

ORIGINAL RESEARCH ARTICLE

A DESCRIPTIVE STUDY ON MORBIDITIES OF PATIENTS ATTENDING FREE HEALTH CAMP IN SANKHEJUNG VDC OF ILAM DISTRICT, NEPAL

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ABSTRACT

Free health camp is an important means to cater health services to the needy people in an underdeveloped country like Nepal with difficult geographical terrain. The objective of this study was to assess the morbidities of patients attending the free health camp in Sankhejung, Ilam. A total of 399 patients visited the health camp and 35.1% of them were males. It was observed that diseases with musculoskeletal system and gastrointestinal system were reported among 24.3% and 25.1% of the attendees respectively. Based on the findings, it was concluded that the free health camp services was utilized more by the females and more burden of disease was found among musculoskeletal and digestive system.

**Key Words:** Free Health Camp, Ilam, Sankhejung.

INTRODUCTION

The WHO defined Health as a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity but recently it has been amplified to include the ability to lead a socially and economically productive life too.<sup>1</sup> Recent decades have witnessed tremendous advancements in health and survival throughout the world. The United Nation's 2010 Revision of World Population Prospects states that life expectancy at birth for the world's population as a whole increased from 48 years in 1950/55 to 68 years in 2005/10. In Asia life expectancy increased by 26 years while in Africa it increased by 17 years over the last half century.<sup>2</sup> The health services include approaches to prevention, promotion, treatment, rehabilitation and palliative care; these services must be sufficient to meet health needs both in quantity and in quality.<sup>3</sup> According to 2011 Census, Nepal has a population of 26.6 million Nepal.<sup>6</sup> Only about 37% of the population (34% of rural and 66% of urban) has access to safe drinking water and only 6% have access to proper sanitation facilities.<sup>5</sup> This is an important parameter that determines the health of Nepalese citizens. The overall pattern of morbidity in Nepal is dominated by reproductive issues (both maternal and perinatal), infectious disease and nutritional disorders. These are responsible for approximately 68% of the disease burden. Degenerative and non-communicable diseases account for 23% of the burden, with accidents and injuries comprising the remaining 9%.<sup>4</sup> Free health camps provides adequate health personnel to provide child health services at community level; reinforces implementation of integrated maternal, new born and child health activities and maintains information for planning, reporting and monitoring purposes. Similarly, it also helps to

improve health by counselling and raising awareness programs at community level to encourage health utilization at health institutions; referral for complicated cases addressing and integrating health issues of minorities and indigenous people in the general health programme. Free health camp not only conducts curative services and awareness programs but also provides screening programs for various diseases and referral to higher centre for further management.<sup>11</sup> This free health camp was conducted in Sankhejung VDC of Ilam district among the local residents with the aim to cater health services to the needy. Ilam is located in the hilly region of Mechi zone with difficult geographical terrain in the Eastern Development Region of Nepal. According to health and development index, though Ilam district was ranked 8<sup>th</sup> among 75 districts; this VDC is far from the facilities of development and health due to lack of human resources and difficulty in access.<sup>7</sup> Health camp was conducted in cooperation with health professionals of School of Public Health and Community Medicine, BP Koirala Institute of Health Sciences, Dharan. Free health camps are the sole source of health care in some rural communities and its importance has been demonstrated in areas devastated by hurricanes, floods, disasters and difficult geographical location. Another justification given for free health camp is cost containment that provided less expensive primary care alternative than private health centers.<sup>8</sup> The objective of this study was to explore the morbidities among the patients visiting the free health camp in Sankhejung VDC of Ilam district.

## MATERIALS AND METHODS

It's a prospective cross-sectional study comprised of all consecutive patients attending the free health check-up camp in Sankhejung VDC of Ilam district in Eastern Nepal. All the patients attending the free camp were taken as case. A brief explanation about the study was offered to the subjects and verbal consent was obtained either from them or their parents in case of disable and dependents. A continuous sequential number was given to each subjects and available necessary information collected was kept confidential in a separate file. The socio demographic profile which contained name, age, sex, caste along with the basic diagnosis made was entered in a file. The diagnosis made was categorized on the basis of International Classification of Diseases (I.C.D. 10) diagnostic research criteria classification. The clinical records of the patients were also taken into consideration during the study. The data was entered into the Microsoft excel software and analysed using Statistical Package for Social Studies (SPSS) software 17.0 version.

