

Original Research Article

Open Defecation Free (ODF) Status of Magdi District of Nepal after Three Years of Declaration: A Cross-Sectional Study

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ABSTRACT

Introduction: Lack of sanitation facilities is a serious health risk and obliges people to practice open defecation, thereby increasing the risk of disease transmission. The aim of this study was to assess the status of coverage, use, operation and maintenance of latrine of Myagdi district after three years of declaration of Open Defecation Free.

Methods: A community based cross sectional descriptive study was conducted among 506 households in Myagdi districts. Information was collected through face to face interview by using semi structure interview schedule and observation of status of latrine carried by using observation checklist.

Results: There was availability of latrine in most of the households (90.1%) out of which nearly two-third of the households had latrines that met criteria of sanitary latrine. Latrine used was observed in majority of the households and most (97.6%) of the family members washed their hands with soap water after defecation. Only 2% of the households were defecated openly. Out of the total population of study household only 0.5 per cent of people was practicing open defecation. Nearly in one-fourth (23.4%) of the households people are practicing of cleaning their toilet on daily basis. After observing the toilet of each household it was found that only 13.5% of the toilets were needed to immediate maintenance.

Conclusion: Latrines coverage, use, operation and maintenance in Myagdi district was reported satisfactory than other studies but still public health concern so the emphasis should be provided to eliminate the practice of open defecation totally by the local authorities.

Key words: Latrine, Open defecation, Open defecation free.

INTRODUCTION

Open Defecation means defecating in the open and leaving the faeces exposed. According to Sanitation and Hygiene Master Plan; "Open Defecation (ODF) means no faeces are openly exposed to the air. The following indicators/criteria are expected to be prevalent in any given designated areas in order to declare it ODF: There is no open defecation in the

designated area at any given time; all households have access to improved sanitation facilities (toilets) with full use, operation and maintenance; and all the schools, institutions or offices within the designated areas must have toilet facilities. In addition, the following aspects should be encouraged along with ODF declaration process: availability of soap and soap case for hand washing in all households; and

general environmental cleanliness including management of animal, solid and liquid wastes is prevalent in the designated area. [1] ODF status helps to break the vicious cycle of deaths resulting from fecal oral contamination cultivated amid poor hygiene behaviors. And helps to achieve people's access to improved sanitation and promote hygiene behavior for reducing prevalence of diarrheal diseases and promoting health condition. [2] Improved sanitation is important not only to human health but also for social and economic development of the country.

Worldwide, an estimated, 4 billion people still do not have basic sanitation facilities, 946 million still defecate in the open area. Nepal is also contains in top ten countries with the highest numbers of people practicing open defecation where 11 million Nepalese people are practicing in open defecation. [0] There are some stories of failure of ODF status in Nepal. Toli and Pandusen VDCs of Bajura district of Nepal were declared ODF status but could not maintain minimum requirement of post ODF situation. [3] The objective of the study was to assess the status of coverage, use, operation and maintenance of latrine of Myagdi district of after three years of declaration of Open Defecation Free (ODF).

MATERIALS AND METHODS

The cross sectional descriptive study was carried out in 7 Village Development Committees (VDCs) of Myagdi District. A Sample size of 506 household was determined by base on the 73% of toilet coverage in western region. [4] A multi stage cluster sampling technique was used in this study. Out of the 35 VDCs, 7 VDCs (20%) namely Arman, Barangja, Narchyang, Takam, Shika, Ramche and Rakhu piple were selected randomly. Each VDC have 9 wards and 3 wards from each VDC was selected randomly using lottery method and hence there were all total 21 clusters (7VDCs*3 wards) selected for the study. The number of households included for the study was determined proportionately

according to the number of households in each selected cluster. Individual respondent to be interviewed from each ward was selected by using systematic random sampling. Face to face interview was conducted to household individual using semi structure interview schedule. Observation checklist was also administered for collecting primary data and information. Written permission to conduct the study was obtained from the Public Health program of Pokhara University. Propose of the study was explained and oral informed consent was obtained from each study subject before conducting the interview. Care was also taken to maintain the privacy and confidentiality. The collected data was analyzed and processed systematically using SPSS version 16.0.

