

# A Comparative Study to Assess the Knowledge and Practices of Adults Towards use of Latrine Among Rural and Urban Area

**Mr. Parashram<sup>1</sup>, Prof. Dr. Madhusoodan<sup>2</sup>, Mr. Yogesh Panchal<sup>3</sup>**

Associate Professor, SRMS College of Nursing, Bareilly, UP, India<sup>1</sup>

Principal, MLB Government Paramedical Training College, Jhansi, UP, India<sup>2</sup>

Tutor, MLB Government Paramedical Training College, Jhansi, UP, India<sup>3</sup>

y.parashram@gmail.com<sup>1</sup>, madhuisjaipur@gmail.com<sup>2</sup>, yogesh.nsg@gmail.com<sup>3</sup>

**Abstract:** *One of the biggest challenges in making the country Open Defecation Free is triggering behavioral changes in the population to accept the need for building and using toilets, in reality toilets mean health and economic benefits, and improvements to human dignity, but we need the perception of toilets to match this reality. Keeping clean and disposing of human waste (feces and urine) are necessary for good health. If they are not taken care of in a safe way, our feces and urine can pollute the environment and cause serious health problems, illnesses caused by germs and worms in feces are a constant source of discomfort for millions of people. More than reducing levels of infection and disease, however, the sanitary importance of toilets offers an increased sense of dignity. To make India open defecation-free, we need to shift the prevailing mindset and attitude about toilet use and change behavior by repositioning the toilet — from a dark, dirty and smelly room to a “happy room,” with perceived status, social and convenience benefits. Both male and female person, adults, who are responsible or decision maker as the head of the family, irrespective of their age, play an important role to improve the sanitation in the family, it will be better in improving health and other conditions of their family members which leads to develop the state as well as country.*

**Materials and Methods:** *A comparative descriptive research design to find out knowledge and practice of adults towards use of latrine among rural and urban area with a view to develop an .The study conducted on 50 samples each from rural and urban area. Data was collected in the month of January to June 2022. Data was collected using structured questionnaire to find out knowledge and practice of adults towards use of latrine among rural and urban area.*

**Results:** *The data revealed that, the number of adults of rural area was between 20-25 years of age group (28%), 26-30 (28%), 36-40 (28%), and 31-35 yrs. of age group was (14%). and in urban area 31-35 yrs. of age group was (28 %), 20-25 & 26-30 was (26%) and 36-40 was (20%). More than half of the participants from rural area were female (72%) and from urban area were 54%. Maximum participants from rural area, their educational qualification in between 1-9th class was (50%) and from urban area was higher education (84%). Maximum number of participants from both rural (94%) and urban (82%) having own house land Majority of samples are Housewife (31.66%). Majority of samples from both rural (78%) and urban (90%) were belongs to Hindu religion. Majority of samples from rural area having monthly income between 1001-4000 rupees was (60%) and from urban area was above 7000 (66%). Most of the participants were included in other occupation. In rural (52%) and urban (44%). Participants of rural area got majority of health information from health personals (38%) and of urban area from mass media (60%). Statistical Analysis showed that mean of rural adults knowledge regarding use of latrine is (12.24) less than urban adults knowledge regarding use of latrine (20). Mean % of rural adults knowledge regarding use of latrine is (51%) is less than adults residing in urban area (93.18) and mean difference is 32.33%. Standard deviation of rural adults is (4.28) and urban adults is (2.46). Z value is (2.48). Statistical Analysis also showed that mean of rural adults practices regarding use of latrine is (32.78) less than urban adults practices regarding use of latrine (50.32). Mean % of rural adults practices regarding use of latrine is*

(60.70) is less than adults residing in urban area (93.18) and mean difference is 32.48 .Standard deviation of rural adults is (9.90) and urban adults is (2.48). Z value is (0.95).

*Conclusion: After the detailed analysis of the study findings showed that knowledge of rural adults is less than knowledge of urban adults regarding use of latrine. The practices of rural adults is less than the practices of urban adults regarding use of latrine. There is a significant association between demographic variables and knowledge and practices of adults towards use of latrine among rural and urban area.*

**Keywords:** Rural Adults, Urban Adults, Use Of Latrine

## **I. INTRODUCTION**

### **“AN OUNCE OF PUBLIC HEALTH IS WORTH A POUND OF HEALTH CARE”**

The word “latrine” can refer to a toilet or a simpler facility which is used as a toilet with in a sanitation system. Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and feces. Latrine can be a communal trench in the earth in a camp, a hole in a ground (pit) or more advanced designs, including pour-flush systems. Latrines are nowadays still common for use in emergency situations as well as in army camps.

