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RESEARCH ARTICLE

Assess to evaluate the effectiveness of education Programme regarding Prevention of TORCH infections during pregnancy among Antenatal mothers.

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Abstract

Aim: Assess to evaluate the effectiveness of education Programme regarding Prevention of TORCH infections during pregnancy among Antenatal mothers**.**

Participants and setting: The research design used in this study was one group pre test and post test no control group. The study was conducted in chivamla village, suryapet, Telugana, India.The investigator selected 50antenatal mothers who fulfilled the inclusion criteria were selected by using non probability convenience sampling technique.

Intervention: The investigator assessed the knowledge on TORCH infection using the structured interview schedule. It took about 10 – 15 minutes for each individual. Soon after the pretest educational package was given through health talk, projected aids and pamphlet. The post test was conducted after 2 days and scoring was analyzed.

Measurement and findings: To assess the effectiveness of education programme which was done by calculating the 't' value (0.527) which is confirmed that there was statistically significant difference between pre and post test knowledge at $p<0.05$ level.

Conclusion: The pre test knowledge had an overall mean score of 13.20 and the post test knowledge had an overall score of 40.49 which showed that there is significant difference in the level of knowledge following the administration of educational package.

INTRODUCTION

Maternal infections caused by TORCH [Toxoplasma gondii, Rubella virus, Cytomegalovirus (CMV), Herpes simplex virus (HSV)] and others agents like Chlamydia trachomatis,Treponema pallidum, Neisseria gonorrhoeae, HIV, etc. are the major causes of bad obstetric history(BOH).[1]

TORCH tests measured the presence of antibodies against a specific group of infectious diseases and their level of concentration in the blood. TORCH, an acronym for measuring the levels of an antibodies against groups of chronic infections: Toxoplasmosis, Other infections, Rubella, Cytomegalovirus (CMV), and Herpes simplex virus (HSV), may be acquired by a woman during pregnancy with disastrous consequences for the infant. All are grouped together because they can cause a cluster of symptomatic birth defects in newborns, collectively called the TORCH syndrome.Rahway have suggested that this classification is too limiting and that several additional infectious agents should be considered in the Other category, such as enteroviruses, Borrelia burgdorferi (the cause of Lyme Disease), and, of course, human immunodeficiency virus HIV.[2]

A positive IgG antibody test is usually a sign of past exposure to the TORCH agent and is not a marker for current active infection. Detection of IgM antibody is more difficult, and false negative and false positive results may occur.

Toxoplasmosis is caused by Toxoplasma gondii, and is found in human worldwide, a parasite that the mother can acquire from handling infected cats, drinking unpasteurized milk, or eating contaminated meat. The infection is carried to the infant through the mother's placenta, and can cause infections of the eyes or central nervous system. The later in pregnancy that the mother is infected, the higher the probability that the fetus will be infected. On the other hand, toxoplasmosis early in pregnancy is more likely to cause a miscarriage or serious birth defects.

Syphilis was added to the TORCH panel because of a rapid increase in reported cases since 1990. It is also a potentially life-threatening infection for the fetus.[3]

Rubella is a virus that has a seasonal pattern, with epidemics most likely in the spring. Between 0.1-2% of newborns will be infected with rubella. The rate of fetal infection varies according to the timing of the mother's infection during pregnancy. Birth defects, however, are most likely (85%) in infants infected during the first eight weeks of pregnancy.[4]

Cytomegalovirus (CMV) belongs to the herpes virus group of infections. It can be transmitted through body secretions, as well as by sexual contact; some newborns which acquire CMV through the mother's breast milk Infected infants may have severe problems, such as hearing loss, mental retardation, pneumonia, hepatitis, or blood disorders.[5]

Herpes simplex virus the virus enters the infant through his eyes, skin, mouth, and upper respiratory tract. Infants born with HSV infection, about 20% will have localized infections of the eyes, mouth, or skin, about 50% of infected infants will develop disease spread throughout the body (disseminated) within (9-11) days after birth. HSV-2 is sexually transmitted. Symptoms include genital ulcers or sores. In addition to oral and genital sores, the virus can also lead to complications such as infection of the lining of the brain and the brain itself (meningoencephalitis) or infection of the eye especially the conjunctiva and cornea. The aim of the present study is confirm the presence of IgM antibody for TORCH by ELISA method in women with high delivery risk factors.[6]