RESULTS

Information regarding socio-demographic characteristics of respondents

Among 506 individuals interviewed; more than one-third (37.0%) were of age group 20-30 with mean age 45.31 ± 15.235 . More than half (51.6%) of the respondents were male. The mean family size of the respondents was 5.17. More than half of the respondents (62.5%) were belong to nuclear family. Most of the respondents (96.6%) were Hindus and half of them were Janajati. Nearly half of the respondents were depend on Agriculture. Monthly family income of more than half of the family (57.9%) ranged up to Nepalese rupees 15000-20000. Majority of the respondents (90.70%) were literate.

Information regarding sanitary latrines coverage:

Nearly all (99.8%) of the households had any type of latrine. Majority (90.1%) of the households had sanitary latrine. Out of 90.1% nearly two-third (67.7%) of the households had latrines meeting total criteria of sanitary latrine. Two criteria commonly not met were inaccessibility of flies; and no bad odor, ugly appearance. Majority of the respondents (98.8%) had constructed latrine with their own

expenditure. Majority (87.8%) of the open defecation free campaign (Table 1). households had constructed latrine before

Table 1: Information regarding sanitary latrines coverage (n=506)

Variables	Frequency	Percentage (%)
Any latrines coverage	505	99.8
Sanitary latrine coverage	455	90.1
Latrines met total criteria of sanitary latrine	308	67.7
Latrine constructed before ODF campaign	432	87.8
Financial support for latrine construction	6	1.2

Information regarding use of latrines

Latrine use was seen in most (98.0%) of the households. It is reported

that most of the family members (97.6%) practicing washing their hands with soap water after defecation.

Table 2: Information regarding use of latrines (n=505)

Variables	Frequency	Percentage (%)
Latrine use by households	496	98.0
Latrines use by members of households (n=2616)	2601	99.6
Hand washing practice by member of households	494	97.6

Information regarding practice of open defecation

Only 2% of households were practicing open defecation and only 0.6% of members of households were practicing open defecation. Even though they have latrines facilities 0.3% of the family

members were practicing open defecation. All members of the household were defecating in open field and respondent revealed that they haven't built toilet due to lack of money. They had planned to construct the toilet.

Table 3: Information regarding practice of open defecation (n=506)

Variables	Frequency	Percentage
Open defecation by household (n=506)	10	2
Open defecation by member of household (n=15)		
Under five children	9	60
Disable person	2	13.3
Others group	4	26.7
Open defecation among who have latrine (n=2610)	9	0.3
Open defecation among who do not have latrine (n=2610)	6	0.2
Reason for not building latrine (n=1)		
Lack of money	1	100
Plan for construct latrine (n=1)	1	100

Information regarding availability of cleaning agent and hand washing facilities

Observation of the latrines of each household found that most of the households (93.3%) had latrine brush as the cleaning equipment and half (51.1%) of the households had cleaning agent in their latrine. Majority of the household (98.8%) had water storage facility. Most (99.2%) of the household had hand washing basin near the latrine. It was observed in the most of the basin (92.5%) evidence of hand washing.

Table 4: Availability of cleaning agent & hand washing facilities (n=505)

Variables	Frequency	Percentage (%)
Availability of cleaning equipment	471	93.3
Availability of cleaning agent	258	51.1
Availability of water storage facility	499	98.8
Availability of hand Washing station	501	99.2
Evidence of hand washing	467	92.5

Information regarding operation and maintenance of latrine

Nearly one-fourth (23.4%) of the household was used to clean their latrine on daily basis. After observing the latrine of each household, it was found that only 13.5% of the latrine needed immediate maintenance.