The term is derived from the “latin” word “lavatrina”, meaning “place for washing/bath”. It is now a days still commonly used in the term “pit latrine”. It is typically used to describe communal facilities, such as the shallow trench latrines used in emergency situations, e.g. after an earthquake, flooding event or other natural disaster.

A latrine is basically a simple waste collector; it is the equivalent of a bathroom. A ‘latrine’ refers to hole in the ground, that if made well ,will be surrounded with bricks in order to increase the stability .a’ losa’ which is a square cement block with a cement block with a little hole ,this is basically the toilet, a roof to prevent the over flow of the waste and the decomposition of the structure. A pipe to promote ventilation, so that the latrine doses not become a haven for disease carrying flies. A top, to cover the cement hole, to thwart the collection of bugs that are attracted to the odor of waste and additionally prevent over flow.

Each Day, People from the community prefer to defecate and urinate in the open area like river bank, canal, bushes, roadside etc. Open defecation is the practice of defecating outside or in public. This may be done as a cultural practice or having no access to toilet. It is a practice widely considered to be at the heart of issues around sanitation worldwide, having a significant impact on public health in those countries where a large proportion of the population has to resort to open defecation mainly for lack of other hygienic choices. Even if there are choices i.e. toilets are available convincing people to refrain from open defecation and to use the toilets can be difficult for a variety of reasons which is why behavior change activities are seen as more important instead of merely providing toilets. Some parts of rural India are a very good example for this.

Excreta disposal or safe defecation is an important part of overall environment sanitation. Fecal borne diseases and worm infestations are the main cause of mortality and morbidity where they go for indiscriminate defecation. Transmission of all the endemic diseases can be controlled or prevented through good sanitation barriers and sanitary technology for safe human excreta disposal which is nothing but construction and use of sanitary latrine which prevent the access of the pathogens. Disposing of excreta safely, isolating it from flies and other insects, and preventing fecal contamination of water supplies would greatly reduce the spread of disease. Bacteria , parasites and worm that live in the excrement cause diseases like typhoid, dysenteries, diarrhea , cholera, hookworm infections, viral hepatitis, poliomyelitis and other intestinal infections and parasitic infestation is hold responsible by the inadequate and unsanitary disposal of human excreta.

Census of India 2011 – Availability and Type of Latrine Facility: 2001-2011 Nearly half of India’s 1.2 billion people have no toilet at home, but more people own a mobile phone, according to the latest census data. Only 46.9% of the 246.6 million households have lavatories while 49.8% defecate in the open. The remaining 3.2% use public toilets .Census 2011 data on houses, household amenities and assets reveal that 63.2% of homes have a telephone. More than half the population – 53.2% – have a mobile phone. About 77% of homes in the eastern state of Jharkhand have no toilet facilities, while the figure is 76.6% for Orissa and 75.8% in Bihar. All three are among India’s poorest states with huge populations which live on less than a dollar a day. In Jammu & Kashmir 8.9% of households still have their latrines emptied by manual scavengers. “Open defecation continues to be a big concern for the country as almost half of

the population do it,” Registrar General and Census Commissioner C.Chandramouli said while releasing the latest data. “Cultural and traditional reasons and a lack of education are the prime reasons for this unhygienic practice.”<sup>1</sup>

WHO/UNICEF 6th March 2012: Report released by the Joint Monitoring Programme on sanitation for the Millennium Development Goals Recent evidence indicates that India is heading towards a major sanitation crisis in the coming years. The fastest growing economy seems to have missed out on having adequate toilet facilities for as high as 65% of its population. For example, nearly half of India’s 1.2 billion people have no toilet at home, but more than half of India's people own a mobile phone, indicates the latest census data. which has also indicated that 59% (626 million) Indians still do not have access to toilets and practice open defecation and that majority of them live in rural areas. In India amongst the different states, Jharkhand tops the list with as high as 77% of homes having no toilet facilities, while the figure is 76.6% for Orissa and 75.8% in Bihar. All three are among India’s poorest states with huge populations.<sup>2</sup>

