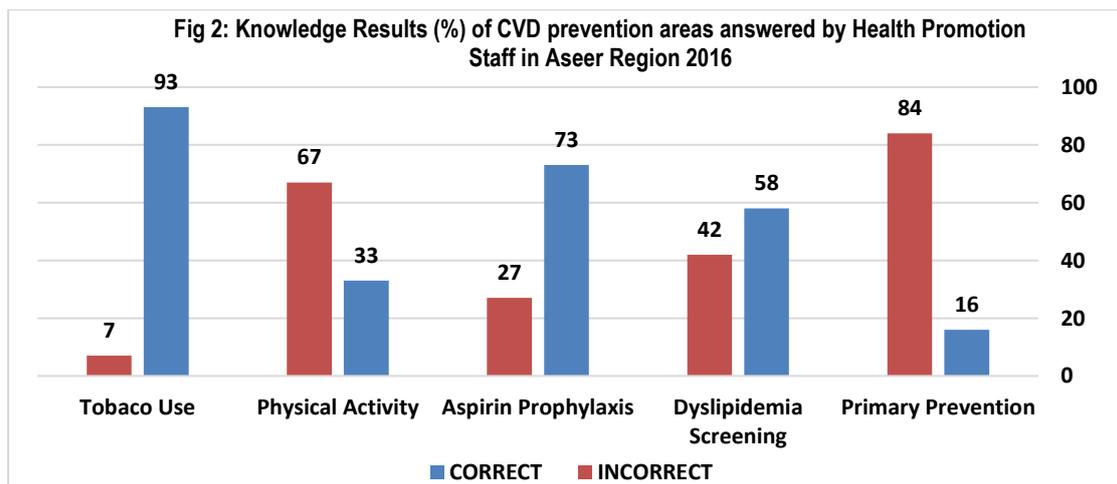
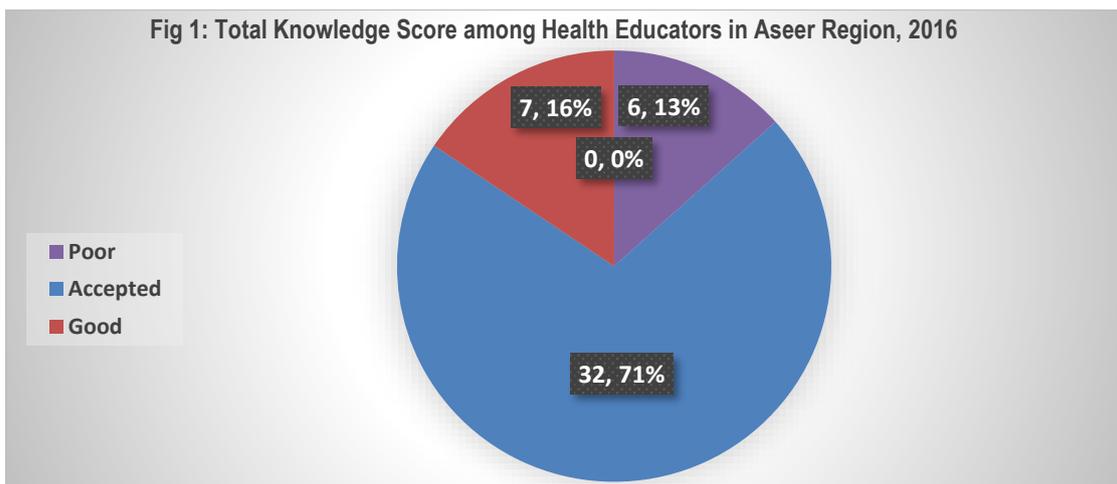


Table 2: Descriptive Attitude Areas toward CVD Prevention among Health Promotion Staff in Aseer Region, 2016

Attitude	Agree	Neutral	Disagree
Periodic health examination for cardiovascular diseases is an important part of health promotion to promote quality of life.	37 (82.2%)	6 (13.3%)	2 (4.4%)
While providing Periodic health examination for cardiovascular diseases, health promotion staff should pay more attention on screening for cardiovascular diseases risk than laboratory investigation	29 (64.4%)	9 (20%)	7 (15.6%)
Periodic health examination of cardiovascular diseases for asymptomatic people consumes time and budget more than benefit gained .	10 (22.2%)	10 (22.2%)	25 (55.6%)
People from different backgrounds should receive the same Periodic health examination for CVD prevention.	38 (84.4%)	6 (13.3%)	1 (2.2%)

Table 3: Practice of CVD Prevention among Health Promotion Staff in Asser Region, 2016:

