

# Hygiene and Sanitation Practice among Chepang Community in Rapti Municipality, Chitwan, Province 3

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## ABSTRACT

**Introduction:** Safe drinking water, sanitation and hygiene (WASH) are the fundamentals for improved standard of living, health and environment, education, gender equality, greater convenience and dignity. The main aim of this study was to assess the status of Hygiene and Sanitation practice among Chepang community of Rapti municipality.

**Methods:** Descriptive Cross-sectional household-based study was done in the Chepang community. The study was done with 422 households which were selected through convenient sampling and written consent was taken. The Knowledge and Practice of respondent towards Hygiene and Sanitation practice were assessed through semi-structured questionnaire and the data was entered and analyzed in SPSS version 20. Univariate and bivariate analysis was done. Univariate analysis was done and presented through frequency and percentage. Whereas bivariate analysis was done by using chi-square test ( $p < 0.05$ ) was considered for association between dependent and independent variable.

**Results:** Out of 422 respondents, 234 had adequate knowledge on hygiene and sanitation. Among 234, only about 93 respondent had adequate practice about hygiene and sanitation. Variables such as education level ( $p \leq 0.01$ ), occupation ( $p \leq 0.035$ ), age ( $p \leq 0.001$ ), gender ( $p \leq 0.50$ ) & knowledge ( $p \leq 0.002$ ) showed significant association with practice on hygiene and sanitation.

**Conclusions:** Based on study findings, due to different socio-demographic factors such as poverty, lack of roads and transportation, illiteracy, the practice of Hygiene and Sanitation was found to be inadequate.

**Keywords:** sanitation; practice; knowledge; chepang.

## INTRODUCTION

Safe drinking water, sanitation and hygiene (WASH) are the fundamentals for improved standard of living, health and environment, education, gender equality, greater convenience and dignity. Poor and vulnerable populations have low access to improved water, sanitation and hygiene. Improvement in WASH can play a great role to reduce poverty, promote equality and to

support socio-economic development.<sup>1</sup> Within the last 25 years, Nepal has made significant progress in expanding the coverage of improved water supply, sanitation and hygiene practices.<sup>2</sup>

However, among many ethnic groups, the Chepang are quite backward. They are one of the most under privileged, backward, marginalized and primitive community of Nepal. Most of them resides near the forest and lack improved facilities of water, sanitation and hygiene. Thus, the main objective of this study was to analyze the status of sanitation and hygiene in Chepang community and examine the associated factors

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that determines the status of sanitation and hygiene among Chepang.

## METHODS

A descriptive cross-sectional study was conducted among Chepang population of Rapti municipality, Chitwan. Data were collected from June 2019 to July 2019. Ethical approval was taken from Nepal Health Research Council (Reg. no. 404/2019).

The study population were Chepangs residing in ward no. 10,11,12 and 13 of Rapti municipality, Chitwan. Systematic probability sampling was used as a sampling technique for selecting household. Informed consent was taken from the participants. The participants were interviewed face to face by the researcher using semi-structured questionnaire.

Sample size was calculated using formula

$$n = Z^2pq/d^2$$

where, Z (level of significance) = normal variate i.e. 1.96

p = prevalence of sanitation and hygiene i.e. 50% = 0.5

d = Allowable error i.e. 0.05

n = sample size

n = 384

now,

$$q = 1-p$$

$$= 1-0.5$$

$$= 0.5$$

$$\begin{aligned} \text{Sample size}(n) &= \frac{Z^2pq}{d^2} \\ &= \frac{(1.96)^2 * 0.5 * 0.5}{(0.05)^2} \\ &= \frac{3.8416 * 0.25}{0.002} \\ &= \frac{0.9604}{0.0025} \\ &= 384 \end{aligned}$$

$$= 384$$

Now, considering 10% non-response rate (384+38). Hence, the sample size of this study was 422.

Inclusion criteria included both male and female those who were above 19 years old and belong to Chepang community irrespective of their age, sex, ethnicity or religion. Participants those who were not above 19 years and those who does not belong to Chepang community were excluded. The tool used for data collection in the study was semi-structured questionnaire. It was classified according to various categories based on literature review and standard levels. The questionnaire included questions on socio demographic variables, knowledge and practice of Hygiene and Sanitation. Independent variables consisted of knowledge and socio-demographic characteristics i.e. age, gender, marital status, religion, educational level, occupation, family type, income and wealth quintile. Dependent variable consisted of practice regarding hygiene and sanitation. Questions of knowledge and practice regarding hygiene and sanitation was prepared based on Nepal Demographic Health Survey and various other literatures. Knowledge related factors included knowledge on personal hygiene, hand washing, sanitation and solid waste. Practice related factors included availability & use of latrine for faecal disposal, using soap & water for handwashing and practice of safe waste disposal.

The questionnaire was translated to the Nepali language. The pre-testing of the study was done in 42 household of Chautara sangachowkgadi municipality ward no.4.

