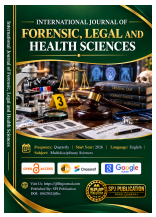
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Original Research

Effectiveness of Nurse led Intervention on knowledge regarding sexual abuse among adolescent girls

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ABSTRACT

Background: Child sexual abuse is a significant public health and child protection concern that can adversely affect the physical, psychological, and social well-being of adolescents. Adequate knowledge about sexual abuse, warning signs, and preventive measures is essential for promoting self-protection and early reporting.
Objective: To evaluate the effectiveness of a nurse-led educational intervention in improving knowledge regarding sexual abuse among adolescent girls and to assess the association between pre-test knowledge and selected sociodemographic variables.
Methods: A quantitative, pre-experimental one-group pre-test–post-test design was adopted among 100 adolescent girls aged 12–15 years at J.S. Inter College, Moradabad, Uttar Pradesh. Participants were selected using non-probability purposive sampling. Data were collected using a sociodemographic proforma and a 30-item structured knowledge questionnaire.
Results: In the pre-test, 72% of participants had inadequate knowledge, while 28% had moderate knowledge; none demonstrated adequate knowledge. Following the intervention, 76% achieved moderate knowledge and 24% achieved adequate knowledge, with no participants remaining in the inadequate category. The mean knowledge score increased from 9.84 ± 3.49 in the pre-test to 18.78 ± 3.65 in the post-test, indicating a mean improvement of 8.94 points (reported $p<0.001$). Significant associations were reported between pre-test knowledge and age, class of study, father's occupation, family monthly income, and place of residence.
Conclusion: The findings indicate that the nurse-led educational intervention improved knowledge regarding sexual abuse among adolescent girls. Structured school-based educational programmes may contribute to strengthening awareness and preventive knowledge among adolescents.

Keywords: Adolescent Girls, Child Sexual Abuse, Knowledge, Nurse-Led Intervention

INTRODUCTION

Alike to fingerprints, palm prints are unique and serve as a means for personal identification, because it shows characteristics features like wrinkles, principal lines, and singular points that don't change over time aiding in personal identification [1]. Although the primary purpose of these prints is identification, they may also provide important forensic information, especially in occupational investigations. Individuals' palm prints may show occupational marks, which are small physical modifications or characteristic patterns resulting from prolonged exposure to particular occupations. The repetitive nature of some everyday jobs, like manual work or difficult crafting, might eventually affect these scars, leaving unique imprints that might connect a person to a specific occupation. Examining and analysing physical marks or injuries on a person's body that are connected to their information in criminal investigations. With a specific effort on the palm prints of labourers, carpenters,

Adolescence is a critical transitional period between childhood and adulthood, characterised by rapid physical, psychological, emotional, and social development. The World Health Organization (WHO) defines adolescents as individuals aged 10–19 years. [1] During this phase, adolescents develop personal identities, establish relationships, explore independence, and experience increasing social interactions. However, limited life experience, emotional vulnerability, and inadequate awareness of personal safety may expose them to various forms of exploitation and abuse. [2] Sexual abuse of children and adolescents is a serious public health and human rights concern. It includes unwanted sexual contact, inappropriate touching, sexual harassment, exploitation, and other forms of sexual violence. Such experiences may occur in homes, educational institutions, communities, or other environments and may involve individuals known to the victim. [3] Adolescent girls are particularly vulnerable because of gender-based inequalities, power imbalances, social stigma, and limited awareness of protective measures. [4] Child sexual abuse can have serious and long-term consequences, affecting physical health, psychological well-being, emotional development, academic performance, and interpersonal relationships. Survivors may experience anxiety, depression, fear, social withdrawal, and difficulties in maintaining healthy relationships. [5,6] Underreporting remains a major challenge because of fear, shame, family pressure, lack of awareness, and concerns regarding social consequences. [7]

