

A Study to Assess the Effectiveness of Community-Based Health Literacy Programme on Knowledge and Attitude Regarding Effects of Consanguineous Marriage on Fetus Among Adolescents Studying in Selected Government Higher Secondary School of Dadra and Nagar Haveli

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Abstract:

BACK GROUND OF THE STUDY: Consanguineous marriage, which involves unions between closely related individuals, is still widely practiced in many parts of India and around the world. While these marriages are often preferred for cultural, social, or economic reasons, they carry a higher risk of passing on genetic disorders, causing birth defects, and leading to complications during pregnancy. Children, as the next generation of parents, play an important role in reducing the occurrence of hereditary health problems. However, their awareness of the potential medical and genetic consequences of consanguineous marriages is often limited.

METHOD: A pre-experimental one-group pre-test post-test research design was adopted. A total of 200 adolescents meeting the inclusion criteria were selected using a non-probability purposive sampling technique. Data were collected using a demographic variable sheet, a structured knowledge questionnaire (30 items), and a Likert attitude scale (14 items). After obtaining validity and reliability, a pre-test was conducted, followed by a community-based health literacy programme on the effects of consanguineous marriage. A post-test was administered after seven days.

RESULT: Data were analyzed using descriptive and inferential statistics. The mean pre-test and post-test knowledge scores were 8.63 and 22.91, respectively, showing a highly significant difference ($t = 33.058$, $p < 0.05$). Similarly, the mean pre-test and post-test attitude scores were 36.74 and 62.13, respectively, with a significant difference ($t = 42.711$, $p < 0.05$). A significant association was found between demographic variables age, class, stream, parental education, family structure, parental occupation, and monthly family income and both knowledge and attitude scores at the 0.05 level of significance.

CONCLUSION: The study concludes that the community-based health literacy programme was effective in enhancing the knowledge and attitude of adolescents regarding the effects of consanguineous marriage on the fetus. Such educational interventions are essential in promoting genetic health awareness among youth and preventing hereditary disorders in future generations.

Keywords: Community-Based Health Literacy Programme, Consanguineous Marriage, Fetal Health, Adolescents, Knowledge, Attitude.

INTRODUCTION

Health is achieved when there is a proper balance between the mind and body, and maintaining this balance is important for well-being throughout life. An essential part of health is ensuring the birth of healthy children and promoting wellness from an early age. Marriage is a formal and socially accepted bond that allows individuals to start families and raise children. It provides emotional support, stability, and a sense of continuity in family life. In India, marriages are usually arranged by the families of the bride and groom, following cultural traditions and social norms.

A consanguineous marriage occurs when partners are biologically related and share a common ancestor. The term comes from Latin, where “con” means “shared” and “sanguis” means “blood.” These marriages are often encouraged for cultural, social, or economic reasons, such as keeping family property, strengthening family ties, or resolving disputes. Traditionally, royal families often married close relatives to maintain wealth and power. Today, such marriages are common in many parts of the world, with over one billion people living in communities that practice them. The closer the biological relationship between parents, the higher the risk of passing genetic disorders to their children. Consanguinity is classified by degree: first-degree includes siblings, second-degree includes uncles/aunts and nieces/nephews, and third-degree includes first cousins. Globally, the prevalence of consanguineous marriages varies—from less than 1% in Western Europe, North America, Australia, and Russia, to 1–10% in Japan, South America, and the Iberian Peninsula, and 20–50% in countries like India, Iran, and many parts of Africa and Asia.

In India, these marriages are more common in southern states than in northern states and are practiced among various religious groups, including Muslims, Hindus, Buddhists, and Parsis, while generally discouraged among Christians. Cultural and social reasons for these marriages include maintaining marital stability, ensuring family compatibility, keeping wealth, reducing dowry burdens, and preserving traditions. Studies show that children born to closely related parents have higher risks of health problems, including genetic disorders, birth defects, and congenital abnormalities. Conditions related to consanguinity include retinitis pigmentosa, Leber congenital amaurosis, heart defects, blood disorders, and other autosomal recessive diseases.

