

## Acquaintance with the actuality: Community diagnosis programme of Kathmandu Medical College at Gundu village, Bhaktapur, Nepal

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### Abstract

**Introduction:** In Nepal, various field programs such as community diagnosis programmes (CDP) have been initiated to make the education of doctors, nurses and dentists more community oriented and relevant and suited to the health care scenario. Community diagnosis refers to the identification and quantification of the health problems in a community and identification of their correlates for the purpose of defining those individuals or groups at risk or those in need of health care. The article presents the main activities of community diagnosis as a core component of community-based education for the medical students at Kathmandu Medical College, Kathmandu, Nepal.

**Methodology:** A 4 weeks' Community Diagnosis Programme was conducted by MBBS II students (9<sup>th</sup> Batch) of the Kathmandu Medical College under the supervision of the Department of Community Medicine in November 2006 in the rural community of Gundu VDC (village development committee). The tools used included pre-tested questionnaires, weighing machines, measuring tapes, stethoscopes and sphygmomanometers. After the data collection and compilation, the students presented their findings in oral presentations, accompanied by a written report, including essential recommendations for improving the health status of these communities.

**Results:** The students benefited from the necessary process of integrating clinical skills and a public health approach, so as to enhance their epidemiological thinking and be of greater use to the communities where they will practice. The community also benefited by achievement of behavioral changes leading to healthier lifestyles and increased awareness of health-related matters and their role in quality of life.

**Conclusions:** CDP is a way to practically demonstrate that the link between a medical college and society is possible. That is, a medical college can serve the community and thus society, with specific activities to improve health and the skills of students who will serve as future health professionals.

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Community diagnosis refers to the identification and quantification of the health problems in a community in terms of mortality and morbidity rates and ratios and identification of their correlates for the purpose of defining those individuals or groups at risk or those in need of health care<sup>1</sup>. It is also used to study the environmental, social and cultural characteristics of the society. Generally it is a comprehensive assessment of the health status of the community in relation to its social, cultural, physical, psychological & environmental conditions. The main purpose of community diagnosis is to reveal the main problems affecting the community, which is based on the information from the survey and observations of the team & community members<sup>2</sup>. The focus of a community diagnosis programme (CDP) is on the identification of the basic health needs and health problems of the community.

There are similarities and differences between the approaches undertaken in clinical medicine and community health<sup>3</sup>: The clinician examines the individual patient and has to recognize and identify the pathological significance of the clinical

symptoms and signs in order to make a specific diagnosis and to prescribe the appropriate treatment. In community health, epidemiological skills are needed to examine the whole population and to select the most suitable diagnostic indicators that describe and explain the health problems in the community. It is then necessary to make the community diagnosis and decide which (interventions) would be most effective in raising the health status of the population. A clinician may order a variety of laboratory or other special tests after making a preliminary assessment of a patient, based on the case history and physical examination.

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In the same way, the doctor in the community may need to organize special surveys in order to obtain more epidemiological information. However, there is a fundamental difference in the approach: the clinician usually sees the patient after the disease has started; by contrast, the epidemiologist attempts to understand why the disease exists, and how it can be prevented. Decisions on the management of a patient require a clinical diagnosis, based on the history, examination and special investigations. Management of ill health in the community as a whole requires a community diagnosis which rests on epidemiological information.

Various field programs have been initiated to make the education of doctors, nurses and dentists more community oriented and relevant and suited to the health care scenario of Nepal.<sup>4</sup> In the same vein, the curriculum of Kathmandu University, which is followed by Kathmandu Medical College (KMC), also gives immense importance to community-based learning. The college has emphasized repeatedly in its mission, goal and objective that it ‘...follows a student-centred curriculum that is community-based as well as problem and need based’<sup>5</sup>.

As aforementioned, one of the major objectives of the curriculum is to develop ‘competency to determine and resolve the health problems of the community’. For this purpose, the second year students visit a nearby community with the following objectives:

1. To describe the demographic and social structure of a community of rural Nepal.
2. To find out the burden of diseases prevalent in the area.
3. To identify with the various socio-cultural, economic and environmental factors underlying the health problems in the community.
4. To understand the customs and beliefs with specific reference to health and disease.
5. To find out solutions for the existing problems in the community and measures that can be applied to prevent the problems in future.
6. Impart health education using various methods and aids.
7. Appreciate the importance of teamwork
8. Impart health education using various methods and aids.

