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CARDIOVASCULAR DISEASE HEALTH AMONG THE HERMAPHRODITES (EUNUCHS): A SYSTEMATIC REVIEW

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Abstract

According to the World Health Organization, CVD will be the number one cause of morbidity and mortality in the world by the year 2015 and it is assumed that Indians would be the most affected amongst all ethnic population. As per census of India (2011) the total number of male and female is 696 and 652 million respectively. An estimated 5–6 million eunuchs live in India. Now they are identified as third gender by our new constitutional safeguard However, there is very little information available about their health and virtually no information is available on CVD risk factors among them. The present review work was an attempt to address this very important issue.

KEYWORDS: hermaphrodite, CVD, metabolic syndrome, type-2 diabetes, Asian Indians.

1. INTRODUCTION

Cardiovascular disease (CVD) is now a day the leading cause of death for men and women both in the developed and developing countries.[1] It was reported that the mortality from CVD was projected to decline in the developed countries from 1970 to 2015, while it was projected to almost double in the developing countries.[2] The prevalence of coronary heart disease (CHD) is known to be high in people of south Asian descent specially, subjects originally from Indian subcontinent.[3] For men and women, cardiovascular risk is known to increase with age, smoking, hypertension, blood lipids and glucose levels, and central obesity.[4] Rather than over the lifespan, approximately the same proportion of the female population as the male population dies from CVD, it has been traditionally considered as a middle-aged 'male' disease, the consequence has been for long, the exclusion of women from clinical trial and epidemiologic studies, making extensive to women the results obtained for men. In the 1970s, it was suggested that endogenous hormones protect against CVD in women, and that estrogen deprivation after menopause increased their cardiovascular risk.[5] It was also evident that among the Asian Indian women, postmenopausal women were more susceptible to diabetes and cardiovascular diseases than premenopausal women.[6]

2. Global perspective of CVD

In according to the World Health Organization, CVD will be the number one cause of morbidity and mortality in the world by the year 2015[7]; and it is assumed that Indians would be the most affected amongst all ethnic population.[8] There are various factors involved for rapid increasing of the CVDs. However, its complete etiology and mechanisms are yet to be understood. It may be said that not only developed countries will be affected by cardiovascular disease (CVD), the developing countries will also equally, even more, will be affected.[9] The rate of increase of CVD in developing countries is almost double in comparison to developed countries.[10] Specially, younger generations will be more affected in developing countries: for example, about 52% of deaths from CVDs in India occur before 70 yrs of age, compared with 23% in established-market economies.[11]

3. CVD risk among Asian Indians

In view of this large and upcoming disease burden, proper strategies to improve population health in India require consistent efforts to identify and address the real causes of this rapid rise of CVD. On the other hand, infectious diseases were responsible for 13%. It proves that the epidemic has reached its advanced stage even in rural India. Neglect of this scenario, particularly ignoring the socioeconomic context will further fuel the rapid rising of CVD among Indians. Although prevalence of conventional risk factors such as smoking, hypertension, and hypercholesterolemia is not higher in South Asians than in other ethnic groups, yet, it is seen that some risk factors for atherosclerosis are particularly prevalent among them, including high triglyceride concentration, increased level of total cholesterol to high-density lipoprotein cholesterol ratio, type 2 diabetes mellitus (T2DM) and central or visceral obesity.[12, 13, 14] Throughout the Asia-Pacific region, there are differences

in obesity prevalence as well as in body fat distribution.[15] It is noteworthy to mention that in Asian Indians, morbidity and mortality from CVD is occurring in people with lower body mass index (BMI) and smaller waist circumference (WC).[7] Thus intra abdominal visceral fat is accumulated in Asian Indians without developing generalized obesity.[16] South Asians (e.g. Indians) have a more centralized distribution of body fat and remarkably higher mean waist-hip ratio (WHR) for a given level of BMI compared with Europeans or Americans.[17] The metabolic syndrome (MS), which can be defined as the constellation of CVD risk factors, is one of the growing public health burdens in the Asia Pacific region, although they are no moreover weight than Europeans and Americans.[18]

4. Who are Hermaphrodites?

Eunuchs are given a homogenous social identity, irrespective of their physical or endocrine status. The Sanskrit term "tritiya prakriti," or third nature, is used to classify them. They are considered infertile persons, with a female gender identity, with masculine secondary sexual characteristics, with or without male external genitalia, with feminine gender role & predominantly homosexual identity. The eunuchs can therefore be termed as male-to-female (MTF) transsexuals. MTF transsexual persons may have abnormal hormonal imprinting, genetic makeup, or psychological attitude toward gender. They constitute a heterogeneous group of people, rather than conforming to a single genotypic or sexual stereotype. Although the community appears a homogenous monolith to outsiders, Indian eunuchs include a wide variety of medical, psychological, and endocrine conditions and variants.