## RESULTS

A total of 399 patients were included in the study. Out of them 35.1% were male. The data showed that, the highest numbers of patients were of age group more than 60 years (44.4%). (Table 1) On the basis of distribution of ICD 10 diagnosis classification, the highest number of cases had diseases of digestive system (25.1%) followed by diseases of musculoskeletal and connective tissues (24.3%) and genitourinary (13.3%) respectively. Similarly, the patients had suffered from diseases of respiratory system (12.8%), skin, subcutaneous tissue (9.5%), nervous system (5.8%), diseases of ear and mastoid process (5.5%), pregnancy, childbirth and puerperium (2.8%) and circulatory system (1%). (Table 2)

**Table 1: Distribution of age and gender among the respondents (n = 399)**

Characteristics		No. of respondents (n)	Percentage
Age (years)	0-15	46	11.5
	16-30	54	13.5
	31-45	66	16.5
	46-60	56	14.0
	>60	177	44.4
Gender	Male	140	35.1
	Female	259	64.9
	Total	399	100.0

**Table 2: Distribution of health problems on the basis of basic diagnosis (ICD-10) classification (n =399)**

Diagnosis - ICD 10	Male	Female	Total	%
(K00-K93)	40	60	100	25.1
Diseases of Respiratory system (J00-J99)	22	29	51	12.8
Diseases of Circulatory system (I00-I99)	4	0	4	1.0
Diseases of Ear and Mastoid process (H60-H95)	10	12	22	5.5
Diseases of Nervous system (G00-G99)	7	16	23	5.8
Diseases of Skin and Subcutaneous tissue (L00-L99)	19	19	38	9.5
Diseases of Genitourinary system (N00-N99)	8	45	53	13.3
Diseases of Musculoskeletal and Connective tissue (M00-M99)	30	67	97	24.3
Pregnancy, child birth and puerperium (O00-O99)	0	11	11	2.8
Total	140	259	399	100.0

## DISCUSSION

With an increasing proportion of the population falling into the adult and elderly age groups, this epidemiological profile of a village of an underdeveloped country reflected the diseases and health problems of adults and geriatric population. In particular, chronic and degenerative diseases, accidents and injuries were reported more. This clearly indicated the shift in epidemiological transition in most developing countries. The proportion of elderly is relatively The transition occurred at different paces in different places depending on the rate of fertility changes, the distribution of risk factors that contributed to the incidence of disease and the health system's ability to respond to the changing epidemiological profile.<sup>9</sup> The leading causes of non-communicable diseases deaths in 2008 were: cardiovascular diseases (48% of NCD deaths); cancers (21% of NCD deaths) and respiratory diseases including asthma and chronic obstructive pulmonary disease (16% of non-communicable disease deaths). Behavioral risk factors, including tobacco use, physical inactivity, and unhealthy diet were reported to be responsible for about 80% of coronary heart disease and cerebrovascular disease.<sup>10</sup> Comparisons over time of the global burden of diarrheal diseases have revealed secular trends and demonstrated the impact of public health interventions.<sup>19</sup> A review of the incidence and prevalence of acute gastrointestinal illness from 33 studies in developed countries reported it to be ranging from

