A study to assess the effectiveness of planned teaching program on knowledge regarding sexually transmitted diseases among Women residing in selected tribal area

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Abstract—Background: Sexually transmitted diseases (STDs) remain a major public health concern, especially for women in tribal groups, because of low literacy, sociocultural obstacles, and limited access to healthcare information. Insufficient understanding of sexually transmitted diseases leads to poor reproductive health outcomes, increased transmission, and delayed diagnosis. The purpose of this study was to determine how well a Planned Teaching Program (PTP) can increase women's awareness of sexually transmitted diseases in a particular tribal territory.

Material and methods: A one-group, quasi-experimental pre-test and post-test design was used. Utilizing a non-probability purposive sample technique, sixty (60) women were recruited from a particular tribal territory. Prior to and during the intervention, the participants' knowledge was evaluated using a standardized interview schedule. The causes, symptoms, prevention, and treatment of sexually transmitted diseases were all covered in the planned teaching program. Descriptive and inferential statistics, such as paired t-tests and chi-square tests, were used to evaluate the data.

Results: After the intervention, knowledge ratings significantly improved, according to the study. According to the pre-test findings, 21.66% of individuals had good knowledge, 63.34%had moderate knowledge, and 15% had poor knowledge. None of the participants in the post-test were still classified as having inadequate knowledge, whereas 13.33% had moderate knowledge, 80% had high knowledge, and 6.67% had exceptional knowledge. There was a significant difference between the pre-test score of36andthemeanpost-test knowledge score of 49.13, with ap-value of 0.0001. There was a note worthy correlation between pre-test knowledge and factors like schooling (p=0.001) and the source of information (p=0.009).

Conclusion: The Planned Teaching Program was quite successful in increasing women's awareness of STDs.

According to the findings, organized health education programs arenecessary tocloseknowledgegaps andadvancesexualand reproductive health, especially in underprivileged indigenous communities.

Index Terms—Sexually transmitted diseases, Tribal women, Planned Teaching Program, Health education, Knowledge improvement, Nursing intervention

I. INTRODUCTION

The worldwide incidence of cervical cancer is approximately 510,000 new cases annual "Sexually transmitted infection (STI) refers to an infection that is passed through blood, semen, vaginal fluids, or other body fluids during oral, anal, or genital sex with an infected partner. Sexually transmitted disease (STD) refers to a disease that has developed from an STI."Previously referred to as sexually transmitted diseases, sexually transmitted infections(STIs)occur when an organism is transferred from one sexual partner to another through the mouth, anal, or vaginal channels of sexual contact.[1] Since many infections go untreated and can result in potentially dangerous consequences, STIs become a worry and a drain on healthcare systems. Disease prevention, evaluation, diagnosis, and treatment are covered, along with the natural history and patterns of transmission of the most prevalent STDs.[1]

The World Health Organization (WHO) has identified over 30 sexually transmitted infections(STIs),highlighting eight as particularly significant: four curable (syphilis, gonorrhea, chlamydia, trichomoniasis)and four incurable(HIV, HPV, herpes simplex virus, hepatitis B).3In 2020,

there were approximately 374 million new cases of these curable STIs among individuals aged 15 to 49: chlamydia (129 million), gonorrhea (82 million), syphilis (7.1 million), and trichomoniasis (156 million). This equates to over one million new curable STI cases daily, many of which are asymptomatic. Notably, syphilis, congenital syphilis, and drug-resistant gonorrhea are on the rise. WHO had aimed to reduce adult syphilis cases from 7.1 million to 0.71 million by 2030, yet 8 million cases were reported in 2022.[4]

Unlike many other cancers, cervical cancer occurs early and strikes at the productive period of a woman's life. The incidence rises in 30–34 years of age and peaks at 55–65 years, with a median age of 38 years (age 21–67 years). Estimates suggest that more than 80% of the sexually active women acquire genital HPV by 50 years of age.[2]

Cervical cancer begins when healthy cells in the cervix develop changes in their DNA. A cell's DNA contains the instructions that tell a cell what to do. The changes tell the cells to multiply quickly. The cells continue living when healthy cells would die as part of the irnatural lifecycle. This causes too many cells. The cells might for mamasscalleda tumor. The cells can invade and destroy healthy body tissue. In time, the cells can break away and spread to other parts of the body. Most cervical cancers are caused by HPV. HPV is a common virus that's passed through sexual contact. For most people, the virus never causes problems. It usually goes away on its own. For some, though, the virus can cause changes in the cells that may lead to cancer.[3]

