

## Factors affecting health of families in a village in Kathmandu District

Shrestha N, Shakya B

Department of Community Medicine, Nepal Medical College Teaching Hospital, Kathmandu

Corresponding Author: Dr. Niraj Shrestha, Lecturer, Department of Community Medicine, Nepal Medical College Teaching Hospital, Attarkhet, Kathmandu, Nepal, E-mail: nishre15@gmail.com

### ABSTRACT

Holistic concept of health recognizes the strength of physiological, economic and environmental conditions in which the individual is living, as well as the psychological factors of family members in determining the state of health. However, medical profession is dominated by biomedical concepts of health, which is confined to pathophysiological aspects of diseases. In order to improve the health status various factors have to be explored so that the remedies can be applied wherever required. With the aim of exploring economic status, housing and sanitation and psychological aspects of family members, a descriptive study was carried out in December 2013 in 177 families in Bajrayogini village of Kathmandu district. Out of total number of households, 81 percent were living below the poverty line (<2 US dollars per person per day), 34 percent did not have access to water inside the house, 12 percent lacked latrines inside the house and almost 22 percent used wood as fuel for cooking. Fifteen percent of the total families preferred to have sons over daughters and thirty percent of families preferred elderly members to be taken care in geriatric homes. These findings are bound to affect health of family members in the village but the problems cannot be addressed by doctors alone but requires good intersectoral coordination between doctors, social scientists, economists and public health engineers. Improving health of a community requires a multi-sectoral approach and the responsibility does not lie only on health professionals. Health professionals should also realize the importance of other sectors in improving health status of a community.

**Keywords:** Bajrayogini village, holistic concept, families surveyed

### INTRODUCTION

Basis of health care depends on how health is perceived. However it is not perceived in the same way by different professional groups like biomedical scientists, sociologists, health administrators, ecologists etc. According to the biomedical concept of health, which is popular among doctors, human body is viewed as a machine and disease as a consequence of "machine breakdown" which leaves the doctor's task to repair the machine. However this concept minimizes the role of environmental, economic and psychological factors which are also important determinants of health<sup>1</sup>. With the aim of exploring these factors a survey was carried out in 177 families in Bajrayogini village where the total number of households were 928.<sup>2</sup> This constitutes almost 20 percent of the total number of households in the village.

### MATERIALS AND METHODS

A cross sectional survey was done among 177 randomly selected families which constituted almost 20 percent of the total number of households of the village. Ethical approval was taken from NMC – Institutional Research/Review Committee (Ref:45-072/073). After three days of orientation, medical undergraduates were used to collect information with the help of standard questionnaire. The questionnaire included questions

related to socio-demographic profile of the family, housing and environmental conditions, economic status in terms of US dollars per person per day and preferences of family members related to health. Prior to the survey, consent was taken from the Village Development Committee office and family members. There were also volunteers from the village, two for each of the nine wards who helped throughout the survey in locating houses and communicating with the villagers. Data entry and descriptive analysis was done using (Statistical Package for Social Science) SPSS version 16.

### RESULTS

Out of 937 participants, from among 177 families surveyed, children under five constituted 6.6 %, adolescents 19.1 % and geriatric group (60 years and above) constituted 10.9 percent. Male to female ratio was almost 1:1 (449:448). Fifty seven percent of the subjects were Newars and 32% belonged to Brahmin/Chhetri caste. Maximum of those interviewed were Hindus (91.8%) and Buddhists constituted 7.7 percent of the total people involved in the study.

The economic status, sanitation, use of wood for cooking purpose and psychological status of family members is given below.

Table-1 shows that 56 percent of the families were living below 1.25 US dollars per person per day whereas as 81 percent lived below 2 US dollars per person per day.

**Table 1:** Economic status of families (N= 177)

	US dollar per person per day	Number of families	Percentage %
a	Below 1.25	99	56
b	1.25 – 2	44	25
c	Below 2	143	81

As shown in Table -2, 34 percent did not have source of water supply inside the house, 12 % of total households lacked latrine, and 22 % of the families were still using wood for cooking purpose.