MATERIALS AND METHODS

Assess to evaluate the effectiveness of education Programme regarding Prevention of TORCH infections during pregnancy among Antenatal mothers**.** The research design used in this study was one group pre test and post test no control group.The study was conducted in chevamala village, suryapet, Telugana, India. The investigators got consent from the Village Leader and all the women in village. The sampling technique used here was non probability convenience sampling technique. The sample size was 50 women of antenatal mothers. The tool used for data collection consisted of two sections. The research design used in this study was one group pre test and post test no control group. Researcher introduced about self and study to them and got permission to do her study and thereby directly did the study by asking the question to the samples. After obtaining consent from the participants pretest was administered by using structured questionnaire and modified three point Likert Scale and by using checklist through one to one teaching after the pre test educational package was provided to samples through health talk, projected aids and pamphlet about TORCH infection. The post test was conducted by using same questions used for pre test after three days of teaching. The collected data were analysed using descriptive and inferential statistics.

DESCRIPTION OF RESEARCH TOOL

The tool used for data collection consisted of two sections.

Section A: Consisted of demographic variables.

Section B: Consisted of structured questionnaire with 25 multiple choice questions fewer than 5 categories.

Category – I : General information
Category – II : Toxoplasmosis
Category – III : Rubella
Category – IV : Cytomegalovirus
Category – V : Herpes Simplex Virus

SCORING KEY

Each question on knowledge on TORCH infection has only one correct answer. Each correct answer carried '1' mark. For every wrong answer '0' was given. Total score given was 25. The total score was converted into percentage and interpreted as follows,

Adequate knowledge - >75%
Moderate knowledge -50 – 75%
Inadequate knowledge -<50%

RESULTS

SECTION -1

Table 1: Mean and standard deviation of the pre test knowledge of prevention of TORCH infections during pregnancy among Antenatal mothers.

N = 50

S.No.	Variables	Mean	Standard Deviation
1.	General Information	18.0	13.0
2.	Toxoplasmosis	10.1	13.45
3.	Rubella	12.4	10.90
4.	Cytomegalovirus	7.4	6.2
5.	Herpex simplex virus	18.1	9.27
	Overall	**13.20**	**10.56**

Table 1 shows the analysis of knowledge during pre test and it revealed that the overall knowledge score of reproductive age group women is 13.20 with the standard deviation of 10.56.

