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Knowledge and Attitudes towards Cardiovascular Disease in a Population of North Western Turkey: A Cross- Sectional Survey

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Abstract

Background: Cardiovascular diseases risk factors are preventable in population. Nurses can act as crucial communicators of individuals identified with the noted risk factors.
Objective: The aim of the study is to assess the knowledge and attitudes of a population in Turkey towards risks of cardiovascular disease.
Methods: A descriptive cross-sectional study was carried out between June and August 2012. A data collection form, which consisted of inclusive descriptive characteristics, history of health status and coronary heart disease, and Cardiovascular Disease Risk Factors Knowledge Scale was used.
Results: Mean score for the participants' knowledge levels about risk factors on cardiovascular disease is moderate (19.18±4.46). Women who have a history of diabetes and hyper-cholesterol perceived themselves at high risk. Those, who have a family history of CVDs, knowledge about diseases, and monitoring methods had high total point averages ($p<0.05$).
Conclusion: It gives insight about what kind of information may be needed for more emphasis which subgroups of people may need more attention from health professionals in Turkey's CVDs prevention.

Key words: cardiovascular disease; risk factors; Turkish population; knowledge; attitudes

Introduction

Cardiovascular diseases (CVDs) are responsible for nearly half of all deaths in the developed world (WHO, 2002; WHO, 2009), and are expected to be the world's number one cause of death or disability by the year 2020 (Gaziano, 2005; Gaziano, 2007). CVDs are the leading cause of morbidity and mortality within the Turkish population. CVDs are at the first rank among the causes of deaths in Turkey, leading to 205.457 of deaths accounting for 47.73% of all causes of death (T.C. Ministry of Health 2010). Today, it is estimated that there are 2 million patients with coronary disease and that the annual death toll caused by cardiovascular disease increases by approximately 90-100 thousand cases. In Turkey, annual mortality rate of cardiovascular disease is 5.2 per thousand for male patients, and 3.2 per thousand for female patients (Onat, 2009).

The role of the individual's attitude and behavior is significant in the occurrence of these diseases, such as cardiovascular diseases (WHO, 2002; WHO, 2009; Özvaris, 2006; Haskell, 2003). The most important step in improving prevention against cardiovascular disease is altering the habits into ingrained lifestyle. Such a change would be more efficient and cost-effective (Parker and Assaf, 2005). On the other hand if the risk factors are well known, a significant amount of deaths can be prevented by identification of individuals with these factors by implementing preventative programs accordingly

(Arıkan et al., 2009; Ural, 2011). Nurses can act as crucial communicators of this information to individuals identified with the noted risk factors. Early detection, education and life style changes can lead to a reduction of CVDs by increasing awareness of not only what causes CVDs but also of what can prevent CVDs through implementation of healthy habits such as diet, exercise, smoking cessation and other factors noted below (Check et al.,2004; Vale, 2000). It is mostly possible to prevent or alter the state of these factors. The behavior of individuals regarding healthy lifestyle choices is most probably linked to their "health beliefs, including their perceptions of susceptibility, severity, benefits and barriers" (Gilski, 2005; Hasse et al., 2004; Glanz & Bishop, 2010). According to studies carried out in countries, awareness on risk factors is not only limited among lay people, but also it dependes on the nature of the society under investigation (Jafary et al., 2005; D'Agostino et al., 2008; Ton et al., 2011). The research questions are: 1.What are the risk factors, awareness, lifestyle habits and attitude towards CVD and its prevention within the Turkish population? 2.What is Turkish people's level of information about CVDs.

Methods

The descriptive cross-sectional study was performed at Karabuk Life and Health Center in Turkey. The study was conducted from June 2012 to August 2012. Participants were recruited from a family physician's clinic in a residential area of Karabuk City. People who are over 18 age who can both read and write Turkish well participated the survey. A total of 300 people meeting these criteria were selected. Prior to data collection, the study was approved by the Institutional Review Board for the protection of human subjects and the clinic administrator. The participants were informed about the purpose of the study. In addition to this, they were also informed that responses would be kept confidential, and they would have the right to withdraw from the study at any time.