The collected data was checked, reviewed and organized for their accuracy and completeness. Editing, coding and categorization of the collected data was done. The information collected from field survey was entered into the computer by using computer software packages SPSS (Statistic Package for Social Science) version 20. There were 12 questions regarding knowledge. Scoring was done (0 and 1) and the mean value calculated was 6. <6 was considered as inadequate knowledge and  $\geq 6$  was considered

as adequate knowledge. Similarly, there were 14 questions regarding practice and the mean value calculated was 7.  $<7$  was considered as inadequate practice and  $\geq 7$  was considered as adequate practice.

Univariate analysis was done and presented through frequency and percentage and for the bivariate analysis chi-square test ( $p \leq 0.05$ ) was done to find out the association between study variables.

## RESULTS

More than half of the population i.e. 55.4% had adequate knowledge about hygiene and sanitation where as 44.5% had inadequate knowledge on hygiene and sanitation. Among, 234 respondents, less than half of the population (39.7%) follows adequate practice for hygiene and sanitation whereas more than half of the population (60.3%) had inadequate practice on hygiene and sanitation.

**Table 1. Knowledge and Practice on Hygiene and Sanitation**

	Frequency(n)	Percentage (%)
<b>Knowledge (n=422)</b>		
Inadequate	188	44.5
Adequate	234	55.4
<b>Practice (n=234)</b>		
Inadequate	141	60.3
Adequate	93	39.7

Table 2 shows the socio-demographic profile of 422 Chepangs.

**Table 2. Socio-demographic characteristics (n=422)**

Characteristic	Frequency (n)	Percentage (%)
<b>Age</b>		
15-35	265	62.8
36-55	106	25.1
56-75	46	10.9

Characteristic	Frequency (n)	Percentage (%)
76-95	5	1.2
<b>Gender</b>		
Male	144	34.1
Female	278	65.9
<b>Religion</b>		
Hindu	220	52.1
Buddhist	0	0
Muslim	0	0
Christian	202	47.9
<b>Marital status</b>		
Unmarried	27	6.4
Married	366	86.7
Widow	28	6.6
Divorced	1	2
<b>Education</b>		
Illiterate	262	62.1
literate	42	10.0
Primary	84	19.9
Lower sec.(6-8)	26	6.2
Secondary (9-10)	7	1.7
<b>Occupation</b>		
Agriculture	335	79.4
Business	16	3.8
Foreign employment	1	0.2
Private job	6	1.4
Laborer	64	15.2
<b>Family type</b>		
Joint	155	36.7
Single	267	63.3
<b>Monthly Income (NRs)</b>		
<5000	264	62.6
5000-10,000	128	30.3
>10000	30	7.1
<b>Wealth quintiles</b>		
Lowest	75	17.8
Second	99	23.5

Characteristic	Frequency (n)	Percentage (%)
Middle	78	18.5
Fourth	85	20.1
Highest	85	20.1

Table 3 shows the association between socio-demographic factors and knowledge with practice of hygiene and sanitation where association was seen with age ( $p \leq 0.001$ ), gender ( $p \leq 0.050$ ), level of education ( $p \leq 0.01$ ) and occupation ( $p \leq 0.035$ ).

**Table 3. Association of practice with socio demographic variables**

Characteristic	Practice (n=234)		P-value
	Adequate n (%)	Inadequate n (%)	
Age category			
15-35	88(94.6%)	108(76.6%)	0.001*
36-55	5(5.4%)	28(19.9%)	
56-75	0	5(3.5%)	
Gender			
Male	16(17.2%)	40(28.4%)	0.050*
Female	77(82.8%)	101(71.6%)	
Religion			
Hindu	42(45.2%)	64(45.4%)	0.973
Christian	51(54.8%)	77(54.6%)	
Marital status			
Unmarried/widow/divorce	10(10.8%)	9(6.4%)	0.231
Married	83(89.2%)	132(93.6%)	
Education			
Illiterate	33(35.5%)	94(66.7%)	0.001*
Literate	9(9.7%)	14(9.9%)	
Primary (up to class 5)	35(37.6%)	25(17.7%)	
Lower sec. (6-8)	11(11.8%)	7(5.0%)	
Secondary level (9-10)	5(5.4%)	1(0.7%)	
Occupation			
Unpaid (agriculture)	73 (36.9%)	125(63.1%)	0.035*

Characteristic	Practice (n=234)		P-value
	Adequate n (%)	Inadequate n (%)	
Paid(business/foreign employment/gov.job /privatejob/laborer)	20 (55.6%)	16(44.4%)	
<b>Family type</b>			
Joint	26(28.0%)	41(29.1%)	0.853
Single	67(72.0%)	100(70.9%)	
<b>Income</b>			
<10,000	89(95.7%)	136(96.5%)	0.769
>10,000	4(4.3%)	5(3.5%)	
<b>Wealth quintiles</b>			
Lowest	20(35.7%)	36(64.3%)	
Second	31(44.3%)	39(55.7%)	
Middle	22(44.0%)	28(56.0%)	0.727
Fourth	14(35.0%)	26(65.0%)	
Highest	6(33.3%)	12(66.7%)	

\*P-value less than 0.05 significant

Table 4 indicates that knowledge on Hygiene and Sanitation ( $p \leq 0.002$ ) had significant association with Practice of Hygiene and sanitation.

