

Evaluation of Cardiovascular Disease Risk Factor Knowledge Levels and Behaviors in Patients Admitted to Family Medicine Outpatient Clinic

Aile Hekimliği Polikliniğine Başvuran Hastalarda Kardiyovasküler Hastalıklar Risk Faktörleri Bilgi Düzeyleri ve Davranış Durumlarının Değerlendirilmesi

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Summary

Objective: Cardiovascular diseases (CVD) are the leading causes of mortality and morbidity all over the world. This study aimed to evaluate the knowledge level, awareness and attitudes of CVD risk factors in individuals applying to family medicine outpatient clinics.

Material and Methods: In this descriptive and cross-sectional study, 212 people who applied to the Family Medicine Outpatient Clinics of Health Sciences University İzmir Tepecik Training and Research Hospital in January 2018 were included. A survey form questioning sociodemographic characteristics and healthy lifestyle behaviors and the cardiovascular disease risk factors knowledge level (CARRF-KL) scale were administered to the participants face to face. Data analysis was performed in SPSS version 20.0 and the significance level was accepted as $p < 0.05$.

Results: The mean scores of the CARRF-KL scale, which is used to question awareness of cardiovascular disease risk factors, are 19.82 (min-max: 1-27) in women; It was found to be 17.93 (min-max: 0-28) in men. It was observed that the average score of healthcare professionals (22.86) was higher than that of other professional groups. The mean score was found to be higher in those with a positive family history than in those without. ($p > 0.05$). A statistically significant relationship was detected between the increase in the score of the CARRF-KL scale and the presence of chronic disease, regular drug use, alcohol use and abdominal obesity in men ($p < 0.05$).

Conclusion: The results of the study show that the group with chronic diseases and regular medication users has a higher level of knowledge and awareness about cardiovascular diseases. The low level of awareness about CVD in certain groups with risks such as obesity, smoking, and having a family history of cardiovascular disease draws attention to the need to increase information and awareness by conducting screening and education studies on CVD risk factors.

Key words: Awareness, cardiovascular diseases, family medicine, primary prevention, risk factors

Özet

Amaç: Kardiyovasküler hastalıklar (KVH) bütün dünyada en başta gelen mortalite ve morbidite sebeplerindendir. Bu çalışmada aile hekimliği polikliniklerine başvuran bireylerde KVH risk faktörleri bilgi düzeyi, farkındalık ve tutumlarını değerlendirilmesi amaçlandı.

Gereç ve Yöntem: Tanımlayıcı ve kesitsel olan bu çalışmaya Sağlık Bilimleri Üniversitesi İzmir Tepecik Eğitim ve Araştırma Hastanesi Aile Hekimliği Polikliniklerine 2018 yılı Ocak ayında başvuran 212 kişi dahil

edildi. Sosyodemografik özellikler ve sağlıklı yaşam biçimi davranışlarını sorgulandığı bir anket formu ve kardiyovasküler hastalıklar risk faktörleri bilgi düzeyi (KARRİF-BD) ölçeği katılımcılara yüzyüze olarak uygulandı. Verilerin analizi SPSS 20.0 versiyonda gerçekleştirildi ve anlamlılık düzeyi $p<0,05$ olarak kabul edildi.

Bulgular: Kardiyovasküler hastalıklar risk faktörleri farkındalığını sorgulamak amacıyla kullanılan KARRİF-BD ölçeği **ortalama skorları** kadınlarda 19,82 (min-max: 1-27); erkeklerde 17,93 (min-max: 0-28) olarak bulundu. Sağlık çalışanları olanların puan ortalaması (22,86), diğer meslek gruplarından daha yüksek olduğu görüldü. Aile öyküsü pozitif olanlarda puan ortalaması, olmayanlardan daha yüksek bulundu. ($p>0,05$).

KARRİF-BD ölçeğinin puan artışı ile kronik hastalık varlığı, düzenli ilaç kullanım durumu, alkol kullanım durumu ve erkeklerde abdominal obezite arasında istatistiksel olarak anlamlı bir ilişki saptandı ($p<0,05$).

Tartışma: Çalışma sonucunda kronik hastalıkları olan ve düzenli ilaç kullanan grubun kardiyovasküler hastalıklar açısından daha yüksek bilgi ve farkındalık düzeyinin olduğunu göstermektedir. Obezite, sigara kullanma, ailesinde kardiyovasküler hastalık öyküsü olma gibi risklere sahip özellikli grupların KVH hakkındaki farkındalık düzeyinin düşük olması, KVH risk faktörlerine yönelik tarama ve eğitim çalışmalarının yapılarak bilgilendirme ve farkındalığın artırılmasının gerekliliğine dikkat çekmektedir.