A study was conducted in Northwest Frontier province of Pakistan border Afganistan, with 85% of the rural population. The key person of the population including local politicians, village elders and imams were interviewed. And it was found that more than 10 million people are accessing to open field defecation which is a potential cause of outbreak of diseases and they are having lack knowledge about use of latrine and importance of latrine.<sup>3</sup>

A study on environmental sanitation, sanitary habits and personal hygiene was conducted among the Baigas of Samnapur block of Dindori District, Madhya Pradesh. A total of 100 households comprising of 494 persons have been studied for this purpose on a random sampling basis, by using pre tested, structured schedules, through semi-participant method. The result of study indicates that they go to open fields for defecation purpose (68 percent) and environmental sanitation through inhabitants is of an average degree, but not very much satisfactory from the hygiene point of view.<sup>4</sup>

A study was conducted to understand the knowledge, attitudes and practices of sanitation and defecation in rural Tamil Nadu, India. Among 97 households interviewed, only 25 (83.3%) use sanitary latrine. Seventy-two (74.2%) of respondents defecated in fields, and there was no stigma associated with this traditional practice. Hand washing with soap after defecation and before meals was common only in children under 15 years (86.4%).<sup>5</sup>

A survey was conducted by ASHWAS over 28 districts in rural Karnataka, covering 17,200 households across 86 talukas in 172 Gram panchayat through random sampling techniques. And it was found that 72% of the rural people defecate in the open with the figure being as high as 98% in Raichur district.<sup>6</sup>

### 1.1. Objectives of Study

1. To assess the existing knowledge of adults towards use of latrine among rural and urban area.
2. To assess the practices of adults towards use of latrine among rural and urban area.
3. To compare the knowledge and practices of adults towards use of latrine among rural and urban area.
4. To associate the knowledge and practices of adults towards use of latrine among rural and urban area with selected demographic variables.
5. To create awareness regarding use of latrine by developing an information booklet to motivate the adults for proper use of latrine and construct their own sanitary latrine.

## II. MATERIALS AND METHODS

A comparative descriptive research design to find out knowledge and practice of adults towards use of latrine among rural and urban area with a view to develops an .The study conducted on 50 samples each from rural and urban area. Data was collected in the month of January to June 2022. Data was collected using structured questionnaire to find out knowledge and practice of adults towards use of latrine among rural and urban area.

**Phase I** Descriptive survey approach was used to asses knowledge and practice of adults towards use of latrine among rural and urban area

Section 1. Description of Frequency & Percentage Distribution of Demographic Characteristics

Section 2. (A) Determination related to knowledge of rural and urban adults regarding use of latrine.

Section 2. (B) Determination related to practices of rural and urban adults regarding use of latrine.

**Phase II** Comparison was done to asses knowledge and practice of adults towards use of latrine among rural and urban area



Section 3. Comparison of knowledge and practices of adults regarding use of latrine among rural and urban area.

Section 4. (A) Overall mean, mean difference, standard deviation of rural and urban adults regarding knowledge about use of latrine.

Section 4. (B) Overall mean, mean difference, standard deviation of rural and urban adults regarding practices about use of latrine.

Phase III Association was done to find association of knowledge and practice of adults towards use of latrine among rural and urban area

Section 5.(A) Findings related to association between socio demographic data and knowledge of rural adults regarding use of latrine.

Section 5.(B) Findings related to association between socio demographic data and knowledge of urban adults regarding use of latrine.

A comparative descriptive research design was used to find out knowledge and practice of adults towards use of latrine among rural and urban area. The study conducted on 50 samples each from rural and urban area. Data was collected in the month of January to June 2022. Data was collected using structured questionnaire to find out knowledge and practice of adults towards use of latrine among rural and urban area.

III. RESULTS

Section 1

Table 1: Frequency & Percentage Distribution of Demographic Characteristics

Table with 6 columns: Sr, Demographic variable, Rural Area (Freq, %), Urban Area (Freq, %). Rows include AGE, GENDER, EDUCATIONAL STATUS, AREA OF LIVING, HOUSE LAND, and RELIGION.

