Letter to Editor

Perceived Nonpsychological Etiologies of Cardiovascular Diseases are Unable to Predict Heart Risk Perception

Dear Editor,

Heart risk perception is an important predictor in adopting a healthy lifestyle and prevention of cardiovascular diseases (CVDs).[1] Numerous reports in the general and clinical population with more than three cardiac risk factors indicate that most people underestimate their risk of CVDs.[2-4] Incorrect understanding of people about cardiovascular risk affects their health behaviors.[2] In addition to heart risk perception, prevention of CVDs requires an understanding of the illness risk factors.[5] Perceived heart risk factors (PHRFs) include five classes of biological (gender, age, family history), environmental (smoke and toxic substances, water and air pollution, war), physiological (diabetes, high blood pressure, high cholesterol, obesity), behavior (nutrition, smoking and drug abuse, sedentary lifestyle, work pressure physically), and psychological risk factors (anger and hostility, stress, anxiety, and depression).[6-9] In the primary prevention phase, the identification of the factors associated with heart risk perception can be effective in controlling the fatal cardiac events. Thus, it is necessary to examine the relationship between PHRFs and heart risk perception.

Based on these considerations, the present study was conducted to examine the relationship between PHRFs and heart risk perception. During September–October 2016, 65 patients referred to an outpatient clinic of Imam Reza Hospital in Kermanshah were studied. The participants were randomly selected and responded to the questionnaire after written informed consent to participate in the study. Furthermore, this study was approved by ethical committee of Kermanshah University of Medical Sciences. PHRFs scale with Iranian validation and standardization[8] and heart risk perception scale[1] as valid measurements were provided for the samples by a clinical psychologist. Participants completed forms after receiving the necessary explanations. After confirming no violations of statistical assumptions,[10] data were analyzed using Pearson correlation coefficient. In addition, linear regression analysis was used to determine the role of PHRFs in predicting heart risk perception. All statistical analyses were performed using the software SPSS ver. 20.0 for Windows (IBM SPSS, Armonk, NY, USA) software.

According to the results, the participants (67.7% male) aged between 18 and 70 years (with mean and standard deviation was 38.1 ± 13.7 years). In terms of demographics profile, 58.5% of the participants were married, 32.3% housewives, 26.2% employee, 13.8% self-employed, and others were retired or unemployed. In terms of education, 20.4% of the participants were under diploma, 40.1% high school diploma, and 39.5% with a college education. Diabetes (7.7%), hypertension (13.8%), hyperlipidemia (15.4%), overweight (38.5%), smoking (7.7%), and family history of heart disease (10.8%) were the most common risk factors, respectively. In relation to the main analysis, Table 1 shows the correlation between PHRFs and heart risk perception. As can be seen, there is a direct relationship significantly between perceived psychological risk factors ($P = 0.006$) and physiological ($P = 0.031$) with heart risk perception. In the regression model for heart risk perception, only P value associated with psychological risk factors ($\beta = 0.432$, $P = 0.013$) is statistically significant. Hence, these risk factors are the most powerful predictors of heart risk perception. In general, the model summary shows that PHRFs are not significantly able to predict heart risk perception ($F = 2.124$, $P > 0.05$). Although PHRFs generally can explain 15.3% of the heart risk perception variance.

Due to the low amount of R^2, it can be considered the role of other variables than PHRFs. Although our results showed that merely perceived psychological risk factors are effective in predicting heart risk perception. In other words, those who have a better understanding of psychological risk factors equally show greater understanding of heart risk. The knowledge and cognition could potentially lead to control these risk factors. Conversely, the perception of people about other heart risk factors has no role in risk perception. Considering that proper recognition and understanding of the population at risk of CVDs are effective in adopting a healthy lifestyle,[2,3] lack of correlation

Table 1: The correlations and linear regression model for predict of heart risk perception							
Perceived risk factors	Risk perception		Summary of the model	B	β	t	P
	r	P					
Biological risk factors	0.117	0.177	R=0.391	0.154	0.056	0.424	0.673
Environmental risk factors	0.065	0.304	R²=0.153	−0.350	−0.230	−1.132	0.262
Behavioral risk factors	0.095	0.227	F=2.124	−0.129	−0.079	−0.396	0.694
Psychological risk factors	0.313	0.006	P=0.075	0.543	0.432	2.576	0.013
Physiological risk factors	0.233	0.031		0.298	0.142	0.925	0.359

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between PHRFs and heart risk perception is a serious warning. In particular, the lack of correlation between perceived behavioral risk factors (as modifiable and manageable factors) and heart risk perception reflects these people follow an unhealthy lifestyle do not know as a factor for CVDs. Therefore, training must be focused on increasing the knowledge of the general population about behavioral risk factors. It is necessary to highlight the role of the CVDs risk factors by health professionals.

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Conflicts of interest
There are no conflicts of interest.

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