Anahtar Kelimeler: Farkındalık, kalp ve damar hastalığı, aile hekimliği, primer korunma, risk faktörleri

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Introduction

Cardiovascular diseases (CVD), one of the most important causes of mortality and morbidity in the world, include coronary heart diseases (CHD), cerebrovascular diseases (CVD), hypertension, peripheral arterial diseases, rheumatic heart diseases, congenital heart diseases, heart failure and cardiomyopathies (1,2).

Various risk factors play a role in the development of cardiovascular diseases. Modifiable risk factors include hypertension, hyperlipidemia, obesity, diabetes, unhealthy eating habits, smoking, physical inactivity and stressful lifestyle (3). The World Health Organization reports that the incidence of CVDs can be halved by controlling blood pressure, obesity, cholesterol and smoking (3). In such an important health problem, it is clear that primary and secondary prevention studies should be emphasized rather than treatment studies that can be carried out with extremely high costs (4).

The most important factor in community based prevention is life related habits. This is because changing lifestyle and behaviors is cheaper and more effective (5). According to social behavior models, the first condition for changing behaviors is that individuals know the negative health consequences of their behaviors. Since insufficient information will lead to insufficient motivation to change lifestyle and behaviors, CVD prevention efforts should focus on

community information programs (5,6).

There is a need to measure the level of knowledge about CVD risk factors in order to plan and evaluate programs to be implemented for prevention of cardiovascular diseases (7). It is important to question the patient's risk status and take preventive measures accordingly when the patient is admitted to family medicine outpatient clinics. In this way, individuals in risk groups can be identified and awareness can be increased.

The aim of this study was to evaluate the level of knowledge and behavioral status of patients who applied to family medicine outpatient clinics about CVDs.

Material and Methods

Population of the study consisted of individuals over 18 years of age who applied to the Family Medicine Outpatient Clinics of the Ministry of Health, Health Sciences University, Izmir Tepecik Training and Research Hospital during the data collection period. Individuals who applied to the outpatient clinics between 01.01.18-31.01.18 participated in the study on a voluntary basis. In this descriptive cross-sectional study, 212 individuals participated.

Raosoft program was used to determine the sample size. Taking the population as 450, confidence interval as 95% and margin of error as 5%, the sample size was calculated as 208.

The inclusion criterias for the study are: being over 18 years of age, applying to family medicine and obesity polyclinics, and giving voluntary consent, being under the age of 18, not applying to family medicine and obesity outpatient clinics and not giving voluntary consent were determined as exclusion criteria from the study.

Data Collection Instruments:

In the study, a questionnaire form developed by the researchers based on the existing literature and the Cardiovascular Diseases Risk Factors Knowledge Level (CARRF-KL) Scale were used to collect data.

The voluntary consent form, which included an explanation and information about the purpose of the study, was given to all participants and their consent was obtained. The questionnaire was then completed by the first researcher using face to face interview method. The total administration time of the questionnaire was approximately 30 minutes per participant. During the data collection, the researcher answered all the questions of the participants about the questionnaire and made necessary explanations, but did not comment or guide them.

In the questionnaire form, sociodemographic characteristics of the participants (gender, age, occupation, marital status, number of children, education level, income level), presence of chronic diseases, medications used continuously and family history of heart disease, healthy lifestyle behaviors (smoking and alcohol use, exercise and eating habits) were questioned.

Anthropometric Measurements:

Height, weight and waist circumference measurements of the individuals participating in the study were performed by the first researcher. The same scale and the same inflexible tape measure were used for the measurements. The scale was calibrated before each measurement. participants' weight was measured in kilograms (kg) while wearing their daily clothes and shoes. Waist circumference was measured at the crista illiaca line with an inflexible tape measure and recorded in centimeter (cm).