7.	MONTHLY INCOME: -				
	Less than 1000 Rs.	8	16%	8	16%
	1001-4000Rs.	30	60%	3	6%
	4001-7000Rs.	12	24%	6	12%
	7001&Above	0	0%	33	66%
8.	OCCUPATION: -				
	Employed	5	10%	21	42%
	Farmer	12	24%	0	0%
	Unemployed	7	14%	7	14%
	Others	26	52%	22	44%
9.	SOURCE OF HEALTH INFORMATION: -				
	Mass media	12	24%	30	60%
	Family members	12	24%	9	18%
	Health Personnel	19	38%	3	6%
	Others	7	14%	8	16%

**Table 1** shows that the number of adults of rural area was between 20-25 years of age group (28%),26-30(28%),36-40 (28%),and 31-35 yrs. of age group was (14%).And in urban area 31-35 yrs. of age group was (28 %),20-25 &26-30 was (26%) and 36-40 was (20%). More than half of the participants from rural area were female (72%) and from urban area were 54%. Maximum participants from rural area, their educational qualification in between 1-9<sup>th</sup> class was (50%) and from urban area was higher education (84%). Maximum number of participants from both rural (94%) and urban (82%) having own house land Majority of samples are Housewife (31.66%). Majority of samples from both rural (78%) and urban (90%) were belongs to Hindu religion. Majority of samples from rural area having monthly income between 1001-4000 rupees was (60%) and from urban area was above 7000(66%). Most of the participants were included in other occupation. In rural (52%) and urban (44%). Participants of rural area got majority of health information from health personals (38%) and of urban area from mass media (60%).

**Section: 2 (A)**

**FINDING RELATED TO KNOWLEDGE OF RURAL ADULTS REGARDING USE OF LATRINE.**

Table 2: Assessment of rural adults knowledge score

S.NO	CATEGORIES	FREQUENCY	PERCENTAGE
1	POOR	10	20
2	AVERAGE	30	60
3	GOOD	10	20

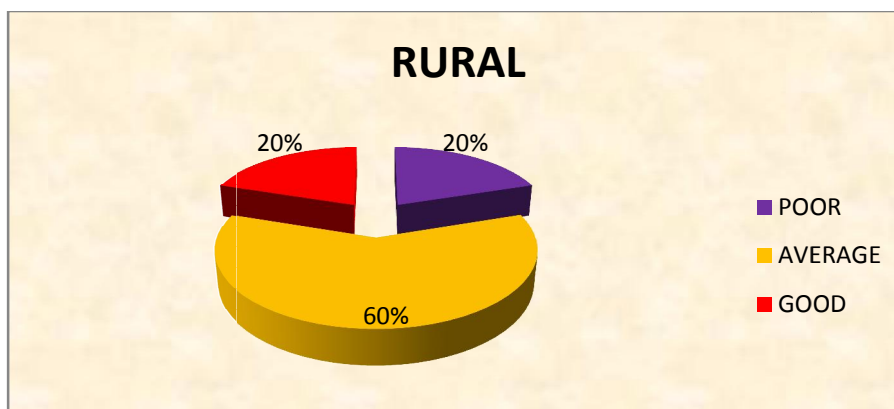


Figure 1: Pie chart showing the knowledge of rural adults related to use of latrine

Figure 1 depict that knowledge of rural adults scores poor 20%, average 60% and good 20%.The data represents that majority of rural adults having 'average' knowledge.

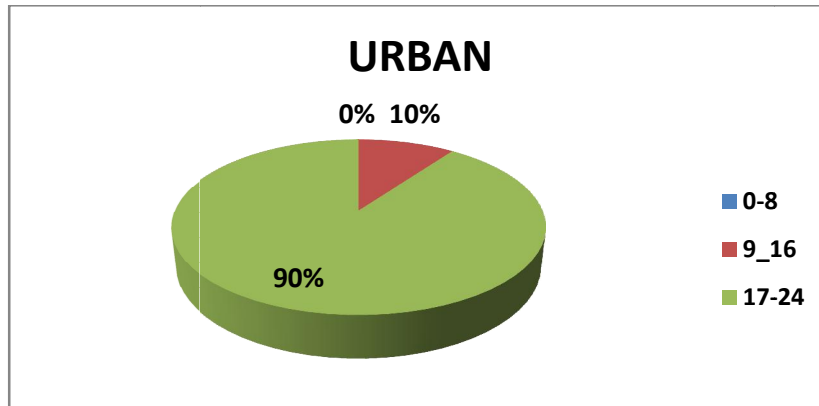


**Section -2 (B)**

FINDING RELATED TO KNOWLEDGE OF URBAN ADULTS REGARDING USE OF LATRINE.