	Always	Sometimes	Never
Practice Counselling (PC)			
Physical Activity Counselling =	35 (77.8%)	10 (22.2%)	0 (0%)
Obesity Counselling	34 (75.6%)	8 (17.8%)	3 (6.7%)
Smoking Counselling	32 (71.1%)	8 (17.8%)	5 (11.1%)
Alcohol Drinking Counselling =	29 (64.4%)	7 (15.6%)	9 (20%)
Family History of CVD Counselling	25 (55.6%)	16 (35.6%)	4 (8.9%)
Healthy Food Counselling =	35 (77.8%)	10 (22.2%)	0 (0%)
Practice Risk Assessment (PRA)			
Risk Assessment (DM) =	37 (82.2%)	8 (17.8%)	0 (0%)
Risk Assessment (HTN)	39 (86.7%)	6 (13.3%)	0 (0%)
Risk Assessment (Hypercholesterolemia)	34 (75.6%)	9 (20%)	2 (4.4%)
Risk Assessment (Obesity)	37 (82.2%)	7 (15.6%)	1 (2.2%)
Risk Assessment (Family History of CVD)	29 (64.4%)	14 (31.1%)	2 (4.4%)
Risk Assessment (Age)	27 (60%)	17 (37.8%)	1 (2.2%)
Risk Assessment (Gender)	21 (46.7%)	15 (33.3%)	9 (20%)
Practice Screening (PS)			
Screening Tests of DM as a risk factor of CVD =	39 (86.7%)	6 (13.3%)	0 (0%)
Screening Tests of HTN as a risk factor of CVD =	39 (86.7%)	6 (13.3%)	0 (0%)
Screening Tests of Dyslipidemia as a risk factor of CVD	35 (77.8%)	9 (20%)	1 (2.2%)
Screening Tests of Obesity as a risk factor of CVD =	38 (84.4%)	7 (15.6%)	0 (0%)
Practice Intervention			
Prophylactic Intervention (Aspirin)	24 (53.3%)	20 (44.4%)	1 (2.2%)
Prophylactic Intervention (Statin)	18 (40%)	24 (53.3%)	3 (6.7%)
Prophylactic Intervention (Life Style Modification)	34 (75.6%)	10 (22.2%)	1 (2.2%)

RESULTS

Response Rate

Out of 52 health promotion providers, 45 (86.5 %) responded to the study survey.

Personal Characteristics

Table 1 summarizes the personal characteristics of the participants; mean age was 35.57 ± 7.69 . Male physicians were more in the study 71.1% (n=32) than female physicians 28.9% (n=13). Regarding specialty, most of our responders were Nurses 53.3% (n=24), physicians were 11.1% (n=5), Public health were 17.8% (n=8), medical assistants were 6.7% (n=30), administrative were 8.9% (n=4) and dentist was 2.2% (n=1).

Regarding qualification, most of them have Diploma degree 73.3% (n=33) while 20% (n=9) of them have Bachelor degree and Post-graduate education were 6.7% (n=3). Less than half 35.6% (n=16) are working inside the city while the majority 64.4% (n=29) are working in the villages. Regarding the setting of practice, 80% (n=36) are practicing in PHCC while 20% (n=9) are practicing in hospitals. The mean years of experience were 5.6 ± 1.4 . Regarding the category of years of experience, those with experience less than 3 years were 11.1% (n=5), between 3-6 years were 22.2% (n=10) and those with experience more than 6 years were 66.7% (n=30).

Knowledge of International Guidelines for Cardiovascular Diseases Prevention

In Figure 1, pie chart shows the total knowledge score among health promotion staff in Asser region in 2016, most of them within accepted knowledge 71% (n=32), 16% (n=7) within good and 13% (n=6) within poor.

Figure 2 is showing the knowledge score (%) of CVD prevention areas answered by health promotion staff in Asser region 2016, representing their scientific background of primary prevention in which the majority 84% (n=38) were incorrect answers while 16% (n=7) were correct, dyslipidemia screening in which 58% (n=26) were correct answers while 42% (n=19) were incorrect, aspirin prophylaxis in which the majority 73% (n=33) were correct while 27% (n=12) were incorrect, physical activity in which the majority 67% (n=30) were incorrect answers while 33% (n=15) were correct answers and tobacco use in which the majority 93% (n=42) were correct answers while 7% (n=3) were incorrect.

Attitude Towards Cardiovascular Diseases Prevention

In table 2, it was found that the majority 82.2% (n=37) agreed for periodic health examination for CVD as an important part of health promotion while 4.4% (n=2) disagreed and 13.3% (n=6) were neutral. Regarding the use of screening for CVD risk factors more than laboratory investigation, the majority 64.4% (n=29) agreed while 15.6% (n=7) disagreed and 20% (n=9) were neutral. Regarding the consumption of time and budget more than the benefit gained for asymptomatic people by periodic health examination of CVD, the majority 55.6% (n=25) disagreed while 22.2% (n=10) agreed and 22.2% (n=10) were neutral. Regarding the application of the same periodic health examination for CVD prevention on the people from different background, the majority 84.4% (n=38) agreed while 2.2% (n=1) disagreed and 13.3% (n=6) were neutral.

Practice of Cardiovascular Diseases Prevention

In table 3, regarding the practice counselling of physical activity, most of participants 77.8% (n=35) answered always while 22.2% (n=10) answered sometimes and 0% (n=0) answered never, for alcohol drinking counselling most of them 64.4% (n=29) answered always while 15.6% (n=7) answered sometimes and 20% (n=9) answered never, for healthy food counselling, most of them 77.8% (n=35) answered always while 22.2% (n=10) answered sometimes and 0% (n=0) answered never.