Viral STIs also remain prevalent. In 2022, new infections included hepatitis B (1.2 million), hepatitis C (1.1 million), and HIV (1.3 million). While HIV rates are declining overall, they remain high among at-risk groups. The increasing incidence of STIs is a significant public health concern, as these infections are linked to adverse pregnancy outcomes, reproductive health issues, and certain cancers. Globally, STI trends are alarming. In England, there was a 22% increase in new STI diagnoses between 2014 and 2019, particularly among individuals aged 45 and older. In the

United States, syphilis cases rose by 17%, and congenital syphilis was increase over the past decade

PROBLEMSTATEMENT

A study to assess the effectiveness of planned teaching program on knowledge regarding sexually transmitted diseases among Women residing in selected tribal area.

OBJECTIVES

1. To assess the pre-intervention level of knowledge regarding sexually transmitted diseases (STDs) among women residing in the selected tribal area, using a structured knowledge questionnaire.
2. To evaluate the effectiveness of the planned teaching program on improving knowledge about sexually transmitted diseases among women residing in the selected tribal area.
3. To compare the pre-and post-intervention knowledge scores of women regarding sexually transmitted diseases.
4. To identify the association between pre-intervention knowledge scores and selected demographic variables.

HYPOTHESES

H0: There will be no significant difference between the pre-test and post-test knowledge scores of women residing in the selected tribal area regarding sexually transmitted diseases.

H1: There will be a significant difference between the pre-test and post-test knowledge scores of women residing in the selected tribal area regarding sexually transmitted diseases.

H2: There will be a significant association between the pre-test knowledge scores of women residing in the selected tribal area regarding sexually transmitted diseases and selected demographic variables.

II. MATERIALS AND METHODS

1.1 Research Design

As the research study "A study to assess the effectiveness of planned teaching program on knowledge regarding sexually transmitted diseases among Women residing in selected tribal area." the research design used for study was quasi

experimental one group pre and post-test design

Setting of the study: The physical location and condition in which data collection takes place in the study. The present study was conducted in the selected tribal area of Bhandardara

Sample: The sample of the study was the women from tribal area of Bhandardara

Sample size: The sample size for the present study was 60.

Sampling technique: The sampling technique used for the study was the non-probability purposive sampling.

Tools of data collection: The tool consisted of 03 parts

Stages of data collection

Before data collection the purpose of the study was explained to the respondents and informed consent was taken to participate in the study. The participants were allotted by using non probability purposive sampling technique.

PartI: Obtained the information about Socio demographic profile of women like, Age, Occupation, Education, Type of Family, Family income, Marital status.

Part II: The assessment of the effectiveness of planned teaching program on knowledge regarding sexually transmitted diseases among Women residing in selected tribal area."

PartIII: Data collection was ended with giving thank you to the study participants.

Reliability: Reliability refers to the accuracy or inaccuracy rate in measurement device.

Reliabilityofthetoolwastestedbyimplementingthetooloon6residentsofotherthan selected tribal area. Split half method was used to test the reliability of questionnaire and the tool was found reliable. (r = 0.9)

Pilot Study

In order to check the feasibility, reliability and practicability of the study, pilot study was conducted among 15 primary school teachers in selected schools.

Data collection procedure

Before data collection the purpose of the study was explained to the respondents and informed consent was taken to participate in the study. The participants were allotted by using nonprobability purposive sampling technique.

PartI: Obtained the information about Socio demographic profile of women like, Age, Occupation, Education, Type of Family, Family income, Marital status.

Part II: The assessment of the effectiveness of planned teaching program on knowledgeregardingsexuallytransmitteddiseasesamongWomenresidinginselected tribal area."

PartIII:Data collection was ended with giving thank you to the study participants.

Ethical consideration: Ethical permission was obtained from ethical committee of Smt. SEVP CON, with vide letter no. Written informed consent was obtained from the study participants.

Results

Organisation of the findings

.This chapter presents that analysis and interpretation of the data collected to assess the "A study to assess the effectiveness of planned teaching program on knowledgeregardingsexuallytransmitteddiseasesamongWomenresidinginselected tribal area."

Thedatacollectedwasanalyzedbasedonobjectivesofthe studyinthefollowing way:

Section I: Description of the study participants according to their sociodemographic characteristics.

SectionII:Description of the study participants according to their Knowledge.

SectionIII:Co-relation between Knowledge PRE and POST Score

SectionIV:Association between Knowledge and Demographic Details.

