“A STUDY TO ASSESS THE KNOWLEDGE REGARDING HEALTH HAZARDS OF SPITTING IN PUBLIC PLACES AMONG GENERAL POPULATION IN SELECTED COMMUNITIES AT HONAVAR TALUK, UTTARA KANNADA DISTRICT WITH A VIEW TO DEVELOP AN INFORMATIONAL BOOKLET”

BY

MS. ALEESHA JOSEPH

Submitted to

Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

Under Short Term Research Grants for Undergraduate Students of Institutions Affiliated to RGHUS for the year 2025-26

And

In Partial fulfillment of the requirements for the degree of

Bachelor of Sciences in Nursing

Under the guidance of

Mr. Rakesh Gomes

St. Ignatius Institute of Health Sciences,

Honavar, Uttar Kannada

2025-26

DECLARATION BY THE CANDIDATE

I hereby declare that this project titled "A study to assess the knowledge regarding health hazards of spitting in public places among general population in selected communities at Honavar Taluk, Uttara Kannada District with a view to develop an informational booklet" is a bonafide and genuine work to carried out under the guidance of Mr. Rakesh Gomes, Associate professor, St. Ignatius Institute of Health Sciences, Honavar.

Date: Signature of the candidate

Place: Ms. Aleesha Joseph

CERTIFICATE BY GUIDE

This is to certify that project “A study to assess the knowledge regarding health hazards of spitting in public places among general population in selected communities at Honavar Taluk, Uttara Kannada District with a view to develop an informational booklet” is a bonafide and genuine work to carried out by Ms. Aleesha Joseph under the Short-term Research Grants for Undergraduate Students of Institutions affiliated to RGUHS for the year 2025-26.

Date:

Place:

Signature of the guide

Mr. Rakesh Gomes

Associate professor

Dept. of Community Health Nursing

ENDORSEMENT BY THE PRINCIPAL/ HEAD OF THE INSTITUTION

This is to certify that the project entitled “A study to assess the knowledge regarding health hazards of spitting in public places among general population in selected communities at Honavar Taluk, Uttara Kannada District with a view to develop an informational booklet” is a bonafide and genuine work to carried out by Ms. Aleesha Joseph under the Short-term Research Grants for Undergraduate Students of Institutions Affiliated to RGUHS for the year 2025-26 under the guidance of Mr. Rakesh Gomes, Associate professor, St. Ignatius Institute of Health Sciences, Honavar.

Date: Seal & Signature of the Principal

Place: A. Sagaya Arockia Mary

RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES

UNDERGRADUATE RESEARCH 2025 - 2026

FINAL REPORT

1. **Title of the Project:**"A study to assess the knowledge regarding health hazards of spitting in public places among general population in selected communities at Honavar Taluk, Uttara Kannada district with view to develop an informational booklet"
2. **Project code of the Project** (provided by RGUHS):**UG25NUR0610**
3. **Name of the Student, email and mobile number:** Ms. Aleesha Joseph, Email Id: aleeshajoseph7025@gmail.com, Mobile No:7025615576
4. **Name of the Guide, Designation, email and mobile number:** Mr. Rakesh Gomes, Associate Professor, Email Id: rakeshgomes18@gmail.com, Mobile No: 9738081951
5. **Name of the Department:** Department of Community Health Nursing, St. Ignatius Institute of Health Sciences, Honavar.
6. **Date of commencement of research activity:**13.01.2026
7. **Date of completion:**13.04.2026
8. **Objectives stated and objectives achieved:**

Objectives stated

1. To assess the knowledge regarding health hazards of spitting in public places among general population.
2. To find out the association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Objectives achieved

The above stated objectives were achieved.

9. Field/ Experimental work giving full details of summary of methods adopted supported by necessary tables, charts, diagrams and photographs.

Statement of the problem

"A study to assess the knowledge regarding health hazards of spitting in public places among general population in selected communities at Honavar Taluk, Uttara Kannada district with view to develop an informational booklet"

Hypothesis

The following hypothesis was tested at 0.05 level of significance.

H_{01}: There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

H_1: There is a significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Research approach: Research approach used was Quantitative approach.

Research design: Research design adopted was Descriptive cross sectional design.

Variables

Demographic variables: The demographic variables included age in years, gender, education, occupation, monthly income in rupees, place of residence, religion, type of family, marital status, previous knowledge regarding spitting, habit of spitting, history of being punished for spitting and habit of tobacco/betel nut chewing.

Setting: The study was conducted at Taggupalya and Shanti Nagar in Honavar Taluk, Uttara Kannada District.

Target population: Target population for the study was general population who were residing in Honavar Taluk, Uttara Kannada District.

Accessible population: Accessible population for the study was general population who were residing at Taggupalya and Shanti Nagar in Honavar taluk and who were available during the data collection period.

Sample: The sample for the study was the general population who were residing in Taggupalya and Shanti Nagar in Honavar taluk and who fulfilled the inclusion and exclusion criteria.

Sampling technique: The non probability convenience sampling was used.

Sample size: The sample size for the study consisted of 100 subjects from the general population.

Inclusion criteria

- Subjects who were male or female, aged 18 years and above and residing in Taggupalya or Shanti Nagar for at least 6 months.
- Subjects who were able to speak Kannada or English and can comprehend to answer the questions during the interview
- Subjects who were available at the time of data collection
- Subjects who were willing to participate by providing voluntary consent.

Exclusion criteria

- Subjects currently studying or working in medical or nursing or other allied health or paramedical sciences courses
- Subjects with significant hearing or speech impairment
- Subjects diagnosed with psychiatric disorder
- Subjects who acutely or critically ill at the time of data collection

Description of research tool

Tool 1: Structured demographic proforma to demographic variables among general population

The demographic variables included age in years, gender, education, occupation, monthly income in rupees, place of residence, religion, type of family, marital status, previous knowledge regarding spitting, habit of spitting, history of being punished for spitting and habit of tobacco/betel nut chewing.

Tool 2: Structured knowledge questionnaire regarding public spitting.