Regarding the practice of risk assessment of DM, it was found that the majority of participants 82.2% (n=37) answered always while 17.8% (n=8) answered sometimes and none of them answered never, for the risk assessment of HTN, it was found that most of them 86.7% (n=39) answered always while 13.3% (n=6) answered sometimes and no body answered never, for the risk assessment of Hypercholesterolemia, it was found that most of them 75.6% (n=34) answered always while 20% (n=9) answered sometimes and 4.4% (n=2) answered never, for risk assessment of Obesity, it was found that most of them 82.2% (n=37) answered always while 15.6% (n=7) answered with sometimes and 2.2% (n=1) answered never. Regarding the practice screening tests of DM as a risk factor of CVD, most of participants 86.7% (n=39) answered always while 13.3% (n=6) answered sometimes and 0% (n=0) answered never, for the screening tests of HTN as a risk factor of CVD, most of them 86.7% (n=39) answered always while 13.3% (n=6) answered sometimes and 0% (n=0) answered never, for the screening tests of obesity as a risk factor of CVD, most of them

84.4% (n=38) answered always while 15.6% (n=7) answered sometimes and 0% (n=0) answered never.

DISCUSSION

This study has been done to assess the knowledge, attitude and practice of the health promotion staff in Ministry of Health in Aseer Region toward the Cardiovascular diseases prevention. Worldwide studies about knowledge, attitude, and practice are abundant. In Saudi Arabia, there haven't been yet published such studies to assess in guiding and improving the practice to achieve the Saudi Health 2030 Vision. The results in the current study indicated that the knowledge among health promotion staff are accepted to good level, good level of attitude and accepted practice of health literacy on cardiovascular diseases prevention.

The sociodemographic results of this study have showed that most of the participant according to the specialties are nurses 53% followed by public health 17% then physicians 11% which indicate convenient staff with suitable background specialties to work in such health promotion services. About 73% of the participant physicians were diploma qualified, while the bachelor and postgraduate qualified staff represent only 27%. These higher numbers of low qualification may affect adversely scientific level and dealing with updated health promotion processes and deliverable services in the region. When we look at the mean of the years of experience spent by the health promotion (5.6 ± 1.4 years), it gives accepted indicator for having good background of health education and promotion. For the place of setting, we found about 65% are working in villages, 73% of them are diploma qualified. Most of the health promotion workforce in primary health cares and hospitals in villages in Aseer Region spend most of their job in the dual or multiple services due to shortage in the staff.¹⁸ This may delay the process of Continuous Medical Education (CME) because they cannot leave their centers to CME activities without covering staff and most of CME activities are done at the level of big cities, which are also far away from some villages. Regarding the setting, most of the health promotion staff are working in primary health care setting (80%) which indicate strength found the Aseer health affairs.

For the knowledge, overall assessment of the of the knowledge of health promotion staff took big place within accepted zone 71%, while good 16% and poor zone are lowest 13% which indicate assuring results and safe health literacy and information of cardiovascular diseases prevention sent to the population. In the details for the knowledge, most of health promotion showed good knowledge in tobacco use as risk factors, dyslipidemia screening and aspirin chemoprophylaxis. This results are assuring for 3 part of health promotion processes. Another area of improvement need action are poor knowledge in primary prevention concept and physical activity counseling. These areas should be addressed well by CME programs and improve them in future.

Fortunately, attitude of the health promotion staff toward cardiovascular health promotion are good. These impressive results indicate excellent future for health promotion for diseases with highest mortality.

For the practice of cardiovascular prevention services categorizing them into the three groups, all of them pointed out to practices always and sometimes hence most of these health promotions are provided to the clients and patients inter-professionally depending mainly on the physicians.¹⁹

LIMITATIONS

This survey has been done only among the health promotion staff of Ministry of Health, which is not including the health promotion staff in other sectors (Armed Forces Hospital Southern Region, Security Forces Services, King Khalid University, Social Issue Health Service, Health Services in the Ministry of Education and Privet Sectors).

CONCLUSION AND RECOMMENDATIONS

Health promotion staffs' knowledge, attitude and practice towards cardiovascular diseases prevention may affect the proper health promotion positively or negatively. Most of the participants in this study have been nurses, diploma qualified and working the villages.

Their knowledges of cardiovascular diseases prevention in general have been impressable positively. Some areas of knowledge need improvement through CME activities and encouraging continues scientific reading about health promotion in general and cardiovascular disease prevention. Regarding the attitude of health promotion staff toward cardiovascular prevention was positive impressed. The practice of health promotion staff on cardiovascular prevention services in generally good and acceptable especially those services that do not need budgeting facilities or efforts. Some services have been poorly practiced due to lack of training, facilities and well run system.

There were some limitations to this study; one of the most important is limitation of the survey to the staff of Ministry of Health only.

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