

# Pattern And Prevalence Of Rheumatic Heart Disease By Echocardiographic Evaluation

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## **Background:**

The pattern of cardiac disease differs from one region of the world to that of another<sup>1</sup>. Rheumatic heart disease is still widely prevalent in Nepal<sup>2</sup>. The patterns and natural history is considerably different from what is seen in developed countries<sup>3</sup>, Few studies had been done in Nepal to address pattern of heart diseases<sup>4</sup>. Need of a large study to fill the gap and to show the profile of heart disease is there. This paper aims at providing the profile of heart disease as seen in Bir Hospital.

## **Materials and Methods:**

### **Study Population:**

Total number of cases was 11,290, Data analysis done among 10,436. Cases Patients having heart disease were 8654 while normal echocardiograms were 1782. Further analysis done among disease cases (N=8654).

### **Exclusion Criteria:**

Patients having trivial mitral regurgitation, grade I. Aortic regurgitation, degenerative valvular lesions and other non Rheumatic valvular lesion, were not included in this study.

### **Place**

Cardiac unit, Bir Hospital Kathmandu, Nepal.

### **Period:**

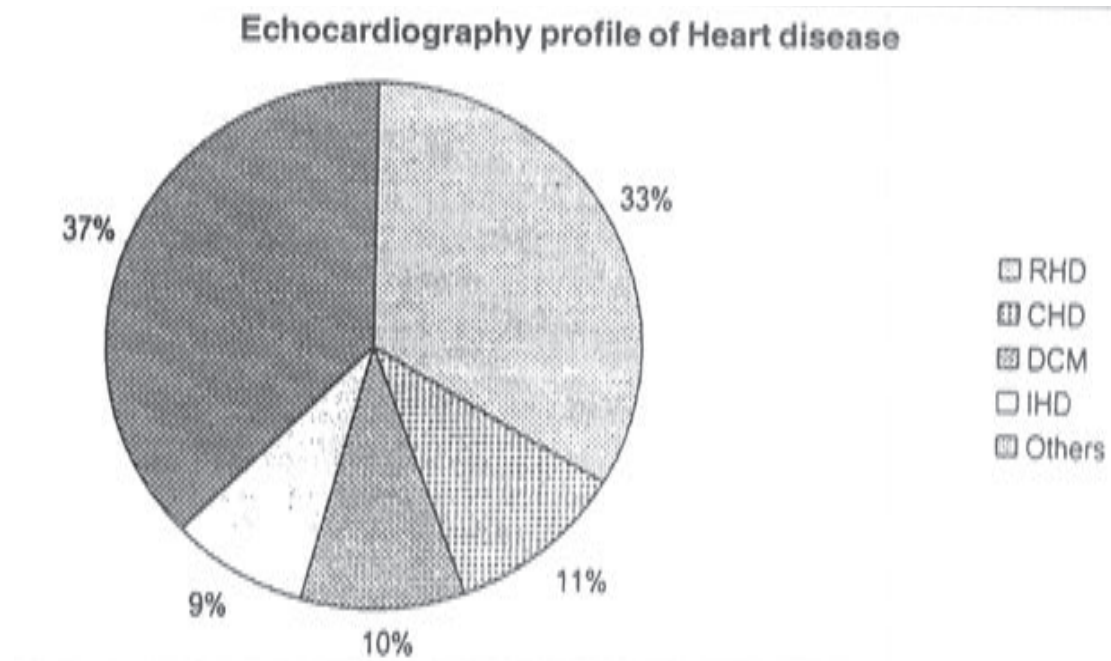
March 1986 to Feb. 2001

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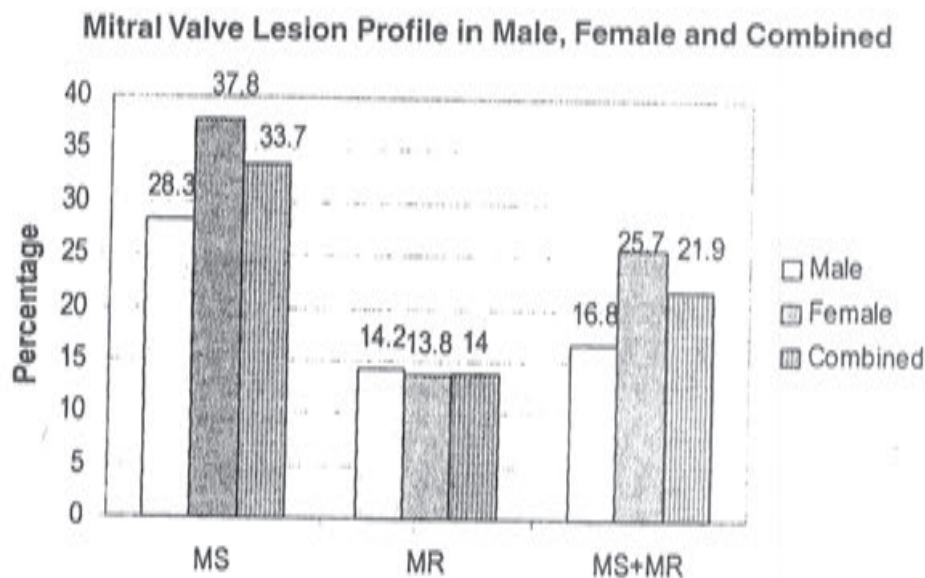
**Result:**

**Echocardiography profile of Heart disease**



**Rheumatic Heart disease (RHD)**

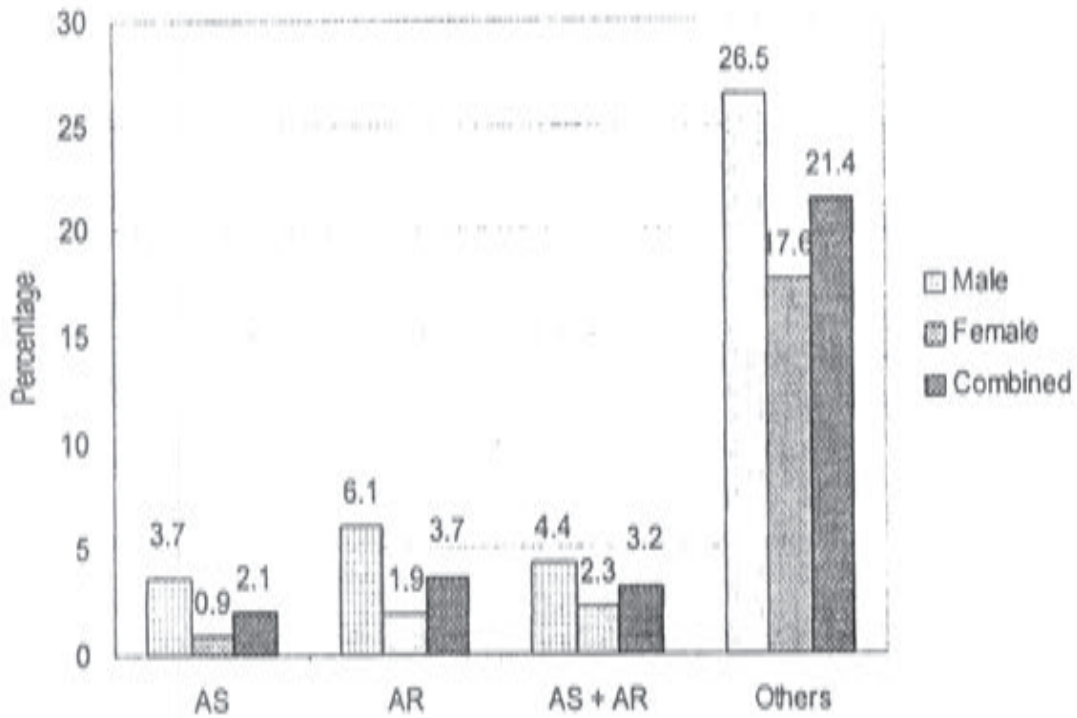
Patient having rheumatic heart disease were 2890 (33.4%). Male cases were 1226 (42.4%) and female were 1664 (57.6%), Male and female ratio was 1:1.36. and age ranges from 7 year to 72 years. Mean age of male cases was 29.2 years, female was 30.6 years and combined mean was 29.9 years.