A structured knowledge questionnaire regarding public spitting consisted of 30 statements with the option of true or false. Questionnaire consisted of 3 domains which included what is public spitting (10 statements), sickness and health (10 statements), and habits and rules (10 statements). The rating of the options was a score of 1 for a correct response and a score of 0 for an incorrect response. For the domains, the minimum score was 0 and the maximum score was 10. For overall knowledge score, the minimum score was 0 and the maximum score was 30. The tool was translated into Kannada and back-translated into English.

To interpret the knowledge scores for domains, by using norm referenced measures (Distribution method based on mean and standard deviation) the scores were classified and interpreted into 3 categories as a score of 0 to 4 for poor knowledge, a score of 5 to 8 for average knowledge, and a score of 9 to 10 for good knowledge.

To interpret the overall knowledge score, by using norm referenced measures (Distribution method based on mean and standard deviation) the scores were classified and interpreted into 3 categories as a score of 0 to 13 for poor knowledge, a score of 14 to 24 for average knowledge, and a score of 25 to 30 for good knowledge.

Validity and reliability of the tool

The content validity of the research tool and informational booklet was obtained from 9 experts. The experts were a Pediatrician, a Clinical Psychologist, a General Physician, a Social Worker, a PhD Research Scholar, a Quality Care Manager, and specialists from the Departments of Medical-Surgical Nursing, Child Health Nursing, and Community Health Nursing. The content validity index for the structured knowledge questionnaire was 0.98 both the English and Kannada version. The content validity index for the information booklet on public spitting was 0.98 for the both English and Kannada version. The reliability for the structured knowledge questionnaire was calculated using split half method. The correlation between two halves of the scale was calculated using Karl Pearson correlation coefficient. The reliability of the full scale was calculated using the Spearman-Brown prophecy formula. The reliability of the structured knowledge questionnaire was 0.95.

Pilot study

The ethical clearance was obtained from the institutional ethics committee. Formal permission was obtained from the Principal, St. Ignatius Institute of Health Sciences, Honavar, and from the Tahsildar, Honavar Taluk. The study was conducted from 10/02/2026 to 11/02/2026. The study was conducted in Prabhat Nagar and Gandhi Nagar, Honavar Taluk. Non probability convenience sampling was used to select 10 subjects based on inclusion and exclusion criteria. The researcher introduced herself and explained the nature of the study. Written informed consent was obtained. A structured demographic proforma was used to collect demographic variables and a structured knowledge questionnaire was used to assess the knowledge regarding public spitting. The interview technique was used to collect the data. The subjects took 15-20 minutes to compete the tool.

Data collection method

The ethical clearance was obtained from the institutional ethics committee. Formal permission was obtained from the Principal, St. Ignatius Institute of Health Sciences, Honavar, and from the Tahsildar, Honavar Taluk. The study was conducted from 19/03/2026 to 23/03/2026. The study was conducted at Taggupalya and Shanti Nagar in Honavar Taluk. Non-probability convenience sampling was used to select 100 subjects based on inclusion and exclusion criteria. The researcher introduced herself and explained the nature of the study. Written informed consent was obtained. A structured demographic proforma was used to collect demographic variables and a structured knowledge questionnaire was used to assess the knowledge regarding public spitting. The interview technique was used to collect the data. The subjects took 15-20 minutes to complete the tool. After the computation and interpretation of the data, based on the result the informational booklet on public spitting was developed and it was distributed to participants.

Data analysis plan

Descriptive statistics

- The frequency and percentage were used to describe the demographic variables among the general population.
- The frequency, percentage, range of score, mean, mean percentage and standard deviation were used to assess the item wise, domain wise, and overall knowledge regarding health hazards of spitting in public places among the general population.

Inferential statistics

- The Chi-square test and Fisher's exact test were used to find the significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among the general population.

