

ORIGINAL ARTICLE

ATTITUDE AND FACTORS ASSOCIATED WITH THE USE OF PUBLIC TOILETS AMONG WOMEN IN KATHMANDU METROPOLITAN CITY

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ABSTRACT

Background: The UN general assembly has identified sanitation as distinct human right. Along with the discovery of infectious diseases and changing lifestyle patterns in urban areas, sanitation needs have grown. As per the standard set by WHO, one toilet at 500m distance per 50 people is needed, which is unmet. Moreover, due to biological processes such as menstruation and high vulnerability to infections, women have a higher sanitation need.

Methodology: The study was descriptive, cross-sectional, conducted among 255 respondents. A purposive sampling method was applied, and respondents were interviewed using a pre-tested questionnaire. The collected data were entered and analyzed in IBM SPSS

Results: Out of the 255 respondents, 92% have used a public toilet at least once. Less than half (42.7%) of the respondents preferred to use a pay per use public toilet. Most of the respondents (93%) said that they were not satisfied with the state of public toilets. More than half (54.5%) had negative attitude towards using public toilets. Attitude towards using public toilets was found to be associated with their preference of type of toilet, importance of light, ventilation, soap, and absence of smell inside the toilet.

Conclusion: Most women were unsatisfied with the status of public toilets and would prefer not to use a pay per use toilet. Higher number of respondents having negative attitude towards using public toilets is justified by the findings from observation of the public toilets as well. An intervention to improve the status of public toilets and to make the public realize their ownership to maintain good status of public toilet seems to be needed.

Key words: Attitude; women; KMC; public toilets

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INTRODUCTION

By 2030, the Sustainable Development Goal 6 aims to provide everyone with safe drinking water and sanitation.¹ CDC has defined basic sanitation as the availability of facilities for the safe disposal of human waste (feces and urine), and the capacity to manage hygienic conditions through activities including waste collection, management of industrial and hazardous waste, and wastewater treatment and disposal.² Sanitary condition is one of the key determinants of health as poor sanitation is associated in spreading the infections like cholera, diarrhea, dysentery, hepatitis A, typhoid, polio and many more. It also has negative effects on social growth, and economic development and lost educational opportunities.

Toilet is a sanitary space designed to collect urine and feces, which is an important element of sanitation because it allows individuals to defecate in a managed way and prevent the transmission of diseases. Every year on November 19, World Toilet Day celebrated to emphasize the importance of cleanliness and toilets of the 4.2 billion people living without access to safely managed sanitation.³

Article 35 of the constitution of Nepal has mentioned sanitation as fundamental human right.⁴ According to statistics, Nepal is declared as an Open Defecation Free country where most of Nepalese household has a toilet, despite of which, we have not been able to fulfill our actual goal of appropriate sanitation. WHO has set a standard that there needs to be one toilet per 50 people and a toilet at

every 500m distance which is unmet.⁵ Due to the menstrual cycle and greater threat of infections, women have additional sanitation needs. While they tend to avoid public restrooms because they may be inaccessible, may be unsanitary or may raise safety concerns that discourage their use, and despite having the desire to urinate, many delay using the restroom when they are away from home. Similarly, one in three women worldwide (1.2 billion) risk shame, disease, harassment and even attack because they have no safe toilets. Women spend approximately 97 billion hours per annum looking for a safe place to relieve themselves.⁶

People living in the urban life of hustle and bustle spend a lot of time outside for a number of reasons, such as travel, shopping, and work. As a result, sanitation requirements exist in both the household and public spaces. In addition, public toilets are of utmost importance when it comes to a city's cleanliness, health, and beauty. They form an important component of public places in a city like Kathmandu where peoples' mobility is much and population density is high.⁷ The Kathmandu metropolitan city has a significant population. Furthermore, it is a well-known tourist destination with four World Heritage Sites. Everyone, including tourists, visitors, street vendors, and laborers, requires public restrooms.

The main aim of this study was to address the neglected problems from the perspective of women, who do have greater sanitation needs. Likewise, the adequate provision

of women’s public toilets is crucial for the achievement of at least six of the United Nations’ seventeen Sustainable Development Goals by 2030.

METHODOLOGY

A descriptive, cross-sectional study was conducted in various areas throughout the Kathmandu Metropolitan City. Women aged above 18 in the selected public locations within Kathmandu Metropolitan City, including both residents and visitors were the study population. The sample size was 255 and was calculated using Cochran’s formula.