A data collection form consisted of two parts. The first part of questionnaire included descriptive characteristics and history of health status and coronary heart disease. The second part of questionnaire included Cardiovascular Disease Risk Factors Knowledge Level Scale (CARRF-KL) prepared by Arıkan et al.[9] In the related study, the Cronbach's coefficient alpha for the scale was 0.768. Reliability calculation; from the point of post evaluation and reevaluation scoring, there were positive correlation between the total points of two applications (Spearman: r=0.850; p=0.000).

Validation calculation; in the evaluation of scales validation, it was estimated that the knowledge level of individuals who have CVDs and/or family history of CDVs would be higher. The average scale's point of individuals who have CVDs and/or family history of CDVs (20.2 ±3.1) was higher than those who have not (t=2.156; p=0.032). The scale composed of 28 items focused on the features of CVDs. All the items were based on true/false statements requiring a response in the form of "Yes", "No" or "Don't know". For every correct reply 1 point is given. The highest point that can be obtained from the criterion is 28. Data for the study has been collected with face-to-face interviews. The time for participants to complete the questionnaire was approximately 10-15 minutes.

Statistical analysis.

The SPSS 15.0 (SPSS Inc., Chicago, IL, USA, 2006) software was used for analyzing the data. The appropriateness of the scale points to the normal distribution was investigated by a Single Sampling Kolmogorov– Smirnov test. The data were analyzed by using Mann Whitney U test and Kruskal Wallis Test.

Results

Characteristics of participants

All of the 300 participants completed the questionnaires with no discarded questionnaires or missing information. The characteristics of the respondents are shown in Table 1. The age ranged from 20 to 74 years (mean 34.58, SD ±11). 53.3% of the participants are male and 46.7% are female. Of the participants, 70% are married, 42% had completed elementary school, 92% had health insurance, 86.3% did not use alcohol, 61% were non-smokers. Regarding exercise, 114 (38%) patients had no regular exercise at all and only 47 (15.7%) patients had an exercise level three times per week. It was observed that more than half of the participants (58.7%) had a diet high in protein and fat and low in fiber. The mean body mass index of the participants was 25.59 ± 4.63. 49% of the patients were either underweight (BMI < 25 kg/m^2), 35.3% were normal weight (BMI: 25-30 kg/m^2) and 15.7% were overweight (BMI >30 kg/m^2).

Table 1. Characteristics of the participants (n = 300)

Characteristics	n	%
Age(mean)	34.58 ±11.00	
Sex		
Female	140	46.7
Male	160	53.3
Marital status		
Married	210	70.0
Single	90	30.0
Education		
Elementary school	126	42.0
High school	88	29.3
Graduate level or higher	86	28.7
Insurance Status		
Yes	276	92.0
No	24	8.0
Alcohol use		
Yes	41	13.7
No	259	86.3
Smoking		
Yes	117	39.0
No	183	61.0
Exercise		
Never	114	38.0
Occasionally	71	23.7
Once a week	68	22.7
Three times per week	47	15.7
Nutrition		
Lots of fruits and vegetables	124	41.3
Low- fiber, high- protein and fat	176	58.7
Body mass index (BMI)		
< 25 (underweight)	147	49.0
25-30 (normal weight)	106	35.3
>30 (overweight/obese)	47	15.7
Mean body mass index (M ± SD)	25.59	4.63

* Mean + Standard Deviation

Table 2. Participants' Health Behaviors, and Health History (n=300)