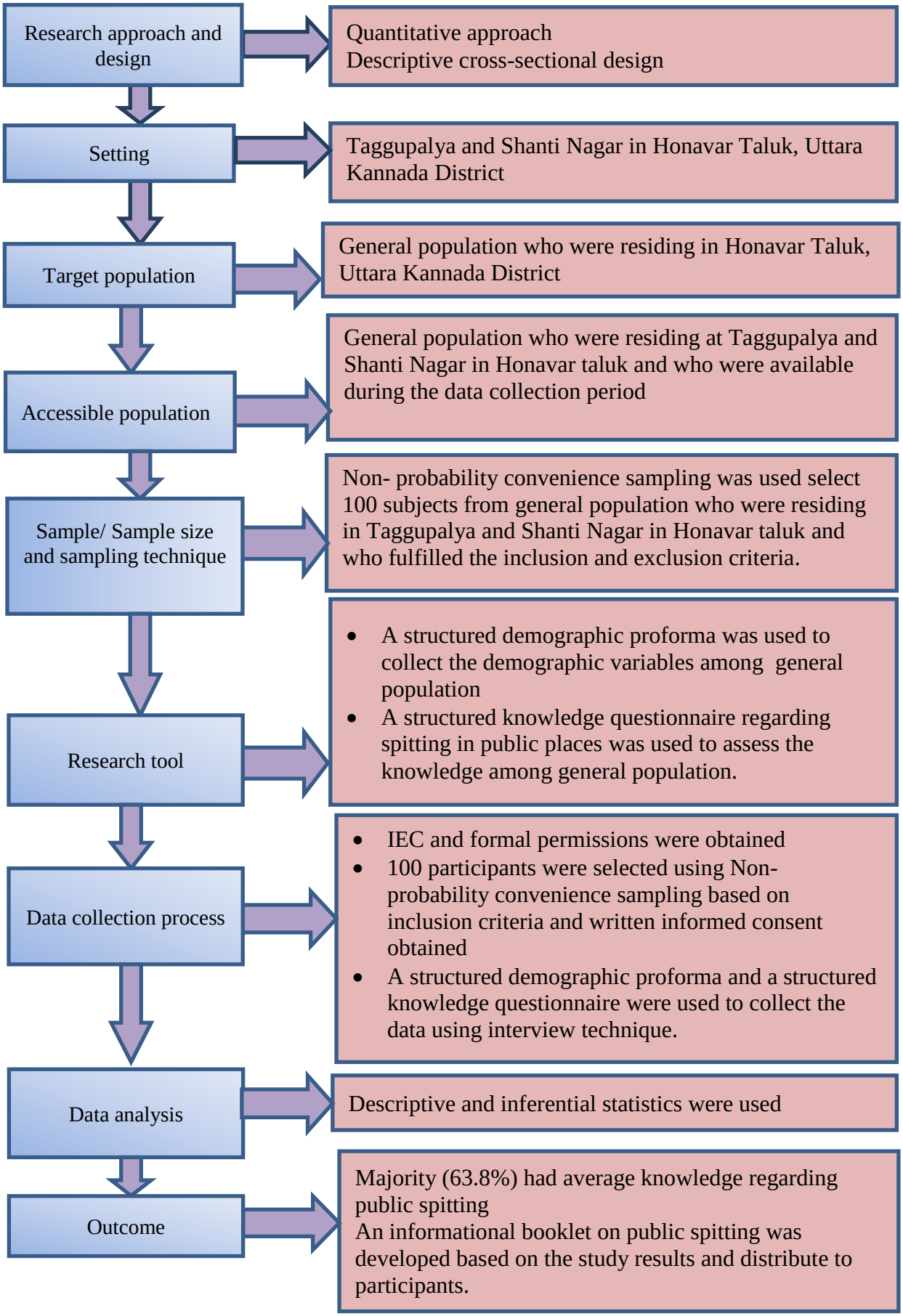

Figure1: Schematic representation of research methodology

10. Detailed analysis of results

This section deals with the analysis and interpretation of data collected to assess the knowledge regarding health hazards of spitting in public places among general population at Taggupalya and Shanti Nagar in Honavar taluk, Uttara Kannada District.

Presentation of data

Section1: Description of demographic variables among general population.

Section 2: Description of knowledge regarding health hazards of spitting in public places among general population.

Section 3: Association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Objectives of the study

1. To assess the knowledge regarding health hazards of spitting in public places among general population.
2. To find out the association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Hypothesis

The following hypothesis was tested at 0.05 level of significance.

H_{01}: There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

H_1: There is a significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Section 1: Description of demographic variables among general population

Table1.1: Frequency and percentage distribution of general population by age in years, gender and education. **n=100**

S No	Demographic variables	Frequency (f)	Percentage (%)
1	**Age in years**		
	20-40 Years	54	54
	41-60 Years	34	34
	61-84 Years	12	12
2	**Gender**		
	Male	58	58
	Female	42	42
3	**Education**		
	Post- graduate or professional degree	6	6
	Graduate degree	17	17
	Higher secondary certificate	25	25
	High school certificate	31	31
	Middle school certificate	5	5
	Less than middle school certificate	16	16

Table 1.1 indicates that majority (54% of subjects) were in the 20-40 years age group, 58% were male, and 31%completed a high school certificate.

Table1.2: Frequency and percentage distribution of general population by occupation, monthly income in rupees and place of residence. **n=100**

S No	Demographic variables	Frequency (f)	Percentage (%)
1	**Occupation**		
	Professionals	2	2
	Clerks	5	5
	Skilled Worker, Shop/Market Sales	26	26
	Skilled agricultural/Fishery workers	14	14
	Craft and related Trade workers	13	13
	Elementary Occupation	4	4
	Unemployed	36	36
2	**Monthly income in Indian Rupees**		
	₹66,007 and above	7	7
	₹33,004 – ₹66,006	7	7
	₹24,753 – ₹33,003	10	10
	₹16,502 – ₹24,752	21	21
	₹9,901 – ₹16,501	40	40
	₹3,301 – ₹9,900	14	14
	≤ ₹3,300	1	1
3	**Place of residence**		
	Urban	0	0
	Rural	100	100

Table 1.2 indicates that 36% of subjects were unemployed, 40% had a monthly income from ₹9,901 – ₹16,501 and, all (100%) lived in rural area.

Table1.3: Frequency and percentage distribution of general population by religion, type of family, marital status, and previous knowledge regarding spitting **n=100**

S No	Demographic variables	Frequency (f)	Percentage (%)
1	**Religion**		
	Christian	18	18
	Hindu	66	66
	Muslim	16	16
2	**Type of family**		
	Joint family	50	50
	Nuclear family	50	50
3	**Marital status**		
	Married	82	82
	Unmarried	18	18
4	**Previous knowledge regarding public spitting**		
	Yes	25	25
	No	75	75
	Sources of knowledge		
	General knowledge (Common Sense)	23	23
	Reading from literature	1	1
	Campaign related to public spitting	1	1

Table 1.3 indicates that majority (66%) of subject were Hindus, The subjects were equally distributed (50% each) between joint and nuclear families, 82% were married, and 75% had no previous knowledge regarding spitting. Among those with knowledge (25%), the primary source was common sense (23%).