In tribal and rural communities, including those in Dadra and Nagar Haveli, consanguineous marriages are still practiced. Data from NFHS-5 (2019–2021) shows that around 11% of marriages in India are consanguineous, with Tamil Nadu (28%) and Karnataka (27%) having higher rates. In Dadra & Nagar Haveli and Daman & Diu, the prevalence is 2.8%. Children from these unions often have higher rates of congenital malformations, especially affecting the genitourinary system (32.1%), musculoskeletal system (22%), and cardiovascular system (14.7%), with male infants being more vulnerable.

Sickle cell anemia is also found in tribal populations of Dadra and Nagar Haveli, with 3.67% carrying the trait and 0.15% affected by the disorder, showing its link to consanguinity. Despite these risks, many adolescents are not aware of the health effects of consanguineous marriages. Early educational interventions through community-based health literacy programs are therefore important to improve adolescents’ knowledge and attitudes. This study aims to evaluate the effectiveness of such programs in increasing awareness and promoting positive attitudes about the effects of consanguineous marriages on fetal health.

STATEMENT OF THE STUDY

A study to assess the effectiveness of a community-based health literacy programme on the knowledge and attitude regarding the effects of consanguineous marriage on the fetus among adolescents studying in selected government higher secondary schools of Dadra and Nagar Haveli.

OBJECTIVES OF THE STUDY TO:

- Assess the level of knowledge and attitude regarding the effects of consanguineous marriage on the fetus among adolescents.

- Assess the effectiveness of a community-based health literacy programme on knowledge and attitude regarding the effects of consanguineous marriage on the fetus among adolescents.
- Determine the association between pre-test knowledge and attitude scores regarding the effects of consanguineous marriage on the fetus among adolescents with their selected socio-demographic variables.

HYPOTHESIS

The hypotheses will be tested at a 0.05 level of significance.

H1: There is a significant difference between pre-test and post-test knowledge and attitude scores of adolescents regarding the effects of consanguineous marriage on the fetus.

H2: There is a significant association between pre-test knowledge and attitude scores of adolescents regarding the effects of consanguineous marriage on the fetus and their selected socio-demographic variables.

ASSUMPTION

- A community-based health literacy programme may improve the level of knowledge of adolescents regarding the effects of consanguineous marriage on the fetus.
- A community-based health literacy programme may positively change the attitude of adolescents regarding consanguineous marriage.
- Adolescents may already possess some knowledge regarding consanguineous marriage and its effects on the fetus.

OPERATIONAL DEFINITIONS

Assess: In this study, assess refers to a statistical measurement of adolescents' knowledge and attitude regarding the effects of consanguineous marriage on the fetus.

Effectiveness: In this study, effectiveness refers to the significant gain in knowledge and attitude regarding consanguineous marriage, determined by comparing pretest and posttest scores.

Knowledge: In this study, knowledge refers to awareness regarding the effects of consanguineous marriage on the fetus and its prevention among adolescents.

Attitude: In this study, attitude refers to the way of thinking or feeling about the effects of consanguineous marriage on the fetus among adolescents.

Community-Based Health Literacy Programme: In this study, the community-based health literacy programme is a set of health education content prepared by the investigator for adolescents regarding the effects of consanguineous marriage on the fetus. It includes information on the basic understanding of consanguineous marriage, factors influencing its practice, types of consanguineous marriage, effects on fetal health, genetic and medical tests related to consanguineous marriage, premarital counselling, preventive steps, and reduction of genetic risks. The programme is delivered using a PowerPoint presentation, flash cards, and flipbook. The total teaching duration is 45 minutes.

Higher Secondary School: In this study, higher secondary school refers to educational institutions that offer classes in the 11th and 12th standards.

Consanguineous Marriage: In this study, consanguineous marriage refers to the formal union of a man and a woman who are close biological relatives.

Fetus: In this study, fetus refers to the unborn baby from the 8th week of gestation until birth.

Adolescent: In this study, adolescent refers to both girls and boys aged 15–19 years who are studying in the selected higher secondary school.

RESEARCH METHODOLOGY

Research Approach: Quantitative Research Approach

Research Design: Pre-experimental one group pre-test and post-test research design

Variables:

- **Independent Variable** - community based health literacy programme
- **Dependent Variable** - Knowledge and Attitude regarding effects of consanguineous marriage on the fetus.

