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Knowledge, Attitude, and Practice of General Population Towards CVD in Saudi Arabia

Authors
Mohammad Sami Basubrain[1], Esraa Sami Basubrain[1], Lama Rashid Elessawi[1], Omar Ahmed Bafarat[1], Rana Abdulrahman Baflah[1], Rania Mohammed Srouji[1], Omar Sami Basubrain[2], Hassnah Omar Dammas[2]
[1]Ministry of Health, Jeddah, KSA
[2]King Abdullah Medical City (KAMC-HC), Makkah, KSA
Corresponding Author
Dr Mohammad Sami Basubrain
Email: *mohammed@basubrain.com*

ABSTRACT
According to American Board of Preventive Medicine: *"Preventive Medicine is the specialty of medical practice that focuses on the health of individuals, communities, and defined populations. Its goal is to protect, promote, and maintain health and well-being and to prevent disease, disability, and death"* [1].
Objective: *To highlight the relationship between CVD risk factors knowledge and the attitude of the general population towards the preventive practices.*
Methods: *This survey was done using a third party online survey agent, it was targeting the general population of KSA.*
Conclusion: *By the end of this study we found that the general healthy population has inadequate knowledge about the risk factors and their relationship with CVD. Despite that our patients have good knowledge about the relationship between their disease and the risk for CVD, except DM patient, they didn't translate it to right attitude and behaviors.*

INTRODUCTION

According to the American Board of Preventive Medicine: "Preventive Medicine is the specialty of medical practice that focuses on the health of individuals, communities, and defined populations. Its goal is to protect, promote, and maintain health and well-being and to prevent disease, disability, and death" [1].

Cardiovascular diseases (CVDs) "are a group of disorders that involve the heart or blood vessels or both. They include coronary heart disease (CHD), cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, and deep vein thrombosis and pulmonary embolism"[2].

CVDs are the number one cause of death globally: more people die annually from CVDs than from any other cause. It is estimated that 17.5 million people died from CVDs in 2012, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke [3].

By 2030, almost 23.6 million people will die from CVDs, mainly from heart disease and stroke. These

are projected to remain the single leading causes of death [4].

The risk of developing CVD depends to a large extent on the presence of several risk factors. The major risk factors for CVD include tobacco use, high blood pressure, high blood glucose, lipid abnormalities, obesity, and physical inactivity. The global variations in CVD rates are related to temporal and regional differences in these known risk factors [5].

A notable decline in cardiovascular deaths has been shown as a result of controlling modifiable risk factors [6], which apparently emphasize the role of preventive medicine.

METHODS

This survey was targeting the general population, Saudi and non-Saudi, who are living in Kingdom of Saudi Arabia. All participants are over 20 years old. It is targeting both male and female regardless of working in the medical field or not. Data was collected through third party online survey agent, with a restricted IP to prevent double entries, using a cross-sectional method.

RSULTS

Data was collected from 1,178 participants living in KSA. 81.32% of them are female. 89.47% of them are not working in the medical field. All the subjects are over 20 years old. 59.59% have a bachelor degree, 17.06% have a postgraduate university degree and 16.81% with high school degree.

In this population, there were 32.09% with chronic diseases, 40.37% with HTN, 35.88% with DM, 33.51% with high cholesterol and 10.03% how already developed CVD.

In this survey 79.97% of the participants are nonsmokers, 14.35% are current smokers, and 5.69% are Ex-Smokers.

Risk factors Knowledge and Preventive behavior

This survey showed that 46.86% of total population are aware of preventive medicine and its practices in general, 52.62% knew about it through social media and 15.01% from a physician. 99.04% of the total population support that we should have like these programs. 52.80% of the total population knows that all the governmental primary health care centers have a chronic disease clinic.

General Knowledge of Risk Factors

General Population

77.33% of the general population knew that obesity is a risk factor for CVD, which represent the highest percent. Surprisingly only 36.93% knew that DM is a risk factor. Table1 illustrates the rest of the risk factors.

Healthy Population

Again, 76.88% of them recognized obesity as a risk factor for CVD, yet only 33% knew that DM is also a risk factor. Table1illustrates the rest of the risk factors.