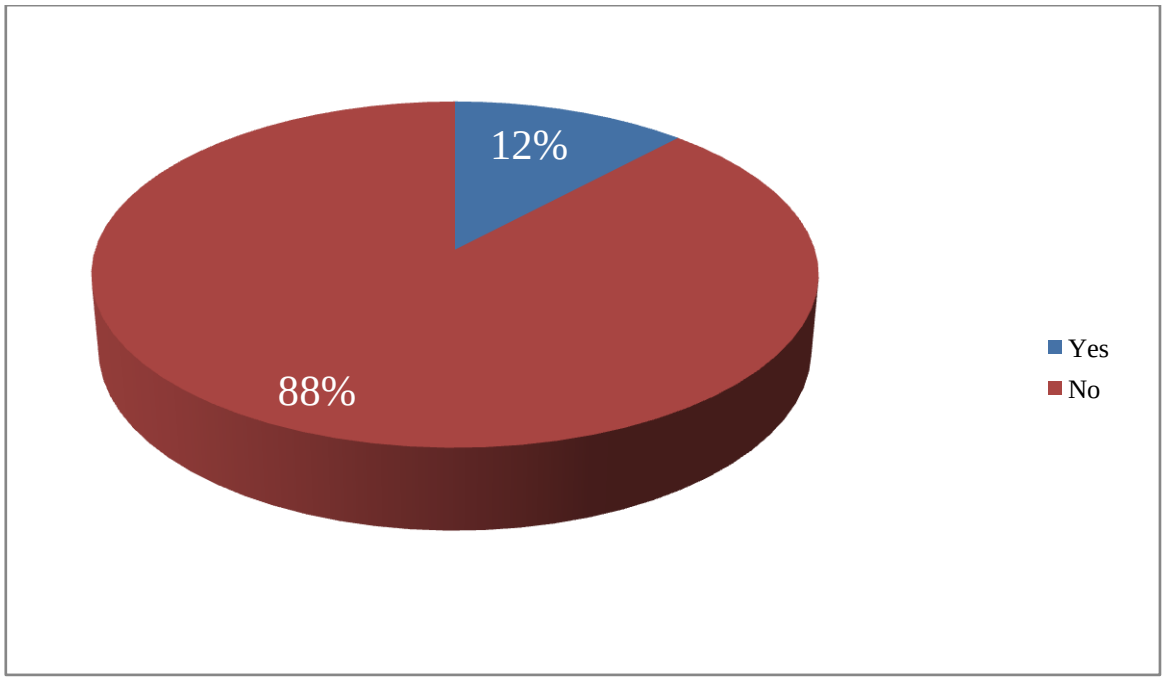

Figure 2: Percentage distribution of habit of spitting in the public places

Figure 2 reveals that 12% of subjects had a habit of spitting in the public places but no one was punished for public spitting.

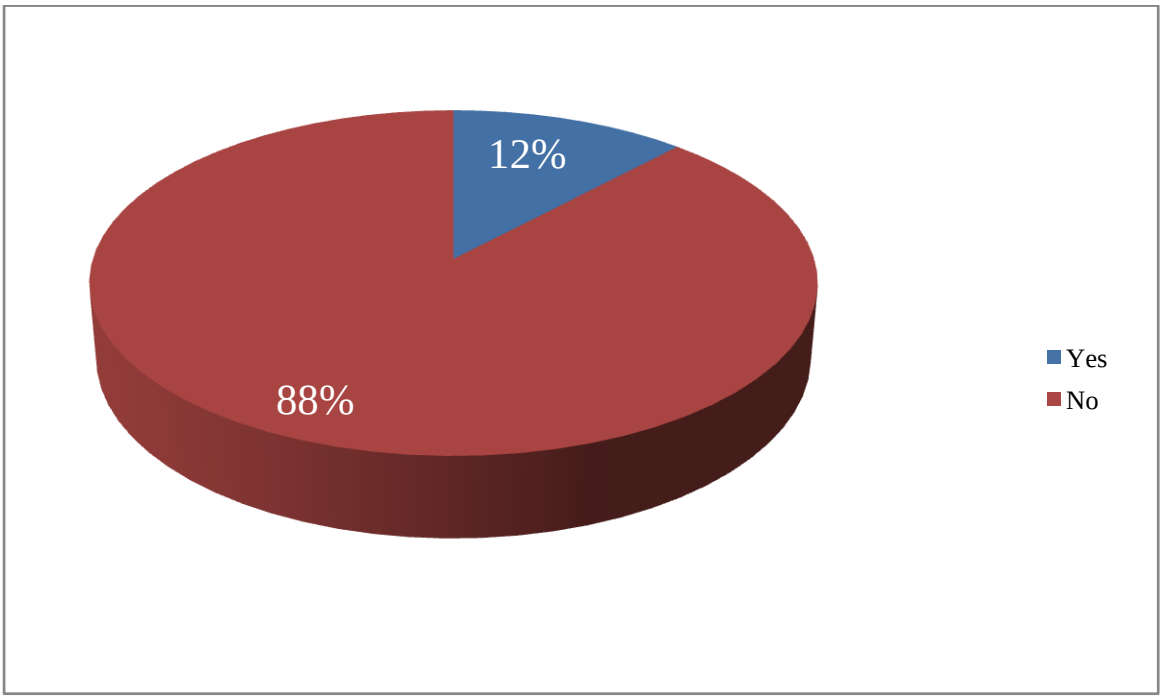

Figure 3: Percentage distribution of habit of tobacco/ betel nut chewing

Figure 3 reveals that 12% of subjects had a habit of tobacco/betel nut chewing

Section 2: Description of knowledge regarding health hazards of spitting in public places among general population.

Objectives: To assess the knowledge regarding health hazards of spitting in public places among general population.

Table 2.1: Domain- wise and overall scale score, range of score, mean, standard deviation and mean% of knowledge score regarding public spitting among general population.

n=100

Knowledge score	Scale score	Range of score	Mean	SD	Mean %
Domain 1(What is public spitting)	0 - 10	1 - 10	6.61	2.15	66.1
Domain 2 (Sickness and health)	0 - 10	1 - 10	6.38	2.15	63.8
Domain 3 (Rules and Habits)	0 - 10	2 - 10	6.21	2.10	62.1
Overall knowledge	0 - 30	5 - 29	19.14	5.49	63.8

Table 2.1 reveals that in **domain 1** (What is public spitting), the mean score was 6.61 ± 2.15 with scores ranging from 1 to 10. The mean percentage score for this domain was 66.1%. For **domain 2** (Sickness and health), the mean score was 6.38± 2.15with scores ranging from 1 to 10. The mean percentage score for this domain was 63.8%. For **domain 3** (Rules and Habits), the mean score was 6.21± 2.10with scores ranging from 2 to 10. The mean percentage score for this domain was 62.1%. For **overall knowledge score**, the mean score was 19.14 ±5.49 with scores ranging from 5 to 29. The mean percentage score for overall knowledge score was 63.8%.