In the study, the Cardiovascular Diseases Risk Factors Level of Knowledge (CARRF-KL) Scale, which was developed by Arıkan et al. (79) (2009) and whose validity and reliability study was conducted, was used to determine the level of knowledge of risk factors in cardiovascular diseases. The items in the scale are presented to the participants in the form of a complete sentence that can be true or false and the participants are asked to answer these statements as "Yes", "No" or "I don't know". Each correct answer is given 1 point. Twenty-two questions are scored straight and six questions (11,12,16,17,17,24,26) are scored in the reverse direction. The first 4 items of the scale asked about the characteristics of cardiovascular diseases, preventability and age factor, the next 15 items asked about risk factors, and the remaining 9 items asked about the outcome of change in risky behaviors. The highest total score that can be obtained from the scale is 28. In the study, the range of 20-28 points obtained from the CARRF-KL score scale was considered as adequate level of knowledge, the range of 10-19 points as intermediate level, and the range of 0-9 points as inadequate level of knowledge. It is concluded that the higher the scale score, the higher the knowledge level of the individual. Permission to use the scale was obtained from Dr. Arıkan via e-mail.

Statistical Analysis:

Data analysis was performed in SPSS version 20.0 and significance level was accepted as $p < 0.05$. Categorical variables were presented as frequency and percentage, descriptive findings and continuous variables were presented as mean. Chi-square test was used to compare the dependent variable, knowledge of cardiovascular disease risk factors, with independent variables and Fisher exact test was used to evaluate the relationship between them.

Ethical Approval:

Written permission of the relevant institutional administration was obtained from the Ethics Committee of Health Sciences University İzmir Tepecik Education and Research Hospital with meeting number

one and decision number 38 dated January 10, 2018. Since the study was based on volunteerism, participants who signed the informed consent form and agreed to participate in the study were included in the study.

Results

Sociodemographic data, anthropometric measurements and knowledge of cardiovascular disease risk factors were evaluated in 212 participants. 71.7% of the participants were female and 72.2% were

married. The age range was 45-64 years (41.0%) and 25-44 years (39.2%). According to occupational groups, 24.5% were housewives, 23.6% were self-employed, 15.6% were civil servants, 13.2% were workers, 6.6% were health workers, 6.6% were unemployed, 5.2% were students and 4.5% were retired. There was no homogeneous distribution as 44.8% of the participants had higher education and 31.1% had primary education. According to income status, only 13.2% had an income above 5000 TL per month (Table 1).

Table 1. Sociodemographic Data of the Participants

		Number (n=212)	Percentage (%)
Gender	Female	152	71.7
	Male	60	28.3
Age (years)	18-24	22	10.4
	25-44	83	39.2
	45-64	87	41.0
	65-74	17	8.0
	≥75	3	1.4
Profession	Housewife	52	24.5
	Worker	28	13.2
	Retired	10	4.7
	Self-employment	50	23.6
	Health worker	14	6.6
	Officer	33	15.6
	Student	11	5.2
	Not working	14	6.6
Marital status	Married	153	72.2
	Single	59	27.8
Education status	Illiterate	6	2.8
	Primary education	66	31.1
	High school	45	21.2
	Higher education	95	44.8
Income status (TL)	<1400	100	47.2
	1400-4999	85	40.1
	≥5000	27	13.2

The rate of obesity in the study participants was 43.9% (n=93). According to waist circumference measurements, 67.5% (n=102) women and 43.3% (n=26) men were in the high risk group. Of the participants, 54.7% (n=116) had a chronic disease and 53.3% (n=116) were taking medication regularly (Table 2). Those with a family history of cardiovascular disease were 48.6% (n=103). 57.5%

(n=122) of the participants stated that they did not smoke; 58.0% (n=124) stated that they did not drink alcohol. 30.2% (n=64) stated that they did not have regular exercise habits. When questioned about their eating habits, 70.3% (n=149) consumed low-salt meals and 91.9% meals and 91.9% (n=194) had daily fruit consumption habits.

Table 2. Distribution of Participants According to Background and Lifestyle Habits

		Number (n=212)	Percentage (%)
Chronic disease status	Yes	116	54.7
	No	96	45.3
Regular medication use status	Yes	113	53.3
	No	99	46.7

In the study, the range of 20-28 points obtained from the CARRF-KL score scale was considered as adequate level of knowledge, the range of 10-19 points as intermediate level, and the range of 0-9 points as inadequate level of knowledge.

The mean score on the CARRF-KL scale, which we used to question awareness of cardiovascular disease risk factors, was 19.29. The mean score was 19.82 in women ($p>0.05$) and 17.93 in men ($p>0.05$). There

was no statistically significant correlation between gender and CARRF-KL score. The mean score of healthcare professionals was (22.86) and higher than other occupational groups. In addition, the mean score was 20.34 in those with a positive family history and 18.29 in those without a positive family history ($p>0.05$). No statistically significant correlation was found between family history and CARRF-KL score (Table 3).

