

Access to Healthcare and Cardiovascular Disease
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ABSTRACT:

Background

Cardiovascular disease is the primary cause of death worldwide. This review focuses on the correlation between urbanity and CVD to observe the prevalence of CVD in rural versus urban areas. Possible risk factors and implications are also being studied to see if further intervention is required.

Methods

A literature review of five relevant studies using the PubMed database. The research focused on access to healthcare and prevalence of cardiovascular disease.

Results

The analysis of the five studies shows that urbanity directly correlates with risk/development of cardiovascular disease. Rural participants had a greater prevalence of CVD than urban participants. Males living in rural areas have greater INTERHEART scores versus their urban counterparts. Research also found that blood pressure is higher in rural areas and education regarding health is lower.

Discussion

The research showed that there is a greater prevalence of CVD and CVD risk factors in rural areas than urban areas. These studies show that further interventions such as education and preventive health may be required. Mandatory check ups and screenings along with mandatory health education may be beneficial.

INTRODUCTION:

Cardiovascular disease (CVD) is the primary cause of death worldwide, and its prevalence and complications among rural areas are greater as compared to urban areas [1]. CVD is a significant threat to rural dwellers, yet the extent and prevalence of it in these areas is almost impossible to find in national data sets [1]. To try to observe this data, researchers are trying to evaluate the extent to which health care access, lifestyle factors, and social risk factors contribute to any rural-urban differences in the prevalence of CVD [2]. The substantial disparities of cardiometabolic risk factors between rural and urban areas are almost entirely explained by social risk factors [2]. Although some interventions are taking place in these rural areas, studies

suggest that further efforts to improve prevention and conditions are required to decrease the rural-urban gap.

This review seeks to answer the following question: How does access to care impact cardiovascular disease? The five studies in this paper will be accessed to answer the question and possibly explore ways to prevent an inequity.

METHODS:

This literature review searched PubMed for original research using key search terms. These search terms included cardiovascular disease, heart attack, myocardial infarction, hypertension, and rural area. All articles were in English and no review articles were excluded. The results included five research articles from Malaysia, China, Zambia, and Sweden. The objective of this study is to answer the research question, “How does access to care impact cardiovascular disease?”

RESULTS:

A study in China conducted by Li et. al focused on examining the prevalence of CVD and mortality in subpopulations to estimate population-level risk (PAFs) attributable to common modifiable risk factors [3]. Participants with no prior CVD, consisting from both urban and rural areas were assessed using the following PAFs: four metabolic risk factors (hypertension, diabetes, abdominal obesity, and lipids), four behavioral risk factors (tobacco, alcohol, diet quality, and physical activity), education, depression, grip strength, and household air pollution [3]. It was found that the largest risk factors consisted of hypertension (10.8%), poor diet (8.3%), tobacco use (7.5%), and household air pollution (6.1%) [3]. In addition, the study found that the median rates of CVD and death were higher in men than women and higher in those in rural areas as compared to urban areas [3]. Another study conducted in China conducted by Cai et. al had a similar aim and wanted to evaluate the precedence of heart failure (HF) stages’ prevalence and specific prevalence by age, sex, and urbanity [4]. Participants were divided into Stage A (at-risk for HF), Stage B (pre-HF), and Stage C (symptomatic HF) [4]. The data presented showed that people had lower prevalence of Stage A, but higher prevalence of Stage B than the people from urban areas. For Stage C, both groups showed similar prevalence [4].

Tateyama et. al studied prevalence of hypertension and access to related healthcare services among rural residents of Mumbwa in Zambia [5]. They found that 39.7% of men and 33.5% of women in the area had hypertension [5]. They also found that among the participants without previous diagnosis of hypertension, one third presented with hypertension at the time of measurement [5]. In Malaysia, Hassim et. al examined the burden of cardiovascular risk factors among Malaysian adults and assessed the difference between urban and rural population in the selected communities [6]. They found that participants from rural areas were generally older, had lower educational status, higher prevalence of smokers, obesity, hypertension, diabetes, and more likely to be depressed [6]. The mean INTERHEART score among rural participants was higher,

especially for male, in comparison to those living in urban areas [6]. A study in Sweden conducted by Lindroth et. al investigated the risk factors in urban and rural populations in North Sweden [7]. They found that the largest differences between rural and urban areas were waist circumference of women, cholesterol of men, and BMI of women [7]. Blood pressure was higher in rural areas, and participants in rural areas were more often treated for hypertension and hyperlipidemia [7].

DISCUSSION:

This review aimed to assess the prevalence of cardiovascular disease in rural versus urban areas and conclude if and what further interventions can be taken. The five research articles used showed that there is a higher prevalence of CVD in rural populations than their urban counterparts [1,2,3,4,5]. The articles found that rural areas had a greater prevalence of CVD and risk factors.

Further interventions such as education on health risks in these areas may be beneficial in order to prevent lifestyle risk factors. Health risks include high blood pressure, diet, alcohol consumed, and physical activity. Education may look like required health teachings to everyone residing in rural areas regarding those risk factors. Ensuring that rural areas are given these teachings may aid in making sure residents are aware of potential health issues and have the knowledge of what to do to keep themselves healthy. Preventative health may be a potential solution to decreasing the high prevalence of CVD in rural areas. Routine check ups and health screenings would be beneficial because they provide rural residents with insight of their health and help spot early signs of CVD. This would allow time for the people to seek treatment and reduce risk factors earlier. We can do this by either requiring mandatory screenings and check ups or by providing them free of cost or with incentives in these areas.

A limitation is that all studies used in this literature review were in English. This prevents reviews that may have contradicting evidence not written in English to be excluded. Further research on the impacts of potential solutions such as preventative care and education should be researched to observe their effectiveness and see how to further improve solutions. Confounding variables should also be studied to see if prevalence in these areas had another variable involved. Furthermore, only reviewing five articles may not capture the full picture supported by the currently published literature.

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