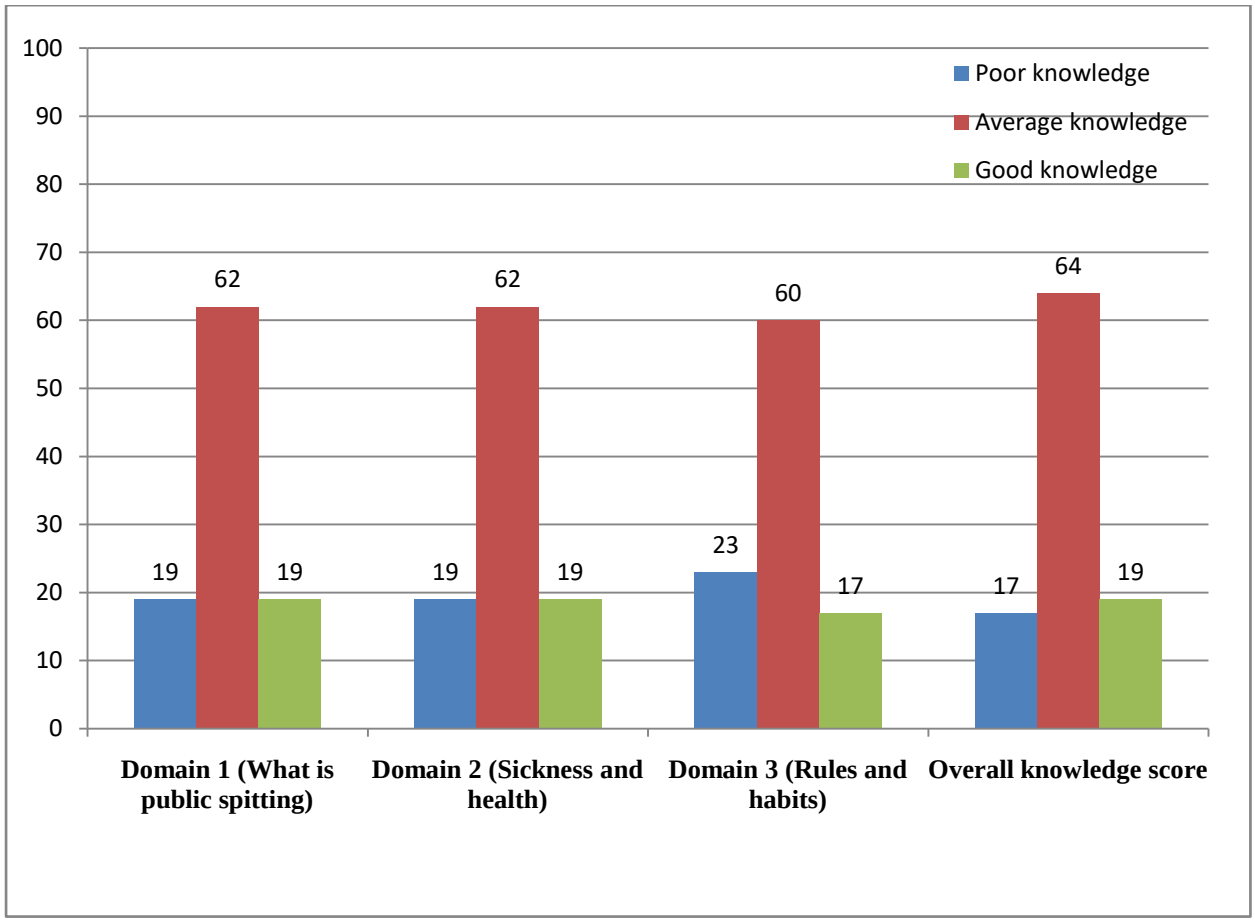

Figure 4: Percentage distribution of domain- wise and overall scale knowledge score regarding public spitting among general population

Figure 4 illustrates that in **domain 1and 2**, majority (62% of subjects) had average knowledge, 19% had poor knowledge and again 19% had good knowledge. In **domain 3**, 60% had average knowledge, 23% had poor knowledge and 17% good knowledge. Regarding **overall knowledge score**, 64% had average knowledge, 17% had poor knowledge, and 19% had good knowledge

Table 2.2.1: Domain 1: Individual item-wise frequency and percentage distribution of knowledge score regarding public spitting among general population. **n=100**

S No	Statements	Item- wise knowledge score			
		Correct response		Incorrect response	
		f	%	f	%
	Domain 1: What is public spitting				
1	Throwing out spit, tobacco juice or sputum is called as spitting.	82	82	18	18
2	Spitting on roads is bad and spitting inside a bus is not bad	71	71	29	29
3	Spitting in public is a big problem because it spreads germs.	74	74	26	26
4	Human spit has no germ in it because it is clean.	58	58	42	42
5	People who chew tobacco, spit more often.	61	61	39	39
6	Spitting is not a bad habit.	69	69	31	31
7	People often start to spit by seeing others spitting.	62	62	38	38
8	Spitting area is clean and smells good.	61	61	39	39
9	People spit on the road because no dustbins are kept.	60	60	40	40
10	A dirty environment makes people feel unhappy.	67	67	33	33

Table 2.2.1 reveals that majority (82%) of subjects were aware about spitting, 71% knew that spitting on road and bus is bad, 74% were aware that spitting it spreads germs, 58% were aware that human spit has germs in it, 61% knew that people who chew tobacco spit more often, 69% knew that spitting is a bad habit, 62% agreed that people spit by seeing others spitting, 61% knew that spitting area is not clean. 60% had idea that people spit in public places due to lack of dustbins, and 67% people said that dirty environment makes them unhappy

Table 2.2.2: Domain 2: Individual item-wise frequency and percentage distribution of knowledge score regarding public spitting among general population. **n=100**

S No	Statement	Item- wise knowledge score			
		Correct response		Incorrect response	
		f	%	f	%
	Domain 2: Health and sickness				
11	People suffer from colds and fever, when they are exposed to spit.	67	67	33	33
12	TB does not spread through spit.	63	63	37	37
13	Dried spit turns into dust that is breathed by people.	64	64	36	36
14	Spit does not spread COVID-19 germs.	67	67	33	33
15	Spit can be mixed with drinking water during rainy season.	66	66	34	34
16	Flies that sit on the spit can carry germs to our food.	58	58	42	42
17	People don't get skin infection from spit.	69	69	31	31
18	Spit spreads infection to kids because they play on the ground.	62	62	38	38
19	Germ in spit does not affect elderly people.	56	56	44	44
20	Germs in spit can harm pregnant women and their babies.	64	64	36	36