• **Demographic Variables:**

age, gender, class studying in, stream, education level of father, education level of mother, type of family structure, occupation of father, occupation of mother, religion, residence area, monthly family income, previous knowledge about consanguineous marriage, if yes than, what is the source of information regarding consanguineous marriage, is consanguineous marriage commonly practiced in your community?, have you ever discussed consanguineous marriage with your parents or teachers?

Research Setting: Selected government higher secondary schools of Dadra and Nagar Haveli.

Population And Sample:

Population: Adolescents aged 15–19 years

Sample: The sample consisted of 200 adolescents, studying in selected government higher secondary schools of Dadra and Nagar Haveli.

Sampling technique: Non-probability purposive sampling technique

Inclusion criteria:

- Adolescents aged between 15 and 19 years.
- Adolescents studying in the selected government higher secondary schools of Dadra and Nagar Haveli.
- Adolescents who can read, write, and understand English or Gujarati.
- Adolescents who provide informed consent to participate in the study.

Exclusion criteria :

- Adolescents who are not willing to participate in the study.
- Adolescents who are absent during the data collection procedure.

DESCRIPTION OF THE TOOL:

Section 1: Socio- Demographic variables

Structured questionnaires is made to collect the demographic variables such as age, gender, class studying in, stream, education level of father, education level of mother, type of family structure, occupation of father, occupation of mother, religion, residence area, monthly family income, previous knowledge about consanguineous marriage, if yes than, what is the source of information regarding consanguineous marriage, is consanguineous marriage commonly practiced in your community?, have you ever discussed consanguineous marriage with your parents or teachers?

Section 2: Structure knowledge questionnaire

Assessment of knowledge regarding the effects of consanguineous marriage on the fetus among adolescents was carried out using a structured questionnaire. The questionnaire included multiple-choice questions, each having four options, of which only one was correct. Each correct response was awarded one mark, while incorrect responses were scored zero. The total scores were interpreted as shown in Table 1.

Table 1: Scoring According to Level of Knowledge

Level of Knowledge	Score	Percentage
Adequate Knowledge	23–30	76–100%
Moderately Adequate Knowledge	16–22	51–75%
Inadequate Knowledge	≤ 15	≤ 50%

Section 3: Attitude scale

Assessment of attitude regarding the effects of consanguineous marriage on the fetus among adolescents was carried out using a five-point Likert scale. The scale consisted of 14 statements, with responses ranging from strongly disagree to strongly agree. Each item was scored one mark. The total scores were interpreted as shown in Table 2.

Table 2: Scoring According to Level of Attitude

Level of Attitude	Score	Percentage
Favourable (Positive)	54–70	76–100%
Neutral (Moderate Attitude)	36–53	51–75%
Unfavourable (Negative Attitude)	14–35	≤ 50%

RESULT

DATA ANALYSIS AND INTERPRETATION

Section I : Description of Sample Characteristics

Table 4.1.1 Frequency and Percentage Distribution of Sample Based on Demographic Variables.
n=200

Sr. No.	Demographic Variables	Frequency (f)	Percentage (%)
1.	Age:		
	15 years	0	0
	16 years	80	40
	17 years	100	50
	18 years	20	10
	19 years	0	0
2.	Gender:		
	Male	74	37
	Female	126	63
Sr. No.	Demographic Variables	Frequency (f)	Percentage (%)
3.	Class Studying In:		
	11th Standard	56	28
	12th Standard	144	72
4.	Stream:		
	Science	0	0
	Commerce	98	49
	Arts/Humanities	102	51
	Other	0	0
5.	Education level of father:		
	Professional degree	30	15
	Graduate	17	8.50
	Intermediate/diploma	0	0
	High school	28	14
	Middle school	27	13.50
	Primary school	82	41
	No formal education	16	8