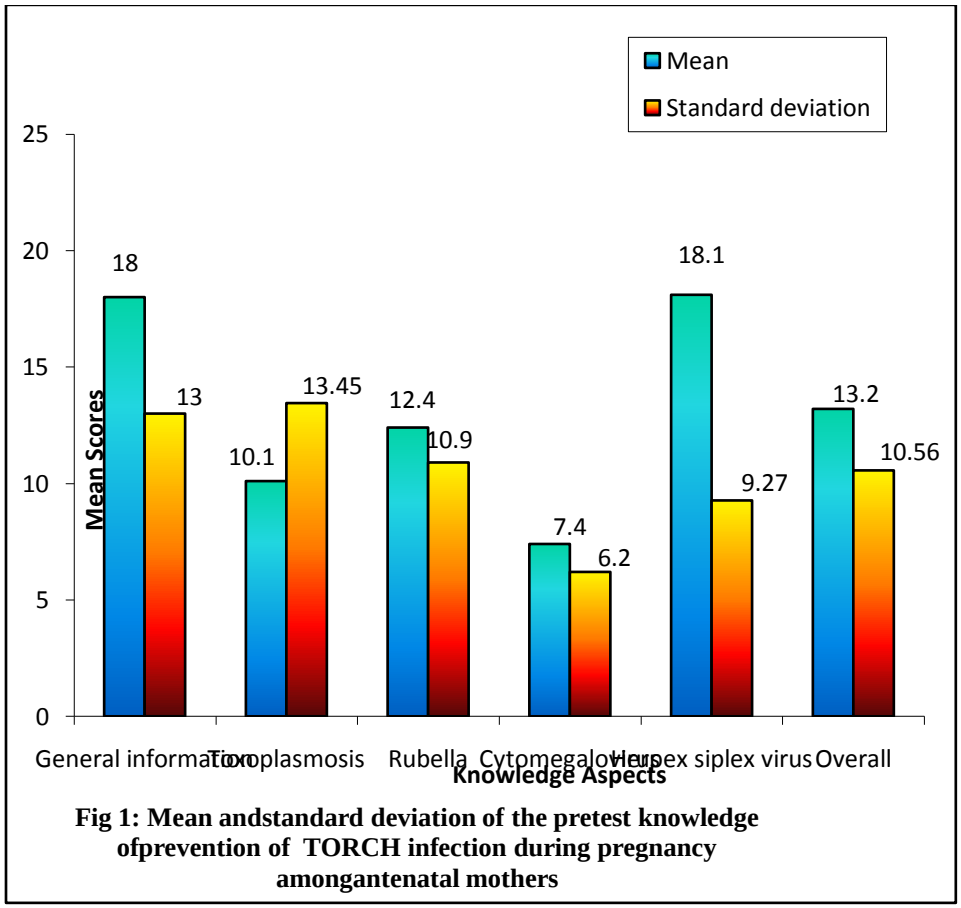

Fig 1: Mean andstandard deviation of the pretest knowledge ofprevention of TORCH infection during pregnancy amongantenatal mothers

Table 2 : Mean and standard deviation of the post test knowledge of prevention of TORCH infections duringpregnancy among Antenatal mothers. **N=50**

S.No.	Variables	Mean	Standard Deviation
1.	General Information	44.4	11.13
2.	Toxoplasmosis	41.3	7.34
3.	Rubella	39.6	7.22
4.	Cyto megalovirus	35.87	10.11
5.	Herpex simplex virus	41.31	4.12
	Overall	**40.49**	**7.98**

Table 2 shows the analysis of knowledge during pre test and it revealed that the overall knowledge score of reproductive age group women is 40.49 with the standard deviation of 7.98