### Mitral valve Lesion Profile

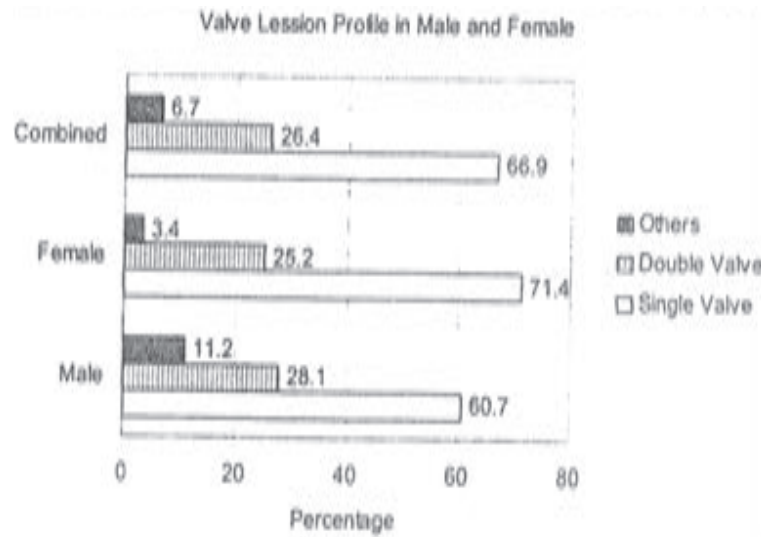
Lesion	Males N=1226	Females N=1664	Combined N=2890
MS	347 (28.3%)	628 (37.8%)	976 (33.7%)
MR	174 (14.2%)	230 (13.8%)	404 (14.0%)
MS+MR	206 (16.8%)	428 (25.7%)	634 (21.9%)

Aortic Valve Lesion Profile in Male and Female



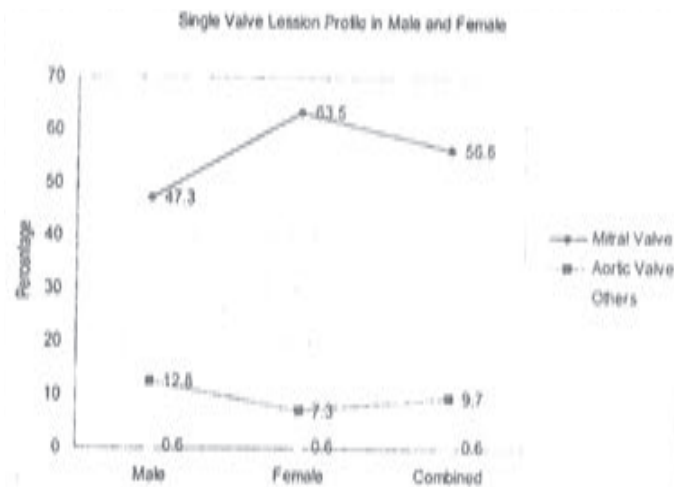
### Aortic Valve Lesion Profile

Lesion	Males N=1226	Females N=1664	Combined N=2890
AS	45 (3.7%)	15 (0.9%)	60 (2.1%)
AR	75 (6.1%)	31 (1.9%)	106 (3.7%)
AS+AR	54 (4.4%)	38 (2.3%)	92 (3.2%)
Others	325 (26.5%)	293 (17.6%)	618 (21.4%)