6.	Education level of mother:		
	Professional degree	19	9.50
	Graduate	4	2
	Intermediate/diploma	0	0
	High school	14	7
	Middle school	4	2
	Primary school	86	43
	No formal education	73	36.50
7.	Type of family structure:		
	Nuclear family	25	12.50
	Joint family	125	62.50
	Extended family	50	25
8.	Occupation of father:		
	Professional	62	31
	Semi professional	28	14
Sr. No.	Demographic Variables	Frequency (f)	Percentage (%)
	Clerical/Shop/Farm worker	50	25
	Skilled worker	16	8
	Semiskilled worker	7	3.50
	Unskilled worker	7	3.50
	Home maker	30	15
9.	Occupation of mother:		
	Professional	28	14
	Semi professional	7	3.50
	Clerical/Shop/Farm worker	46	24
	Skilled Worker	16	8
	Semiskilled worker	5	2.50
	Unskilled worker	15	7.50
	Home maker	83	41.50
10.	Religion:		
	Hindu	191	95.50
	Christian	7	3.50
	Muslim	2	1
	Other	0	0
11.	Residence Area:		
	Urban	0	0
	Semi-Urban	4	2
	Rural	196	98
12.	Monthly Family Income:		
	1,25,753 and above	0	0
	62,875-1,25752	0	0
	47,038-62,874	0	0
	31.436-47.034	0	0

	18,859-31,435	30	15
	6294-18,858	93	46
	≤6293	77	38
13.	Previous knowledge:		
	Yes	21	10.50
Sr. No.	Demographic Variables	Frequency (f)	Percentage (%)
	No	179	89.50
	Source of information:		
	Parents/Family	9	4.50
14.	School/Teacher	0	0
	Internet/Social media	15	7.50
	Friends/Peers	1	0.50
15.	Is consanguineous marriage commonly practiced in your community?		
	Yes	5	2.50
	No	195	97.50
16.	Have you ever discussed consanguineous marriage with your parents or teachers?		
	Yes	7	3.50
	No	193	96.50

Section II: Comparison of Level of Knowledge of Adolescents Regarding Effects of Consanguineous Marriage on Fetus.

Table 4.2.1: Frequency and Percentage of Adolescents Based on Level of Knowledge Regarding Effects of Consanguineous Marriage on Fetus.

n=200

Level of Knowledge	Pre test		Post test	
	F	%	F	%
Inadequate	156	78	0	0
Moderately Adequate	44	22	88	44
Adequate	0	0	112	56

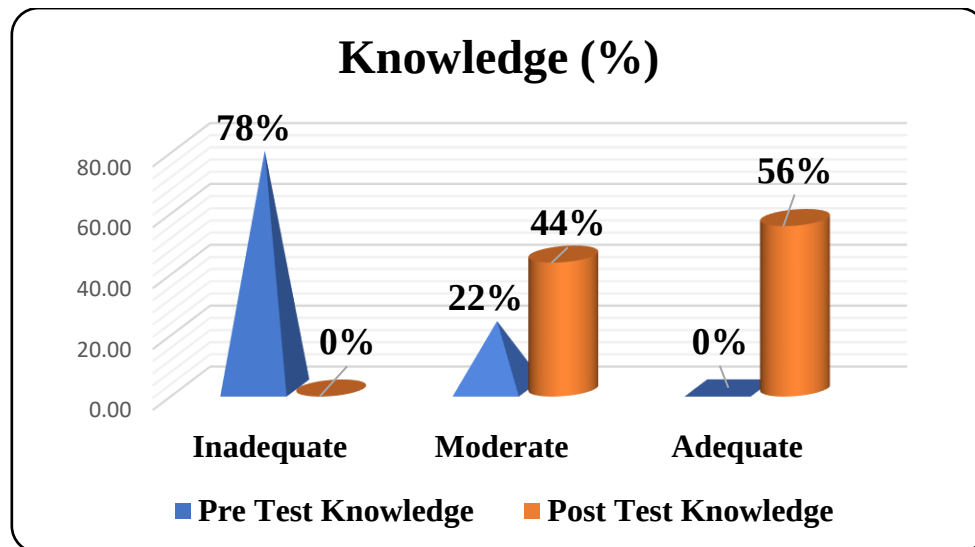


FIGURE 1: Comparison of level of knowledge of adolescents before and after community based health literacy programme on effects of consanguineous marriage on fetus.