Table 1 General Knowledge of CVD Risk Factors

	General Population	Healthy Population
Family History	35.31%	33.88%
Dyslipidaemia	70.97%	69.75%
Diabetes	36.93%	33%
Hypertension	61.38%	58%
Smoking	63.92%	63.25%
Bad Food Habits	61.12%	61.12%
Inactivity	66.21%	67.13%
Obesity	77.33%	76.88%
Do not Know	4.92%	4.63%

Chronic Disease Patients

Regarding chronic disease participants who recognize that their disease is a CVD risk factors, the highest number of awareness was noticed among HTN patients who represent 82.35% of them, followed by 81.10% in dyslipidemia patients and 65.44% of DM Patients.

Knowledge and attitude toward individual risk factors

Smoking

Current smokers' participants reported that 85.88% have had received a helpful information about smoking risks. 70.34% said it was useful, but it did not help them to quit Table2.

For those who are a former smoker's, 55.22% of them received information to stop smoking, and

94.59% mentioned that it helped them in quitting smoking. Table2

Table 2 Smoking Cessation Awareness

	Smoker	Ex-Smoker	Non Smoker
In population	14.35%	5.69%	79.97%
Get helpful info	85.88%	55.22%	35.14%
Was useful	70.34%	94.59%	

In 57.24% of current smokers, such advice was received from awareness campaigns and only 31.03%from a physician. Similarly, only 37.84% of ex-smokers got awareness from a doctor, 32.43% from awareness campaigns, and 35.14% from friends. Table 3

Table 3 Smoking Cessation Advice Sources

	Smoker	Ex-Smoker
Physician	31.03%	37.84%
TV shows	51.03%	27.03%
Cigarettes Pack	46.21%	24.32%
Internet	46.90%	29.73%
Campaign	57.24%	32.43%
Friends	46.21%	35.14%

Given the number of current and former smokers, we looked into the degree of awareness and application of screening recommendations for Abdominal Aortic Aneurysm, despite the fact that it is not considered as a CVD. Only 33.33% of smokers and former smokers over the age 65 years had abdominal ultrasonography based on physician's order for other complaint andnot as a screening method for the detection Abdominal Aortic Aneurysm. In fact, 50% ofthose who did not do it claimed that it is not beneficial. Surprisingly, only 2.38% of total population in thissurvey had a previous education about abdominal aortic aneurysm.

HTN

The majority of hypertension free population, 72.66%, don't measure their blood pressure regularly. The main reasons reported are the lack of knowledge in 48.49% and lack of purpose in 33.05%. 85.10% knowsthe ideal blood pressure.

For hypertensive patients, 90.85% knew the ideal blood pressure and 82.35% knew that HTN is one of the risk factors of CVD yet only 60.78% are measuring their blood pressure routinely. In 33.33% of the remaining hypertensive patients attributes lack of follow up to lack of motivation and in 30% to lack of knowledge of the need for regular checks.

DM

89.84% of all non-diabetic subjects who were over 40 years old had their blood glucose level tested. In 52.56% of them it was upon a physician's order and in 29.45% did it as routine. Of note, 85.71% of those who did not do the blood test Presumed they did not have to test.

As for the diabetic participants in this survey, 25.74% have a controlled blood sugar while the remaining 41.91%, 32.35% Consecutively are not controlled and sometimes controlled. The reason mainly was due to an unhealthy lifestyle in the majority of the subjects, poor diet control, and inactivity scored 71.29% and 61.39% respectively. Furthermore, 22.77% are not following it with a physician. As has been mentioned previously 65.44% of the diabetic patients aware that DM could cause CVD in the future.

Dyslipidaemia

66.74% of non-dyslipidaemia participants had their cholesterol level tested as recommended by the USPSTF. 32.38 % of them did itupon a physician's order, while 36.65% did it incidentally. The remaining 33.26% did not do it mainly because they don't realize that they must do it in 65.71% of them. On the other hand, only 70.56% of non-dyslipida-emia participants have a previous knowledge that dyslipidemia is a risk factor for CVD.