Therefore, appropriate education and supportive interventions are essential to encourage early recognition, disclosure, and prevention of sexual abuse. Knowledge regarding sexual abuse enables adolescent girls to identify inappropriate behaviour, understand personal boundaries, recognise unsafe situations, and seek assistance from trusted adults or appropriate authorities. [8] School-based health education provides an important opportunity to deliver age-appropriate information in a safe and supportive environment. [9] Nurses play a significant role in adolescent health promotion through education, counselling, awareness programmes, and guidance regarding available support services. [10] Nurse-led educational interventions can improve awareness of personal safety, good-touch and bad-touch concepts, protective strategies, reporting mechanisms, and available support systems. [11–13] Such interventions may also encourage adolescents to communicate concerns and seek timely assistance. Schools provide an accessible setting for implementing structured educational programmes and evaluating changes in students' knowledge. [14,15] Therefore, the present study aims to assess the effectiveness of a nurse-led intervention on knowledge regarding sexual abuse among adolescent girls in selected schools of Moradabad, Uttar Pradesh. It also seeks to examine the association between pre-test knowledge scores and selected demographic variables.

MATERIALS AND METHODS

Research Approach and Design: A quantitative research approach was adopted to assess the effectiveness of a nurse-led intervention on knowledge regarding sexual abuse among adolescent girls

Figure1. Schematic Presentation of Research Design

Study Setting: The study was conducted at J.S. Inter College, Moradabad, Uttar Pradesh.

Sample Size and Sampling Technique: A total of 100 adolescent girls were included in the study. A non-probability purposive sampling technique was used to select the participants.

Data Collection Tools: Data were collected using a demographic information proforma and a structured knowledge questionnaire on sexual abuse. The demographic proforma was used to obtain relevant background information about the participants, while the structured questionnaire was administered to assess their knowledge regarding sexual abuse.

Inclusion Criteria: Adolescent girls were included in the study if they were between 12 and 15 years of age, were available at the selected school during the data collection period, and were willing to participate in the study.

RESULT

A total of 100 adolescent girls participated in the study. The findings are presented under the following sections: distribution of sociodemographic characteristics, comparison of pre-test and post-test knowledge scores, comparison of knowledge levels before and after the intervention, and association between pre-test knowledge levels and selected sociodemographic variables.

Distribution of Sociodemographic Characteristics of Participants: The sociodemographic characteristics of the participants are presented in Table 1. Regarding age, the majority of participants were 12 years old (63%), followed by 13 years (18%), 14 years (16%), and 15 years (3%). With respect to religion, 41% were Hindu, 28% were Christian, 25% were Muslim, and 6% belonged to other religious groups. Regarding educational level, 63% were studying in classes VI–VII, 34% in classes VIII–IX, and 3% in class X. In terms of parental occupation, 42% of participants' fathers were self-employed, while 29% were private-sector employees, 7% were government employees, and 22% belonged to other occupational categories. Most mothers (88%) were homemakers. Regarding family monthly income, 45% of participants belonged to families with an income of ₹5,001–₹10,000, followed by 30% with an income of up to ₹5,000, 20% with ₹10,001–₹15,000, and 5% with an income above ₹15,000. Furthermore, 67% of participants resided in rural areas, while 33% were from urban areas. Regarding previous knowledge of sexual abuse, 37% of participants reported having prior knowledge, whereas 63% reported no previous knowledge. Among the reported sources of information, friends (12%) and family members (10%) were the most frequently identified sources, followed by mass media (7%), health workers (5%), and other sources (3%).

