CURRENT STATUS OF RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE IN NEPAL

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ABSTRACT

Rheumatic fever (RF) and rheumatic heart disease (RHD) are common in underdeveloped, deprived and depressed areas of the world. The progression of RHD is rapid in deprived communuties. Prevalence of RF and RHD has sharply declined in affluent and developed countries, especially after the introduction of antibiotcs. RHD is a preventable disease. RHD is a leading cause of cardiovascular deaths in developing countries. The prevalence of RF and RHD varies from place to place. In developing countries, young productive age groups are suffering from this disease while in developed countries it is becoming geriatric disease due to the betterment of living standards and prompt awareness upon this disease. Studies and documentation of the current ststus of RF and RHD in Nepal is the present concern.

Key Words: Rheumatic fever, Rheumatic Heart Disease.

INTRODUCTION

In the developing countries, which account for approximately two third of world population, rheumatic fever (RF) and rheumatic heart disease (RHD) are responsible for almost half of the cardiovascular diseases in all age groups and are leading causes of cardiovascular deaths in first five decades of life.¹⁻³ RF and RHD are common problems of developing countries. Despite being common problem, in most developing countries more than 50% of RF/RHD patients are unaware of this disease and more than 70% do not receive monthly benzathine penicillin for secondary prophylaxis.⁴ The mortality rate of RHD varies from 0.9 to 8 per 100000 every year.⁴ RF and RHD are especially common in underdeveloped, deprived and depressed areas of the world. Prevalence of RF and RHD has declined sharply in affluent developed countries.⁵ Nepal is a developing country

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with total 23.4 million population with life expectancy of 54 years, where a large number of people (88%) are rural inhabitants.^{6,7} On the lap of majestic himalayas 147181 square kilometer is occupied by this country and the altitude ranges from less than 100 meters in south to 8848 meters in north.⁶ Multiethnicity with harmonious coexistence of ethnic groups and blend of ethnic cultures are prominent features of this landlocked country. Documentation of the prevalence of RF and RHD in this multiethnic, subtropical and developing himalayan country has its own significance.

GLOBAL SCENARIO

The dramatic decline from 100 to 200 cases per 100000 population to 0.5 per 100000 population in the incidence of acute RF in the past century has been documented in developed country like USA and the sharp decline has been observed especially after the introduction of antibiotics.⁵ However reappearance of increased RHD cases due to large number of influxed immigrants, predominantly from developing countries, was recorded in USA in 1980s and 1990s. Although the occurrence of RF and RHD was sharply declined and RHD became a geriatric disease in developed country like USA, an outbreak of acute RF reappeared at some regions of the country at the close of last century.8 Moreover the outbreak was observed among middle-class Caucasian children with no risk factors other than household crowding.9 High rates of RHD in some deprived communities, such as Samoan children in Hawai (2.06 per 1000), Srilankans(1.42 per 1000) and Maori children in Auckland, Newzealand (1.25 per 1000) has been reported at the end of last century.¹⁰ RHD is reported as the commonest heart disease in most populous developing country like China.11 Recently declining trend of RHD is unveiled. In one retrospective study of heart diseases in 40 years¹² showed that RHD has declined from 50.3%, first in sequence order, to 24.23%, second in sequence order among all cardiovascular diseases. Similarly from other populous developing country like India the prevalence of RHD between 1940 and 1983 is reported in between 1.8 and 11 per thousand school children with national average 6 per thousand.13 The prevalence of RHD is reported declined from 1984 to 1995 with the prevalence of 1 to3.9 per thousand.¹³ Recently variation in prevalence in RHD, Urban 2.56 per thousand and rural 7.42 per thousand is reported in some region of India 14. Contemporarily the incidence of RF is reported 0.05 to 1.7 per thousand between 1940 and 1983 and 0.18 to 0.3 per thousand from 1984 to 199510. Similarly the variation in the prevalence of RF, 1.2 per thousand in rural area and 0.42 per thousand in urban area with average 0.75 per thousand is reported in some region of India.¹⁴ On one hand the overall incidence of RF and RHD in affluent developed countries has sharply declined, on the other hand in developing countries RHD is still a commonest heart disease and the prevalence of RF and RHD varies in between rural and urban areas.

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Few years back in one study it was reported that 0.34 percent of admitted cases were RF cases among all hospital admitted cases.¹⁵ Recently we have observed 1.3 percent of admitted RF cases, all cases age < 18 years among admitted cardiovascular cases in this National heart centre. Despite those few data available on the percentage of RF cases among hospital admitted medical cases and cardiovascular cases large scale community based studies on the prevalence of RF are not available in this country. The incidence of RHD among school children is reported 1.35 per thousand in rural community of the hill region16 and 1.2 per thousand in Kathmandu city.¹⁷

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Rheumatic heart disease is the commonest heart disease in this country. Some ten years back in one cardiothoracic department of one of leading National hospitals it was reported 81.4 percent surgical cases were RHD cases.¹⁸ However recently in one retrospective data analysis of open heart surgery cases at one of leading medical institutes, second commonest cause for open heart surgery was RHD, that constituted 35 percent preceded by congenital heart diseases (64%).¹⁹ So RHD is one of leading causes of surgery in cardiothoracic departments of this country. RHD is the commonest among cardiovascular diseases too in this country. RHD is the commonest cause of hospital admission in cardiology department. Recently in National heart centre we have observed the leading cause of hospital admission in cardiology department was RHD, which constituted 27.3 percent among all cardiovascular diseases followed by ischemic heart disease (21.7%). Some ten years back in medical ward admissions RHD was observed third commonest cause of hospital admission, 19 percent among all cardiovascular diseases, preceded closely by hypertension (21.1%) and corpulmonale (19.6%).²⁰ So RHD seems commonest among cardiovascular diseases in Nepal.

Recently in two consecutive studies on RHD in Nepal^{21,22} the mean age of clinically overt rhematic mitral stenosis cases are reported.³⁴ 5 \pm 15 years and 31.7 \pm 13.2 years respectively. In both studies female preponderance, almost two third of cases, is documented. These findings, clinically overt mitral stenosis in younger age group, obviously show the progression of RHD/rheumatic mitral stenosis is rapid in this country. It is universally accepted that the disease RHD, especially rheumatic mitral stenosis advances more rapidly in underdeveloped and depressed areas.²³

CONCLUSION

Prevalence of RF and RHD is still not uncommon in this country. However large-scale community based surveys are needed for the further more elaborated reports. There is still a possibility that large number of RF cases are undiagnosed and unvisited in large number of rural communities. The anticipation for the existence of hidden RF and progression of RHD is proved by the large number of hospital admitted RHD cases. RHD is the commonest among cardiovascular diseases in this country. Mitral stenosis is the predominant RHD and female preponderance, as other world literatures, is documented in Nepal. The onset of clinical symptoms due to RHD in younger, productive age group has certain impact on national economy, which evokes the realization of prompt awareness upon health care and preventive measures for the eradication of RF and RHD in this country.

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