Data collection were takes place in Kalimati market, Bhrikuti Mandap, Ratnapark and Swoyambhu. The public restrooms in these locations were also observed. An approval was taken from ‘Institutional Review Committee’ of Manmohan Memorial Institute of Health Sciences and consent of the respondents was taken before collecting data.

Research questionnaire was prepared through the review of literatures. The questionnaire was categorized into four parts, which aare Socio-demographic and socio-economic factors, factors related to preference, factors related to public toilets, and attitude towards using public toilets. Pre-testing was done in 10% population of the sample size in Bhaktapur municipality. Face to face interviews were done to obtain data from respondents and observation of toilets were done. Before beginning the interview, the respondents’ verbal consent was taken.

RESULTS

Table 1: Socio-demographic and socio-economic characteristics of respondents

Characteristics	Number	Percentage
Age group		
Median ± QD	29 ± 10	
18-28	125	49.0
≥ 29	130	51.0
Marital status		
Married	129	50.6
Unmarried	118	46.3
Widowed	4	1.6
Divorced	4	1.6
Level of education		
No education	20	7.8
School level education	109	42.7
Higher education	126	49.4
Occupation		
Students	86	33.7
Others	169	66.3
Residence		
Resident of KMC	223	87.5
Visitor/Tourist	32	12.5

The socio-demographic and economic characteristics of the respondents are listed in the Table 1. The average age of the respondents was 29 years. Nearly half of them (49%) were

between the ages of 18 to 28, while , 51% of them were aged aged 29 and older.

More than half of the women interviewed (50.6%) were married, 46.3% were unmarried. Similarly, 1.6% women were divorced and 1.6% were widowed. Almost half of the respondents (49.4%) had attained a bachelor’s degree or above. almost 43% percent had completed secondary education, while 7.8 percent had no education. One third of the study participants (33.7%) were students. Out of 255 respondents, 223 were residents of Kathmandu Metropolitan City.

Table 2 presents the factors related to preference of toilet. When the 255 respondents were asked what they do if they need to use toilet when they are out of their home, 42.7% answered that they use pay per use toilet; 33.7% said the wait till they reach home; 20.8% preferred to go to a restaurant or hotel nearby and 2.7% used a lonely spot instead.

When asked which type of toilet they prefer in public settings, 58% respondents chose squatting pan, 13% said commode toilet, and the remaining respondents replied, it doesn’t matter. Only 7% of respondents indicated they were satisfied with the status of public restrooms, while the rest (93%) said they were not.

Table 2: Factors related to preference

Characteristics	Number	Percentage
Choice in case of need to use toilet in public places		
Hold till they reach home	86	33.7
Go to a restaurant or café nearby	53	20.8
Use a pay and use toilet	109	42.7
Find a lonely spot	7	2.7
Preference of type of toilet in public places		
Squatting pan	148	58
Commode	33	12.9
Doesn’t matter	74	29
Satisfaction with the status of public toilets		
Yes	18	7.1
No	237	92.9

The table 3 presents the factors related to public toilets. A list of 10 factors was prepared and the respondents were asked how important they are in a public toilet. Most of the respondents said all these factors are very important for them in a public toilet.

Table 4 refers the fifteen statements related to public toilets and their use were prepared. Four of the statements, including first two and last two were negative whereas 11 statements presented positive attitude to avoid biasness in the answers from the respondents.

The table 5 presents the level of attitude towards using public toilets. The five likert scale was categorized into positive and negative attitude. The minimum score for attitude was 15 and 75 was the maximum score. The cut off value was determined by taking median of the sum of all responses, 33. Hence, ≤ 33 denote negative attitude and the score >33 denote positive attitude. Out of the 255 responses, 45.5% had positive attitude

Table 3: Factors Related to Public Toilets

Factors	Less important(%)	Neutral(%)	Important(%)
Cleanliness	2.7	5.5	91.8
Availability of water	2.4	6.3	91.4
Door, lock and security	2.4	9.4	88.2
Space inside toilet	10.6	22	67.5
Light	6.3	13.7	80.0
Ventilation	7.5	12.9	79.6
Availability of soap	7.1	7.1	85.9
Availability of dustbin	3.1	14.1	82.7
Environment around toilet	4.7	14.9	80.4
Absence of smell	3.9	10.2	85.9

Table 5: Level of Attitude using Public Toilets

Attitude towards using public toilets	Number(%)
Positive	116(45.5)
Negative	139(54.5)
Total	255(100.0)

towards using public toilets whereas higher number of respondents had negative attitude (54.5%).