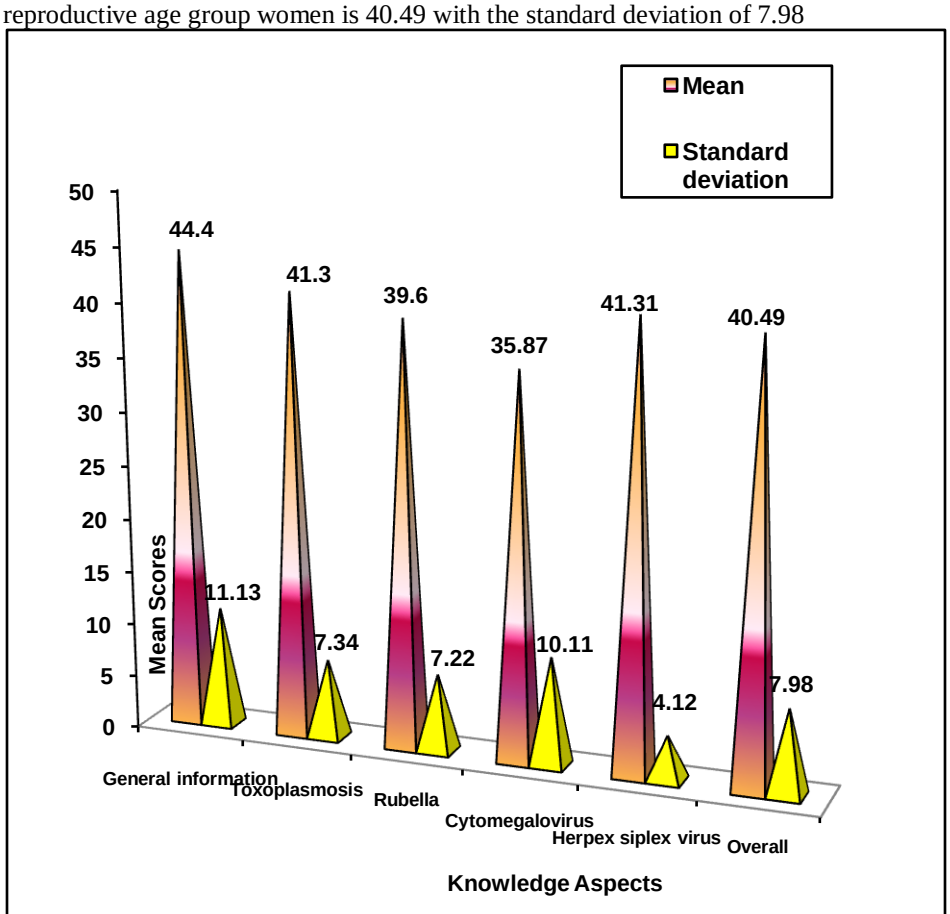

Fig 2: Mean andstandard deviation of the post test knowledge ofprevention of TORCH infection during pregnancy amongantenatal mothers

Table 3 : Frequency and percentage distribution of overall level of knowledge of prevention of TORCH infections during pregnancy among Antenatal mothers during pre and post test

N = 50

S.No.	Knowledge Variable	Inadequate (<50%)		Moderate (50 – 75%)		Adequate (>75%)	
		No.	%	No.	%	No.	%
1.	Pre test	40	80	6	12	4	8
2.	Post test	2	4	4	8	44	88

Table 3 shows the overall level of knowledge during pre and post test and while considering the overall knowledge of the samples during pre test, majority (80%) of them had inadequate knowledge about TORCH infection, 12% of them had moderate knowledge and 8% of them had inadequate knowledge. While considering the overall knowledge of the samples during post test, majority of them 88% of them had adequate knowledge, 8% of them had moderate knowledge and 4% had inadequate knowledge.

