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## Disease pattern in patients presenting to a primary health center near Kathmandu, Nepal

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### ABSTRACT

**Introductions:** Audits from bigger hospitals are commonplace but reports from smaller institutions like PHC's are rarely published. This study was done to find the demographic attributes of patients presenting to Khopasi primary health center and to analyze the disease pattern of these patients.

**Methods:** This was a cross sectional study conducted at Khopasi PHC over six months between October 2012 to March 2013. The data was collected from the register kept in the OPD. Those with incomplete entries were excluded. Simple statistical methods like means and percentages were used to analyze the data.

**Results:** Total number of patients presenting to the out-patient department in the study period was 3,108 of which 1,196 (62%) were females. Most patients 567 (18%) were from 5-14 years age group. Respiratory Tract Infection was the most common cause 489 (16%) for these consultations. It was closely followed by Ear Nose Throat infections 415 (13%) and Acid Peptic Disease 367 (11%). Among children of <5 years, 270 (62%) were found to have acute respiratory infections.

**Conclusions:** Most patients were young female. Infectious diseases like of respiratory tract and Ear Nose Throat were for more than one-third of the consultations.

**Keywords:** acid peptic disease, acute gastro-enteritis, primary health center, respiratory tract infection

### Plain Language Summary

PHC is an important part of health care system. So, this study conducted to know disease pattern showed that most of the patient had acute respiratory infections followed by ENT infection and acid peptic disease.

**INTRODUCTIONS**

Khopasi Primary Health Center (PHC) is situated in Panauti municipality of Kavrepalanchok district 35 km northeast to Kathmandu and 10 km south of Banepa, inhabiting 3,453 people in 676 individual households.<sup>1</sup> Built in 1994 with the help of Japanese Medical Association and initially run with the support of Japan International Cooperation Agency, Khopasi PHC was handed over to the local community in 2000.

The PHC, manned by 15 staff including three medical officers, is currently providing out patient department (OPD), maternity, contraception, and comprehensive abortion care (CAC) services, directly observed treatment short-course (DOTS) clinic and immunization program.

Audits from smaller institutions like PHC's are rarely published in medical journals. The objective of this study was to assess the workload of Khopasi PHC, to find who (in terms of age, sex and ethnicity) availed the services the most and to analyze which diseases were common in Khopasi and its surrounding areas.

**METHODS**

This was a cross sectional carried out on the basis of patients presenting to OPD of Khopasi PHC over six months during October 2012 to March 2013. Data was collected from the outpatient department register. Those with incomplete entries were included. Age, sex, ethnicity, diagnosis and treatment were noted and simple statistical tools like means and percentages were applied to determine various demographic characteristics and disease pattern in these patients.

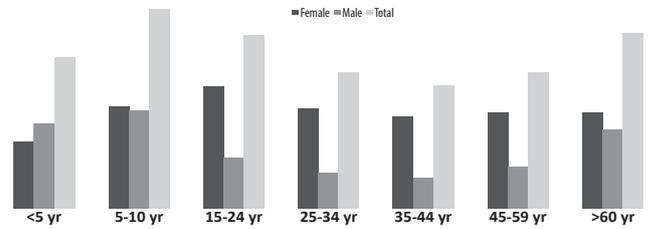
**RESULTS**

A total of 3,108 patients were seen in the OPD during six months of study period with average of 518 patients per month. Females were 1,916 (62%) and males 1,192 (38%) patients. (Table 1,2. Fig 1,2.)

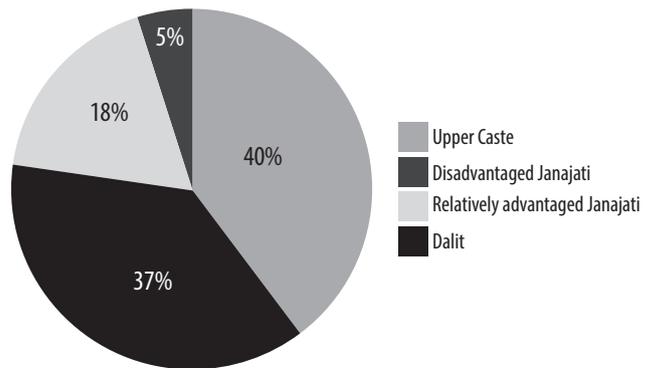
**Table 1. Gender-wise monthly distribution of patients (2012-2013) at Khopasi PHC**

