

Psychosocial risk factors of cardiovascular disease in Pakistani adolescents and young adults: A Systematic Review

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Abstract

Objective: To systematically review the number of studies carried out to find the prevalence of various psychosocial risk factors for cardiovascular diseases in Pakistani adolescents and young adults.

Methods: The systematic review comprised key words searched through databases, such as Google Scholar, Science Direct, PubMed and Research Gate, from 2008 to 2017. Articles considered eligible were those reporting the point prevalence of psychosocial risk factors of cardiovascular diseases in the adolescents and young adults of Pakistani population aged 12-40 years.

Results: Of the 230 articles found, 21(9%) were from Pakistani. The most relevant 13(62%) of those articles were reviewed.

Conclusion: In Pakistani adolescents and young adults, psychosocial risk factors for cardiovascular diseases were found to be hypertension, stress, social support, depression, anxiety, physical inactivity and low socioeconomic status.

Keywords: Cardiovascular disease, CVD, Psychosocial risk factors, Adolescents, Young adults, Pakistan, Review.

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Introduction

Cardiovascular Disease (CVD) is number one killer in the world, followed by communicable diseases, cancers and others.¹ Presently the developing nations subsidise a greater share to the absolute burden of CVD compared to the developed countries. It is anticipated that CVD mortality rates will increase in the developing countries over the upcoming two to three decades due to a rise in life expectancy and lifestyle changes. Heart diseases are rising in Asians for 5-10 years earlier than in other populations around the globe. More importantly, the disease is increasing in young Asians.^{1,2} CVDs are regarded as the major problem in global health. This epidemic is increasing in magnitude in low- and middle-income countries (LMICs), including Pakistan, which is significantly contributing to the global CVD burden.² According to a study, CVD in young population of Pakistan is reported to be high.³ Regardless of the fact that either they live overseas or are native in their country, it is speculated as the higher risk factor for the healthy life of an individual.⁴ However, the awareness about the influence of social environment and the psychological factors for prevalence of CVD and its outcomes measuring in terms of psychosocial variable is complex and unique. As these variables are difficult to measure and define objectively, the cultural influences may become the reason for the locals to understand the psychosocial risk factors of CVD among whom depression, stress or anxiety are most common.⁵⁻⁷

In case of adolescents, growing body of investigations

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proposes that psychosocial factors, such as stress, hypertension or depression, might be associated with the development and progress of CVD, which are independent of other identified psychosocial risk factors.⁸ There are other factors lying outside the individual's control that can also influence health. Such factors include poverty, social factors, employment, housing, education, and the physical environment. The susceptibility of young adults for having chronic diseases is linked with the genetic factors and exposure to certain psychosocial factors throughout their life. The main risk exposures could be either sociodemographic (e.g., low socioeconomic position) or lifestyle related (e.g., smoking, diet, sedentary living, stress) and are likely to operate throughout the life span.⁹

Pakistan is a socially conservative Muslim country and many studies concerning the risk factors of CVDs have been conducted. However, the prevalence of literature for psychosocial risk factors of CVD in Young adults in Pakistani population is quite insufficient. In 2016, the Pakistan Health Research Council (PHRC) stated that the psychosocial risk factors for CVDs were increasing more in Pakistani adolescents and young adults.¹⁰ The current systematic review was planned to investigate the prevalence of psychosocial factor which leads to CVD in adolescents and young adults of Pakistan.

Definitions of Cardiovascular disease and psychosocial risk factors

Cardiovascular disease. It is defined as the cluster of diseases which affect the heart and the blood vessels. The accumulation of fats by constant addition in the arteries is regarded as CVD because these fats are the reason of

clotting. Due to this clotting, the blood vessel is blocked which is feeding the heart, and it causes a heart attack, and the blockage in blood vessels linked with the brain cause stroke.¹¹

Psychosocial risk factors. A psychosocial risk factor can be defined as an extent that possibly connects the psychological phenomena with the social environment and/or to pathophysiological variations to some degree.^{5,12} Such psychosocial factors include stress, hypertension, anxiety, depression, perceived social support, physical inactivity or sedentary lifestyle.