Section III: Comparison of Level of Attitude of Adolescents Regarding Effects of Consanguineous Marriage on Fetus.

Table 4.3.1: Frequency and Percentage of Adolescents Based on Level of Attitude Regarding Effects of Consanguineous Marriage on Fetus.

n=200

Level Of Attitude	Pre test		Post test	
	F	%	F	%
Unfavourable (Negative)	75	37.50	0	0
Neutral (Moderate)	125	62.50	11	5.50
Favourable (Positive)	0	0	189	94.50

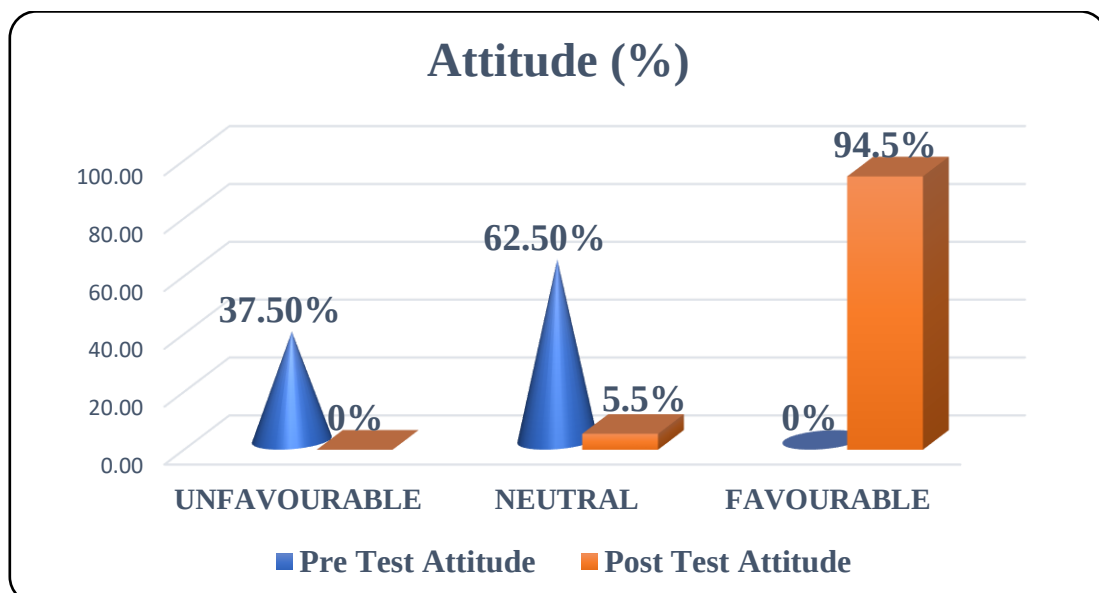


FIGURE 2: Comparison of level of attitude of adolescents before and after community based health literacy programme on effects of consanguineous marriage on fetus.

Section IV: Effectiveness of Community-Based Health Literacy Programme on the Level of Knowledge and Attitude Regarding Effects of Consanguineous Marriage on Fetus

Table 4.4.1: Paired ‘t’ Test to Assess the Effectiveness of Community-Based Health Literacy Programme on Knowledge Regarding Effects of Consanguineous Marriage on Fetus Among Adolescents.
n=200

Level of Knowledge	Difference in mean	‘t’ value	Df	p- value	Table ‘t’ value
Overall	14.280	33.058	199	p<0.000* **	1.97

Table 4.4.2: Paired ‘t’ Test to Assess the Effectiveness of Community-Based Health Literacy Programme on Attitude Regarding Effects of Consanguineous Marriage on Fetus Among Adolescents.
n=200

Level of Attitude	Difference in mean	Df	‘t’ value	p-value	Table ‘t’ value
Overall	25.385	199	42.711	p<0.000*** HS	1.97

Section V: Association Between Pre-Test Level of Knowledge and Attitude With Selected Socio-Demographic Variables

Table 4.5.1: Association between pre-test level of knowledge with selected socio demographic data.
n=200