Table 2.2.2 reveals that majority (67%) of subjects knew that people suffer from colds and fever when exposed to spit, 63% were aware that TB spreads through spit, 64% knew that dried spit turns into dust that can be breathed by people, 67% knew that spit spreads COVID-19 germs, 66% knew that spit can be mixed with drinking water during rainy season, 58% were aware that flies that sit on the spit can carry germs to our food.69% knew that people can get a skin infection from spit, 62% knew that spit spreads infection to kids because they play on the ground, 56% were aware that germs in spit can affect elderly people, and 64% were aware that germs in spit can harm pregnant women and babies

Table 2.2.3: Individual item-wise frequency and percentage distribution of knowledge score regarding public spitting among general population. **n=100**

S No	Statement	Item- wise knowledge score			
		Correct response		Incorrect response	
		f	%	f	%
	Domain 3: Rules and habits				
21	There are no laws to punish the public spitting in India.	55	55	45	45
22	Spitting in parks or trains is punishable.	69	69	31	31
23	People can use tissue instead of spitting on the road.	63	63	37	37
24	The fine for spitting is never more than ₹10 in India.	59	59	41	41
25	Stopping tobacco use helps a person to stop spitting.	62	62	38	38
26	Cleanliness is a responsibility of government.	43	43	57	57
27	Washing hands helps to stay healthy.	62	62	38	38
28	It is safe to spit in outdoors.	61	61	39	39
29	Awareness programs help people to stop spitting.	70	70	30	30
30	One person changing a habit helps to change the whole community.	77	77	23	23

Table 2.2.3 reveals that, majority (55%) of subjects knew that in India laws are there to punish the public spitting, 69% knew that spitting in parks or trains is punishable, 63% were aware that people can use tissue instead of spitting on the road. 59% knew that the fine for spitting is more than ₹10 in India, 62% were aware that stopping tobacco use helps a person to stop spitting, 43% knew that cleanliness is a not the responsibility of government only, 62% were aware that washing hands helps to stay healthy, 61% knew that it is not safe to spit in outdoors, 70% knew that awareness programs help to stop spitting, 77% knew that one person changing a habit can help in changing the whole community.

Section 3: Association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Objective: To find out the association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Hypothesis

The following hypothesis was tested at 0.05 level of significance.

H_{01}: There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

H_1: There is a significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population.

Table 3.1: Frequency, test of significance, df, and p- value to find the association between the knowledge regarding health hazards of spitting in public places and age in years among general population. **n=100**

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Age in years						
20 – 40 years	54	17	37			
41 – 60 years	34	10	24	χ^2= 21.3662	2	**0.00002* S**
61 – 84 years	12	12	0			

***S: Significant at 0.05 level; χ^2= Chi- square test**

Table 3.1 depicts that, there was a statistically significant association between knowledge regarding health hazards of spitting in public places and age in years (χ^2= 21.3662; df=2; p=0.00002*) among general population. Hence **H_{01}:** There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population was **rejected** and **H_1 was accepted**

Table 3.2: Frequency, test of significance, df and p- value to find the association between the knowledge regarding health hazards of spitting in public places and gender and education among general population. **n=100**

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Gender						
Male	58	23	35	χ^2= 0.025	1	0.875
Female	42	16	26			NS
Education						
Post- graduate or professional degree	6	1	5	Fisher's Exact test	5	**0.042* S**
Graduate degree	17	3	14			
Higher secondary certificate	25	9	16			
High school certificate	31	12	19			
Middle school certificate	5	3	2			
Less than middle school certificate	16	11	5			

***S: Significant at 0.05 level; NS: Not Significant; χ^2= Chi- square test**

Table 3.2 depicts that, there was no statistically significant association between knowledge regarding health hazards of spitting in public places and gender (χ^2= 0.025; df=1; p=0.875)and there was a statistically significant association between knowledge regarding health hazards of spitting in public places and education (p=0.042*)among general population. Hence **H_{01}:** There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population was **rejected** and **H_1 was accepted**

Table 3.3: Frequency, test of significance, df and p- value to find the association between the knowledge regarding health hazards of spitting in public places and occupation among general population. **n=100**

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Professionals	2	0	2			
Clerks	5	1	4			
Skilled Worker, Shop/Market Sales	26	6	20			
Skilled agricultural/Fishery workers	14	8	6	Fisher's exact test	6	0.073 NS
Craft and related Trade workers	13	7	6			
Elementary Occupation	4	0	4			
Unemployed	36	17	19			

NS: Not Significant

Table 3.3 depicts that there was no statistically significant association between knowledge regarding health hazards of spitting in public places and occupation (p=0.073) among general population. Hence **H_{01}:** There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population was **rejected** and **H_1 was accepted**

Table 3.4: Frequency, test of significance, df and p- value to find the association between the knowledge regarding health hazards of spitting in public places and monthly income in Indian rupees and religion among general population. **n=100**

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Monthly income						
₹66,007 and above	7	0	7	Fisher's exact test	6	**0.01* S**
₹33,004 – ₹66,006	7	1	6			
₹24,753 – ₹33,003	10	5	5			
₹16,502 – ₹24,752	21	6	15			
₹9,901 – ₹16,501	40	15	25			
₹3,301 – ₹9,900	14	12	2			
≤ ₹3,300	1	0	1			
Religion						
Christian	18	2	16	χ^2= 8.785	2	**0.0124* S**
Hindu	66	32	34			
Muslim	16	5	11			

***S: Significant at 0.05 level; NS: Not Significant; χ^2= Chi- square test**

Table 3.4 depicts that there was a statistically significant association between knowledge regarding health hazards of spitting in public places and family income in Indian rupees (p=0.01) and religion (χ^2= 8.785; df=2; p=0.0124) among general population. Hence **H_{01}:** There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population was **rejected** and **H_1 was accepted**