Table 1. Distribution of participants according to sociodemographic characteristics (N = 100)

Sociodemographic variable	Category	Frequency (n)	Percentage (%)
Age (years)	12	63	63
	13	18	18
	14	16	16
	15	3	3
Religion	Hindu	41	41
	Muslim	25	25
	Christian	28	28
	Others	6	6
Class of study	VI–VII	63	63
	VIII–IX	34	34
	X	3	3
Father's occupation	Self-employed	42	42
	Private employee	29	29
	Government employee	7	7
	Others	22	22
Mother's occupation	Homemaker	88	88
	Private employee	7	7
	Government employee	2	2
	Others	3	3
Monthly family income (₹)	≤5,000	30	30
	5,001–10,000	45	45
	10,001–15,000	20	20
	Above 15,000	5	5
Place of residence	Rural	67	67
	Urban	33	33
Previous knowledge	Yes	37	37
	No	63	63
Source of information*	Mass media	7	7
	Family members	10	10
	Friends	12	12
	Health workers	5	5
	Others	3	3

Effectiveness of the Nurse-Led Intervention on Knowledge Regarding Sexual Abuse: The comparison of pre-test and post-test knowledge scores is presented in Table 2. The mean pre-test knowledge score was 9.84 ± 3.49, which increased to 18.78 ± 3.65 following the nurse-led intervention. The observed mean difference between the two assessments was 8.94 points, indicating an improvement in participants' knowledge scores after the intervention. The reported paired t-test value was 82.71, which exceeded the critical t-value of 1.98 at 99 degrees of freedom. The reported p-value was 0.000 (reported as $p < 0.001$),

indicating a statistically significant difference between the pre-test and post-test knowledge scores. Therefore, the null hypothesis stating that there was no significant difference between the mean pre-test and post-test knowledge scores was rejected. These findings indicate a statistically significant improvement in knowledge following the nurse-led intervention.

Table 2. Comparison of mean pre-test and post-test knowledge scores regarding sexual abuse (N = 100)

Assessment	Score range	Mean ± SD	Mean difference	t-value
Pre-test	5–20	9.84 ± 3.49		
Post-test	13–30	18.78 ± 3.65	8.94	82.71 *

Comparison of Knowledge Levels Before and After the Intervention: The distribution of participants according to their knowledge levels before and after the nurse-led intervention is presented in Table 2.1. During the pre-test assessment, 72% of participants demonstrated inadequate knowledge, while 28% had moderate knowledge. None of the participants demonstrated an adequate level of knowledge. Following the intervention, an improvement in knowledge levels was observed. In the post-test assessment, 76% of participants demonstrated moderate knowledge, while 24% achieved an adequate level of knowledge. Notably, none of the participants remained in the inadequate knowledge category. This change in the distribution of knowledge levels indicates an improvement in participants' understanding of sexual abuse following the nurse-led educational intervention.

Table 2.1. Comparison of participants' knowledge levels before and after the intervention (N = 100)

Assessment	Inadequate knowledge n (%)	Moderate knowledge n (%)	Adequate knowledge n (%)
Pre-test	72 (72%)	28 (28%)	0 (0%)
Post-test	0 (0%)	76 (76%)	24 (24%)

Association Between Pre-Test Knowledge Levels and Selected Sociodemographic Variables: The association between pre-test knowledge levels regarding sexual abuse and selected sociodemographic variables was examined using the chi-square test. The findings are presented in Table 3. Statistically significant associations were observed between pre-test knowledge levels and age ($p = 0.0001$), class of study ($p = 0.0001$), father's occupation ($p = 0.017$), family monthly income ($p = 0.018$), and place of residence ($p = 0.002$), at the 5% level of significance.

However, no statistically significant associations were observed between pre-test knowledge levels and religion ($p = 0.11$), mother's occupation ($p = 0.69$), or source of information ($p = 0.64$). These findings indicate that selected sociodemographic characteristics were significantly associated with variations in participants' baseline knowledge regarding sexual abuse.

Accordingly, the null hypothesis (H02), which stated that there was no significant association between pre-test knowledge scores and selected sociodemographic variables, was rejected for age, class of study, father's occupation, family monthly income, and place of residence. However, the null hypothesis was not rejected for religion, mother's occupation, and source of information.

