"A STUDY TO ASSESS THE KNOWLEDGE REGARDING TORCH INFECTION AMONG ANTENATAL MOTHERS IN SELECTED HOSPITALS OF PUNE CITY, IN A VIEW TO DEVELOP INFORMATION BOOKLET"

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ABSTRACT

Introduction: Pregnancy is associated with many anatomical and physiological changes in women. TORCH is group of pathogens that lead to congenital infections which results in fetal damage and other congenital anomalies. torch syndrome, like cytomegalovirus, toxoplasmosis, herpes simplex, syphilis, rubella and other. **Aims of study:** To assess the knowledge regarding torch infection among antenatal mothers, to develop booklet. **Material and Methods: -** the quantitative research approach with Descriptive research design was used for research study. 150 sample selected by non- probability purposive sampling technique, data collected through structured questionary. after assessed the data find out the knowledge who has poor knowledge group received information booklets regarding torch infection. **Results:** Major samples from 20-23yrs of age group and the percentage was 34.7% where 46.7% samples completed higher secondary education. Maximum 70.7% of ANC mothers had non-veg type of diet and 70% mothers was multigravida, 48% was having 28-40 weeks of gestation. Regarding information about TORCH infection, 46.7% participants was having information, source for getting information was books, percentage was 25.3%. 44,7% samples was having nuclear family. 16% of antenatal mothers had poor knowledge, 44.7% had average knowledge and 39.3% had good knowledge. The fisher's exact test was used for calculating the association, as p -value was found more than 0.05 level of significance for age, weeks, gravida, education, type of family, information regarding TORCH infection and source, hence the significant association was found with all of them. But p value was found to be less than 0.05 level of significance for type of diet, hence it was not significantly found to be associated. **Conclusion**: The study concluded that improvement in level of knowledge regarding torch infection among antenatal mothers and information booklet is effective in creating awareness and gaining the knowledge.

Keywords: Antenatal mothers, developed, information booklet, torch infection, knowledge.

INTRODUCTION

TORCH are group of pathogens that lead to congenital infections which results in fatal damage and other congenital anomalies. TORCH syndrome caused by toxoplasmosis, other agents like cytomegalovirus, herpes simplex infection with agents viz (Ex. rubella virus, Toxoplasmosis Gondi, cytomegalovirus herpes simplex). These infections cause serious outcomes in new born like fever, small reddish spots, whites on eye, jaundice, yellowish discoloration of skin etc. The severity of the disease may vary as per stage of pregnancy when the infection occurs. The

immune system is not capable to fight against this infection in the womb. As a result, the organ development of the foetus is affected. It creates hearing impairment, jaundice and weak muscles in the new born. Also, the infectious agents pass to the new born and cause post pregnancy problems. The current findings were reported in 165 females from antenatal clinic from All India Institute of Medical Sciences, Rishikesh. The women were tested for A recent study was conducted in antenatal clinic of All India Institute of Medical Sciences, Rishikesh. The pregnant women were tested for TG-, CMV, and HSV-specific IgM and IgG by enzyme linked immunoassay (ELISA). Out of total females tested, 41.2% were positive for TG (IgM=13.3%/ IgG=38.2%), 80.0% were present for RV (IgM=3.0%/ IgG=80.0%), 61.8% were positive for CMV (IgM=1.8%/ IgG=61.8%), and 42.4% were positive for HSV (IgM=4.3%/ IgG=40.6). The study was disease specific prevalence of TORCH infection in females from India (Deka, 2022). The infection can easily be prevented by practising proper hygiene, and avoiding uncooked meat and unpasteurized milk. Litter of pets like dogs and cats must also be avoided. In case of active infection, the infant must be isolated with the mother for proper care. Parvo virus is virus from family periovarian genus. Foetus gets infected by placenta. Diagnosis is done by PCR amplification. USG also help to detect any anomalies. Virus specific IgM may also be used for diagnosis.