Table 3.5: Frequency, test of significance, df and p- value to find the association between the knowledge regarding health hazards of spitting in public places and type of family, marital status and previous knowledge regarding spitting among general population.

n=100

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Type of family						
Joint family	50	21	29	χ^2=0.378	1	0.538
Nuclear family	50	18	32			NS
Marital status						
Married	82	35	47	χ^2=2.597	1	0.107
Unmarried	18	4	14			NS
Previous knowledge regarding spitting						
Yes	25	6	19	χ^2=3.152	1	0.075
No	75	33	42			NS

NS: Not Significant; χ^2= Chi- square test

Table 3.5 depicts that there was no statistically significant association between knowledge regarding health hazards of spitting in public places and type of family (χ^2= 0.378; df=1; p=0.538), marital status (χ^2= 2.597; df=1; p=0.107), and (χ^2= 3.152; df=1; p=0.075) among general population.

Table 3.6: Frequency, test of significance, df and p- value to find the association between the knowledge regarding health hazards of spitting in public places and habit of spitting and tobacco/ betel nut chewing among general population. **n=100**

Demographic variables	Frequency	Knowledge score		Test of significance	df	p-value
		< Mean score 19.14	≥ Mean score 19.14			
Habit of spitting						
Yes	12	9	3	Fisher exact test	1	**0.010* S**
No	88	30	58			
Habit of tobacco/betel nut chewing						
Yes	12	9	3	Fisher exact test	1	**0.010* S**
No	88	30	58			

***S: Significant at 0.05 level**

Table 3.6 depicts that there was a statistically significant association between knowledge regarding health hazards of spitting in public places and habit of spitting (p=0.010) and habit of tobacco/ betel nut chewing marital status (p=0.010). Hence **H_{01}:** There is no significant association between knowledge regarding health hazards of spitting in public places and selected demographic variables among general population was **rejected** and **H_1 was accepted**

11. Contributions made towards increasing the state of knowledge in the subject

Nursing practice: The findings of the study

- Emphasizes that staff nurse to educate the general population regarding health hazards of spitting in public places.
- Emphasizes that nursing staff working in hospital to have knowledge on health hazards of public spitting and social and psychological impact of public spitting, so as to educate the patients and family members regarding the health hazards of public spitting.
- Emphasizes the need for displaying the educational material on health hazards of public spitting in the OPD and IP setting to create awareness to the public.
- Emphasizes the need for distributing the educational material on health hazards of public spitting to the public to create awareness.

Nursing education: The findings of the study

- Enlighten the nursing educators regarding knowledge of the public regarding the health hazards of public spitting.
- Emphasizes the need for conducting the academic sessions on health hazards of public spitting as the part of nursing course, so that nursing students can create awareness to the public.
- Emphasizes the need for preparing the nursing students to provide health education regarding health hazards of public spitting in the hospital or community level.
- Emphasizes the need for motivating the nursing students to prepare the written educational material on health hazards of public spitting that can be displayed and made available in the outpatient and inpatient department and even can be distributed to pubic create awareness.

Nursing administration: The findings of the study

- Emphasizes the need for incorporating the concept health hazards of public spitting, social and psychological impact of public spitting, laws against public spitting in India, and prevention of public spitting in nursing curriculum.
- Emphasizes the need to take initiative in organizing awareness programmes on health hazards of public spitting in hospital and community settings.
- Emphasizes the need for conducting academic sessions on health hazards of public spitting to the nursing staff and nursing students.

Nursing research: The study findings

- Enable nursing students and professionals to undertake more researches in the area of developing and implementation of more educational material on health hazards of public spitting and its prevention
- Emphasizes on conducting qualitative studies to know the perception of general public about health hazards of public spitting, its prevention and importance of law in prevention of public spitting.
- Emphasizes on conducting interventional studies to increase the awareness among genera**l** population regarding health hazards of public spittin**g**, social and psychological impact of public spitting, laws **a**gainst public spitting in India, prevention of public spitting.

12. Conclusion, summarizing the achievements and indication of scope for future work:

Conclusion, summarizing the achievements

The findings of the study revealed that 19% subjects had good knowledge, 64% subjects had average knowledge and 17% subjects had poor knowledge on health hazards of spitting in public places. The mean score ± SD was 19.14±5.49. By conducting this study, the researcher identified that some of the general population were not aware about spitting, reasons for public spitting, health hazards of public spitting, social and psychological impact of public

spitting, laws against public spitting in India and prevention of public spitting. This result has given insight to the research to tailor the informational booklet based on the participant need and it was distributed to them.

Indication of scope for future work

- Interventional studies with the use of educational material can be conducted to increase the awareness on health hazards of public spitting to the needed sector of public.
- A study can be conducted among staff nurses, nursing students, treating team and all health professionals to assess their knowledge on health hazards of public spitting and its prevention, so that they can spread the knowledge to the patients, family members and community as a whole.
- A similar study can be conducted among adolescents and school students.
- A similar study can be conducted in high risk areas to prevent the spread of illness through spit
- A similar study can be conducted in large sample, other settings and diverse set of people who are in need.

13. Abstract (300 words for possible publication in *RGUHS Journals/Other Journals*).

Introduction: Public spitting is a health concern because it spreads germs through expectorant that makes public places dirty and unhygienic, which increases the risk of infections and affect the health of the people. By avoiding spitting in public, maintaining good hygiene and following cleanliness rules, everyone can protect their health and keep the community clean. Hence researcher felt the need to assess the knowledge regarding health hazards of spitting in public places among general population. **Methodology:** The quantitative approach with descriptive cross sectional design was used. Non-probability convenience sampling was used to select 100 subjects. Written informed consent was obtained. A structured demographic proforma and structured knowledge questionnaire was

used to collect the data. After the computation and interpretation of the data, Based on the result the informational booklet on public spitting was developed and it was distributed to the participant.