Section I: Description of the study participants according to their socio-demographic characteristics
Table No.4.1Baseline Demographic Data

Variables	GROUP	
	F	%
1)Age(mean)		
a)19-25year	7	11.67
b)26-30year	22	36.67
c)21-35year	8	13.33
d)<36year	23	38.33
2)Education		
a)No formal education	10	16.66
b)Primary	13	21.66
c)Secondary	21	35
d)Highschool	14	23.33
e)Degree and above	2	3.33
3)Occupation:-		
a)Farmer	31	51.67
b)Laborer	0	0
c)Businessman	0	0
d)Service	0	0
e)Housewife	29	48.33
f) Other	0	0
4)Type of Family:-		
a)Nuclear	16	26.67
b)Joint	39	65
c)Extended Family	5	8.33
5)Family Income		
a)Upper(9098and above)	0	0
b)Upper middle(4549-9097)	33	55
c)Middle(2729-4548)	27	45
d)Lower middle(1364-2728)	0	0
e)Lower (<1364)	0	0
6)Marital status:		
a) Married	60	100
b) Unmarried	0	0
c) Widower d)Separated	0	0
	0	0
7.Previous awareness about STDs:		
a) Yes	38	63.33
b) No	22	36.67
8.Source of information about STDs:		
a. Health care provider	3	5
b. Media	18	30
c. Friends/Family	14	23.33
d. Others:	25	41.67

Above table shows description of socio-demographic variables of the study participants from both the group in the form of frequency and percentage

Section II: Description of the study participants according to their Knowledge within the mean of Pre and Post values of Knowledge with paired t test

Group A	Assessment	Mean±SD	Paired 't' test value	p-value	Significance
Knowledge	PRE	36±9.5		0.0001	Significant
	POST	49.13±8.5	-20.73		

Section III: Co-relation between Education, Occupation and Knowledge score Table No.4.3 Co-relation between Education, Occupation and Knowledge score

Variable	Pearson's correlation	P value
Co-relation between Education and Knowledge score	.740**	0.0001
Co-relation between Occupation and Knowledge score	0.557	0.0001

Overall Conclusion:

Both correlations show significant relationships between the variables and the pre-knowledge score:

- Education shows a strong positive correlation with knowledge score, suggesting that as education level increases, pre-knowledge score tends to increase.
- Occupation shows a moderate positive correlation, with a similar trend where certain occupations are associated with higher knowledge scores, though the strength of this relationship is weaker compared to education.

Section IV: Association between Pre Knowledge and Demographic Details

Vatiable	Pearson Chi-Sqaure	df	P value
Age	77.31	81	0.595
Education	160.9	108	0.001
Occupation	33.43	10	0.183
Previous Awareness about Std	35.45	27	0.128
Source of Information	114.29	81	0.009

Regression analysis Knowledge Score and Demographic Details

Variable	B (Unstandardized Coefficient)	Standard Error(SE)	B (standardized Coefficient)
AGE	-0.72	0.93	-0.77
EDUCATION	6.2	1.4	0.81
OCCUPATION	-2.6	2.7	-0.154
PREVIOUS AWARNESS ABOUT STD	-2.3	2.9	-0.13
SOURCE OF INFORMATION	1.25	1.4	0.1.4

III. DISCUSSION

Description of socio demographic data

In our study, age-wise distribution of participants showed that the majority (38.33%) were from the age group of 36 years and above, followed by 36.67% from the 26–30 age group. Only 11.67% of participants were between 19–25 years of age. The participants also had diverse educational backgrounds—16.66% had no formal education, 21.66% completed primary school, 35% had reached secondary education, and 23.33% had completed

high school. A small percentage (3.33%) held a degree or higher qualification, indicating that most participants had low to moderate levels of education. In terms of occupation, the sample was made up entirely of farmers (51.67%) and housewives (48.33%), with no representation from laborers, businessmen, or service-related professions.