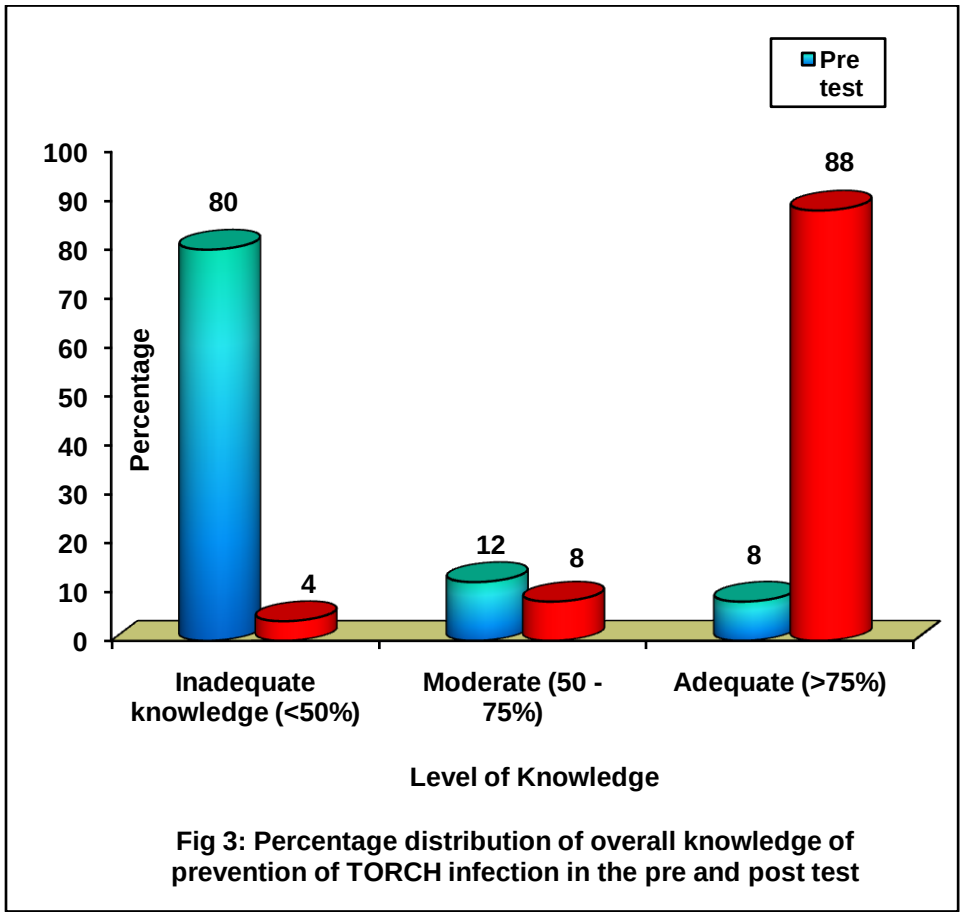

Fig 3: Percentage distribution of overall knowledge of prevention of TORCH infection in the pre and post test

Table 4: Effectiveness of educational knowledge of prevention of TORCH infections during pregnancy among antenatal mothers in pre and post test

N=50

S.No.	Variables	Mean	Standard Deviation	't' value
1.	Pre test	13.20	10.56	0.527
2.	Post test	40.49	7.98	

Table 4 shows the effectiveness of educational package knowledge of prevention of TORCH infections during pregnancy among Antenatal mothers during pre and post test

Statistical significance was established at $p<0.05$ level.Since the calculated value is higher than the table value there is significant difference between the pre test and post test. So the research hypothesis stated was accepted.