Now at this time the Eunuchs are a very important part of our society & most importantly they are now identified as third gender by our new constitutional safeguard. As per census of India (2011), the total numbers of male and female are 696 million and 652 millions respectively. But surprisingly no data are available on eunuchs. Generally they were included under male population till days, but after identified them as third gender we virtually no nothing about them.

At the 20th century whereas throughout world mainly our South Asia or specifically Asian Indians who are most affected by the non communicable disease like CVD are in focus then how far they can be. So it is very crucial time for focusing on them for taking some step towards their health.

5. Hermaphrodites and CVD

Several surveys on CVDs were conducted across the country during the past few decades. But to the best of the knowledge of the author's actual picture had not been reflected due to unavailability of sufficient data. The objective of the study is to find out the detailed picture of CVDs in Asian Indian Population, particularly among the Eunuchs of the country. This study will help to point out the need of research so that some advanced diagnosis system may be developed for proper diagnosis of CVDs and to reduce the growing burden of CVDs in the country. This study will help to point out the need of research so that some advanced diagnosis system may be developed for proper diagnosis of CVDs and to reduce the growing burden of CVDs in the country.

6. Literature search strategies

We did a literature search using PUBMED search to identify all relevant studies of cardiovascular diseases among eunuchs. The search articles were also used for collecting further articles from their reference listings. The internet search keywords used were 'cardiovascular diseases', 'cardiovascular diseases in India', 'cardiovascular diseases risk factors', 'cardiovascular diseases and coronary artery disease', 'eunuch', 'sociological work on eunuch'. First, article titles and abstracts resulting from the search were reviewed for topic significance, and potential relevant full-text articles (or abstracts where full-text articles were unavailable) were extracted. Besides PUBMED searching, Google Scholar & manual searches have also been done.

7. Available information on Hermaphrodites across the world

It was reported that the eunuchs can be afflicted by gout which is common among the Chinese in Hong Kong, which is mainly a case study based on personal experience.[19] In another work[20], the occurrence of myocardial infarction in a young male eunuch with essential hyper cholesterolwinia was reported. The effect of the gonadal hormones on lipoprotein distribution is discussed, and the absence of the expected protection against atherosclerosis conferred by the eunuchoid state is attributed to the associated defect (essential hyper cholesterolkemia) which apparenitly is pre-eminent in rendering ineffectual the expected beneficial effects of a hypogonadal state on lipoprotein distribution and the degree of atherosclerosis.[20] Another similar study stated that the most likely explanation of the syphilitic infection was that it was of extra genital origin, though it should be remembered that eunuchs, while not fertile, were not necessarily impotent.[21, 22] A study in Pakistan reported that due to low level of accurate knowledge regarding STI/HIV and pernicious risk behaviours, hijras may become a potent source of HIV transmission, if necessary remedial measures are not taken.[23] Another study explores an important aspect of mediation in premodern Islamic society & focuses on the representation of eunuchs in the context of the sacred.[24] In another study conducted in South Africa reported on the migrants specially on the eunuchs, who were migrate from Ethiopia to the European country & how they face various kind of problem & how they struggle with that for living.[25] A study conducted in California by Hester David J where the author problematize the "celibate" eunuch, exploring implications that a symbol of sexual transgression would have for current discussion regarding the proscription of homosexuality in the

Church: Fundamental to understanding Matthew 19:12 is the explicit rejection of the heterosexist binary paradigm for understanding the role and importance of sex, sexuality and sexed identity in the "kingdom of heaven".[26, 27]

There also some work was done in India & most of them are case study or review work or sociological work. It was also reported in a story of a eunuch, who was brave enough to approach a community medicine resident in a municipal hospital for medical aid and counseling, and how she brought home the message that every patient deserves dignity and respect.[28] In a review work on their endocrine system reported that, yet, eunuch remains a neglected part of our population. Although they have obvious endocrine dysfunction, no systematic attempt has been made to evaluate, assess, and improve their endocrine health. This is in sharp contrast to the yeoman work done by other scientists, from allied disciplines to destigmatize the eunuchs. A concerted effort is needed by endocrinologists, and allied specialties, to understand the endocrinology of eunuchs and to optimize it.[29] In a cross sectional questionnaire survey revealed that eunuchs have poor oral health-related knowledge, attitude and practices along with higher prevalence of tobacco-related habits.[30]

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