Table 4: Attitude of respondents towards using Public Toilets

Statement	SA(%)	A(%)	N (%)	D (%)	SD(%)
I use toilet before leaving home so that I don't have to use public toilet	150(58.8)	72(28.2)	10(3.9)	20(7.8)	3(1.2)
I drink less water so that I don't have to use public toilets	48(18.8)	57(22.4)	52(20.4)	275(9.4)	23(9.0)
Public toilets are easily available when needed	14(5.5)	14(5.5)	37(14.5)	98(38.4)	92(36.1)
I find public toilets of any place convenient to use	8 (3.1)	10(3.9)	26(10.2)	105(41.2)	106(41.6)
I find public toilets hygienic	7(2.7)	6(2.4)	21(8.2)	106(41.6)	115(45.1)
I find public toilets clean	5 (2.0)	9(3.5)	21(8.2)	107(42.0)	113(44.3)
Water is always available in public toilets	9 (3.5)	16(6.3)	44(17.3)	111(43.5)	75(29.4)
Soap is always available in public toilets	7 (2.7)	12(4.7)	42(16.5)	106(41.6)	88(34.5)
The sewage system of Public Toilets is well maintained	10 (3.9)	17(6.7)	67(26.3)	99(38.8)	62(24.3)
Dustbin is available in public toilets to dispose sanitary waste	11(4.3)	25(9.8)	42(16.5)	105(41.2)	72(28.2)
I find enough space in public toilets	6(2.4)	13(5.1)	47(18.4)	115(45.1)	74(29.0)
I find adequate light in public toilets	11(4.3)	15(5.9)	60(23.5)	109(42.7)	60(23.5)
I find proper ventilation in public toilets	10(3.9)	13(5.1)	50(19.6)	115(45.1)	67(26.3)
I am afraid of violence around public toilets	61(23.9)	61(23.9)	52(20.4)	57(22.4)	24(9.4)
I have to wait on a long queue to use public toilets	51(20.0)	60(23.5)	67(26.3)	59(23.1)	18(7.1)

Table 6: Association between sociodemographic characteristics with attitude

Characteristics	Attitude		p-value
	Positive (%)	Negative (%)	
Age			
18-28	46.4	53.6	0.775
29-70	44.6	55.4	
Marital status			
Married	49.6	50.4	0.181
Others	41.3	58.7	
Education			
No education	60.0	40.0	0.082
School level education	50.5	49.5	
Higher education	38.9	61.1	
Occupation			
Students	45.3	54.7	0.974
Others	45.6	54.4	
Residence			
KMC resident	47.5	52.5	0.084
Visitor	31.3	68.8	

Table 7: Association between factors related to preference with attitude

Characteristics	Attitude		p-value
	Positive (%)	Negative (%)	
Choice in case of need to use toilet in public places			
Hold till they reach home	39.5	60.5	NA
Go to a café nearby	45.3	54.7	
Use a toilet	49.5	50.5	
Find a lonely spot	57.1	42.9	
Ever used public toilets			
Yes	44.0	56.0	0.169
No	61.9	38.1	
Preference of type of toilet in public places			
Squatting pan	34.5	65.5	0.000
Commode	57.6	42.4	
Doesn't matter	62.2	37.8	
Satisfaction with the status of public toilets			
Yes	50.0	50.0	0.807
No	45.1	54.9	

Table 8: Association of factor related to public toilet with attitude

Variables	Attitude		p-value
	Positive (%)	Negative (%)	
Cleanliness			NA
Less important	85.7	14.3	
Neutral	64.3	35.7	
Important	43.2	56.8	
Availability of water			NA
Less important	83.3	16.7	
Neutral	62.5	37.5	
Important	43.3	56.7	
Door, lock and security of toilet			NA
Less important	100	0	
Neutral	62.5	37.5	
Important	42.2	57.8	
Space inside toilet			0.110
Less important	63.0	37.0	
Neutral	48.2	51.8	
Important	41.9	58.1	
Light			0.001
Less important	81.3	18.8	
Neutral	60.0	40.0	
Important	40.2	59.8	
Ventilation			0.012
Less important	68.4	31.6	
Neutral	60.6	39.4	
Important	40.9	59.1	
Availability of soap			0.002
Less important	66.7	33.3	
Neutral	77.8	22.2	
Important	41.1	58.9	
Availability of dustbin			NA
Less important	62.5	37.5	
Neutral	66.7	33.3	
Important	41.2	58.8	
Environment around toilet			0.140
Less important	58.3	41.7	
Neutral	57.9	42.1	
Important	42.4	57.6	
Absence of smell			0.001
Less important	80.0	20	
Neutral	73.1	26.9	
Important	40.6	59.4	

Table 6 presents the association between sociodemographic and socioeconomic variables with level of attitude, which shows no associations found. The associations of all the factors related to preference with attitude level is presented in table 7, which shows an association of attitude level with preference of type of toilet in public places.