Family structure among participants showed that the majority (65%) lived in joint families, while 26.67%belonged to nuclear families and8.33% to extended families. This suggests that joint family setups are predominant in the sample. Income- wise, all participants were classified in the middle-income category, with 55% in one subgroupandtheremaining45%inanother,and there were no individuals from lower or higher income brackets. All participants in the study were married (100%), with no individuals being unmarried, widowed, or separated. Regarding awareness of sexually transmitted diseases (STDs), 63.33% of participants reported being aware of STDs, while 36.67% had no prior knowledge, highlighting a gap in awareness. When asked about sources of information on STDs, most participants said they learned through other people(41.67%)or media(30%),whileonly5% got information from healthcare providers and 23.33% from friends and family. This indicates that informal and social channels are the most common sources of STD-related information in this population. One similar study conducted by Ms. S. Kashid,[86] in their study age group of 20–

30 years old accounted for the largest percentage of participants (45%), suggesting that

the demographic is primarily young adults. Regarding education, 43% of the participants had only finished primary school, and only 12% had advanced degrees or other credentials, indicating poor overall educational achievement. Most participants were married (75%), and the majority were housewives (59%). According to family structure, just 15% belonged to joint families, but a substantial portion (85%) lived in nuclear families. Sixty-six percent of individuals identified as Hindu. In terms of income, a lower-income category was indicated by the fact that 46% of participants reported earning Rs. 4,000 per month. The majority (76%) ate a variety of foods, indicatingarangeofeatingpatterns.50%ofintervieweesr

eportedhavingtwochildren, indicating a tendency toward small to medium-sized households.

Description of the study participants according to their knowledge

In present study, the pre-test, 15% of participants were in the poor category (scorerange:11–26), while the majority (63.34%) had a moderate understanding (score range: 27–42), and 21.66% showed good knowledge and practices (score range: 43– 58). However, there was a notable change in the post-test, with no participants remaining in the poor category;the proportion of participants in the moderate category decreased to 13.33%, while those in the good category significantly increased to 80%.Furthermore, outstanding understanding and actions were attained by 6.67% of participants(scorerange:58–74).Given that more individuals advanced from lower to higher categories, these results suggest that the intervention significantly improved knowledge and practices. The fact that there were no participants in the poor category and that the good and outstanding categories increased significantly indicates that the educational intervention was successful in raising awareness and improving behavior.

According to the survey byPoojaBaghari[72] Outof90women,40 (44.4%) had weak knowledge, 37 (41.1%) had average knowledge, and at least 13 (14.4%) had strong knowledge. 49 women, or 54.4% of the total, had good knowledge, 37 women, or 41.2%, had average knowledge, and at least four women, or 4.4%, had bad knowledge. It was concluded that the majority of women had good knowledge in the post-test and poor to average understanding in the pre-test. Women's average pre-test score was 12.04, while their average post-test score was 18.29.Thepost-test score was 4.791, and the pre-test score's standard deviation was 5.700.

Description related to comparison of level of knowledge

The results show that after the intervention, participants' knowledge levels in Group significantly improved. In the post-assessment, the mean score rose from 36 (SD = 9.5) in the pre-assessment to 49.13 (SD = 8.5). The p-value of 0.0001 and the paired t-test result of -20.73 verify that this change is statistically significant. These findings imply that the

intervention was successful in increasing participants' understanding, exhibiting a significant and advantageous influence. The statistically significant increase highlights the intervention's potential as a useful teaching tool in comparable situations.

ThestudyconductedbyVishaliG.[87],shows that The entire pre-test mean score was 12.04, while the post-test mean score was 18.29, according to the analysis results. This indicates that women's knowledge score on STI prevention had improved. The structured teaching program was successful since the post-test score was higher than the pre-test score. When the knowledge levels before and after the test are compared, the overall improvement mean was 18.29. At the 0.05 level, the derived value, t=14.79, was significantly significant greater than the table value.

Description of Co-relation between Education, Occupation and Knowledge score

In our study the correlation between the education, occupation and knowledge score was shown which shows that, the Significant insights are revealed by the correlation analysis between the pre-knowledge scores of the participants and their backgroundfactors.Pearson'scorrelationcoefficient(r)= 0.740andap-valueof0.0001 indicatedasubstantialpositivelinkbetweeneducationlev elandknowledgescore.This statisticallysignificantfindingsuggeststhatparticipants aremorelikelytohavehigher knowledge ratings as their educational attainment rises. This relationship's strength indicates that education is essential in forming knowledge and comprehension of the topic.

In contrast, r = 0.557 and a similarly significant p-value of 0.0001 indicated a somewhat favorable association between occupation and knowledge score. Participants in particular occupations tend to have higher levels of knowledge, even though this association is smaller than that of schooling. Increased exposure to or access to information based on job duties could be the cause of this.

All things considered these results demonstrate that occupation and education both have a substantial impact on knowledge levels, with education having a greater influence. This emphasizes how crucial it is to focus educational efforts on raising awareness, especially among populations with lower levels of education and occupational limitations, in order to

close knowledge gaps and encourage informed behavior.