Table 5: Information regarding operation and maintenance of latrine (n=505)

Variables	Frequency	Percentage (%)
Frequency of latrine cleaning		
Always	118	23.4
Usually	294	58.2
Sometimes	93	18.5
Need to immediate maintenance of latrine		
Yes	68	13.5
No	437	86.5

DISCUSSION

Information regarding sanitary latrine coverage

This study showed that only 90% households had sanitary latrine which is much more higher than the similar study conducted in Nawalparasi [5] (70.6%), Kaski [9] (74.0%), Nigeria [11] (67.3%) and Dhaka [10] (42.0%). This higher obtained might be as the district is declared as ODF zone in 2013. But finding of this study is consistence with the report of the Water, Sanitation and Hygiene (WASH) sub division office Myagdi [12] (89.81%). Before three years when the district was declared as ODF zone, it was 100%. As it is ODF zone, still 10% households did not have sanitary latrine in this zone. This calls the immediate attention of the concern authority.

Out of the all sanitary latrines two-third (67.7%) of them meets the total criteria of sanitary latrine. Commonly two criteria were not met were inaccessibility of flies; and no bad odor, ugly appearance. It might be due to lack of proper knowledge and practice on latrine sanitation.

Information regarding use of latrines

This study reveals nearly all (98.0%) of the households and members of household used any form of latrine which were higher than NDHS, 2011 [13] and four different geographical areas of Nepal. It might be due to high coverage of latrine.

Majority of the member of households (97.6%) were practicing hand washing with soap and water which was higher than the study conducted in Nawalparasi [5] (28.0%), Kaski [9] (71.4%), Nigeria [11] (37.3%) and Dhaka [10] (14%). It might be due to different study setting and level of knowledge of personal hygiene and

sanitation in different geographical areas and countries. It is also notable that NGO/INGOs are mainly working on personal hygiene and sanitation awareness program in Myagdi district.

Information regarding practice of open defecation

This study showed that only 2% of households practiced open defecation which was much lower than the report of “Nepal country paper on sanitation, 2013”, study conducted in Kaski [9] (8.3%) and Sindhupalchowk [2] (44.22%). It is similar to the study conducted in Nigeria [11] (1.8%). Similarly, 0.58% of populations were practicing open defecation which was much lower than study conducted in Orissa, India [6] (39%). It might be due to proper functioning of the post-ODF campaign.

Information regarding availability of cleaning agent and hand washing facilities

The present study revealed 93.3% of the households had brush in their latrine as the cleaning equipment which was higher than the study conducted in Nawalparasi [5] (68.8%) and Kaski [9] (65.6%) and 51.1% of household had cleaning agent in their latrine which is higher than the study conducted in Nawalparasi [5] (38.8%) and Kaski [9] (44.21%). Though there is higher percent of household with cleaning equipment only half of those households have cleaning agent. It might be due to bio-gas plant construction with latrines as using any sort of cleaning agent may hinder the anaerobic digestion of the sludge.

Nearly all of the households (98.8%) had water storage facility and had hand washing station (99.2%) which was higher than the study conducted in Ethiopia [7] (93.8%) and India [8] (31%). It might be due to the proper functioning of drinking water project and regular support and encourage to community drinking water consumer committee through different project.

Information regarding operation and maintenance of latrine

In this study nearly one-fourth (23.4%) of the respondents reported that they were practicing of cleaning their latrine

once a day. Similarly, 13.5% of households had needed for immediate maintenance of latrine which was higher than report of Drinking Water and Sanitation Sub-Division Office Myagdi and study conducted in Nawalparasi [5] (9%) and it might be due higher proportion of old latrines and negligence of household member. However, it is much lower than study conducted in India (54.5%) [8] and Ethiopia [7] (54.5%).

CONCLUSION

Latrines coverage, use, operation and maintenance was reported satisfactory than other studies but still public health concern so the emphasis should be provided to eliminate the practice of open defecation totally by the local authorities.

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