The table 8, represents the association of attitude was seen with light inside toilet, ventilation of toilet, availability of soap inside the toilet and absence of smell in the toilet.

Observation

An observation checklist was used for the observation of public toilets of the areas from where the data were collected. The observation checklist included the factors related to the public toilets that were also asked to the respondents. Altogether six public toilets were observed from the four locations.

Bhrikuti Mandap

Bhrikuti Mandap is one of Kathmandu Metropolitan City’s busiest areas, with a constant flow of visitors and a large number of sellers. Observation of a toilet near the book shops of Bhrikuti Mandap was done. The cost of using this toilet was Rs 5 each usage. On entering, the toilet looked like a storeroom with flex boards, shovel and other materials. The doors of the toilet were in a functioning state; there were no separate window for ventilation in the toilets; there was tap but not a good provision to use the water. Similarly, soap was not available. There was a dustbin to dispose sanitary waste.



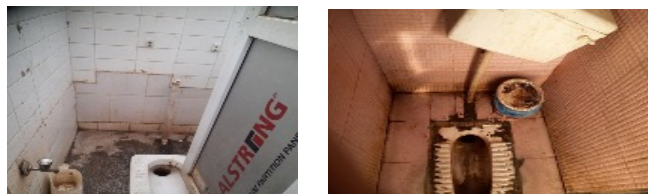
Picture 1: Public Toilet of Bhrikuti Mandap

Kalimati Market

It is also a busy area with high flow of buyers and sellers, located around the central area of the Kathmandu Metropolitan City. Two public toilets of the location were visited, both charging the same amount, Rs 5 per use. On asking the people about the management of the toilets, they reported that the management committee of the market is responsible for the management of the toilet. The first toilet located near the fish market was in a terrible situation with non- functioning flush. However, water and a bucket were available in the toilet. Similarly, the door and lock were working properly. Soap was not available for washing hands after the use of the toilet.

The second toilet was comparatively in a better state with multiple toilets with availability of lots of water, good and functioning door. Windows were present for ventilation. Even soap was available for washing hands and a separate place to wash hands was there. However, dustbin was not available to throw the wastes like sanitary napkins.

Picture 2: Public Toilet of Kalimati Market



Ratnapark

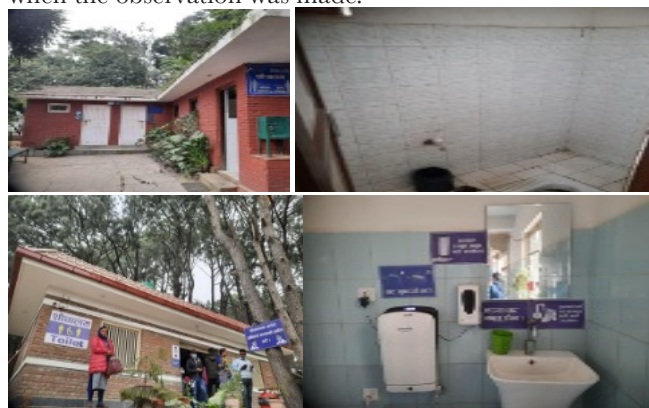
Ratnapark is the central junction for travelers of any areas as the bus stop is nearby. The public toilet located at Ratnapark was also observed. The cost of using it was same as the other toilets, Rs 5 per use. There were two toilets with good door, lock system and availability of water. The ventilation was not that good in both of the toilets. Similarly, the dustbin was kept outside the toilets before the main door which might be a problem as a lot of people pass by and women might feel shame in getting the sanitary waste outside for disposal. Soap was not available for washing hands.



Picture 3: Public Toilet of Ratnapark

Swoyambhu is a famous tourist destination, being listed in the world Heritage site. A lot of people visit this place for travelling as well as the residents nearby visit this place for refreshment. Two public toilets of the location were observed. First toilet visited had similar condition as the other places. There were three toilets in the building, one of them was not even flushed due to unavailability of water. There was the presence of foul smell as well.

The second toilet was the aerosan toilet, which has become quite popular these days. They charge Rs 15 per person for using toilet and give them a cup of tea as well after the use. Every basic necessity for a public toilet has been considered by the aerosan toilet. There is even space for changing baby’s diaper. Soap, water and hand dryer, all automatic, is available in the toilet. A machine of sanitary pads is also attached in the toilet which gives one pad if 6 rupees is inserted. Unfortunately, the machine was not in a functioning state when the observation was made.