NEED OF THE STUDY

In India, TORCH infection is largely ignored and the mothers are unaware of its complication. To create awareness of this infection in mothers an information booklet will be useful. It will help to achieve the overall well-being of child and mother. Pregnancy is a condition in which the foetal growth is accompanied by extensive changes in the maternal body composition and metabolism. Mother and children not only constitute a large group, but they are also a "vulnerable" or special risk group, the risk is connected with Childbearing in the case of women. Certain infections collectively called TORCH infections can produce Stillbirths, congenital anomalies, abortions, blindness, severe deafness and mental retardation in the newborns. That may be acquired in utero or during the birth process causing heavy morbidity to both mother and child. A study was conducted on Primary TORCH infections in the mother can lead to severe foetal anomalies or even foetal loss. One of the articles regarding TORCH infections states the prenatal infections accounts for 2% to 3% of all congenital anomalies. TORCH are some of the most common infections associated with congenital anomalies. Most of TORCH infections causes mild maternal morbidity but has serious foetal consequences and treatment of maternal infections frequently has no impact on foetal outcome. There is lack in studies in India specifically in central parts. There are meagre studies conducted in different parts, region to region, infection status, life style pattern, socio-economic status and availability of diagnostic facilities. No studies have been conducted to evaluate the TORCH infections in pregnant women and teratogenic effects on the foetal development in the Central part of India.

AIM OF THE STUDY

A study to assess the knowledge regarding torch infection among antenatal mothers in selected hospitals of pune city, in view to develop information booklet

RESEARCH METHODOLOGY

The research objectives framed for the study were as follows: First objective was to assess the knowledge regarding TORCH infection among antenatal mothers. Second was to associate the

knowledge scores with selected demographic variables. Third was to develop and validate the information booklet on TORCH infection for antenatal mothers. Quantitative research type was selected for the study. Research design formulated was descriptive research design. Antenatal mothers were taken as sample. 150 was the estimated sample size. Non probability purposive sampling technique was chosen. Data collection tool included Self-structured questionnaire. Materials and methods included the chapter which describes how the investigator conducted a study, a step-by-step plan of solving research problem in terms of what kind of data is going to be collected, how it is been collected, from where it is going to be collected, findings of validity, findings of reliability, pilot study and plan for analysis.

Sample selection criteria for the study were - Inclusion criteria were antenatal mother willing to participate in the study and with normal pregnancy. Exclusion criteria were Antenatal mothers, not available at the time of dada collection. Self-structured questionnaire were framed as data collection tool. This research tool developed for the included of two criteria Section I: demographic variable Section II: self- structured questionnaire Self structured questionnaire was formulated from TORCH infection in antenatal mothers by the investigator as a tool, which was broadly divided into two sections the first section involved demographic data of the participants with seven questions whereas section two involved total 25 MCQ type questions based on TORCH infection. Scoring system was categorized as follows Knowledge- Poor (Score 0-8), Average (score 9-16), Good (Score 17-25).

Procedure for data collection was Ethics permission: The study was initiated after seeking permission form Institutional Human Ethics Committee. Informed written consent were obtained from the participant and study protocol was explained to them. The females were then enrolled in the study. Non probability purposive sampling technique was used for selection of samples. Knowledge regarding TORCH infection and awareness was assessed by giving set of questions (self structured questionnaire) to be answered in specific time (about 20 mins).

Plan for data analysis was the answered questionnaire was filled out in pre designed excel sheets. The data was sorted to be used for recording and analysing for statistical inference. Data was presented as graphs and tables as mean, frequency and percentages. The association of the knowledge scores with that of demographic variables was considered significant at 0.05 level and below. Fisher's exact test was used in the calculation. The data analysis was done using statistical measures and soft wares.