Methodology

For the systematic sequence, the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines were followed.¹³ For the search of literature, databases, like ResearchGate, PubMed and ScienceDirect, were explored. Google Scholar was also searched for additional records. List of key words, such as “Cardiovascular diseases in Pakistani adolescents”, “Psychosocial risk factors of cardiovascular disease in youth of Pakistani”, “Risk Factors of Cardiovascular disease in Pakistani young adults” and “Psychosocial risk factors of Cardiovascular disease in Pakistani young adults” were used to extract the required data. We included only published articles on psychosocial risk factors, in which age range of participants was 12-40 with adolescence and young adults.^{14,15} Inclusion of the peer-reviewed articles was tapered by keeping the scope of this systematic review

under consideration.¹⁶ The selected articles were only in English language conducted on Pakistani population from 2008 to 2017. Finally, after revising the process systematically, total 13 articles were selected which best served the study criteria (Figure). The main themes were collected through thematic analysis and reported as the findings of this review.¹⁷

Results and Findings

Of the 230 articles found, 21(9%) were Pakistani. The most relevant 13(62%) of those articles were reviewed (Figure).

Main themes were generated on the basis of the findings of the 13 cross-sectional researches and surveys included, showing the prevalence of various psychosocial risk factors of CVDs in Pakistani adolescents and young adults (Table).

Discussion

The main themes extracted from the chosen studies are as follow::

Depression, Anxiety and Stress

There was a shared concept that Pakistani adolescents and young adults have depression, anxiety and stress as the common risk factor of CVDs.^{4,6,18-22}

Hypertension and physical inactivity

There was a consensus in the chosen studies that hypertension was another major risk factor for CVD.² It was shown that hypertension and sedentary lifestyle were the most common risk factors in the young adult population of rural areas of Khyber Pakhtunkhwa.²³ The other important risk factors identified were lack of exercise or physical inactivity and hypertension.^{3,18,19,24-27}

Smoking

According to many recent studies in Pakistani adolescents or young adults, smoking, both active and passive, was regarded as another major risk factor for CVDs^{18,19,21-23} However, one study reported that there was very low ratio of smoking in CVD patients.⁶

Other factors

The other psychosocial risk factors associated with CVD were socioeconomic status, quality of life, perceived social support, family history, obesity and sleep.^{4, 6, 21-22, 24}

Limitations

Almost all the studies chosen for this systematic review were based upon self-administered data and cross-sectional study design, and, as such, cannot be considered in-depth researches. It is recommended that more exhaustive studies be carried out in this regard.

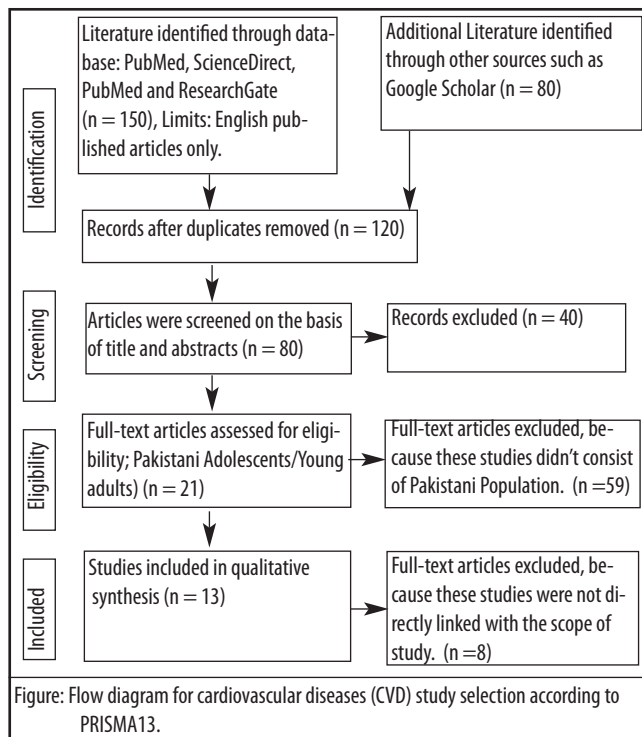


Table: Selected articles with their sources and important findings.