Table 3. Participants' Mean Scores on the CARRF-KL Scale

		Mean score on the CARRF-KL Scale
Gender	Female	19.82
	Male	17.93
Age (years)	18-24	19.27
	25-44	19.18
	45-64	19.83
	65-74	17.40
Profession	Housewife	1.9
	Worker	15.93
	Retired	22.0
	Self-employment	18.9
	Health worker	22.86
	Officer	21.33
	Student	20.45
	Not working	17.43
Family History of CVD	Yes	20.34
	No	18.29

As a result of statistical analyses, the knowledge level of the group between the ages of 25-64 was considered adequate. When the distribution according to gender was analyzed, 77.6% of women had adequate level of knowledge (Table 4). When evaluated according to anthropometric measurements, 50% of those with adequate knowledge were normal weight, 45.7% were obese and 30.2% were overweight (Table 5).

Again, 61.2% of the individuals with high awareness of cardiovascular diseases had a chronic disease, 60.3% were taking medication regularly, and 55.2% had a family history of CVD. The majority of individuals with a high level of knowledge, 59.5%, did not smoke, 53.4% did not drink alcohol and 62.1% reported that they occasionally exercised irregularly.

Table 4. Distribution of Participants' CARRF-KL Scale Scores According to Sociodemographic Data

			CARRF-KL Scores			Total	P
			0-9	10-19	20-28		
Gender	Female	N	9	53	90	152	0,59
		%	64,3	64,6	77,6	71,7	
	Male	N	5	29	26	60	
		%	35,7	35,4	22,4	28,3	
Age	18-24	N	1	9	12	22	0,21
		%	7,1	11,0	10,3	10,4	
	25-44	N	6	34	43	83	
		%	42,9	41,5	37,1	39,2	
	45-64	N	3	34	50	87	
		%	21,4	41,5	43,1	41,0	
	65-74	N	4	5	11	20	
		%	28,6	6,1	9,5	9,4	
Toplam		N	14	82	116	212	
		%	100,0	100,0	100,0	100,0	

Table 5. Distribution of Participants' CARRF-KL Scale Scores According to Anthropometric Measurements

			CARRF-KL Scores			Total	p	
			0-9	10-19	20-28			
BMI	18,5-24,9	N	2	26	28	56	0,59	
		%	14.3	31.7	50,0	26,4		
	25-29,9	N	4	24	35	63		
		%	28.6	29.3	30,2	29,7		
	>30,0	N	8	32	53	93		
		%	57.1	39.0	45,7	43,9		
Total		N	14	82	116	212		
		%	100.0	100.0	100,0	100,0		
Waist circumference (Female)	<80 cm	N	0	7	17	24	0,64	
		%	0.0	13.5	18,9	15,9		
	80-87 cm	N	1	10	14	25		
		%	11.1	19.2	15,6	16,6		
	>87 cm	N	8	35	59	102		
		%	88.9	67.3	65,6	67,5		
	Total	N	9	52	91	152		
		%	100.0	100.0	100,0	100,0		
Waist circumference (Male)	<94 cm	N	1	7	5	13	0,04	
		%	20.0	23.3	20,0	21,7		
	94-101 cm	N	3	14	4	21		
		%	60.0	46.7	16,0	35,0		
	>101 cm	N	1	9	16	26		
		%	20.0	30.0	64,0	43,3		
Total		N	5	30	25	60		
		%	100.0	100.0	100,0	100,0		

A statistically significant relationship was found between the increase in the score of the KARRIF-BD scale and the presence of chronic disease, regular medication use and alcohol use ($p < 0.05$). While it was an expected result that those with comorbidities and those who used medication for this reason had a high level of knowledge and awareness, it was an unexpected result that those who used alcohol had a high level of awareness. This may have been influenced by the fact that 58.5% ($n=124$) of the participants had never used alcohol when questioned about their alcohol habits. According to waist circumference in men, those in the high-risk group had higher mean KARRIF-BD scores. The relationship between age, gender, obesity, family history of cardiovascular disease, smoking status and exercise habits and knowledge level could not be shown in multivariate analysis ($p > 0.05$) (Table 3-5).