Reliability of the study is the measure of how the tool used is helpful and help in inferring the results of the study. If the tool used multiple times, used will reproduce consistent results. The tool must used in same or similar conditions will reproduce consistent results. It was done after the validity of tool, from 22/8/2022 to 29/8/2022. The permission taken from the Hospital director. Total 15 sample was taken for the reliability. Informed consent taken from the participants. The tool was given to antenatal mother for 15-20 min. and ensured that the data will be kept confidential. After 1hr again same tool was given to antenatal mother. Test-retest method was used for the reliability of the tool. The reliability calculated by Karl Pearson's correlation coefficient formula. Average time was taken by samples for scoring the question was 20 minute & retest was done after one hour. Calculated "r" value was r=0.84, thus the tool found reliable for the study.

For pilot study permission for the data collection was taken from selected hospitals of Pune City. Consent taken from research participants. The process of pilot study was done from 03/9/2022 to 08/9/2022, data was collected from antenatal mother at ANC OPD's of selected hospitals of Pune city. Analysis of data was done. The results showed that major participants had average knowledge regarding TORCH infection. Hence the study was found feasible as participants cooperated and no any major problems were faced while conducting pilot study.

RESULTS

SECTION II

Analysis of knowledge regarding TORCH infection among antenatal mothers.

Table no 1- Level of Knowledge regarding TORCH infection among antenatal mothers

(n=150)

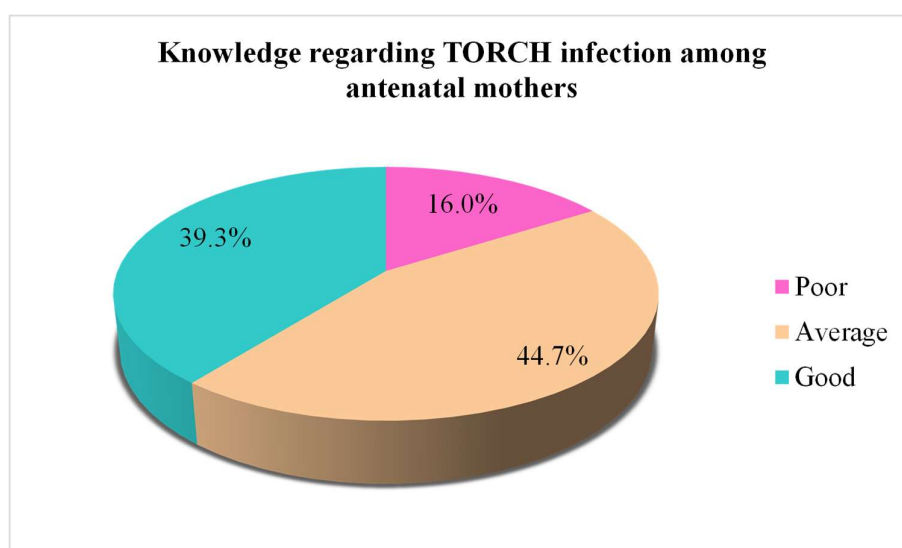| Knowledge (N=150)	Frequency (n) Percentage (%)	Percentage (%)	Mean	SD
Poor (score 0-7)	24	16.0%	14.3	5.3
Average (score 8-14)	67	44.7%		
Poor Good (Score 15-20)	59	39.3%		