Characteristics	n	%
Self-perceived health		
Fair/poor	91	30.3
Good/Excellent	209	69.7
Have a family doctor		
Yes	205	68.3
No	95	31.7
Latest Check up date		
No	194	64.7
Within 1 year	73	24.3
In the last two years and over	33	11.0
Existence of any chronic disease		
Yes	63	21.0
No	237	79.0
Hypertension		
Yes	48	16.0
No	235	78.3
Unknown	17	5.7
Blood Pressure Control		
Yes	209	69.7
No	91	30.3
Diabetes Mellitus		
Yes	29	9.7
No	258	86.0
Unknown	13	4.3
Fasting Blood Glucose Control		
Yes	204	68.0
No	96	32.0
Cholesterol Control		
Yes	97	32.3
No	203	67.7
Family history		
Hypertension	137	45.7
Diabetes mellitus	121	40.3
Hypercholesterolemia	101	33.7
Coronary artery disease	69	23.0
Cardiovascular surgery	64	21.3
Perceived risk for cardiovascular diseases*		
No risk	105	35.0
Usual	123	41.0
Moderate	56	18.7
Strong	16	5.3
Having information for cardiovascular diseases and theirs screening methods		
Yes	102	34.0
No	198	66.0
Source of information		
Physician	69	30.0
Radio/Television	40	13.3
Friend/family member/Other people	29	9.7
Nurse	10	3.3
Internet	20	6.7

***Participant having check up was included**

Table 3. Comparison of Cardiovascular Disease Risk Factors Knowledge scores according to some characteristics of participants (n = 300)

Characteristics	Mean	SD	
Sex			
Female	20.04	4.006	
Male	18.44	4.709	*P*=0.003*
Diabetes Mellitus			
No	18.93	4.489	
Yes	21.34	4.002	*P**=0.006*
Unknown	19.31	3.728	
Hypercholesterolemia			
No	19.41	4.452	
Yes	21.32	2.810	*P**=0.000*
Unknown	17.55	4.555	
Perceived risk for cardiovascular diseases			
No risk	18.11	5.308	
Usual	19.58	3.875	
Moderate	19.63	3.840	*P**=0.022*
Strong	21.63	2.918	
Family history of hypertension			
No	18.43	4.848	
Yes	20.08	3.773	*P*=0.003*
Family history of diabetes mellitus			
No	18.70	4.689	
Yes	19.89	4.012	*P*=0.017*
Family history of hypercholesterolemia			
No	18.72	4.773	
Yes	20.09	3.622	*P*=0.030*
Family history of heart disease			
No	18.79	4.567	
Yes	20.51	3.822	*P*=0.004*
Having information for cardiovascular diseases and theirs screening methods			
No	18.51	4.389	
Yes	20.50	4.318	*P*=0.000*

**Mann-Whitney U test, ** Kruskal Wallis Test*

Participants' Health Behaviors and Health History

Participant's health behavior and health history properties are shown in Table 2. 69.7% of the participants stated their health as good/excellent. Approximately one third of the participants (68.3%) had family physician and 79% of them did not have any chronic illnesses. % 16 of the participants had stated that they had hypertension, 30.3% of them stated that they had never had their blood pressure. 9.7% of the participants have stated that they were diabetics. It was observed that 32 % of the participants have never had their fasting blood glucose tested and 67.7% have never had their blood cholesterol levels tested. The participants stated that 45.7% of them had hypertension, 40.3% of them had diabetes mellitus, 33.7% of them had hypercholesterolemia and 23% of them had coronary

heart disease when they were asked their family history in this study.

When the participants were asked if they found themselves at risk relating to cardiovascular diseases: 35% of them did not find themselves at risk, 41% of them stated that they were usual, 5.3% of them found themselves at strong risk. 66% of the participants have expressed that they did not get any information related to cardiovascular illnesses and screening tests. From the participants who have received results (34%), 30%of them have gathered information from the doctor, 13.3% of them from the radio /television, 9.7% of them from friends / family members / other people, 3.3% of them from the nurses (Table 2).