Discussion

When the relationship between sociodemographic data and cardiovascular knowledge levels was evaluated in this study, it was found that the mean KARRIF-BD score was higher in women than in men. When evaluated according to the age range, the mean score of CARRF-KL decreased with increasing age. When evaluated according to occupational groups, the knowledge level of those working in income-generating jobs was higher; among these, the knowledge level of healthcare workers was the highest (Table 3). A high level of knowledge and awareness among healthcare workers was expected and desired. Improvement in income status may facilitate access to health institutions and information sources.

Tan et al. found that the level of knowledge of cardiovascular disease risk factors in women living in rural areas decreased with increasing age and the mean knowledge level scores of primary school graduate women were higher than those of illiterate women (8).

Similar results to our study were found in other studies conducted in our country. In the study by Antsoy et al. it was found that KARRIF-BD scale scores were higher in women (Table 3) (9). Similarly, Badır et al. 1138 nursing students, they found that the CARRIF-BD scale scores varied

according to the year of education, gender and type of college, and the knowledge level of female students was higher than that of male students (10). The fact that women have more knowledge may be related to the fact that their awareness is higher and they are more willing to learn new information.

Potvin et al. determined that education was the strongest factor for cardiovascular risk factors and socioeconomic indicator. In their study, they found that those with undergraduate education had a high level of knowledge about risk factors (11). We expected that individuals with a higher level of education would have a higher awareness of cardiovascular disease risk factors.

In the study conducted by Sözmen et al. it was revealed that the level of knowledge increased with increasing age, being married and working in income generating jobs (12).

The recommended methods for determining the risk of cardiovascular disease are the determination of central obesity (13). According to previous studies, the rate of abdominal obesity in our country was found to be 50.8% in women and 20.8% in men (14). In our study, 67.5% of women and 43.3% of men were in the high risk group according to waist circumference (Table 5). It can be said that the fact that 88.2% ($n=187$) of the majority of the participants did not have regular sports habits was effective in the high abdominal obesity rate compared to the national average. In addition, the fact that obese patients were also followed up in family medicine outpatient clinics may have been effective in the high rate compared to the national average. According to waist circumference in males, the mean KARRIF-BD scores of those in the high-risk group were higher. While the relationship between waist circumference and KARRIF-BD scale score was statistically significant in male participants, no statistically significant relationship was found in female participants. This indicates that CVD awareness increases as abdominal obesity is observed in men. Rexrode et al. followed 44,702 nurses aged 30-55 years for eight years, found that 320 cardiovascular

events occurred during this period, and at the end of the study, they found that the risk of cardiovascular disease increased as the waist circumference or waist-hip ratio increased (15). The high prevalence of central obesity in women in this study, as in other studies, points to important health problems that the female population will face in the future, especially cardiovascular diseases and diabetes mellitus (16, 17).

The mean CARRF-KL scores of the participants with and without a family history of heart disease did not differ statistically significantly ($p>0.05$). Unlike our results, Yazid et al. and Jafary et al. reported that individuals with a family history of heart disease had a higher level of knowledge (18, 19). While those with a family history of heart disease are expected to have higher awareness, the low level of knowledge of the participants in our study may be due to the fact that the majority of them were at a low sociocultural level. The majority of our participants were housewives and had low income levels. Screening studies for these individuals at risk should be increased and adequate information should be provided to increase CVD awareness.

The limitation of the study is that the presence of disease and drug use in the family and in their background, which were asked in the questionnaire, were not determined from the records but were based on their statements. On the other hand, the standardized measurement of BMI and waist circumference of the participants by the researcher was considered as an important advantage of the study.

Conclusion

When the factors associated with the score of the CCRIF-BD scale were examined, it was found that it was associated with the history of chronic disease, medication use status, and alcohol use status (Table 4-5).

In this study, it was determined that awareness of cardiovascular diseases was high in those with a history of chronic disease and regular drug use, whereas it was low in those with no known comorbidities and regular drug use. Awareness of

CVD risk factors can be increased especially in primary care preventive medicine services.

In this study, obesity and central obesity rates according to BMI were found to be high, similar to those seen in the general population. In addition, it was found that such groups with obesity, smoking, family history of cardiovascular disease and at-risk groups were not sufficiently aware of CVD. This may constitute an important public health problem and disease burden. For this reason, preventive medicine services including information, screening and follow-up activities especially for individuals at risk for CVD are very important in family medicine. Increasing education and counseling services in periodic health examinations and determining strategies to raise awareness at the community level can make a significant contribution. By conducting field studies with a larger sample size, the level of public awareness of cardiovascular risk factors such as obesity and smoking, which are the leading causes of preventable deaths, can be increased.

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