**Table 3:** Assessment of urban adult’s knowledge score

S.NO	CATEGORIES	FREQUENCY	PERCENTAGE
1	POOR	0	0
2	AVERAGE	05	10
3	GOOD	45	90



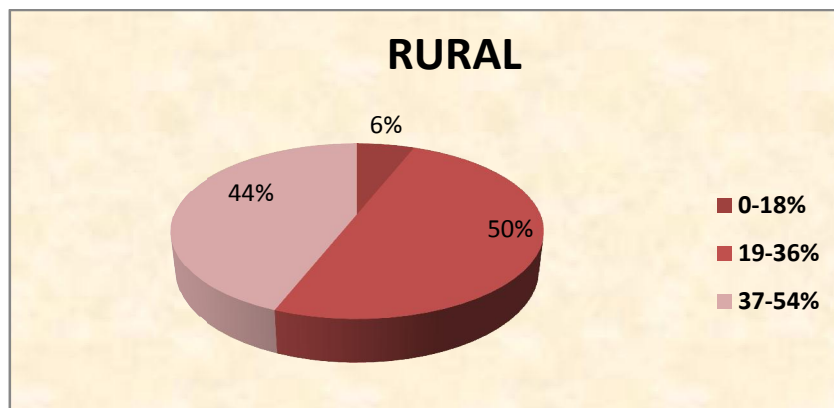
**Figure 2:** Pie chart showing the knowledge of urban adults related to use of latrine.

Figure 2 depict that knowledge of urban adults scores poor 0%, average 10% and good 90%. The data represents that majority of urban adults having ‘good’ knowledge.

FINDING RELATED TO PRACTICES OF RURAL ADULTS REGARDING USE OF LATRINE.

**Table 4:** Assessment of rural adults’ practices score

S.NO	CATEGORIES	FREQUENCY	PERCENTAGE
1	POOR	3	06
2	AVERAGE	25	50
3	GOOD	22	44



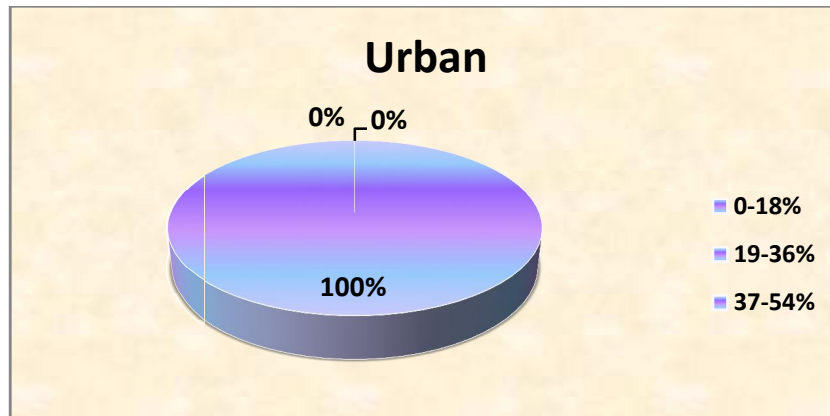
**Figure 3:** Pie chart showing the practices of rural adults related to use of latrine

Figure 3 depict that knowledge of rural adults scores poor 6%, average 50% and good 44%. The data represents that majority of rural adults having ‘average’ practices.

FINDING RELATED TO PRACTICES OF URBAN ADULTS REGARDING USE OF LATRINE.

**Table 5:** Assessment of urban adults practices score

S.NO	CATEGORIES	FREQUENCY	PERCENTAGE
1	POOR	0	0
2	AVERAGE	0	0
3	GOOD	50	100

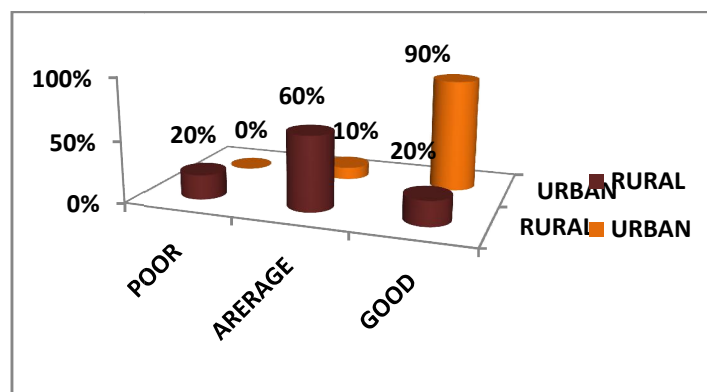


**Figure 4:** Pie chart showing the practices scores regarding use of latrine among urban adults data represents that majority of urban adults having 'GOOD' practices of use of latrine.