The objective of this article is to present the main activities of community diagnosis as a core component of community-based education for the

second year medical students at Kathmandu Medical College, Kathmandu, Nepal.

### Materials and methods

As an integral component of undergraduate teaching in Community Medicine, a 4 weeks’ Community Diagnosis Programme was conducted by MBBS II students (9<sup>th</sup> Batch) of the Kathmandu Medical College under the supervision of the Department of Community Medicine in November 2006 in the rural community of Gundu VDC (wards 4, 6 and 9). Gundu is one of the 16 VDCs of Bhaktapur District and is situated about 20 km South from Kathmandu Medical College, Basic Science Unit, Duwakot. (See Box below for further information)

General information about Gundu VDC	
<b>Total area</b>	5.94 sq. km
<b>Total population</b>	5642 (M: 2819, F: 2823)
<b>No. of households</b>	Approx. 1000
<b>Population density</b>	949.83 sq.km
<b>Literacy rate</b>	Male: 41.35%, Female: 32.67%
<b>Main occupation</b>	Agriculture
<b>Health facility</b>	Gundu Health Post

For the purpose of CDP, the whole batch of students was divided into 17 equal groups; six in each group. Each group was supervised by a faculty and was also assisted by the local health workers. The tools used included pre-tested questionnaires, weighing machine, measuring tape, stethoscope and sphygmomanometer. Ethical clearance was taken from the institute research committee and verbal consents were taken from the participants.

The topics covered in the household survey questionnaire included:

- Demographic profile
- Vital statistics
- Economic status
- Social problems
- Health status
- Environmental sanitation
- Personal hygiene.
- Nutritional status
- Maternal and child health
- KAP about health and disease

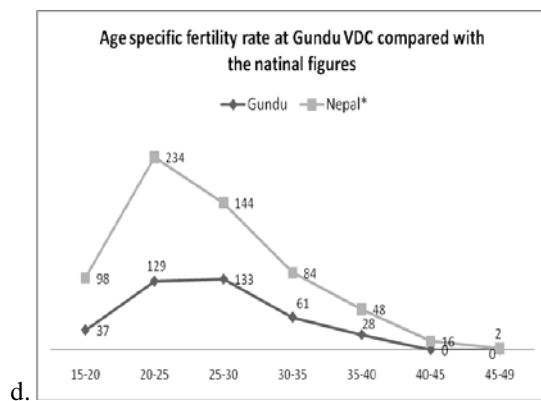
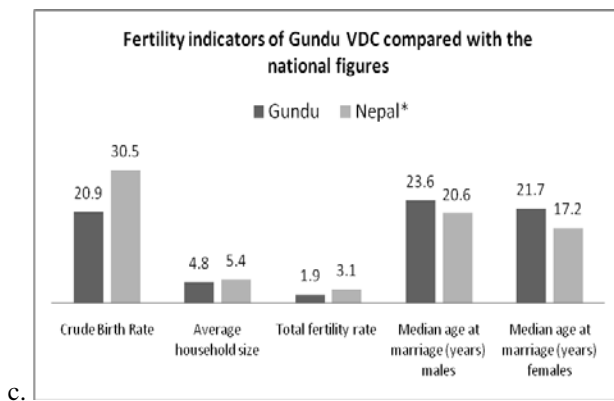
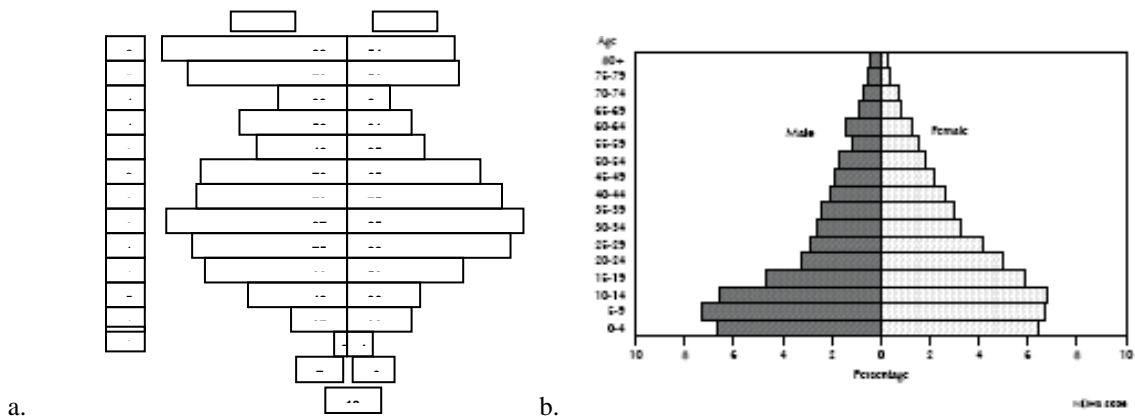
After the data collection and compilation, the students presented their findings in oral presentations, accompanied by a written report, including essential recommendations for improving the health status of these communities. These presentations were made before an audience consisting of fellow students, faculty, health center workers, community members and other guests. Students were assessed as individuals and as a group, according to their participation in all the activities. The resulting grade contributed to their year's mark in Community Medicine.