Result: The study revealed that overall knowledge score, 64% had average knowledge, 17% had poor knowledge and 19% had good knowledge. The mean overall knowledge score ± SD was 19.14±5.49. Statistical analysis showed that age (p=0.00002), education (p=0.042), monthly income (p=0.01), and religion (p=0.0124) were significantly associated with knowledge levels ($p < 0.05$), whereas gender (p=0.875) and occupation (p=0.073) were not significantly associated. Notably, individuals with a habit of tobacco chewing or spitting had significantly lower knowledge scores ($p = 0.010$).

Discussion: The study highlighted that there are significant gaps in awareness concerning the specific health risks (such as disease transmission via dried dust) and the legal consequences associated with the habit. These findings emphasize the urgent need for targeted public health education and stricter enforcement of anti-spitting laws to bridge the gap between awareness and practice.

Key words: Health hazards of spitting; informational booklet

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HEALTH HAZARDS OF SPITTING IN PUBLIC PLACES

Protect your health & your community

LEARN AND STAY SAFE!

PREPARED BY: ALEESHA JOSEPH

PUBLIC SPITTING

DEFINITION OF SPITTING

Spitting is defined as an act of letting out saliva, sputum, betel spit, tobacco juice and mucus.

DEFINITION OF PUBLIC SPITTING

Public spitting means spitting saliva, sputum, betel spit, tobacco juice and mucus onto the ground in public places like roads, markets, buses, buildings, etc that makes the place dirty and it spreads germs that cause diseases

WHY PUBLIC SPITTING IS A HEALTH CONCERN

Public spitting is a health concern because it spreads germs through expectorant that makes public places dirty and unhygienic, which increases the risk of infections and affect the health of the people.

REASONS FOR PUBLIC SPITTING

- Habit of tobacco or betel nut chewing
- Lack of cleanliness habits
- Cultural practices
- Carelessness about public places
- Respiratory problems
- Habit of spitting
- Lack of health education
- Lack of facilities
- Imitation
- Anger or stress
- Lack of legal enforcement

HEALTH HAZARDS OF PUBLIC SPITTING

- **Spread of diseases:** Spit contains germs, so people nearby suffer from coughs, cold, flu, other illnesses, etc.
- **Viral infections:** Public spitting spreads saliva droplets that can cause viral fever, COVID-19, cold, flu, etc.
- **Bacterial infections:** Germs in spit can cause tuberculosis, pneumonia and other bacterial diseases.
- **Eye infections:** Germs in spit can cause symptoms such as red eye, irritation, and itching.
- **Skin infections:** Contact with spit on broken skin may result in rashes, redness and infections.
- **Stomach infections:** Germs entering the body through contaminated hands or water can cause symptoms like diarrhea and vomiting.
- **Risk to children and elderly:** Children may touch or step on spit while playing, so harmful germs can enter their body through hands, mouth, eyes or wounds that leads to infections. Elderly people are at risk since they can easily fall sick due to their weak immunity.
- **Unsafe for pregnant women:** Germs from spit can cause infections that may harm pregnant women and affect the health of both mother and baby.
- **Dirty the environment:** Public spitting makes the surroundings dirty, causes bad smell and spoils the cleanliness of roads and public places that affects the health of people.
- **Air and water pollution:** When spit dries, it mixes with dust and spreads in the air and causes germs to be inhaled through dust particles which thereby cause respiratory infections. During rain, the spit flows into water sources and it contaminates the water with germs and causes water pollution that leads to illness.
- **Discomfort to others:** Seeing spit in public places creates discomfort and makes the area unpleasant for others that lead to mental distress.
- **Attracts flies and insects:** Spit attracts flies and insects, which carry germs and spread them to food and people that leads to illness.

SOCIAL & PSYCHOLOGICAL IMPACT OF PUBLIC SPITTING

•It may make people feel disgusted and uncomfortable.
•It makes the community dirty and untidy.
•The people may fear getting sick due to public spitting.

•It looks rude and disrespectful to others.
•Living in dirty places can make people feel unhappy.
•It makes streets, parks and public places dirty.

•Children learn bad habits by seeing others spit.
•It can make people feel unhappy or stressed.
•It spoils the image of the town or community.

•It can lead to loss of trust in public safety and cleanliness.
•It may create conflict or arguments among people who dislike spitting.
•People may feel embarrassed or ashamed if they accidentally step in spit.

LAWS AGAINST PUBLIC SPITTING IN INDIA

- **Spitting in public is against the law** in many places.
- People can get **fined** or punished for spitting in streets, parks or public transport.
- Laws exist to **keep public places clean and safe**.
- Following the rules helps **protect everyone's health**.
- **Avoiding spitting in public places** is everyone's responsibility.
- Some places have **campaigns and awareness programs** to reduce spitting in public.

PREVENTION OF PUBLIC SPITTING

- Always use a tissue, handkerchief or dustbin instead of spitting on the ground.
- Throw used tissues into a dustbin.
- Examine the underlying cause of the habit such as stress, anxiety or cultural beliefs and take appropriate action.
- Provide easily accessible public bins (especially for tobacco users).
- Spit in a toilet or closed container.
- Encourage others to stop spitting and keep the public places clean.
- Do not spit in streets, parks, buses or other public places.
- Quit habits like chewing tobacco, betel nut or gutkha.
- Cover mouth while coughing or sneezing.
- Maintain personal and public cleanliness.
- Teach children good hygiene habits and not to spit in public.
- Spread awareness about health risks of spitting.
- Follow cleanliness rules and set a good example to others.
- Remind others politely about cleanliness.
- Wash hands regularly to maintain hygiene.

- Do not spit on roads, walls or buildings and other public places.
- Do not chew tobacco or betel nut in public.
- Do not make public places dirty.
- Do not spit near children or elderly people.
- Do not ignore cleanliness rules.

CONCLUSION

Public spitting is a harmful habit that spreads diseases and makes public places dirty and unsafe. By avoiding spitting in public, maintaining good hygiene and following cleanliness rules, everyone can help protect their health and keep the community clean. Small changes in individual behavior can create a healthier and safer environment for all.