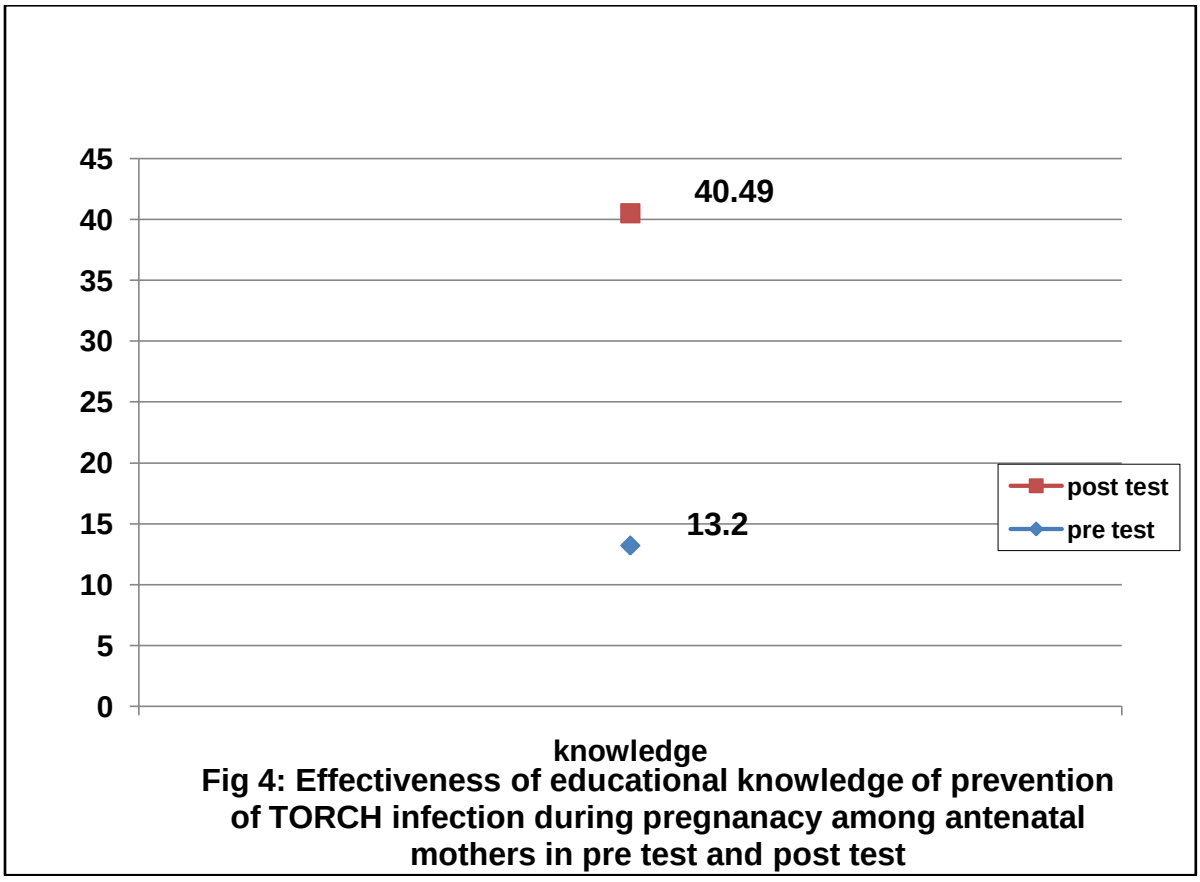

Fig 4: Effectiveness of educational knowledge of prevention of TORCH infection during pregnanacy among antenatal mothers in pre test and post test

DISCUSSION

Maternal infections play a critical role in pregnancy wastage and their occurrence in patients with BOH or complicated pregnancy is a significant risk factor. These infections cause fetal and neonatal mortality and an important contributor to early and later childhood morbidity. All viral pathogens usually cause a primary maternal viremia which may infect the placenta and thereby the fetus with the exception of HSV-I or II, which causes an ascending infection via the genital tract to fetal membranes and then to the fetus.

Women affected with any of these diseases during pregnancy are at high risk for miscarriage, stillbirth, or for a child with serious birth defects and/or illness and also a hazard to attending staff nurses. Thus, these tests are performed before or as soon as pregnancy is diagnosed to determine the mother's exposure to Toxoplasma, Rubella virus, Cytomegalovirus and Herpes Simplex virus and the necessary precautions is taken.

A study was conducted on Primary TORCH infections in the mother can lead to severe fetal anomalies or even fetal loss. A prospective study was designed to detect the seroprevalence of IgM antibodies to Toxoplasma gondii, rubella virus and cytomegalovirus and IgG antibodies to Herpes simplex virus type 1 and 2. One hundred and twenty pregnant women presenting to the antenatal clinic of a tertiary health center were included in this study. Out of these 120 women, 112 (93.4%) had evidence of one or more infections. Prevalence of IgG antibodies to HSV was 70% seroposivities for toxoplasmosis, rubella and CMV respectively were 11.6, 8.3 and 20.8%. Our data demonstrating high frequency of primary infections during pregnancy support the conclusion that routine prenatal TORCH screening is justified.

The results were to assess the knowledge during pre test. The study was shown that majority (80%) had inadequate knowledge, 12% had moderate knowledge and 8% had adequate knowledge. The results were to assess the knowledge during post test. It revealed that majority (88%) had adequate knowledge, remaining 8% of them had moderate knowledge and 4% of them had inadequate knowledge.

The third table was to assess the effectiveness of educational package which was done by calculating the 't' value (0.527) which is confirmed that there was statistically significant difference between pre and post test knowledge at $p<0.05$ level.

CONCLUSION

In this study, we have shown the prevalence of Toxoplasma, Rubella, CMV, and HSV-II infections in pregnant women by demonstrating the presence of IgM and IgG antibodies using ELISA test. In this kind of scenario/setup, it may not be possible to screen all pregnant patients with BOH for TORCH as it is economically not possible, but all the patients with previous history or recurrent pregnancy miscarriage should be subjected to TORCH screening. In cases where antibodies are positive, the patient should be advised and counseled about the adverse effect of the TORCH infection on the fetus, due to this the complications such as congenital, malformation, abortion, stillbirth, and preterm deliveries may occur, and the affected female should be counseled with her husband regarding continuation of pregnancy and treatment.

TORCH infections are associated with recurrent abortion, intrauterine growth retardation, intrauterine death, preterm labor, early neonatal death, and congenital malformation. Previous history of pregnancy wastages and positive serological reactions during the current pregnancy help to manage these cases in order to reduce adverse fetal outcome. Based on the findings of the study, it is concluded that a previous history of pregnancy wastage and the serological reactions for TORCH infections during current pregnancy must be considered while managing cases to reduce the adverse fetal outcome.

The conclusion drawn from the study is pre test knowledge had an overall mean score of 13.20 and the post test knowledge had an overall score of 40.49 which showed that there is significant difference in the level of knowledge following the administration of education.

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