The Participants' knowledge of Cardiovascular Disease Risk Factors

Table 3 shows the participants' mean scores of their knowledge about risk factors concerning cardiovascular disease based on some demographical characteristics. It is found that mean score for the participants' knowledge levels about risk factors on cardiovascular disease is 19.18±4.46. There was not any statistical meaningful difference between age, education, alcohol consumption, smoking, exercise, nutrition, body mass index, general health condition, regular check up status and existence of hypertensive conditions of the individuals who have participated in the study and the point averages for the knowledge of the risk factors for cardiovascular diseases.

For women with a history for DM, hypercholesterol and who value themselves at high risk for CV disease the scale point averages are found to be high ($p<0.05$). Similarly the total scale point averages of people with hypertension, DM, CVDs, hyperchol who have knowledge about CVDs and monitoring methods were found to have high total scale point averages ($p < 0.05$) (Table 3)

Discussion

This chapter explains the results of the study within the context of the available literature about knowledge and attitudes towards CVDs. Our findings present that some aspects of CVDs are known among adult Turkish people at an average level. However, the knowledge of certain other important risk factors and preventive behaviors was more variable among the participants. Improved health care means developing health care habits that maximize the well-being of individuals and of society in general. In this respect, he or she has to avoid risky behavior patterns such as smoking, alcohol and drug consumption, wrong eating habits, inactivity, unhealthy weight management and exposure to stress in order to increase the existing behaviors of the individual to highest levels (Yalcinkaya et al., 2007).

In this study, it is observed that majority of the participants do not exercise regularly and have diets that are high in proteins and fats. On the other hand majority of the participants were underweight while 15% of them were obese in this study. In the study with respect to CVDs risks it is seen that the majority of the participants are obese, and they demonstrate different behaviors according to their exercising and eating characteristics (Jafary et al., 2005; Suminski et al., 1999; Linda, 2006; Khan et al., 2006; Winham & Jones, 2011; Za et al., 2012; Rosediani et al., 2012). The fact that two important health behaviors such as regular exercise and balanced diet are not in the desired levels shows that this group has a risk of both obesity and CVDs. Even though the frequency of obesity in this study is found to be lower than the overall population of the Turkish society (T.C Ministry of Health Report 2010; Onat et al., 2004), obesity in Turkish society, like the rest of the world, is an ever increasing health problem and is a significant risk factor in terms of CVDs. As it was announced for the first time with the diet suggestions of the American Heart Association in 1957, today it is known that it is necessary to keep the total and saturated fat content low in a diet (Jafary et al., 2005; Hunt et al., 2000), in order to prevent cardiovascular diseases and treatments. The majority of participants being underweight indicate that their nutrition is unbalanced and insufficient.

In this study, it is seen that the majority of the participants do not have any chronic health problems and perceive themselves as healthy. Additionally one third of the participants have never had their blood pressure and fasting blood glucose tested, and two thirds have never their blood cholesterol levels tested. Among the participants, the rate of hypertension, diabetes, hypercholesterolemia and coronary artery disease in their family history is high. The majority of participants perceive themselves at low risk for CVDs. However the studies show that they are indeed at risk although they are not aware of it. In our study, the findings obtained show similarities with the other studies (Vale, 2000; Winham & Jones, 2011; Lynch et al., 2006).

Not being able to predict one's own cardiovascular risks takes place as one of the primary obstacle for the adults in terms of the development of the cardiovascular health (Haidinger et al., 2012).

Haidinger et al.(2012), demonstrate that the 56.4% of the women and 52.7% of the men can predict their actual cardiovascular risks.

Not being able to predict their actual risks causes the individuals not to perceive themselves at risk. Thus this can hold them back from gaining preventive health habits in early stages as well as researching life-saving initiatives when there are active CVDs symptoms (Schroetter & Peck, 2008).