**Table 4. Association of practice with knowledge**

Characteristics	Practice on Hygiene and Sanitation		P-value
	Adequate n (%)	Inadequate n (%)	
Knowledge			
Inadequate	5(5.4%)	28(19.9%)	0.002*
Adequate	88(94.6%)	113(80.1%)	

\*P-value less than 0.05 significant

## DISCUSSION

The primary purpose of this research was to assess the status of Hygiene and Sanitation practice among Chepang community of Rapti municipality, Chitwan. In this study, population above 19 years were enrolled to know their knowledge and practice in Hygiene

and Sanitation. Our study revealed several hygiene and sanitation challenges at household and community. Indeed my findings provided evidence of inadequate practice of hygiene and sanitation.

The study shows ratio of female population was greater than male (34.1%) whereas similar study done by Carmen A. et al, in Rural Ethiopia shows that ratio of male were higher (91%) than female population. According to the same study done by Carmen A. et al, majority of the sampled population were found to be engaged in Agriculture (89.80%) which shows similar result to this study, whereas Agriculture was found to be the main occupation followed by majority of Chepong people (79.4%).<sup>3</sup>

Regarding education level, in a study conducted by Carmen A. et al in Rural Ethiopia, the result showed highest percentage of respondent (51.93%) hadn't gone to school. Which was similar to this study findings which also shows highest percentage of illiteracy (62.1%).<sup>3</sup>

A study conducted by Akter and AM has shown that increased hygiene awareness is associated with increased level of education. Which supports my study findings, where majority of the respondent are illiterate (62.1%) resulting to less respondent having knowledge about Hygiene and Sanitation (55.4%).<sup>4</sup>

The practice of hygiene and sanitation in a study conducted by Daniela G. et. al in Haiti was found to be 40% which was near about equal to the findings of the current study (39.7%). Knowledge on Sanitation and Hygiene was less (55.4%) in this study when compared to the similar study conducted by Daniela G. et. al in Haiti (68%).<sup>5</sup>

NDHS 2016, shows that access to sanitation was only 16%. Whereas this study shows that access to sanitation was comparatively higher (62.3%) than the national data whereas less than half of the household didn't had access to latrine (37.7%).<sup>6</sup>

Among the respondent who didn't had latrine, most of them (32.5%) said they couldn't have latrine because of poor economic condition and they (25.4%) used to go near riverbank to defecate, in field (11.6%) and in road (0.3%). Though access to sanitation was higher in this study but still 37.7% didn't had access to latrine and goes to open area for defecation which is a big problem.

Another similar study done by Sohel Rana in Ferihat slum area shows that practice of hand washing returning from toilet with soap and water was (75-90%) whereas respondent using clay and simply water was (16-27%), similar study done by Carmen A. et al in Rural Ethiopia shows that percentage of people practicing hand washing with soap and water was 89.33%). Similarly, according to current study hand washing with soap and water was also nearly equal to that (90.5%).<sup>7,3</sup>

In the current study majority of the household had pit latrine with no septic tank (50.7%). Whereas in a similar study conducted by Joseph K.K. et al in Rural Tanzania shows that maximum number of house hold had pit latrine (64.5%), which gave similar result to the current study. The same study shows 40% of the respondent open defecated, which was nearly similar to this study where open defecators was found 37.7%.<sup>8</sup>

In this study, association of the knowledge ( $p \leq 0.002$ ) with practice on Hygiene and Sanitation was seen whereas in a similar qualitative study conducted by Akter and AM in Bangladesh said that improved knowledge was associated with increased compliance with hygienic practices. Hence, according to the study findings my study did show significant association between knowledge and practice of hygiene and sanitation.<sup>4</sup>

To adequately address the equity in water and sanitation there is a need to understand where the poor live and what their level of access are. Greater focus is needed on how to increase access of hygiene and sanitation. More evidence is needed to support our emerging understanding



of the wider health effects of water, sanitation and hygiene. There is a need to understand how improvement in hygiene and sanitation leads to greater economic sustainability.

## CONCLUSIONS

This descriptive cross-sectional study findings had shown there doesn't exist adequate practice of hygiene and sanitation among the Chepong community. The study showed that socio-demographic factors such as family type, monthly income, religion, marital status & wealth quintiles had no significant association with practice of hygiene and sanitation whereas variables such as education level, occupation, age, gender & knowledge on Hygiene and Sanitation had significant association with the dependent variable. Thus, the study findings conclude that these identified impeding factors (such as poor economic condition, lack of transportation, illiteracy, lack of good roads, lack of latrines etc.) often act as barriers to transformation of hygiene-related knowledge into practice and practice into habit.

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**CONFLICT OF INTEREST:** None

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