**Section 3**

**Table 6:** Comparison of Knowledge of use of Latrine Among Rural & Urban Adults.

Knowledge Of Use of Latrine among Adults	Adults Residing In Rural Area	Adults Residing In Urban Area
POOR 0-8%	10	0%
%	20%	0%
AVERAGE (9-16%)	30	05
%	60%	10%
GOOD (17-24%)	10	45
%	20%	90%



**Figure 5:** Bar diagram showing the assessment of knowledge of adults regarding use of latrine among rural & urban adults.

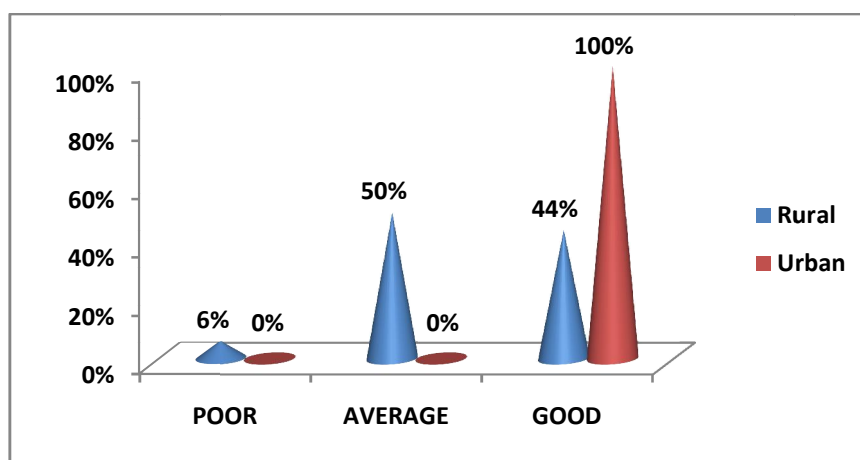
Figure 5 depict that knowledge of rural adults scores poor 20%, average 60%, good 20% . Urban adults scores poor 0%, average 10% and good 90%. Hence hypothesis **H1**: There will be more awareness in urban adults comparatively to rural adults regarding use of latrine, is accepted because knowledge of urban adults is more than knowledge of rural



adults and **H01**-There will be less awareness in urban adults comparatively to rural adults regarding use of latrine, is rejected

**Table 7:** Comparison of Practices of use of Latrine Among Rural & Urban Adults.

Practices Of Use of Latrine Among Adults	Adults Residing In Rural Area	Adults Residing In Urban Area
POOR 0-18%	3	0%
%	6%	0%
AVERAGE (19-36%)	25	0
%	50%	0%
GOOD (37-54%)	22	50
%	44%	100%



**Figure 6:** Bar diagram showing the assessment of practices of adults regarding use of latrine among rural & urban adults.

Figure 6 depict that practices score of rural adults are as poor 06%, average 50%, good 44%. Urban adults scores poor 0%, average 0% and good 100%.

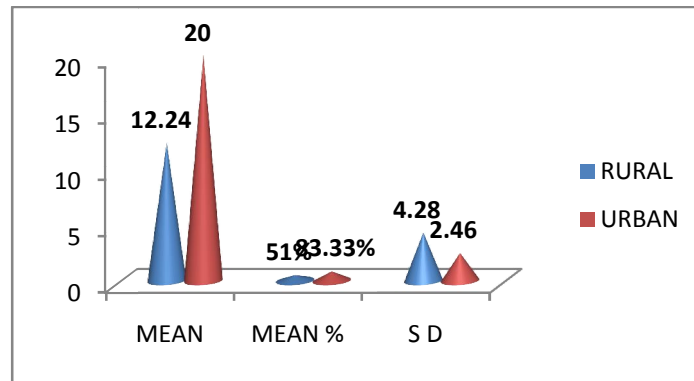
Hence hypothesis **H1**-There will be significant difference between practices of rural and urban adults regarding use of latrine, is accepted because practices of urban adults is more than practices of rural adults and hypothesis **H01**-There will be no significant difference between practices of rural and urban adults regarding use of latrine, is rejected.