Sr. No.	Demographic Variables	Inadequate		Moderate		χ^2 value	P-value
		f	%	f	%		
1.	Age:					84.615 (df=2)	0.000* S
	16 years	36	18	44	22		
	17 years	100	50	0	0		
	18 years	20	10	0	0		
2.	Gender:					0.925 (df=1)	0.336 NS
	Male	55	27.5	19	9.5		
	Female	101	50.5	25	12.5		
3.	Class Studying In:					21.937 (df=1)	0.000* S
	11th Standard	56	28	0	0		
	12th Standard	100	50	44	22		
4.	Stream:					54.198 (df=1)	0.000* S
	Commerce	98	49	0	0		

	Arts/Humanities	58	29	44	22		
5.	Education level of father:					42.997 (df=5)	0.000* S
	Professional degree	28	14	2	1		
	Graduate	17	8.5	0	0		
	High school	26	13	2	1		
	Middle school	27	13.5	0	0		
	Primary school	51	25.5	31	15.5		
	No formal education	7	3.5	9	4.5		
Sr. No.	Demographic Variables	Inadequate		Moderate		χ^2 value	P-value
		f	%	f	%		
6.	Education level of mother:					35.172 (df=5)	0.000* S
	Professional degree	8	4	11	5.5		
	Graduate	4	2	0	0		
	High school	7	3.5	7	3.5		
	Middle school	4	2	0	0		
	Primary school	64	32	22	11		
	No formal education	69	34.5	4	2		
7.	Type of family structure:					11.259 (df=2)	0.04* S
	Nuclear family	23	11.5	2	1		
	Joint family	102	51	23	11.5		
	Extended family	31	15.5	19	9.5		
8.	Occupation of father:					13.027 (df=6)	0.043* S
	Professional	43	21.5	19	9.5		
	Semi professional	19	9.5	9	4.5		
	Clerical/Shop/Farm worker	40	20	10	5		
	Skilled worker	16	8	0	0		
	Semiskilled worker	7	3.5	0	0		
	Unskilled worker	7	3.5	0	0		
	Home maker	24	12	6	3		
9.	Occupation of mother:					13.505 (df=6)	0.036* S
	Professional	21	10.5	7	3.5		
	Semi professional	4	2	3	1.5		
	Clerical/Shop/Farm worker	34	17	12	6		

	Skilled Worker	16	8	0	0		
	Semiskilled worker	5	2.5	0	0		
	Unskilled worker	15	7.5	0	0		
	Home maker	61	30.5	22	11		
10.	Religion:						
	Hindu	147	73.5	44	22	2.658 (df=2)	0.265 NS
	Christian	7	3.5	0	0		
	Muslim	2	1	0	0		
11.	Residence Area:						
Sr. No.	Demographic Variables	Inadequate		Moderate		χ^2 value	P-value
		f	%	f	%		
	Semi-Urban	4	2	0	0	1.151 (df=1)	0.283 NS
	Rural	152	76	44	22		
12.	Monthly Family Income:						
	18,859-31,435	30	15	0	0	13.512 (df=2)	0.01* S
	6294-18,858	74	37	19	9.5		
	≤6293	52	26	25	12.5		
13.	Previous knowledge:						
	Yes	19	9.5	2	1	2.128 (df=1)	0.145 NS
	No	137	68.5	42	21		
14.	Source of information:						
	Parents/Family	8	4	1	0.5	1.103 (df=2)	0.776 NS
	Internet/Social media	11	5.5	4	2		
	Friends/Peers	1	0.5	0	0		
15.	Is consanguineous marriage commonly practiced in your community?						
	Yes	4	2	1	0.5	0.012 (df=1)	0.913 NS
	No	152	76	43	21.5		
16.	Have you ever discussed consanguineous marriage with your parents or teachers?						
	Yes	6	3	1	0.5	0.252 (df=1)	0.616 NS
	No	150	75	43	21.5		

$p < 0.05$, level significance

Table 4.5.2: Association between pre-test level of Attitude with selected socio demographic data.
n=200

