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A study to assess the level of knowledge and attitude regarding prenatal genetic testing among antenatal mothers visiting antenatal OPD of government medical college and hospital-32, Chandigarh

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Abstract

Genetic testing is defined as the tests to detect or exclude an alternation likely to be associated with a genetic disorder. It is different from the other tests done in clinical practice. These tests are performed either before or after birth, to identify genetic disorders.

This is a cross-sectional study which has been conducted to assess the level of knowledge and attitude regarding prenatal genetic testing among antenatal mothers visiting antenatal OPD of GMCH-32, Chandigarh. The objectives of this study were to assess the level of knowledge and attitude of the antenatal mothers regarding genetic testing and to assess the association of knowledge with selected socio-demographic variables. The research design for this study was non experimental. Permission was taken from department of OBG and ethical clearance from institute, consecutive sampling technique was applied to select 65 antenatal mothers attending the antenatal OPD. Tool used for data collection was divided into 3 parts:

Part-A Socio-demographic data and maternal profile, Part-B Questionnaires to assess level of knowledge regarding genetic testing and Part-C Likert scale to assess the attitude of antenatal mothers regarding genetic testing. The analysis was done by using descriptive and inferential statistics.

The findings of the study revealed that the maximum mothers belong to the age group of 26-30 years. Out of 65 samples, 3% had excellent, 26% had good, 65% had average and 6% had poor knowledge. 100% has positive attitude regarding prenatal genetic testing.

Keywords: GMCH-government medical college and hospital, OPD-out patient department, OBG-obstetrics and gynaecology

Introduction

"A moral principal in genetic testing is that it should always be done with the consent of the individual. No one wants someone snooping into his DNA."- Arthur Caplan

Genetics is the study of inheritance of diseases in families, mapping of disease genes to specific location on chromosomes, analysis of molecular mechanism through which genes cause disease and the diagnosis and treatment of genetic diseases [2].

However, in most of developing countries this concept is still in its infancy and most of the genetic tests are done in antenatal period. Generally, genetic testing in adults, neonate and the fetus includes newborn screening, heterozygote screening, pre-symptomatic screening and prenatal testing.

Prenatal genetic testing refers to tests that are done during pregnancy to either screen for or diagnose a birth defect. These tests are meant to provide families with information to make informed choices about pregnancy and reproduction, and to assist the health care providers in providing the best care and management of woman during pregnancy. Prenatal screening of maternal blood is done twice during pregnancy: Dual/Quadruple/Combined test is done between 11th to 14th week of pregnancy and triple/Quadruple test is done between 16th to 20th week of pregnancy. This test can pickup pregnant women who are at high risk of carrying fetus for select chromosomal numerical disorders. Amniocentesis is another prenatal diagnostic test performed on amniotic fluid at 15-20 weeks.

Some prenatal genetic tests are screening test which cannot diagnose a birth defect but only determine if the fetus has a high or low risk for a particular problem.

Other prenatal tests are diagnostic and can diagnose certain fetal problems with a high degree of accuracy. Causes of genetic defects are chromosomal problems, genetic problems, infections, exposure to medications, chemicals, other agents during pregnancy^[3].

Prenatal diagnostic testing and diagnosis is offered to woman whose prenatal screening test comes to be positive or indicate higher risk. Woman who have had a previous fetal abnormality or who have a family history of inherited condition may be offered these diagnostic tests from the outset. The tests that are carried out include: non invasive tests (ultrasound, fetal echocardiography and fetal radiology etc.) and invasive tests (amniocentesis, chorionic villus sampling, fetal blood sampling and pre-implantation prenatal diagnosis etc)^[4].

Knowledge and awareness regarding prenatal genetic testing among antenatal mother would help in limiting the issues related to genetic defect by performing these test at right time in pregnancy. Thus, it would further help in planning an effective preventing strategies and interventions to promote a birth of healthy newborn with no birth defect.

Need of the study

Prenatal genetic testing is practiced to make diagnosis and early intervention for genetic defects in a developing fetus. It is best strategy for decreasing burden of genetic disorders. Selecting a method to detect genetic defects is difficult when the pregnant women and her family members do not have knowledge about it. It is obvious that promotion of health in fetus is not possible without knowledge of prenatal genetic testing.

By checking the knowledge and attitude of pregnant women visiting antenatal OPD, researcher will come to know that how many pregnant women are aware about genetic testing which is an essential part of checkup during pregnancy. Knowledge about prenatal genetic testing helps the pregnant women to make better choices, whether she should continue her pregnancy or terminate it.

Khdair SI *et al.* (2021) conducted a study among Jordanians, which revealed that participants had low perceived knowledge (39.5%) and favorable attitude towards genetic testing (91.5%). Favorable attitude were more prominent among higher educated participants, and participants with higher scores of factual knowledge^[5].

It should be considered that antenatal mothers, who are not adequately informed about prenatal genetic tests, cannot decide what kind of test they should undergo if they have previous family history of genetic defects. By having knowledge about genetic testing, genetic defects and disabilities can be prevented early and timely.

