

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	$R^2=0.153$	-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

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.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Ali Soroush¹, Mozghan Saeidi², Saeid Komasi³

¹Lifestyle Modification Research Center, Imam Reza Hospital, Kermanshah University of Medical Sciences, ²Cardiac Rehabilitation Center, Imam Ali Hospital, Kermanshah University of Medical Sciences,

³Clinical Research Development Center, Imam Reza Hospital, Kermanshah University of Medical Sciences, Kermanshah, Iran

Address for correspondence:

Dr. Saeid Komasi,

Clinical Research Development Center, Imam Reza Hospital, Kermanshah University of Medical Sciences, Zakarya Razi Boulevard, Kermanshah, Iran.

E-mail: s_komasi63@yahoo.com

REFERENCES

1. Ammouri AA, Neuberger G. The perception of risk of heart disease scale: Development and psychometric analysis. *J Nurs Meas* 2008;16:83-97.
2. Homko CJ, Santamore WP, Zamora L, Shirk G, Gaughan J, Cross R, *et al.* Cardiovascular disease knowledge and risk perception among underserved individuals at increased risk of cardiovascular disease. *J Cardiovasc Nurs* 2008;23:332-7.
3. Barnhart JM, Wright ND, Freeman K, Silagy F, Correa N, Walker EA, *et al.* Risk perception and its association with cardiac risk and health behaviors among urban minority adults: The Bronx coronary risk perception study. *Am J Health Promot* 2009;23:339-42.
4. Everett B, Salamonson Y, Rolley JX, Davidson PM. Underestimation of risk perception in patients at risk of heart disease. *Eur J Cardiovasc Nurs* 2016;15:e2-9.
5. Soroush A, Komasi S, Saeidi M, Heydarpour B, Carrozzino D, Fulcheri M, *et al.* Coronary artery bypass graft patients' perception about the risk factors of illness: Educational necessities of second prevention. *Ann Card Anaesth* 2017;20:303-8.
6. Komasi S, Saeidi M. Presentation of new classification of perceived risk factors and etiologies of cardiovascular diseases. *ARYA Atheroscler* 2016;12:295-6.
7. Saeidi M, Komasi S. Open single item of perceived risk factors (OSIPRF) toward cardiovascular diseases is an appropriate instrument for evaluating psychological symptoms. *J Cardio Thorac Med* 2016;4:527-8.
8. Saeidi M, Komasi S. Reliability and validity of perceived heart risk factors scale. *Ann Card Anaesth* 2017;20:114-6.
9. Saeidi M, Komasi S, Heydarpour B, Momeni K, Zakiei A. Those who perceive their disease as a physiological or psychological risk factor experience more anxiety at the beginning of the cardiac rehabilitation program. *Res Cardiovasc Med* 2016;5:e29291.
10. Pallant J. *SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS for Windows (Version 12)*. 2nd ed. Australia: Allen & Unwin; 2005. p. 172-93.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Access this article online

Quick Response Code:



Website:

<http://www.rcvmonline.com/>

DOI:

10.4103/rcm.rcm_3_17

How to cite this article: Soroush A, Saeidi M, Komasi S. Perceived Nonpsychological Etiologies of Cardiovascular Diseases are Unable to Predict Heart Risk Perception. *Res Cardiovasc Med* 2018;7:49-50.

© 2018 Research in Cardiovascular Medicine | Published by Wolters Kluwer - Medknow