No.	Source Articles	Classification of Study Design	Findings of the respective studies
1	Ghaffar & Waheed (2016) ¹⁸	A cross-sectional study	1. In factors assessed; rural background complex family Structures, illiteracy, male smokers, large family members, low income and less activity were identified as major risk factors. 2. The study also found a greater percentage of patients having moderate to mild anxiety, depression and stress posing to be health risks in CVD.
2	Akhtar & Asghar (2015) ⁶	A cross-sectional study	1. This study showed a significant relationship of education, family history family members, marital/relationship status, blood pressure, age, stress, blood glucose and sleep with cardiovascular diseases (CVD). 2. Whereas, the other psychosocial factors like gender, socio-economic status, smoking (active or passive), diet, residence had no correlation with cardiovascular disease.
3	Dogar, et al. (2008) ¹⁹	A cross sectional study	In Pakistani Cardiac patients, the prevalence of MDD (Major depressive disorder) and GAD (Generalized anxiety disorder) was much higher. Depression and anxiety are considered as the independent risk factors for the development of Cardiovascular disease.
4	Qureshi et al. (2012) ²⁵	A cross sectional study	1. Physical inactivity, hypertension were risk factors of CVD. 2. The indicators of social stress were also more common like low educational status, more children, long working hours, long traveling time to and from job and limited financial resources.
5	Adeeb, Saleem, Kynat, Tufail & Zaffar (2017) ²¹	A cross sectional study	In this study, it was concluded that the perceived social support and quality of life has lower rate whereas death anxiety was at higher rate among the cardiovascular patients in Pakistan
6	Ali et al. (2013) ²⁶	A cross sectional study	There was no statistical significance association between diabetes, hypertension and hypercholesterolemia and profession with the CVD
7	Adnan, Qureshi, Fawad, Gul & Hafizullah (2013) ²⁴	A cross sectional study	This study found the higher frequency of risk factors such as obesity, hypertension. Smoking and lack of exercise for cardiovascular diseases
8	Abbasi, Gajjo, Kumar, Zainab & Fatmi (2013) ³	A cross sectional study	Hypertension and Diabetes were commonly reported comorbidities in the CVD.
9	Khan et al. (2015) ²³	A cross sectional study	CVD risk factors were more predominant in the rural population areas. The psychosocial risk factors were sedentary life styles obesity, smoking especially Naswar use, and diabetes in the population of lower socioeconomic status.
10	Khuwaja et al. (2011) ²⁰	A cross sectional study	CVDs were correlated with physical inactivity and the adverse psychosocial factors such as anxiety or depression along with passive smoking.
11	Naseer et al. (2013) ⁴	A cross sectional Study	In this study, the researchers determined that the depression mainly increases the cardiovascular diseases, other factors also associated with CVD are obesity and issues which are related to social environment and psychological problems
12	Sultana, Awais & Hayat (2016) ²²	A cross sectional Study	Among office workers, the risk of CVDs caused by occupational stress was relatively higher and other risk factors were smoking, age, family history.
13.	Abbas et al. (2013) ³	A cross sectional study.	Among all the risk factors of CVD, hypertension, smoking and obesity were the most common psychosocial risk factors.

Conclusion

The most prevalent psychosocial risk factors for CVDs identified were hypertension, stress, social support, depression, anxiety, physical inactivity and low socioeconomic status. Smoking, obesity, family history, quality of life and inappropriate sleep patterns were also considered among the risk factors.

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