

Current Scenario of Heart Diseases in Nepal: At a glance

Shakya S, Sharma D, Bhatta YD

Shahid Gangalal National Heart Centre, Kathmandu , Nepal

Address for Correspondence:

Samjhana Shakya

Department of Cardiac Rehabilitation and Health Promotion

Shahid Gangalal National Heart Centre Bansbari, Kathmandu, Nepal

Tel : 0097-1-4371322,00977-1-4371374

Fax:00977-1-4371123

Email:shakyasamjhana@gmail.com

Abstract

Background

Cardiovascular disease no more remains as a disease of developed countries. It is affecting developing countries as well. In addition, developing countries have big challenge to deal with these because of lack of resources and lack of studies related to it. This study is an attempt to portrait a picture of cardiovascular problems in Nepal on the basis of records obtained in various cardiac camps conducted by Shahid Gangalal National Heart Center in September 2008 to July 2011.

Methods and materials

The reports of 19 cardiac camps were analyzed.

Result

The proportion of congenital heart disease in cardiac camps ranges from 0.35% (Dolakha) to 5.04% (Dhangadi). The proportion of RHD ranges from 3.25% (Bhaktapur) to 30.67% (Dhangadi). The proportion of hypertension ranges from 5.11% (Dolakha) to 39.41% (Baglung). The proportion of CAD ranges from 0.56% (Tikapur) to 15.12% (Birgunj).

Conclusion

The proportion of CHD and RHD were found the highest in Dhangadi. The lowest proportion of hypertension was found in Dolakha, the study was conducted in Singati, which is the most remote area among the areas included in this study. The highest proportion of hypertension was found in Baglung. The highest proportion of Coronary artery disease was found in Birgunj.

In every camp, the hypertension claims the major proportion of cardiovascular problem. It reflects, Nepal is in a rising epidemic of coronary artery disease. Preventive programs should be emphasized sooner as possible to prevent catastrophic effect of Cardiovascular Disease in Nepal.

Key worlds

Cardiac Camp, Cardiovascular disease, Congenital heart disease, Rheumatic Heart Disease, Hypertension, Coronary Artery Disease, Development Regions

Introduction

Cardiovascular Disease is the number one killer in the world responsible for 17.3million death per year¹. Once it thought to be the problem of developed countries however today it is a global health problem adding extra burden in developing countries like Nepal. Congenital Heart diseases, Rheumatic Heart diseases, Hypertension and Coronary artery diseases are common cardiac problems in Nepal. According to current scenario of heart diseases in Nepal on the basis of available studies, the prevalence of Rheumatic Heart disease and Congenital Heart Disease are 1.2 per 1000 and 1.3 per 1000 in school children³. The prevalence of hypertension is 19.7% in suburban adult population and coronary heart disease is estimated to be 5 percent in adult population in Kathmandu according to hospital data^{2,4}. There is geographic variation in the prevalence of diseases. In general Rheumatic disease is more prevalent in rural areas and Hypertension and coronary artery diseases are more prevalent in urban areas.

There is a lack of research and studies in heart diseases in Nepal. In addition, community based studies are rare. This study is conducted as an attempt to fill this gap. It is a descriptive retrospective study. Secondary Data are obtained from Shahid Gangalal National Heart Centre(SGNHC) records of Cardiac Camps conducted from September 2008 to July 2011. Since 2008, every year SGNHC is conducting cardiac camps in various parts of Nepal, viz rural and urban covering atleast all development regions of Nepal. Data are taken from Department of Cardiac Rehabilitation and Health Promotion, a department responsible for prevention and rehabilitation of heart diseases.

Methods



This is a retrospective study and descriptive in nature. All the data from September 2008 to July 2011 are taken from department of cardiac rehabilitation and health promotion. There were total 24 cardiac camps conducted in that period but 19 camp reports were reviewed among them. Some cardiac camp reports were excluded because of poor reporting of diseases. They are secondary data primarily

collected in cardiac camps conducted in various parts of Nepal . The secondary data are analysed from Doctor's Forms used in cardiac camps, where doctors recorded their provisional diagnosis of a patient. Initially 19 cardiac camp areas were taken and they were classified in to five development regions. The heart disease is classified into congenital heart disease (CHD), rheumatic heart disease (RHD), coronary artery disease (CAD), and hypertension (HTN).

Results

Eastern Region

Name of the Area	Total Participants	CHD (%)	RHD(%)	HTN(%)	CAD(%)
Sanishchare	501	3.8	7.6	16.6	1.3

In Sanishchare, majority of participants were hypertensive (16.6%) followed by RHD 7.6%,CHD 3.8 % and CAD 1.3%.

Central Region

Name of the Area	Total Participants	CHD (%)	RHD(%)	HTN(%)	CAD(%)
Bhaktapur	503	3.25	3.25	30.56	1.38
Birgunj	324	1.54	8.33	27.78	15.12
Bungamati	129	*	*	18.64	*
Dhading	514	0.78	5.45	17.70	2.72
Dolakha	498	0.35	3.35	5.11	0.71
Pharpping	224	2.68	4.01	13.84	2.68
Sindhupalchowk	319	1.88	2.51	7.52	1.25
Sindhuli	443	2.93	8.58	17.61	2.03

* particular disease not found.