Sr. No.	Demographic Variables	Unfavourable		Neutral		χ^2 value	P-value
		F	%	F	%		
1.	Age:					9.931 (df=2)	0.07* S
	16 years	23	11.5	57	28.5		
	17 years	48	24	52	26		
	18 years	4	2	16	8		
Sr. No.	Demographic Variables	Unfavourable		Neutral		χ^2 value	P-value
		f	%	f	%		
2.	Gender:					1.287 (df=1)	0.257 NS
	Male	24	12	50	25		
	Female	51	25.5	75	37.5		
3.	Class Studying In:					101.693 (df=1)	0.000* S
	11th Standard	52	26	4	2		
	12th Standard	23	11.5	121	60.5		
4.	Stream:					19.853 (df=1)	0.000* S
	Commerce	52	26	4	2		
	Arts/Humanities	23	11.5	121	60.5		
5.	Education level of father:					32.821 (df=5)	0.000* S
	Professional degree	8	4	22	11		
	Graduate	9	4.5	8	4		
	High school	17	8.5	11	5.5		
	Middle school	1	0.5	26	13		
	Primary school	28	14	54	27		
	No formal education	12	6	4	2		
6.	Education level of mother:					26.311 (df=5)	0.000* S
	Professional degree	15	7.5	4	2		
	Graduate	2	1	2	1		
	High school	9	4.5	5	2.5		

	Middle school	1	0.5	3	1.5		
	Primary school	32	16	54	27		
	No formal education	16	8	57	28.5		
7.	Type of family structure:						
	Nuclear family	7	3.5	18	9	14.451 (df=2)	0.01* S
	Joint family	38	19	87	43.5		
	Extended family	30	15	20	10		
8.	Occupation of father:					18.038 (df=6)	0.006* S
	Professional	19	9.5	43	21.5		
Sr. No.	Demographic Variables	Unfavourable		Neutral		χ^2 value	P-value
		f	%	f	%		
	Semi professional	12	6	16	8		
	Clerical/Shop/Farm worker	11	5.5	39	19.5		
	Skilled worker	7	3.5	9	4.5		
	Semiskilled worker	3	1.5	4	2		
	Unskilled worker	3	1.5	4	2		
	Home maker	20	10	10	5		
9.	Occupation of mother:						
	Professional	22	11	6	3	33.213 (df=6)	0.000* S
	Semi professional	3	1.5	4	2		
	Clerical/Shop/Farm worker	11	5.5	35	17.5		
	Skilled Worker	7	43.5	9	4.5		
	Semiskilled worker	0	0	5	2.5		
	Unskilled worker	1	0.5	14	7		
	Home maker	31	15.5	52	26		
10.	Religion:						
	Hindu	69	34.5	122	61	4.640 (df=2)	0.098 NS
	Christian	4	2	3	1.5		
	Muslim	2	1	0	0		
11.	Residence Area:						
	Semi-Urban	3	1.5	1	0.5	2.449 (df=1)	0.118 NS
	Rural	72	36	124	62		

12.	Monthly Family Income:					13.814 (df=2)	0.001* S
	18,859-31,435	18	9	12	6		
	6294-18,858	39	19.5	54	27		
	≤6293	18	9	59	29.5		
13.	Previous knowledge:					0.798 (df=1)	0.372 NS
	Yes	6	3	15	7.5		
	No	69	34.5	110	55		
14.	Source of information:					2.606 (df=3)	0.456 NS
	Parents/Family	2	1	7	3.5		
Sr. No.	Demographic Variables	Unfavourable		Neutral		χ^2 value	P-value
		f	%	f	%		
	Internet/Social media	6	3	9	4.5		
	Friends/Peers	1	0.5	0	0		
15.	Is consanguineous marriage commonly practiced in your community?					1.108 (df=1)	0.293 NS
	Yes	3	1.5	2	1		
	No	72	36	123	61.5		
16.	Have you ever discussed consanguineous marriage with your parents or teachers?					0.247 (df=1)	0.619 NS
	Yes	2	1	5	2.5		
	No	73	36.5	120	60		