Regarding our dyslipidemic participants, 80.10% knew that dyslipidemia is a risk factor for CVD and 79.53% are following up in a clinic, which represent the highest percent of knowledge and follow-up among the survey participants.

Exercise

Exercise is considered one of the most important interventions to reduce CVD risk. Only 11.71% of total population exercise regularly, 52.63% occasionally and 35.65% do not exercise at all. For those who exercise regularly,10.14% do it less than three days a week and 9.42% do it less than 30 min per exercise.

As to those who don't or occasionally exercise, 60.10% are not interested in exercising, and 44.42% don't have time.

CVD risk factors are multiple, and the accumulation of more than one risk factor impose a higher risk for that case to develop CVD in the future. So we looked into the percent of subjects with one risk factor in addition to the lack of exercise, we found that only 11.03%,13.07%,5.51% of DM, HTN, and high cholesterol level subject, consecutively, exercise regularly. Table 4

Table 4 (exercise among participants)

	Regular exercise	No exercise	Occasional exercise
Population	11.71%	35.65%	52.63%
CVD	10.53%	42.11%	47.37%
DM	11.03%	47.79%	41.18%
HTN	13.07%	40.52%	46.41%
CHLO.	5.51%	48.03%	46.46%

Follow up Behavior

The healthy participants of this survey reported that they visit doctors or clinics when they are sick only in 87.75%. Only 16.13% of them had a routine check-up.

Subjects with risk factors showed good follow up with 73.53%, 76.32%, 78.43%, and 79.53% of DM, CVD patients, HTN, and dyslipidemia consecut-ively had a regular check-up.

Lack of interest was the most common reason for not following up among all participants, the highest 69.23% being among patients with dyslipidemia. Table5

Table 5 Reasons for Lack of Routine Follow-up

	CVD	Cholesterol	HTN	DM
Not Required	22.2%	23.08%	21.21%	13.89%
Dislike Doctor Advice	0	7.69%	3.03%	11.11%
No Time	22.22%	11.54%	15.15%	16.67%
Transportation	11.11%	7.69%	0	2.78%
Cost	33.3%	7.69%	9.09%	13.89%
Lack of Interest	44.4%	69.2%	51.52%	55.56%
Other	11.1%	7.69%	12.1%	16.67%

DISCUSSION

CVDs are the number one cause of death globally with more people dying annually from CVDs than from any other cause. It is estimated that 17.5 million people died from CVDs in 2012, which represents 31% of all global deaths. Of these deaths, 7.4 million were due to coronary heart disease and 6.7 million were due to stroke[3].

According to WHO "Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels, and they include: coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, deep vein thrombosis and pulmonary embolism"[1].

DM, HTN, dyslipidemia, Smoking and lack of exercise are modifiable risk factors for CVD. In this survey, there were more than 32% of participants with chronic diseases, more than 10% already developed CVD, 14.35% are smokers and more than 87% of the total population don't exercise on a regular basis.

Both diabetes and hypertension increase the risk of cardiovascular disease. According to WHO, the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014 worldwide. On the other hand, Research done by WHO revealed that the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008 globally. Regarding our survey results, 40.37% of the populationare hypertensive, and 35.88% has diabetes. The prevalence of both diseases is increasing at an alarming rate [8].

One of the cornerstones of prevention and management of CVD is patient self-awareness and proactive role in his own treatment. This is reflected by the population, and more specifically the at risk and diseased subjects, knowledge, and attitude towards the preventive practices of the disease.

In our survey, the healthy population knowledge regarding CVD risk factors is poor as illustrated in

the results, for example only 36.93% knew that DM is a risk factor for CVD. On the contrary, subjects with risk factors have a sound knowledge about their disease and its relation with CVD, and the lowest knowledge was found in DM patients 65.44% knew that DM is a risk factor for CVD. These findings highlight the need for increasing our efforts to improve the general population awareness regarding CVD and preventive practices. Especially that physicians only contribute to around 30% of this knowledge, which is strikingly low.

Regarding the smokers and ex-smokers, there was a good percentage of them know that smoking is a risk factor for CVD, 79%.