### Results

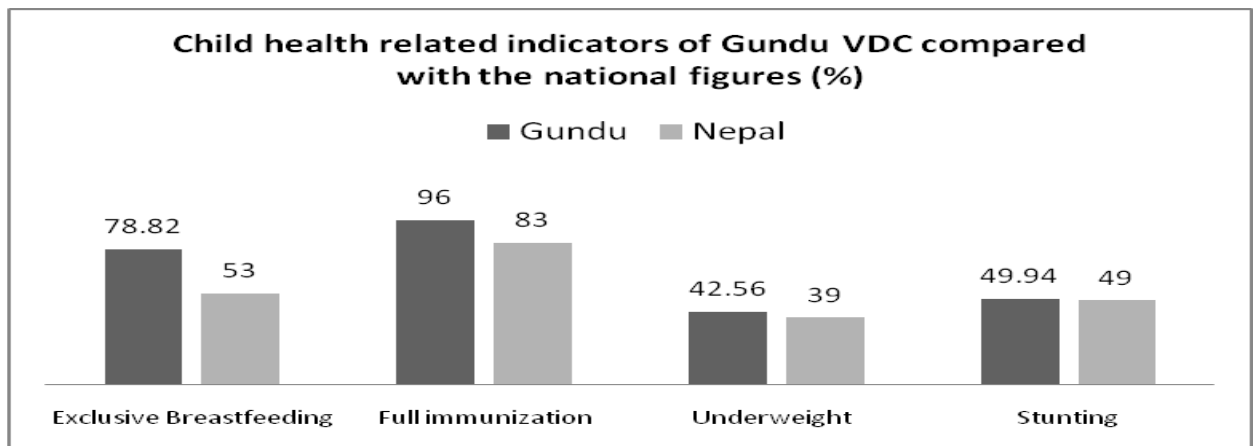
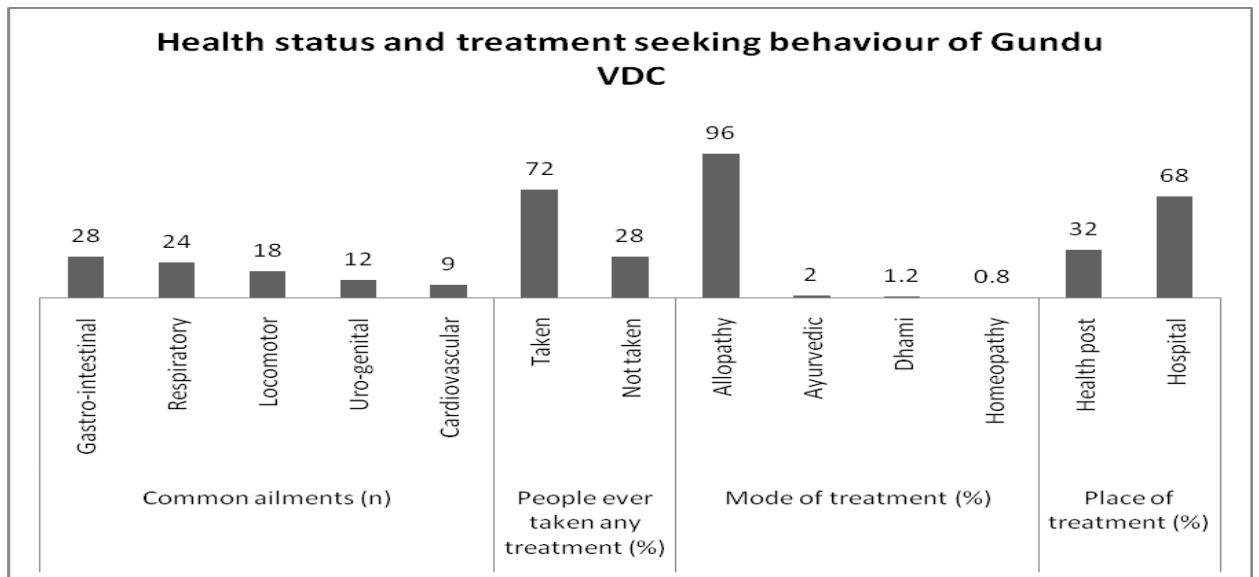
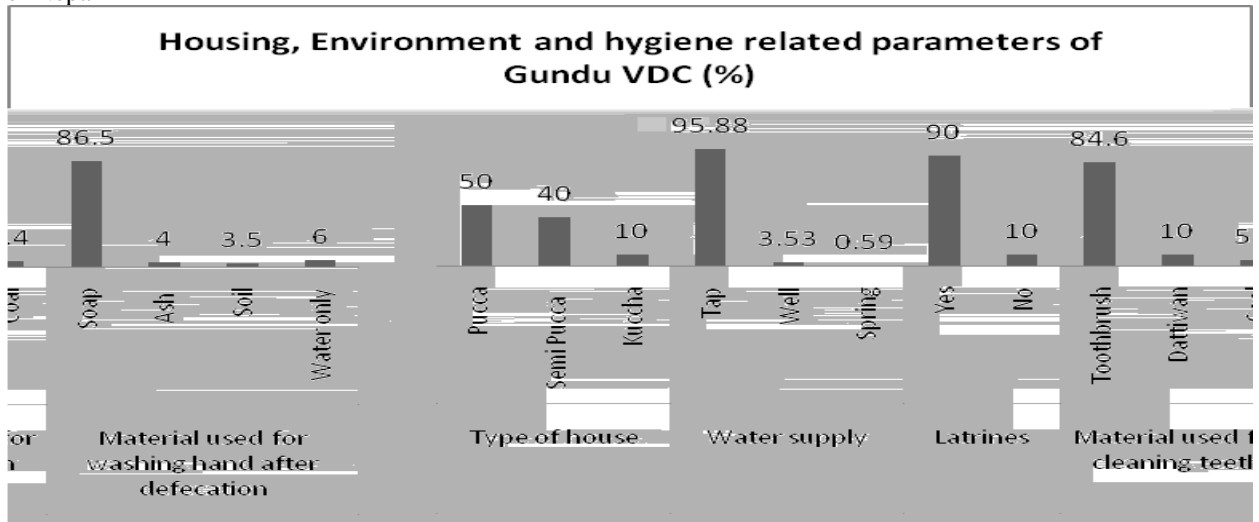
The findings of the Community Diagnosis Programme at Gundu VDC have been summarized in Fig.1 and 2. The figure 3 pictorially displays the activities of CDP and other facets of lives at Gundu VDC during the programme.