p<0.05, level significance

DISCUSSION

In the present study, the age-wise distribution of adolescents revealed that the highest number of adolescents 100 (50%) belonged to 17 years. Gender-wise distribution showed that 126 (63%) were female and 74 (37%) were male. Regarding class studying in, 144 (72%) of adolescents were from 12th Standard, Stream-wise distribution indicated that 102 (51%) belonged to Arts/Humanities, Educational level of fathers revealed that the majority 82 (41%) had completed primary school, Among mothers, 86 (43%) had completed primary school, Family structure distribution showed that 125 (62.5%) belonged to joint families, Occupation of fathers revealed that 62 (31%) were professionals, Among mothers, 83 (41.5%) were homemakers, Religion-wise, 191 (95.5%) were Hindu, Residence area revealed that 196 (98%) were from rural areas, Monthly family income distribution showed that 93 (46.5%) had income between ₹6,294–₹18,858, Previous knowledge revealed that 179 (89.5%) had no prior information, Regarding the source of information, 15 (7.5%) received information from internet/social media.

Table 4.2.1 represented the comparison of pre-test and post-test levels of knowledge regarding the effects of consanguineous marriage on the fetus among adolescents. In the pre-test, the mean score was 8.63, SD 5.29, mean% 28.75%. In the post-test, the mean score was 22.91, SD 3.14, mean% 76.35%.

Table 4.3.1 represented the pre-test and post-test comparison of adolescents' attitude regarding the effects of consanguineous marriage on the fetus. In the pre-test, the mean score was 36.74, SD 4.58, mean% 52.49%. In the post-test, the mean score was 62.13, SD 4.80, mean% 88.75%.

Table 4.4.1: Regarding paired "t" test, knowledge score within group: pre-test mean = 8.63, post-test mean = 22.91, mean difference in score = 14.28, $t_{99} = 33.058$, $p < 0.05^{***}$.

Table 4.4.2: Regarding paired "t" test, attitude score within group: pre-test mean = 36.74, post-test mean = 62.13, mean difference in score = 25.39, $t_{199} = 42.711$, $p < 0.05^{***}$.

Table 4.5.1: Association Between Pre-Test Knowledge Score and Selected Socio-Demographic Variables. The chi-square test revealed a significant association of pre-test knowledge with age ($\chi^2=84.615$, $p<0.05$), class studying in ($\chi^2=21.937$, $p<0.05$), stream ($\chi^2=54.198$, $p<0.05$), educational level of father ($\chi^2=42.997$, $p<0.05$), educational level of mother ($\chi^2=35.172$, $p<0.05$), type of family structure ($\chi^2=11.259$, $p<0.05$), occupation of father ($\chi^2=13.027$, $p<0.05$), occupation of mother ($\chi^2=13.505$, $p<0.05$), and monthly family income ($\chi^2=13.512$, $p<0.05$). No significant association was found with gender, religion, residence area, previous knowledge, source of information, practice of consanguineous marriage in the community, or discussions with parents/teachers ($p>0.05$).

Table 4.5.2: Association Between Pre-Test Attitude Score and Selected Socio-Demographic Variables. The chi-square test revealed a significant association of pre-test attitude with age ($\chi^2=9.931$, $p<0.05$), class studying in ($\chi^2=101.693$, $p<0.05$), stream ($\chi^2=19.853$, $p<0.05$), educational level of father ($\chi^2=32.821$, $p<0.05$), educational level of mother ($\chi^2=26.311$, $p<0.05$), type of family structure ($\chi^2=14.451$, $p<0.05$), occupation of father ($\chi^2=18.038$, $p<0.05$), occupation of mother ($\chi^2=33.213$, $p<0.05$), and monthly family income ($\chi^2=13.814$, $p<0.05$). No significant association was found with gender, religion, residence area, previous knowledge, source of information, practice of consanguineous marriage in the community, or discussions with parents/teachers ($p>0.05$).

CONCLUSION

The following facts can be concluded from the present study:

- Most of the adolescents had inadequate knowledge and a neutral or unfavourable attitude regarding the effects of consanguineous marriage on the fetus in the pre-test.
- The short-term effect of the community-based health literacy programme on improving knowledge and attitude regarding the effects of consanguineous marriage on the fetus was found to be significant.
- Thus, it can be concluded that the community-based health literacy programme is a safe, easy, and effective method for enhancing knowledge and promoting positive attitudes among adolescents regarding consanguineous marriage and its effects on fetal health.

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