0.1 to 3.5 episodes per person-year.<sup>12</sup> It has been estimated that 5.3 million deaths attributable to CVD occurred in the developed countries in 1990, whereas the corresponding figure for the developing countries ranged between 8 to 9 million.<sup>13</sup> Hearing loss is a significant health problem in developing countries.<sup>14,15</sup> Wax impaction was the second most common morbidity in our study. Hatcher et al, Elango et al and Minza et al reported prevalence rates of impacted wax ranging from 8.6% to 28.2% in their studies.<sup>16,17,18</sup> Morbidity related to itching (pruritus) was best studied in scabies as it was a common symptom that patients scratch their lesions almost constantly. Repeated scratching of a lesion causes excoriation and denudation of the skin thus creating portals of entry for pathogenic bacteria. The clinical consequences of secondary bacterial infection, especially with group A streptococci, result in significant, frequently unrecognized illnesses, such as cellulitis, boils, pyomyositis, lymphangitis and generalized lymphadenopathy.<sup>19</sup> It has been estimated that 300 million people suffer from scabies infestation at any one time<sup>20</sup> although this number has been disputed.<sup>21</sup> The associated morbidity was frequently underestimated. Musculoskeletal conditions are prevalent and their impact is pervasive. They are the most common cause of severe long term pain and physical disability, and they affect hundreds of millions of people around the world. Pain is the most prominent symptom in most people with arthritis<sup>22</sup> and was the most important determinant of disability in patients with osteoarthritis.<sup>23</sup> The prevalence of osteoarthritis increased indefinitely with age because the condition was not reversible. Men are affected more often than women among those aged less than 45 years whereas women are affected more frequently among those aged more than 55 years.<sup>24</sup> Worldwide estimates are that 9.6% of men and 18.0% of women aged more than or equal to 60 years have symptomatic osteoarthritis.<sup>25</sup> Identifying the determinants of maternal morbidity and mortality is a valid scientific endeavor in its own right but it is particularly relevant to any undertaking to improve maternal health. By understanding the determinants of ill-health and their inter-relationships, it is possible to develop treatments, seek preventive measures and target high-risk individuals and groups and assess the health implications of changes in the biological, physical, or social environment. On the other hand, it is also important to recognize that identifying and intervening against specific determinants of maternal ill-health is not exclusively within the sphere of bio-medical expertise, and that a multidisciplinary approach to studying and resolving health problems is imperative. Recent investigations of the determinants of women's morbidity and mortality have either adopted a condition-specific focus, such as work by Bang et al. (1989), the Reproductive Morbidity Interdisciplinary Research Group (1991) and Wasserheit et al. (1989) seeking factors contributing to reproductive tract infections or have evolved around methods for operations research in Safe Motherhood, such as the approach looking at delay factors taken by the Prevention of Maternal Mortality Project of Columbia University (Thaddeus and Maine, 1990). Reproductive factors including the woman's constitution her age, parity and general health status are the most commonly considered factors as they can be measured relatively easily in facility-based studies. Reproductive factors are thought to play a biologically causal role although some such as age and parity may influence women's confidence and use of services.

Often however, studies merely demonstrate an association with age and parity and recommend targeting of high risk women for special care without exploring the mechanisms for the association. Another major category of determinants are health service factors. Estimates suggest that for every maternal death, at least 16 or 17 other women suffer a life-threatening complication during pregnancy or childbirth (Gay and others 2003) and at least 30 women are left with long-term disabilities, such as an obstetric fistula (UNFPA 2003). Estimates of the global burden of disease indicate that diseases of the kidney and urinary tract account for approximately 830,000 deaths and 18,467,000 disability-adjusted life years annually, ranking them 12th among causes of death (1.4 percent of all deaths) and 17th among causes of disability (1.0 percent of all disability-adjusted life years). This ranking is similar across World Bank regions. Despite the optimal expenditure on national health care in Nepal (5% of total GDP), people living in the rural areas of Nepal are still facing the problems with accessibility to health care. Free health camps thus play a vital role for the disadvantage group. A review of article seeing morbidity pattern in the elderly population in Aurangabad in India in 2012<sup>8</sup> showed that 39 males and 54 females had musculoskeletal problem, second most common morbidity after ocular diseases. Our study is also comparable with another study in rural agricultural workers in India which showed that morbidity pattern with musculoskeletal system (21.7%) and respiratory system (19%). Our Study shows that majority of the patients attending were people aged more than 60 years was 177 followed by the age group between 31-45 years which was 66 and the most common morbidity pattern was found to be disease of Gastrointestinal system, (K00-K93, 25.1%) followed by musculoskeletal (M00-M99, 24.3%). The main reason for elderly population visiting the health camp could have been because of most youths having left the village for better opportunities abroad (census 2011 showed total number of absent population from Hilly region was found to be 99, 1167).<sup>9</sup> Secondly it also shows increasing pattern of non-communicable Disease in the Community. However the increased prevalence of the diseases of the gastrointestinal system, the most common of which was acid peptic disease could have been biased by the fact that it was more of a subjective experience rather than clinical finding from the physician.

## CONCLUSIONS

The free health camp in Sankhejung, Ilam showed that the diseases of digestive system was the most common diseases in the community. Similarly other diseases include diseases of musculoskeletal and connective tissues, genitourinary, respiratory, skin and subcutaneous tissues, nervous system and diseases of ear and mastoid process. The most prevalent diseases among males were diseases of digestive system and the most prevalent diseases among females were the diseases of musculoskeletal and connective tissues.