**Section-4**

**Table 8:** Overall mean, mean %, S. D, S .E, Z value of knowledge of use of latrine among rural and urban adults.

Knowledge of use of latrine among adults	Adults residing in rural area	Adults residing in urban area
MEAN	12.24	20
MEAN %	51%	83.33%
MEAN DIFFERENCE	32.33%	
STANDARD DEVIATION	4.28	2.46
STANDARD ERROR	0.69	
Z VALUE	2.48	



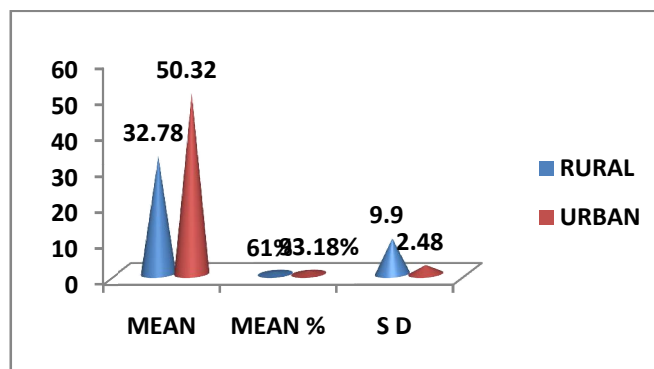


**Figure 7:** Cone diagram of overall mean, mean percentage and standard deviation of rural and urban adults knowledge regarding use of latrine

The mean of rural adults knowledge is 12.24 and urban adults' knowledge is 20. The mean percentage of rural adults' knowledge is 51% and urban adults knowledge is 83.3%. The standard deviation of Rural adults knowledge is 4.28 and urban adults knowledge is 2.46. The mean difference of rural and urban adults knowledge is 32.33%. The mean percentage of rural adults knowledge is less than urban adults knowledge. Standard error is 0.69 and Z value is 2.48. Comparison between the rural and urban knowledge Z test value = 2.48. Tabulated value of Z test at 5% level of significance.

**Table 9:** Overall mean, mean %, S. D, S, E, Z value of practices of use of latrine among rural and urban adults.

Practices of use of latrine among adults	Adults residing in rural area	Adults residing in urban area
MEAN	32.78	50.32
MEAN %	60.70%	93.18%
MEAN DIFFERENCE	32.48%	
STANDARD DEVIATION	9.90	2.48
STANDARD ERROR	1.44	
Z VALUE	0.95	



**Figure 8:** Cone diagram of overall mean, mean percentage and standard deviation of rural and urban adults practices regarding use of latrine

The mean of rural adults practices is 32.78 and urban adults practices is 50.32. The mean percentage of rural adults practices is 61% and urban adults practices is 93.18%. The standard deviation of Rural adults practices is 9.9 and urban adults practices is 2.48. The mean difference of rural and urban adults knowledge is 32.48%. The mean percentage of rural adults knowledge is less than urban adults knowledge. Standard error is 0.69 and Z value is 0.95. Comparison between the rural and urban knowledge Z test value = 0.95. Tabulated value of Z test at 5% level of significance.



Section: 5

Table 10: Findings related to association of the knowledge of adults among rural and urban area with selected demographic variables.

Table with 10 columns: Sr., Demographic variables, Rural (Value of Chi-Square, D.F, Table Value, Remarks), Urban (Value of Chi-Square, D.F, Table Value, Remarks). Rows include Age, Gender, Educational Qualification, Area of living, House Land, Religion, Monthly income, Occupation, Source of Health Information.

Table 11: Findings related to association of the practices of adults among rural and urban area with selected demographic variables.

Table with 10 columns: Sr, Demographic variables, RURAL (Value of Chi-Square, D.F, Table Value, Remarks), URBAN (Value of Chi-Square, D.F, Table Value, Remarks). Rows include Age, Gender, Educational Qualification, Area of living, House Land, Religion, Monthly income, Occupation, Source of Health Information.

Chi-square test was used to find out the relationship between demographic variables and knowledge & practice of use of latrine among urban and rural adults. There is significant association with knowledge and practices when compared to the demographic variables that is age, gender, educational qualification, area of living, house land, religion, monthly income, occupation, source of information.

Hence Hypothesis H2: There will be a significant association between the knowledge and practice of rural and urban adults regarding use of latrine with selected demographic variables. The association between knowledge and selected demographic variables is accepted under the monthly income, occupation in rural area and gender, educational Qualification, house land, monthly income, occupation, source of information that related to the knowledge of adults regarding use of latrine. And association between practices and selected demographic variables is accepted under monthly income, occupation in rural area and in urban area there is no significant association between practices and selected demographic variables.