Figure 1: Knowledge scores in antenatal mothers.
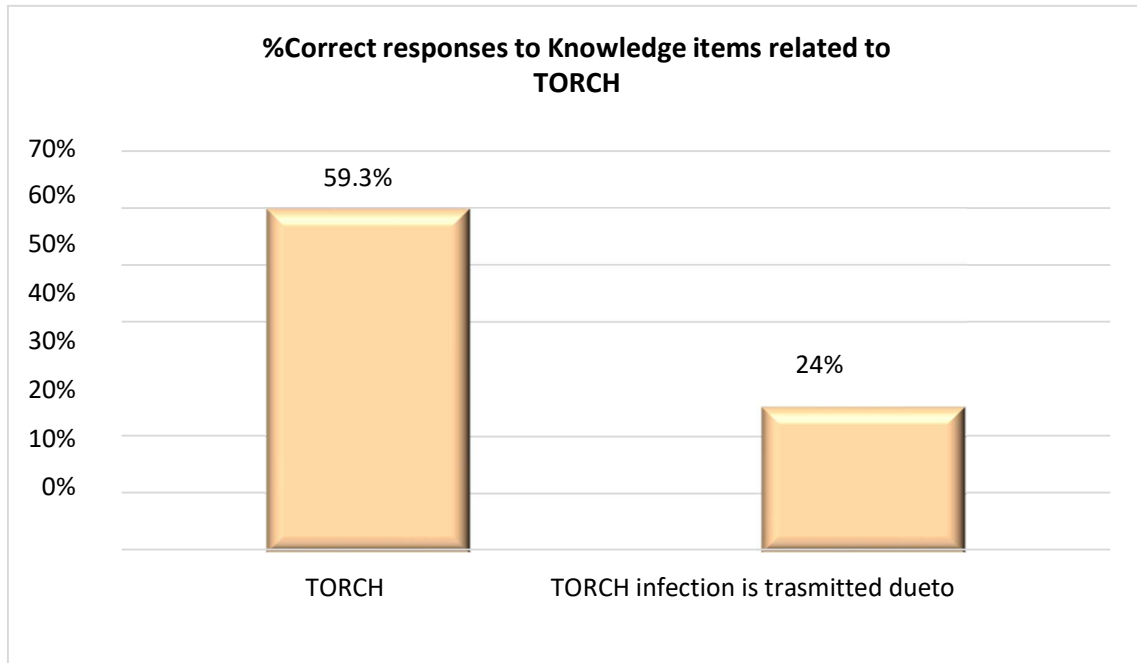
(n=150)

Figure 2: TORCH: Item analysis

In the study population 59.3% of the antenatal mothers knew what TORCH stands for. 24.7% of them knew how TORCH infection transmits.
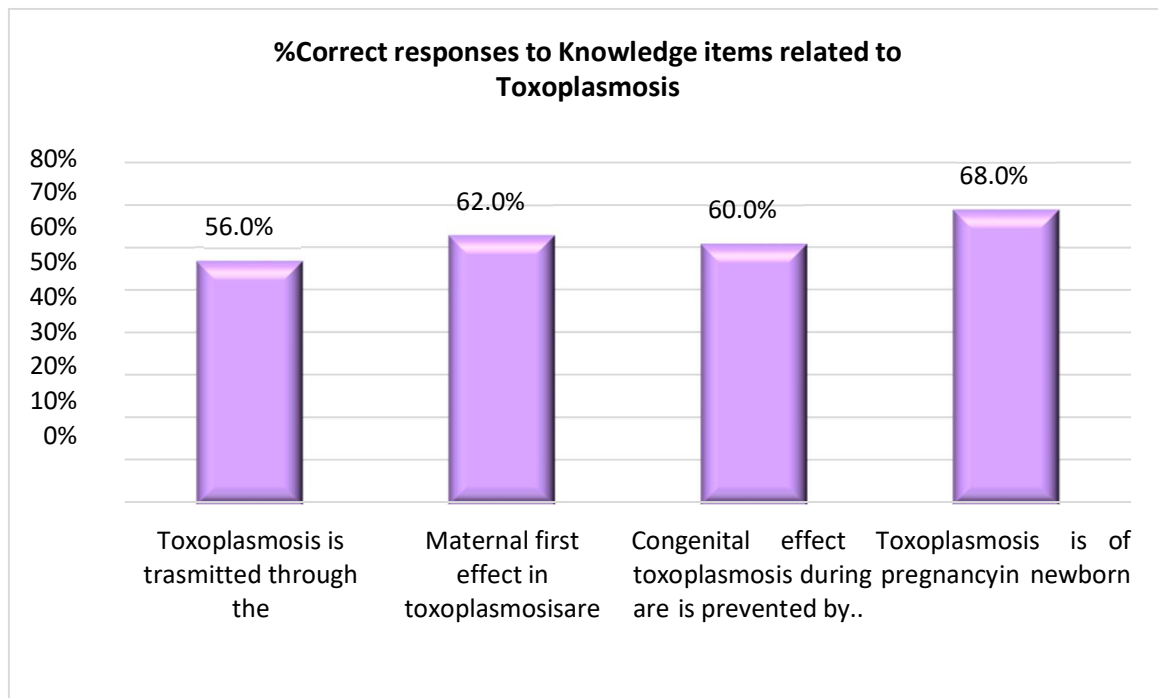
(n=150)