Picture 4: Public Toilet of Swoyambhu

DISCUSSION

The research was about how women felt about using public restrooms. Only 42.7% women reported that they would go to a pay per use toilet if needed. Similar results were found on a study conducted in Hyderabad, India where, 44.7% respondents use a pay per use toilet when needed.¹⁰ Fewer people indicated they use a pay-per-use toilet because they have other options that they prefer and that provide better service. Furthermore, using the restrooms at restaurants is free. On asking if they are satisfied with the status of public toilets, almost 93% of the respondents answered that they were not. On observation, the state of the toilets was also found unsatisfactory. It could be attributable to the public’s lack of ownership in the cleanliness and care of public restrooms. On the other hand, another factor could be the concerned authorities’ negligence to their management. In addition, majority of the respondents were educated. Educated women are quite aware about cleanliness and their higher vulnerability towards getting infected from a public toilet. A higher percentage of respondents were found to have negative attitude regarding using public restrooms. A few factors related to preference and related to public toilets was found to be associated with the attitude towards using public toilets. The type of toilet in public spaces, availability of light, ventilation, availability of soap and smell of toilet were found to be associated with attitude. An association between the preference of type of toilet and attitude towards using the public toilet shows that the women who prefer squatting pan are more likely to have negative attitude. It might be due to their concern over cleanliness and because they don’t want to make a contact with toilet seats.¹¹ Similarly, women preferring commode are more likely to have positive attitude which might be because mostly commode toilets are present in malls and are well maintained. The women who said that light in public toilets is less important are seen more likely to have positive attitude whereas those who think light inside toilet is very important, are more likely to have negative attitude towards using public toilets. This shows the negative perception of women regarding the availability of light in public toilets. Women fear dark and also have a fear of violence around a dark place. Even though light doesn’t reduce the crime, it reduces the fear of crime. The users must feel safe and be able to see what they are doing inside the toilet¹². Similar association of attitude was seen with ventilation and absence of smell in the toilet. Ventilation is important for maintaining a healthy airway, preventing infection transmission, and eliminating smells. Presence of foul smell in toilet is also another factor that discourages its use. In a research conducted in Hyderabad, 62.2% women agreed that public toilets are smelly, which is one of the reason for not using them.¹³ Similarly, according to a study in the US, bad smell is the top complaint for nearly 80 percent of people who have had an unpleasant public restroom experience.¹⁴ Women who said soap is very important in public toilets are more likely to have negative attitude and vice versa. In a research conducted in India, 71% women said that they did not wash their hands with soap and water due to its unavailability.⁶ Soap was not seen in most of the toilets observed in selected locations, which supports the conclusion that women who believe soap is important in the toilet have a negative attitude toward using public restrooms.

CONCLUSION

The aim of this study was to explore women's attitudes on using public restrooms and the factors that influence them. Higher number of respondents had negative attitude and it was found to be associated with preference of type of toilet; importance of light, ventilation, soap and absence of smell in the toilet. No significant association of attitude was seen with the socio-demographic and socio-economic variables. On observing the toilets, the status was found not to be so good except for the aerosan toilet of Swoyambhu. The research has hence included the status of public toilets through the users' perspective and the observation as well was done to identify the actual situation. Regardless of the availability, most women were unsatisfied with the status of public toilets and would prefer not to use a pay per use toilet. Higher number of respondents having negative attitude towards public toilet is justified by the findings from observation as well. Women have higher needs of sanitation due to biological as well as social factors. In order to fulfill the aim to SDG 6 by 2030, an intervention to improve the status of Public Toilets and to make the public realize their ownership seems to be needed. Despite of public toilets being important asset of urban areas, the findings have shown that they have not been paid much attention. The value of public restrooms must be recognized, and more attention must be paid to them, as well as other aspects of sanitation. Good toilets contribute to a city's beauty and health.

LIMITATIONS OF THE STUDY

The study was performed among women in selected places of Kathmandu Metropolitan City, therefore the results may not be representative of the entire population and has not represented rural setting. The research questions have not targeted special needs and different problems experienced by trans women and differently abled women. Likewise, the information was collected only from user's side. So, service provider's perspective has not been addressed.

ETHICAL APPROVAL

Ethical clearance was obtained from the (Institutional Review Committee, IRC) of Manmohan Memorial Institute of Health Sciences, affiliated to Tribhuvan University and Kathmandu Metropolitan City.

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