And hypothesis **H02**- There will be no significant association between the knowledge and practice of rural and urban adults regarding use of latrine with selected demographic variables is accepted. There is no significant association between knowledge and selected demographic variables is accepted under age, gender, educational qualification, area of living, house land, religion, source of information in rural area and age, area of living in urban area. And there is no significant association between practices and selected demographic variables is accepted under age, gender, educational qualification, area of living, house land, religion, source of information in rural area and age, gender, educational qualification, area of living, house land, religion, monthly income, occupation, source of information in urban area.

#### **IV. CONCLUSION**

The conclusions were drawn on the basis of the findings of the study on assessment of the knowledge and practices of adults towards use of latrine among rural and urban area. The findings showed that knowledge of rural adults is less than knowledge of urban adults regarding use of latrine. The practices of rural adults is less than the practices of urban adults regarding use of latrine. There is a significant association between demographic variables and knowledge and practices of adults towards use of latrine among rural and urban area.

#### **4.1 Implications**

The findings of the study have certain important implications for the nursing profession in the field of Nursing Practice, Nursing Education, Nursing Administration, Nursing Research and Community Health Nursing.

#### **4.2 Nursing Education**

A person considered to be healthy only when his/her physical psychological social and spiritual status at normal level. Nursing education emphasize on preparing perspective nurses to impact health education by using various methods of education technology. Nowadays use of latrine is a new topic in health science there is a need to schedule the importance of use of latrine in nursing curriculum to understand better about environmental sanitation to care of human being in broad sense.

#### **4.3 Nursing Practice**

The community health nurse, who is the core member of health team and spending most of the time with community, hence it is the responsibility of nurses to bring the adult forward towards the each adult to understand himself and take care of physical and mental health by use of knowledge and practice in all aspect of life. Both the male and female person who are responsible and decision maker, as the head of the family irresponsible of age play an important role to improve the sanitation of family. It will be better in improving health and other conditions of their family members which leads to develop the state as well as country. The more recent acceptance qualitative method in the nursing community has been significant stimulus to the generation of new insight and knowledge and attitude in transcultural nursing.

Nurses are entering new phase of health emphasis as they examine the impact of cultural factors upon human caring, health and behaviour. Sanitation is the important aspect in national health programme included in millennium development programme. The private sector is adept at understanding what motivates people and what drives their decision-making, how to position a product as a status symbol, and how to drive demand. By working together with partners in the private sector and enlisting their marketing expertise, we can create a compelling behavior change campaign. And by partnering with the government and local authorities, celebrities, sports stars and the media, we can disseminate a message to drive a change in behavior from the cities to the villages, to reach every level of society, continuously until people see a toilet as desirable, and eventually as normal.

#### **4.4 Nursing Administration**

Nursing administration should be compulsorily involved in formulating policies for health education in various settings including the normal community. The administrator should plan and organize education program for adults in various aspect to enhance their knowledge and practice in use of latrine. The nurse administrator should see and evaluate about adult awareness on use of latrine and utilize their practices for their holistic health and wellbeing.

#### 4.5 Nursing Research

Research plays a vital role in the establishment of adult health science. the investigator found the scarcity in literature and research done on adult by nursing personnel. it is needed that as a nursing personnel who is one of the keen observer in health science and it is useful for future planning and implementation of open defecation free India. the present comparative study has given the base to conduct the future qualitative and quantitative research on the knowledge and practice of adult towards use of lettering in rural and urban community

#### REFERENCES

- [1]. <https://www.ircwash.org/news/india-census-more-people-have-mobile-phone-household-toilet-0>
- [2]. Farhana Ahmed (2012) Water and sanitation in India's Census - 2012. Downloaded from the site: <http://www.scoop.co.nz/stories/HL1203/S00268/water-and-sanitation-in-indias-census-2012.htm> on 10th April 2012.
- [3]. Government of Pakistan, 2002. Pakistan Integrated Household Survey (PIHS), Federal Bureau of Statistics, Government of Pakistan. Gov
- [4]. Peter Olawuni, Oluwole Daramola. (2017) Exploring residential characteristics as determinants of environmental sanitation behavior in Ibadan, Nigeria. Environmental Practice 19:1, pages 16-25.
- [5]. <http://repository-tnmgrmu.ac.in/id/eprint/12986>
- [6]. <https://ijcrt.org/papers/IJCRT1893261.pdf>