There were altogether 746 males and 643 females at a male: female ratio of 116:100 or 1.16:1. Fertility indicators of the VDC are remarkably better than the national average. Child health is also better except for the anthropometrical parameters

**Fig.1:** Various demographic parameters of the Gundu VDC and comparison with the national figures (NDHS 2006). **a.** Age-sex pyramid of Gundu VDC compared to that of Nepal<sup>6</sup> (**b**) indicates more geriatric population and lesser paediatric age group in the VDC. **c and d.** Fertility-related indicators show better figures for the VDC compared to the national figures.



**Fig. 2:** Findings from the CDP at Gundu VDC (from top): Environment and sanitation related indicators; Health and health-seeking behaviour Indicators, and indicators related to the under-5 children (compared with the national data of Nepal<sup>7)</sup>)



**Fig.3:** Glimpses of the CDP at Gundu VDC, Bhaktapur, Nepal: Students learning to **a.** interview and **b.** take anthropometrical measurements. **c.** Mothers waiting their turns at the local health post. **d.** a woman on her way to spray insecticide in her paddy field. **e.** a compost pit . **f.** a case of squamous cell adenoma who later received free treatment at Bhaktapur Cancer Hospital on request of the department. **g.** a case of varicose veins of the legs who was referred to KMCTH, Sinamangal.



At the end of the programme, the students were able to:

1. Assess the problems of the community in their natural setting.
2. Develop empathy towards the community people.
3. Find out the health problems in the community and the constraints to cope up with them.
4. Learn about survey methodology, epidemiology and biostatistics.
5. Perform health promotion activities
6. Establish relations with community members
7. Work in real-life conditions;
8. Develop the skills to work in a team.

The community also benefited by:

1. Achievement of behavioral changes leading to healthier lifestyles
2. Increased awareness of health-related matters and their role in quality of life
3. Decrease in suffering by improving health

### Conclusions

The second year medical students at the Kathmandu Medical College benefited from the necessary process of integrating clinical skills and a public health approach, so as to enhance their epidemiological thinking and be of greater use to the communities where they will practice. As a result, they learned and acquired knowledge and skills from real-life situations, and had an opportunity to work in problem-solving and decision-making processes. They have applied critical thinking, and become - with other actors - agents of change towards better health.

These community health diagnosis activities are an integral part of the whole educational process. This curriculum component has helped students gain a greater sense of social responsibility and a deeper understanding of the problems facing communities. At the same time, community leaders have supported this program by introducing students into the communities, and have expressed satisfaction with the results.

Undoubtedly, CDP is a way to practically demonstrate that the link between a medical college and society is possible. That is, a medical college can serve the community and thus society, with specific activities to improve health and the skills of students who will serve as future health professionals. At the same time, community-based teaching of medicine

does not constitute a “lower level” of professional training, but rather a comprehensive approach for equipping physicians with adequate skills, appropriate approaches and a knowledge base that will serve them well in all settings, particularly in the most disadvantaged communities.

### Future Ahead

The impact of the growing number of medical and nursing colleges leading to ‘encroaching’ and ‘overlapping’ of the field areas<sup>8</sup> and the difficulty in conducting community diagnosis programme during the times of conflict<sup>9</sup> have been already well highlighted in other papers. Moreover, though the spirit of Community Diagnosis Programme is similar in all the medical colleges and universities of Nepal, there are wide variations in terms of the ways it is conducted. For example, at B P Koirala Institute of Health Sciences (BPKIHS), Dharan<sup>10</sup>, it is residential and multi-disciplinary (nursing and dental students are also involved). On the other hand, at Kathmandu University School of Medical Sciences (KUSMS), Dhulikhel, which is also under Kathmandu University like Kathmandu Medical College, it is more of a longitudinal nature with Community Intervention Projects<sup>11</sup>. To minimize this diversity, an effort is being undertaken with the initiation and support of World Health Organization to establish a network of the medical colleges of Nepal and to standardize and make the Community Diagnosis Programme as well as other aspects of the curriculum uniform in all the medical universities and affiliated colleges of Nepal<sup>12</sup>.

### Acknowledgements

The authors would like to thank all students of the previous Second year MBBS (9<sup>th</sup> Batch), Kathmandu Medical College. They would also like to acknowledge the local administration and community of Gundu VDC for their kind support.

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