There were total eight areas had covered. Hypertension seems to be a ruling disease among the participants from all the areas. The highest proportion was found in Bhaktapur (30.56%), followed by Birgunj (27.78%), Bungamati (18.64) and so on. The least proportion was found in Dolakha (5.11%) and Sindhupalchowk (7.52%). In Dolakha , the camp was conducted in a remote hilly region known as Singati whereas in Bhaktapur and Birgunj , it was conducted in urban areas. Likewise, the proportion of coronary artery disease (CAD) found to be the highest in Birgunj. It is also the highest among all the areas included in this study. In addition, the highest proportion of RHD was found in Sindhuli (8.58).

Western Region

Name of the Area	Total Participants	CHD (%)	RHD(%)	HTN(%)	CAD(%)
Arghakhanchi	620	0.8	9.03	12.74	0.96
Baglung	350	0.99	4.43	39.41	3.45
Beni	600	4.51	5.42	14	2.26

In this region three areas were taken. The proportion of CHD ranges from 0.8 % to 4.51%. RHD ranges from 5.42% to 9.03%. The highest proportion of HTN was found in Baglung(39.41%) which is the highest among all the study areas included in this study. The CAD ranges from 0.96% to 3.45%. In Baglung, the proportion of CAD seems to be lesser in compare to the proportion of hypertension.

Mid -Western Region

Name of the Area	Total Participants	CHD (%)	RHD(%)	HTN(%)	CAD(%)
Dang	503	1.79	7.16	15.90	1.19
Dailekh	462	0.85	5.41	13.20	0.65
Tikapur	354	1.69	3.39	18.08	0.56

In Mid-Western Region, there were three areas taken. The proportion of CHD ranges from 0.85% to 1.79%. The proportion of RHD ranges from 3.39% to 7.16%. The proportion of hypertension ranges from 13.20% to 18.08%. Likewise, the proportion of CAD was 0.56% to 1.19%. The proportion of CAD in Tikapur seems to be the lowest among all the study areas including in this study.

Far- Western Region

Name of the Area	Total Participants	CHD (%)	RHD(%)	HTN(%)	CAD(%)
Baitadi	201	1.70	6.25	11.95	2.85
Dadeldhura	212	2.83	15.57	8.02	3.30
Dhangadi	270	5.04	30.67	11.35	6.30
Mahendranagar	268	0.75	10.45	26.85	3.73

There were four major areas taken from Far Western region. Baitadi is the most remote area followed by Dadeldhura. Dhangadi and Mahendranagar could be considered as relatively urban area in this region. Correlating with this geographical character, the proportion of hypertension was found to be the highest in Mahendranagar (26.85). The highest proportion of RHD(30.67%) and CHD(5.04%) were found in Dhangadi.

Discussion

The one of the most important non communicable disease , the heart disease is increasing in developing countries as well. In this study, the proportion of congenital heart disease in cardiac camps is ranges from 0.35% (Dolakha) to 5.04% (Dhangadi). The proportion of RHD ranges from 3.25% (Bhaktapur) to 30.67% (Dhangadi). The proportion of hypertension ranges from 5.11% (Dolakha) to 39.41% (Baglung). The proportion of CAD ranges from 0.56% (Tikapur) to 15.12% (Birgunj).

The proportion of CHD and RHD were found the highest in Dhangadi. Dhangadhi is a city in Far western [Nepal](#) bordering India. The city of Dhangadhi is one of the entry points into the country for people traveling from India. The

cardiac camp was conducted in the Seti Zonal Hospital. As it is a border area, we can assume that the catchment area of this region must be larger in compare to other study areas. It could be the reason of highest proportion of cardiac diseases.

The lowest proportion of hypertension was found in Dolakha, the study was conducted in Singati, which is the most remote area among the areas included in this study.

The proportion of different heart diseases found in this study is relevant to the previous studies related to heart disease conducted in Nepal.

Conclusion

In conclusion with the support of these data, we can say that the heart disease is prevalent everywhere in Nepal. The prevalence is higher in urban areas than rural areas. The hypertension is increasing however the prevalence is lesser in remote areas. The huge proportion of hypertension in every camp suggests that Nepal is in daring need of preventive programs of heart disease to prevent the catastrophic effect of coronary artery disease in near future. Widespread preventive program should be implemented in Nepal to raise awareness among health care workers and general population.

Study Limitation

This study gives a general picture of heart disease in Nepal however the data may not be statistically significant as they were collected in Cardiac Camps. The participants of the camps were randomly selected. The proportion of heart disease may vary according to its catchment area. Some reports of cardiac camps could not be included because of poor data recording.

Acknowledgement

We would like to thank Dr Man Bahadur KC, Executive Director, SGNHC for permitting us to conduct this study. Our sincere thanks goes to the team leader, doctors and camp members of every cardiac camp. We would like to thank local partners and volunteers who helped to conduct cardiac camps . Finally, our heartfelt thanks goes to all the participants of the cardiac camps.

Reference :

1. WHO, *Global atlas on cardiovascular disease prevention and control*. 2008
2. Sharma D, KC MB, Rajbhandari S et al, Study of prevalence, awareness and control of hypertension in a suburban area of Kathmandu, Nepal, *Indian Heart Journal* , 2006; Jan-Feb;58(1): 34-7.
3. KC MB, Sharma D, Shresth MP et al, Prevalence of rheumatic and congenital heart disease in school children of Kathmandu valley in Nepal, *Indian Heart Journal*, 2003; Nov-Dec:55(6):615-8.
4. Maskey A, Shayami A, Pandey MR, Coronary Artery Disease: An emerging epidemic in Nepal, *Journal of Nepal Medical Association* 2003; 42: 122-124