	Oct	Nov	Dec	Jan	Feb	Mar	Total	%
Female	236	293	286	253	403	445	1,916	62%
Male	124	195	172	178	269	254	1,192	38%
Total	360	488	458	431	672	699	3,108	100%

Note: PHC = Primary Health Center



**Figure 1. Gender-wise age distribution of patients at Khopasi PHC**



**Figure 2: Ethnic distribution of patients at Khopasi PHC.**

**Upper caste:** Brahmimn, Chhetri, Thakuri, Sanyasi, Rajput, Kayestha, Baniya, Marwadi, Jain, Bengali; **Disadvantaged Janajati:** Magar, Tamang, Rai, Limbu, Sherpa, Bhote, Gharti, Bhujel, Kumal, Sunuwar, Jirel, Lepcha, Chepang, Raute, Kusunda; **Relatively advantaged Janajati:** Newar, Thakali, Gurung; **Dalit:** Kami, Damai, Sarki, Gaine, Badi

**Table 2: Diseases observed in patients visiting OPD at Khopasi PHC**

Disease	No. of patients
Respiratory Tract Infections (RTI)	489
Ear Nose and Throat (ENT) Infections	415
Acid Peptic Disorders(APD)	367
Acute Gastroenteritis(AGE)	289
Musculoskeletal pathologies	231
Skin infections	218
Dermatitis	185
Orodental diseases	137
Ophthalmological infections	128
Asthma	94
Sexually Transmitted Infections (STI)/ PID	66
COPD	62
Worm Infestation	49
Pyreaxia of Unknown Origin (PUO)	36
Dysfunctional Uterine Bleeding (DUB)	28
Urinary Tract Infection (UTI)	23
Hypertension	19
Diabetes	16
Enteric Fever	8
Uterovaginal prolapse	7

## DISCUSSIONS

A total of 3,108 patients seen in the OPD over six months make Khopasi PHC a busy center. Male 1,192 (38%) visitors outnumbered by females 1,916 (62%) may be due to the fact that males mostly reside outside the village for education and employment and have access to higher and better health facilities. This is supported by the figures that show the difference more clearly in the socially and economically active age group of 15 to 59 years. In the under-five population there were more males and in the 5-14 years and 60 and older age groups there was no significant difference in the number of male and female patients. Higher number of male patients in less than 5 years may also be because of less immunity in them compared to female children.

The number of patients in the pediatric age group (less than 14 years) was 996 (32%) which may reflect on the demographic profile of the general population which tells us that the under 14 population in the country is 40%.<sup>2</sup> The geriatric age group of 60 years and older ranked second (after 5-14 years age group) which may be due to their vulnerability to infections as well as due to old age related illnesses.

An overwhelming majority of patients belonged either to 'upper caste' or 'disadvantaged janajati' which goes in line with the general population of the Khopasi.<sup>3</sup> The small number of 'dalit' patients 151(5%) may be both because of their scarce presence in the area as well as due to socioeconomic backwardness which hinders utilization of available services.

Infectious diseases were more commonly encountered. Among the top five diseases seen RTI, ENT infections and AGE are all infectious in nature. Skin 218 (7%), eye 137 (4%) and oro-dental 128 (4%) infections were also seen in significant numbers. This supports the observation of other researchers also who reported a high incidence of skin diseases in Kavre district - 7,374 (9.92%) out of a total of 74,279 patients.<sup>4</sup> Khopasi PHC is in Kavre district.

There were only eight cases of enteric fever in the entire study period. It can be assumed, however, that at least a few of the 36 Pyrexia of Unknown Origin (PUO) patients were probably Enteric Fever. Whether all of these 36 patients really meet the criteria of PUO can also be debated.

Non-communicable chronic diseases like diabetes and hypertension was insignificant even though the elderly population of 60 years and older contributed 16% (496) to the total number of patients. This may be because of the lifestyle of the people of this area which is mostly rural and farming community. Another reason could be the lack of facilities for appropriate investigations and management of these diseases in this PHC prompting people to visit centers.

With almost two-thirds 270 (63%) of under five children suffering from acute RTI and more than a fourth 112 (26%) from diarrheal diseases, these two conditions remained the most dreaded enemies of young children of Khopasi as is the case in other parts of Nepal.<sup>5</sup>

## CONCLUSIONS

With more than 500 patient visits every month. Khopasi PHC is a busy health center visits female more than male (1.6:1) and children more than adult. Infectious diseases of respiratory tract, ear, nose, throat and skin were the most common conditions.

Studies with bigger sample size conducted in more PHC's should be undertaken to contribute to improvement of services in these grass-root health institutions.

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