**Table 2:** Housing conditions of families (N= 177)

		Number of families	Percentage %
a	Absence of water supply	60	34
b	Absence of latrine	21	12
c	Use of wood for cooking	39	22

As shown in Table-3, 15 % of the families had son preference, 31% wanted more than 2 children and 30 % preferred their elder members to be kept in old age homes

**Table 3:** Psychological state of families

		Numbers of families	Percentage (%)
a	Son preference	27	15
b	Desire for more than 2 children	55	31
c	Desire for elderly care at old age homes	53	30

## DISCUSSION

More than 80 % of the families were living below 2 US dollars per person per day, and 56 % below 1.25 US dollars per person per day. According to a study done by World Bank survey 2014, 57.3 percent of the Nepalese population is living below 2 US dollars per day and 24.8 percent are living below 1.25 US dollars per day. People living below the poverty line are more prone to suffer not only from infectious disease but also cardiovascular disease and chronic obstructive pulmonary disease.<sup>3,4</sup> Poverty has also been linked to mental disorders.<sup>5</sup> However, solving the problem of poverty is not only related to medical measures but requires identification of "poverty traps" along with socio- economic reforms which has been suggested by economists like Jeffery Sachs, Abhijit V Banerjee and Esther Duflo.<sup>6,7</sup>

It has been shown by this study that 34 % of the total families did not have water supply and 12 % lacked latrines inside the house. According to the Millennium Development Goals Report 2012, 11 % of the global population remains without access to an improved source of drinking water. The accessibility to latrines is better than what has been shown by a survey done on villages of Humla and Mugu district of Nepal where 37% of the households lacked latrines inside their houses.<sup>8</sup> According to WHO survey, 15% of global population practiced open defecation in 2010.<sup>9</sup> The diseases associated with poor sanitation are particularly correlated with poverty and account for about 10% of the global burden of disease.<sup>10</sup>

The health of members of 22 % of the households using firewood as cooking fuel, especially those who spend many hours in the kitchen, are at risk as the fumes from cooking fires include high concentrations of respiratory irritants and carcinogens that cause Chronic Obstructive Pulmonary Disease (COPD) and lung cancer respectively.<sup>11</sup> A study done in a town of Northwest Ethiopia in 2013 showed that 95% of the households still used traditional biomass for cooking and those families who did not know about the negative health effects were seven times more likely to use them than those who were knowledgeable.<sup>12</sup> In another study done in a sub-urban community in Nigeria, out of 133 households 14.3% used firewood for cooking and another 25.6% used vegetables for cooking and the type of cooking fuel was significantly associated with the occupation of respondents.<sup>13</sup> Hence, remedy for health problems related to these conditions requires raising awareness in household members.

Thirty percent of the total families had members who felt elderly people should be kept at old age homes. Other studies done in Nepal also show that the established tradition of elderly people being taken care by their sons is slowly eroding and that they want to live separately from the geriatric members of the family.<sup>14</sup> A study done in Kathmandu has shown that elderly homes have positive effect on the lives of senior citizens.<sup>15</sup> So development of geriatric centers should get priority in national health programs.

In this study, 31 % of the total families desired more than two children and preference to a male child was present in 15% of the families. Frequent pregnancies also negatively affect health of the mother as well as that of the child in low income countries.<sup>16</sup> In Nepal, preference to a male child is an important barrier to declining fertility as married females keep on having children until a son is born.<sup>17</sup> A study done in a district of Manipur state, India, has shown negative association between educational status of mother and the total

number of children she has had in her lifetime as she becomes aware of family planning measures and its benefits were seen to play an important role in decision making.<sup>18</sup> Thus it can be seen that female literacy is linked to improvement in reproductive health.

Hence, various “non-medical” determinants related to health status of individual need to be studied in order to improve the health status. The traditional concept that mere availability of medicines and health institutions lead to improvement in health status has to change and health has to be viewed under broader concepts where the role of economic status, environmental and psychological factors of members who live in society is equally recognized. To bring changes in these mentioned factors coordination of health professional with sociologists, ecologists, local leaders and national planners is required.

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