According to Stephen N,[70]in his study, friendship, age, and educational attainment all showed highly significant associations with knowledge scores in the posttest, while age and family type had 80 high significant associations with knowledge scores in the pretest. Religion, ordinal position in the family, and the source of information on HIV/AIDS did not significantly correlate in either the pre-test or the post-test. The findings demonstrated that respondents' level of knowledge about HIV/AIDS transmission and prevention increased with age, and that this relationship was statistically significant in both the pretest (χ2=12.8*,P<0.05)and posttest (χ2= 13.09*, P < 0.05).

Description of association between Pre Knowledge and Demographic Details

In present study, the Regression analysis and chi-square tests were used to investigate the relationship between demographic factors and pre-test knowledge levels about sexually transmitted diseases (STDs). Knowledge levels were substantially correlated with education (p = 0.001) and information source (p = 0.009) among the different demographic characteristics, according to the chi-square analysis. This suggests that those with greater levels of education and easier access to trustworthy information sources were more cognizant of and knowledgeable about sexually transmitted diseases. On the other hand, there was no statistically significant correlation between knowledge scores and variables like age (p = 0.595), occupation (p = 0.183), or prior awareness of sexually transmitted diseases (p=0.128). This suggests that these characteristics may not have a direct impact on awareness in this particular situation.

Regression analysis further supports these findings by identifying schooling as the largest positive predictor of knowledge scores (B = 6.2, β = 0.81). schooling has a critical role in health literacy,asseenbythe6.2-pointgaininknowledgethatwaslinked to each additional degree of schooling. Although the abnormally high standardized coefficient may call for additional research rule out model overestimation or coding errors, the source of information(B=1.25,β=1.4)also shown a considerable

positive influence.However,there were weak to moderate negative relationships found for occupation(B=-2.6, β= -0.154),age(B=-0.72,β=-0.77),and prior awareness(B = -2.3, β = -0.13), suggesting that these factors may not be good indicators of STD knowledge in this cohort. Together, these results highlight how important educational background and access to high-quality information arein forming people's knowledge and awareness of STDs.

Yamani, L.N,[88] studied that The association between a higher risk of STIs and being between the ages of 15 and 24 may be caused by factors such as knowledge, attitudes, and behaviors about risky sexual conduct, as well as other issues pertaining to reproductive health. Knowledge of adolescent sexual practices, especially risky conduct linked to unprotected intercourse, would lead to the dissemination of information on preventive measures. We discovered a relationship between STIs and educational attainment, with the lowest risk of STIs occurring at the greatest educational level. In Cambodia, the likelihood of contracting STIs or their symptoms increased with decreasing educational attainment, but in Indonesia, the risk of STIs or their symptoms was higher at the secondary education level than at the lower education level. The relationship between education and STI risk in adolescents has been extensively studied. A systematic review has underlined the importance of understanding teenage sexuality and the need for comprehensive sex education programs. Participants' awareness and knowledge of contraception were negatively impacted by inadequate sex education, suggesting that abstinence-only sex education is ineffective in reducing the number of unintended pregnancies and abortions in the US due to the medical misinformation these programs disseminate. Research on young adults, however, usually makes the assumption that education protects against risk outcomes or minimizes the impact of significant socioeconomic factors, such as education, on engaging in hazardous behaviors and being diagnosed with STIs.

According to the study, the data supports both research assumptions. The results of the paired t-test (p = 0.0001) strongly support Hypothesis H_1, which suggested a significant difference between the pre-test and post-test knowledge scores. This suggests that the planned teaching program was very successful in increasing participants' knowledge of STDs. The favorable effect of formal educational interventions in raising knowledge and understanding among women in tribal communities is demonstrated by this statistically significant improvement.

Likewise, it is confirmed that there is a substantial correlation between pre-test Knowledge scores and certain demographic factors, as suggested by Hypothesis H_2.

According to the chi-square analysis, knowledge scores were significantly correlated with education level (p = 0.001) and information source (p = 0.009). This implies that baseline knowledge was higher among those with more education and those who got their information from more trustworthy sources (such the media or healthcare professionals).

These findings support the idea that knowledge levels are significantly influenced by demographic characteristics, especially education and access to high- quality information. The necessity of focused health education initiatives in marginalized populations is further highlighted by the planned teaching program's efficacy. The instructional content's clarity, relevance, and cultural appropriateness helped close the knowledge gap about sexually transmitted diseases among women in the chosen tribal area, wich is why knowledge scoresimprov

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