Figure 3: Toxoplasmosis: Item analysis

The 56% of them knew how toxoplasmosis is transmitted. 62% of them knew the maternal first effect in toxoplasmosis. 60% of them knew the congenital effect of toxoplasmosis in newborns. 68% of them knew how toxoplasmosis is prevented during pregnancy.
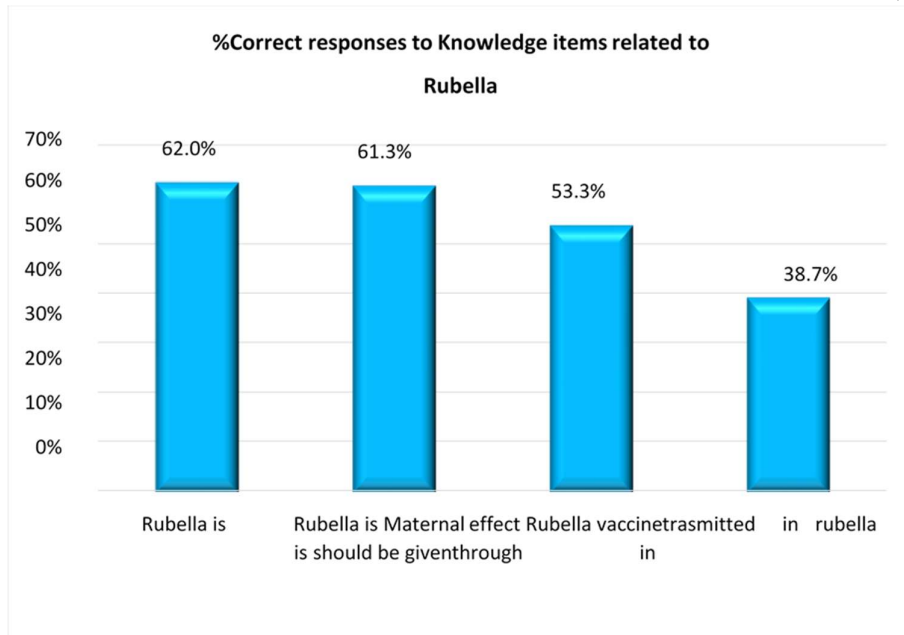
(n=150)

Figure 4: Rubella item analysis

62% of participants knew what rubella is. 61.3% of them knew how rubella is transmitted. 53.3% of them knew the maternal effect in rubella. 38.7% of them knew when the rubella vaccine should be given.
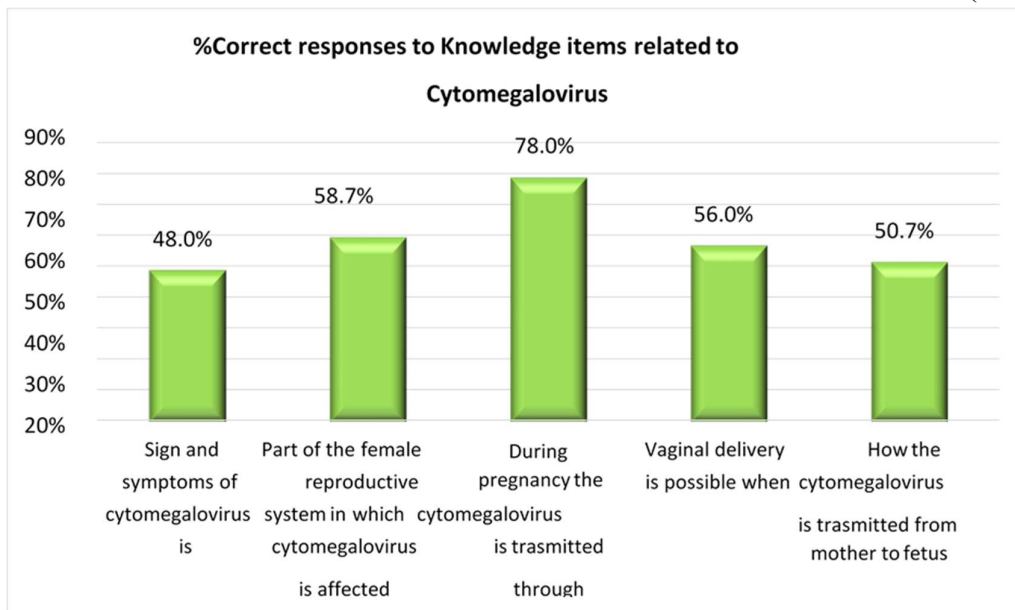
(n=150)