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## REFERENCES

1. WHO (1978). Health for All.
2. Department of economics and social affairs, population division, changing level and trends in mortality: the role of patterns of death by cause. United Nations.
3. WHO strategy on research for health. Geneva, World Health Organization, 2012. (Available at: [http://www.who.int/phi/WHO Strategy on research for health .pdf](http://www.who.int/phi/WHO%20Strategy%20on%20research%20for%20health.pdf) (Retrieved on 23 April 2013)
4. Karki, Yagui. Status Review: Health, Population and Drinking Water & Sanitation Sectors, National Strategies for Sustainable Development, 15 November 2003. Available at <http://www.nssd.net/country/nepal/nep05.htm>. (Retrieved on July 12, 2013)
5. An Introduction to Health in Nepal: Nepal net an electronic networking for sustainable development in Nepal. Available at <http://www.panasia.org.sg/nepalnet.health/medicine/health.html>. (Retrieved on August 1, 2013)
6. Ligal, Prithivi Raj, Vice Chairman, National Planning Commission, Millennium Development Goals: The United Nations System in Nepal United Nations. 11 November 2003.
7. Districts of Nepal indicators of Development Update 2003.
8. Mobile Health Care for Homeless People: Using Vehicles to Extend Care by Patricia Post, MPA; 2005-2006.
9. Epidemiological transition: Policy and planning Implication for developing countries (1993).
10. Burden: Mortality, Morbidity and Risk Factors.
11. Bern and others 1992; Kosek, Bern, and Guerrant 2003; Snyder and Merson 1982.
12. Roy SL, Scallen E, Beach MJ. The rate of acute gastrointestinal illness in developed countries. *J Water Health*. 2006; 4 Suppl 2:31-69.
13. Biswas AC, Joarder AH, Siddiquee BH. Prevalence of CSOM among rural school going children. *Mymensingh Med J* 2005; 14:152-55.
14. Olusanya BO, Okolo AA, Aderemi AA. Predictors of hearing loss in school entrants in a developing country. *J Postgrad Med*. 2004; 50(3):173-178.
15. Olusanya BO, Okolo AA, Ijaluola GT. The hearing profile of Nigerian school children. *Int J Pediatr Otorhinolaryngol*. 2000; 55(3):173-179.
16. Hatcher J, Smith A, Mackenzie I, Thompson S, Bal I, Macharia I et al. A prevalence study of ear problems in school children in Kiambu district, Kenya, May 1992. *Int J Pediatr Otorhinolaryngol* 1995; 33:197-205.
17. Elango S, Purohit GN, Hashim M, Hilmi R. Hearing loss and ear disorders in Malaysian school children. *Int J Pediatr Otorhinolaryngol* 1991; 22:75-80.
18. Minja BM and Mchemba A. Prevalence of otitis media, hearing impairment and cerumen impaction among schoolchildren in rural and urban Dar es Salaam, Tanzania. *Int J Pediatr Otorhinolaryngol* 1996; 37:29-34.
19. Jackson A, Heukelbach J, da Silva Filho AF, de Barros Campelo Jr E, Feldmeier H. Clinical features and associated morbidity of scabies in a rural community in Alagoas, Brazil. *Trop Med Int Health* 2007; 12: 493-502.
20. Taplin, D., T. L. Meinking, J. A. Chen, and R. Sanchez. 1990. Comparison of crotamiton 10% cream (Eurax) and permethrin 5% cream (Elimite) for the treatment of scabies in children. *Pediatr. Dermatol*. 7:67-73.
21. Chosidow, O. 2006. Scabies. *N. Engl. J. Med*. 354:1718-1727.
22. Kazis LE, Meenan RF, Anderson JJ. Pain in the rheumatic diseases. Investigation of a key health status component. *Arthritis and Rheumatism* 1983; 26:1017-22.
23. Van Baar ME, Dekker J, Lemmens JA, Oostendorp RA, Bijlsma JW. Pain and disability in patients with osteoarthritis of hip or knee: the relationship with articular, kinesiological, and psychological characteristics. *Journal of Rheumatology* 1998; 25:125-33.
24. Silman AJ, Hochberg MC. *Epidemiology of the rheumatic diseases*. Oxford: Oxford University Press; 1993.
25. Murray CJL, Lopez AD, editors. *The global burden of disease. A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge (MA): Harvard School of Public Health on behalf of the World Health Organization and The World Bank; 1996.