Table 3. Association between pre-test knowledge levels and selected sociodemographic variables (N = 100)

Sociodemographic variable	Reported p-value	Statistical interpretation
Age	0.0001*	Significant
Religion	0.11	Not significant
Class of study	0.0001*	Significant
Father's occupation	0.017*	Significant
Mother's occupation	0.69	Not significant
Monthly family income	0.018*	Significant
Place of residence	0.002*	Significant
Source of information	0.64	Not significant

DISCUSSION

The present pre-experimental study evaluated the effectiveness of a nurse-led intervention on knowledge regarding sexual abuse among 100 adolescent girls in selected schools of Moradabad, Uttar Pradesh. The findings revealed that most participants were 12 years old (63%), belonged to rural areas (67%), and were studying in classes VI–VII (63%). Notably, 63% of participants reported having no previous knowledge regarding sexual abuse, indicating a need for structured educational

programmes among school-going adolescents. The pre-test assessment demonstrated that 72% of participants had inadequate knowledge, while 28% had moderate knowledge; none had adequate knowledge. Following the nurse-led intervention, 76% achieved moderate knowledge and 24% attained adequate knowledge, with no participants remaining in the inadequate knowledge category. Furthermore, the mean knowledge score increased from 9.84 ± 3.49 in the pre-test to 18.78 ± 3.65 in the post-test, showing a mean improvement of 8.94 points. The reported statistically significant difference ($p < 0.001$) supports the effectiveness of the intervention in improving participants' knowledge regarding sexual abuse. The findings also demonstrated statistically significant associations between pre-test knowledge levels and age, class of study, father's occupation, family monthly income, and place of residence ($p < 0.05$). However, no significant associations were observed with religion, mother's occupation, or source of information. These results suggest that certain sociodemographic characteristics may be related to variations in baseline knowledge among adolescent girls.

Overall, the findings highlight the importance of school-based nurse-led educational interventions in improving awareness and knowledge regarding sexual abuse. Nurses can play an important role in providing age-appropriate education, promoting awareness of personal safety, and encouraging adolescents to seek appropriate support. However, the findings should be interpreted considering the limited sample size, purposive sampling technique, and pre-experimental design.

Limitations of The Study: The study was limited to adolescent girls aged 12–15 years; therefore, the findings may not be generalisable to adolescent girls belonging to other age groups. Furthermore, the study was conducted among students from selected schools in Moradabad, Uttar Pradesh, which may restrict the applicability of the findings to other educational institutions and geographical settings. The use of non-probability purposive sampling may also limit the representativeness and generalisability of the study findings.

Recommendations: Further studies may be conducted using larger sample sizes and participants from multiple educational institutions to improve the generalisability of the findings. Similar studies may be undertaken among parents and community members to assess their knowledge and awareness regarding child sexual abuse and its prevention. Additionally, descriptive and community-based studies may be conducted to investigate the occurrence and prevalence of child sexual abuse using appropriate ethical safeguards and validated data collection instruments. Future interventional studies may also incorporate follow-up assessments to evaluate the long-term retention of knowledge acquired through nurse-led educational programmes.

CONCLUSION

The study demonstrated a significant improvement in knowledge regarding sexual abuse among adolescent girls following the nurse-led intervention. The mean knowledge score increased from 9.84 to 18.78, with a mean difference of 8.94. Significant associations were also observed with selected sociodemographic variables, supporting the importance of structured, school-based educational interventions.

DECLARATIONS

Ethics approval and consent to participate: Informed verbal consent was obtained from the participants of the study.

Consent for Publication: Not applicable.

Availability of Data and Materials: All data analysed during this review are included within this manuscript. Additional information is available from the corresponding author upon reasonable request.

Conflict of Interest: The authors declare that they have no competing interests.

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Author Contributions: All authors contributed to the study conception, literature search, data interpretation, manuscript preparation, critical revision, and approval of the final version for publication.

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