Figure 5: Cytomegalovirus: Item analysis

In the study population, 48% of them knew the sign and symptoms of cytomegalovirus. 58.7% of them knew the part of the female reproductive system in which cytomegalovirus is affected. 78% of them knew during pregnancy how cytomegalovirus is transmitted. 56% of them knew when the vaginal delivery is possible. 50.7% of them knew how the cytomegalovirus is transmitted from mother to foetus.

DISCUSSION

As per the reports the prevalence of TORCH infections varies significantly from region to region. The variation is also depends upon various factors like socio-economic status, dietary habits, following personal hygiene, cultural beliefs, and other related anthropogenic factors. In India there is lack of national screening programs for TORCH infections in pregnant women. Therefore, many studies have been carried out in many parts of the country. The studies have observed the seroprevalence of IgM antibodies. There is also global prevalence of latent toxoplasmosis in pregnant women which is estimated to be 33.8% having significant association with low income and low human development indices. Singh and Pandit reported an overall Toxoplasma seroprevalence of 45%, in another study northeast India also reported a high TG seroprevalence of 48%. In a National serological survey of TG prevalence in India reported a lower seroprevalence of 9.4-19.7% in the north Indian population. Another study from north India reported seropositivity of 21% in the general population. There is high seroprevalence in pregnant women and therefore there is need for antenatal screening and treatment. Poor fatal outcomes and congenital anomalies can be avoided by timely detection, and treatment of these infections. Countries like France, Sweden, and Austria have been successful reduced the Toxoplasma gondii disease infection by implementation of gestational screening, educational programs, frequent re-testing, and rapid treatment (Deka et al., 2022).6 Estimating regional seroprevalence of TORCH agents from time to time will help in formulating strategies for antenatal screening and also guiding physicians in making screening decisions and programs. Estimating the serological status by assessing the IgM and IgG antibody levels in pregnant women will help in identifying high-risk population. This will also help to overcome serious fatal consequences.

CONCLUSION

Term called TORCH infection includes toxoplasmosis, others syphilis, hepatitis B, rubella, cytomegalo virus, herpes simplex. These are caused by toxoplasma gondii, treponema palladium, hepatitis B virus, rubella virus, cytomegalovirus and herpes simplex virus(HSV), respectively. This infection can be transmitted to newborn during different stages. There is need to establish the baseline epidemiological data on the seroprevalence of TORCH infections form across various parts of the country. Seroprevalence is also associated with increasing age, the multiparity. There is a need for integrated approach of antenatal screening, preventive approaches like vaccination and following proper dietary pattern and personal hygiene. TORCH infection may cause miscarriage or intrauterine growth restriction. They may also cause non-specific signs and symptoms in the foetus or infant such as microcephaly, lethargy, cataracts, hearing loss and congenital heart disease as an addition. Public awareness about transmission and risk factors for controlling TORCH-related fatal complications must be undertaken on national level. Hence by creating this integrated approach and working on it, making people aware about TORCH infection, its complications, measures to prevent it, care

which need to be taken proper practices which need to be followed. To control TORCH infection globally all these measures, need to be followed and practiced.

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