The channels we could reach the population with are the doctors, TV shows, awareness campaigns and through social media. And the main source that our population got theirpreventive medicine knowledge through is social media in 52.62% of total population. Health education sources based on our survey result were mainly from the social media (Facebook, Twitter, WhatsApp), while physicians came at last as a health educational source. This highlight the need to better utilize the social media to deliver the message of prevention as it is widely distributed and accepted plus the low cost and ease of reach, keeping in mind that the content should be monitored to prevent the delivery of wrong information. Also, we need to activate the role of the physician as a health advocate to improve the knowledge in pursuant to improve the attitude and ultimately the health of our society[7].

This knowledge base was not translated to good attitude towards preventing risk factors through effective screening, routine follow-ups and checks, and good control of the chronic disease. For example, more than 72% of the healthy population don't measure their blood pressure routinely as recommended by the USPSTF and around 30% of subjects with chronic disease do not follow up regularly. Physicians also contribute to this poor attitude by not offering to screen for risk factors.

One of the easiest and most affordable risk factors for adjustment is the lack of exercise. Compounding that with another risk factor will increase the risk for the development of CVD as the accumulation of more than one risk factor impose a higher risk for the development of CVD. Here we found that only small fraction of the healthy population is exercising and this percent is even lower among patients with chronic diseases. For example, those with high cholesterol level only 5.51% of them do exercise regularly

The most reported reason for the lack of follow up with physicians either for general checkups or disease monitoring is the lack of interest which deepens the need for improving the population awareness and their good health responsibility.

The cause of bad attitude and behavior in DM and general population rises from the lack of knowledge but for the others participant they have a good knowledge but yet they didn't translate it to proper behaviors and attitudes which tell us that we have to make more researches and studies regarding this matter.

CONCLUSION

We conduct this survey to determine and assess the knowledge, attitude and practice (KAP) of population toward the preventive medicine of CVD.

In this study, we found the lack of knowledge in our healthy society and our diabetic participant that leads us to the fact that we should increase our effort in the clinic as doctors and improve the health education there, we should also increase our awareness campaigns, leaflet and Indicative Plates. So we can control the type, kind and amount of information that our population gets.

Regarding the remaining chronic patient participant, they have a good awareness but yet they didn't translate it to good attitude or good behaviors, and the same case appears with the smokers and ex-smokers participant so its needs further investigations and researches.

To minimize the misleading health information that public are getting from social media we should increase the quantity of health knowledge materials (video, posters and tweets) released by authorized health channels.

REFRENCES

1. American Board Of Preventive Medicine, last accessed at https://www.theabpm.-org/aboutus.cfm on 27 December 2016
2. World Health Organization, Last accessed at http://www.euro.who.int/en/health-topics/noncommunicable-diseases/cardiovascular-diseases/cardiovascular-diseases2/definition-of-cardiovascular-diseasesOn 27 Dec 2016
3. World Health Organization, Cardiovascular disease, Last accessed at http://www.who.int/mediacentre/factsheets/fs317/en/ on 27 December 2016
4. World Health Organization, About Cardiovascular Diseases, Last accessed http://www.who.int/cardiovascular_diseases/about_cvd/en/ on 27 December 2016
5. Gaziano T, Reddy KS, Paccaud F, et al. Cardiovascular Disease. In: Jamison DT, Breman JG, Measham AR, et al., editors. Disease Control Priorities in Developing Countries. 2nd edition. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2006. Chapter 33. Available from: https://www.-ncbi.nlm.nih.gov/books/NBK11767/ Co-published by Oxford University Press, New York.https://www.ncbi.nlm.nih.gov/pubmed/26121190
6. Patel SA, Winkel M, Ali MK, Narayan KV, Mehta NK. Cardiovascular Mortality Associated With 5 Leading Risk Factors: National and State Preventable Fractions Estimated From Survey Data. Ann Intern Med. 2015;163:245-253. doi: 10.7326/M14-1753
7. World Health Organization, Global Health Observatory Data, Raised Blood Pressure, Last accessed at http://www.who-.int/gho/ncd/risk_factors/blood_pressure_prevalence_text/en/ on 27 December 2016
8. World Health Organization, Last Accessed at http://www.who.int/mediacentre/factshe-ets/fs312/en/ on 27 December 2016