In this study it is demonstrated that more than half of the participants did not obtain any information regarding cardiovascular diseases and screening tests, and the participants who had obtained information received it from their physicians. The screening tests play an important role in avoiding illnesses. It is a very concerning situation to see that the participants do not obtain information in the desired levels. Obtaining information makes it more conductive for the individuals to lead a more healthy life by increasing their awareness about risk factors and illness potential. The fact that majority of the participants inquired information from the physician is similar to Ton et al., 2011 study. In the study of Momtahan et al., 2004, while the participants were asking for information respectively from media, physicians, friends and nurses, it is noteworthy that the satisfaction level for the information obtained from the Heart Institute Nurse is at 92%. Decreasing the risk of the illnesses and bringing in healthy living habits are one of the primary functions of health personnel. In this respect, the physicians and the nurses that are working for all age groups, healthy or sick individuals, play a very important role (Erol & Erdogan, 2007). The studies that will be conducted to increase societal awareness about risk factors for CVDs will be designed as guidelines for health awareness. The correct, appropriate, comprehensive information can be provided to the society only by the health professionals. The physicians and the nurses who are working at preventive health services must inform the individuals about the risks of CVDs and how it can be prevented.

In this study, it is found that mean score for the participants' knowledge levels about risk factors on cardiovascular disease is at a medium level. The knowledge level of the participants regarding risk factors has differentiation factors or points (Jafary et al., 2005; Suminski et al., 1999; Khan et al., 2006; Winham and Jones, 2011; Rosediani et al., 2012; Haidinger et al., 2012; Wu et al., 2011). Although knowledge alone may be sufficient to change behavior it is necessary for self-assessment of information to develop average points to promote behavior changes which are the first step in accepting a program to promote a more healthy life style (Lynch et al., 2006). Basic knowledge assessment as part of all health education and promotion projects during formative evaluation and piloting can make programs relevant, meaningful, and successful with the target audience (Strecher & Rosenstock, 1997). In this study the fact that knowledge levels are found at an average level reveals that it is necessary to plan and evaluate training programs regarding the development of cardiovascular health.

It is seen that in this study the knowledge points regarding the risk factors of the cardiovascular illnesses are higher in women than men. It is stated that the knowledge levels and awarenesses of women regarding the cardiovascular diseases and risk factors are higher in women than men (Haidinger et al., 2012; Momtahan et al., 2004; Dracup et al., 2008). It is emphasized that the awareness of women relating to CVDs risks are gradually increasing, and the training is very effective on this (Webster & Heeley, 2010).

In this study, it is observed that the knowledge points regarding the risk factors for cardiovascular diseases of the individuals who see themselves at high risk with respect to cardiovascular diseases are higher than the others who have hypertension, diabetes, hypercholesterolemia, coronary artery diseases in their family history.

In the study of Jafary et al. (2005), it is noted that together with the individuals who have DM, HT and CVDs as well as a family history of CVDs have high knowledge base about cardiovascular disease. Again, in the studies conducted, the knowledge level of the individuals who have heart disease, hypertension in their family history is higher (Winham & Jones, 2011; Hunt et al., 2000).

The findings we have reached in our study show similarities with the literature. DM and HTN are among the major risk factors of CVDs and are found to be almost equivalent to each other. Therefore the participants who have CVDs or a family history of CVDs and value themselves at risk have an increased awareness of CVDs and its risk factors. There is a definite correlation between individuals who have an increased awareness of CVDs risk factors and the development of preventative health behaviors (Wu et al.,2011; Haidinger et al., 2012).

Limitation of this study

The results obtained from the sample group of this study cannot be generalized to the entire Turkish population. However; its author provides direction

for health care professionals for future studies about CVDs knowledge and behaviors with larger sample groups.

Conclusion

Cardiovascular disease continues to be the leading cause of death for Turkish people. Possible tactics to prevent heart disease prevention programs include increased awareness of risk factors and screening tests. Furthermore heart disease knowledge could be increased by promoting awareness of risk factors and screening tests. In this respect there should be an ongoing training by health care professionals to inform people about the risks of CVDs, its prevention and promotion of healthy heart habits. It is believed that by identifying the groups at risk and by raising awareness within this group, we can raise the monitoring level so as to minimize the occurrence of heart related illnesses.

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