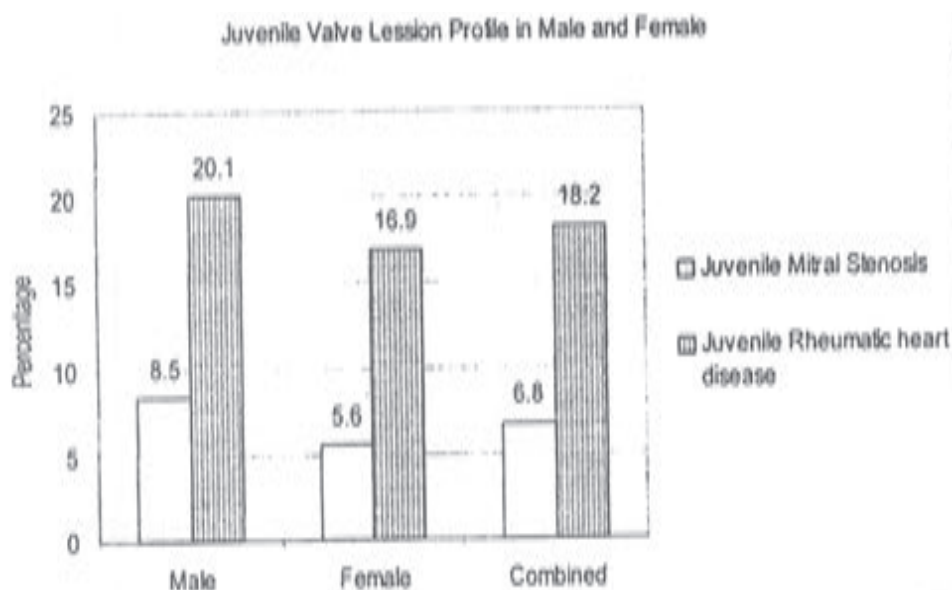
### Valve Lesion Profile

Lesion	Males N=1226	Females N=1664	Combined N=2890
Single Valve	745 (60.7%)	1189 (71.4%)	1934 (66.9%)
Double Valve	344 (28.1%)	419 (25.2%)	763 (26.4%)
Others	137 (11.2%)	56 (3.4%)	193 (6.7%)



### Single valve Lesion Profile

Lesion	Males N=1226	Females N=1664	Combined N=2890
Mitral Valve	580 (47.3%)	1056 (63.5%)	1636 (56.6%)
Aortic Valve	158 (12.8%)	123 (7.3%)	281 (9.7%)
Others	7 (0.6%)	10 (0.6%)	17 (0.6%)



## Juvenile valve Lesion Profile

Lesion	Males N=1226	Females N=1664	Combined N=2890
Juvenile Mitral Stenosis	104 (8.5%)	93(5.6%)	197 (6.8%)
Juvenile Rheumatic heart Disease	246 (20.1%)	281(16.9%)	527 (18.2%)

## Discussion:

Total cases of rheumatic heart disease were 2890 (33.4%). Pure Mitral Stenosis was most common valvular lesion 976 (33.7%). Cases of AR 106 (3.7%) was more than AS 60 (2.1%). Percentage of MS in Female 629 (37.8) was higher than in Male 347 (28.3%), Pure AS and pure AR were dominant lesion in male. [45 (3.7) and 75 (6.1 %)] than in female [15 (0.9%) and 31 (1.9%)] respectively.

Combined MS and MR were also dominant lesion in female 428 (21.9%) than in male 206 (16.8%). But mixed AS and AR was commoner in male 54 (4.4%) than in Female 38 (2.3%). Cases of single valve (67.6%) lesion were more than double valve (26.4%). Single valve lesion was dominant in Female (72.1 % versus 61.6%) while double valve lesion was dominant in male (28.1% versus 25.2%). Juvenile Ms was 197 (6.8%) and Juvenile RHD 527 (18.2%).

One study done in Bangalore 5, India where patients having mitral stenosis alone was less than this study (14.3% versus 33.7%) while mixed mitral stenosis and mitral Regurgitation was more (24.8% versus 21.9%), patients having involvement of both mitral and Aortic valves were more (40.3%) versus 26.4%). Study in an out patients cardiac clinic, Addis ababa shows patients having rheumatic heart disease were more (159.4% versus 33.7%) and patients with congenital heart disease were also more (35.9 verses 10,8%), Lowest age of presentation of rheumatic heart disease was 7 year while a study done in the outpatient department of the National Center for control of rheumatic fever and heart diseases Dhaka. Lowest age was 5 years.

### **Conclusion:**

Rheumatic Heart disease is most common heart diseases (33.4 percent), Females outnumbered males (1.36:1) Commonest valvular lesion is mitral stenosis (33.7 percent) Juvenile mitral stenosis is common (6.8 percent) and Juvenile RHD ( 18.2 percent) Single valve lesion is 2.5 times commoner (66.9 percent) than double valve (26.4 percent).

### **Acknowledgment:**

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