Sharma *et al.* (2019) conducted a study to determine the recognition and awareness of prenatal genetic screening test among pregnant mothers at Chennai, Tamil Nadu, India. The study showed only 40% of women were aware of prenatal genetic testing. Total participants were 100 pregnant mothers. Hence, it was concluded that more information about testing options should be given in a non directive way; and parents should make informed decisions about prenatal genetic testing and diagnosis^[6].

During clinical experience, researchers noticed that mothers attending antenatal OPD were unsure about their concepts related to genetic testing and were having plethora of misperceptions for the same. Therefore, this study was planned to test the knowledge and attitude regarding prenatal genetic

testing among antenatal mothers for better pregnancy outcome.

Problem statement

A study to assess the level of knowledge and attitude regarding prenatal genetic testing among antenatal mothers visiting antenatal OPD of Government Medical College and Hospital-32, Chandigarh.

Objectives

1. To assess the knowledge of antenatal mothers regarding genetic testing.
2. To assess the attitude of antenatal mothers regarding genetic testing.
3. To find out the association of knowledge of antenatal mother regarding genetic testing with selected socio demographic variable.

Operational definitions

Prenatal genetic testing: It refers to tests that are done during pregnancy to either screen for or diagnose a birth defect.

Antenatal mother: It refer to the mothers who are in antenatal period.

Delimitations

This study was delimited to antenatal mothers visiting antenatal OPD, who had provided consent for participation in the study and who attended antenatal OPD of Government Medical College Hospital, Chandigarh.

Material and Methods

Research approach: Descriptive research approach.

Research design: Non- experimental.

Setting of study: The research was conducted at antenatal OPD of Government Medical college and hospital sector 32 Chandigarh. Government Medical College and Hospital was founded on 1991.

Target population: The antenatal mothers who will present at the time of data collection, can read and understand English, Hindi or Punjabi visiting antenatal OPD of GMCH-32 Chandigarh.

Sampling technique: Consecutive sampling technique.

Sample size: 65 Patients.

Inclusion criteria

Women who

- are pregnant
- can read and understand English, Hindi, or Punjabi
- will be present at the time of data collection
- willing to participate in study
- conscious and able to follow verbal instructions

Exclusion criteria

- Women with known mental impairment
- Women who are illiterate and do not understand any language

Tool for data collection

Part-A Socio- demographic data and maternal profile, Part-B Questionnaires to assess level of knowledge regarding genetic testing and Part-C Likert scale to assess the attitude of antenatal mothers regarding genetic testing. The analysis was done by descriptive and inferential statistics.

Result**Objective-I****Assessment of knowledge of antenatal mothers regarding genetic testing**

Table 1: This section deals with the knowledge of antenatal mothers regarding genetic testing. Subjects studied were 65 antenatal mothers, visiting antenatal OPD. (N=65)

Knowledge of antenatal mothers regarding genetic testing		
Level of Scores N= 65	Percentage	Frequency
Excellent(9-12)	3%	2
Good(6-9)	26%	17
Average(3-6)	65%	42
Poor(0-3)	6%	4

Maximum =12 Minimum=0

Table 1 revealed that 2 antenatal mothers had excellent knowledge, 17 antenatal mothers had good knowledge, 42 antenatal mothers had average knowledge, 4 antenatal mothers had poor knowledge. Hence, interpretation was that 3% study subjects had excellent knowledge, 26% study subjects had good knowledge, 65% study subjects had average knowledge and 6% had poor knowledge.

Objective -II**Assessment of attitude of antenatal mothers regarding genetic testing**

Table 2: This section deals with the attitude of antenatal mothers regarding genetic testing.

Assessment of attitude of antenatal mothers regarding genetic testing		
Level of Scores N= 65	Percentage	Frequency
Positive (\geq -24)	100%	65
Negative ($<$ -24)	0%	0

Maximum =60 Minimum=12

The table 2 revealed that 65 antenatal mothers had positive attitude. Hence, interpretation was that 100% study subjects had positive attitude regarding genetic testing.

Objective-III**Association of knowledge of antenatal mothers regarding genetic testing with selected sociodemographic variables**

It is concluded that there is no significance has been seen between the sociodemographic variables and knowledge.

Conclusion

The conclusion drawn from the present study were:

- In the present study 65 subjects participated
- The study findings revealed that 3% antenatal mothers had excellent knowledge regarding prenatal genetic testing, 26% antenatal mothers had good knowledge, 65% had average knowledge and 6% had poor knowledge.
- The study also revealed that 100% antenatal mother had positive attitude and 0% had negative attitude regarding prenatal genetic testing.

References

1. Ramadas N, Sharada R, Astha G. Textbook of Pathology and Genetics for Nurses. 2nd ed. Jaypee Brothers Medical Publishers Pvt. Limited. Chapter 35, Genetic Testing in the Neonates and children, 2017, 354.
2. Suresh Sharma K. Human genetics in Nursing.2nd ed.

Jaypee Brothers Medical Publishers Pvt. Limited. Chapter 1, Introduction, 2010, 1.

3. Suresh Sharma K. Human genetics in Nursing.2nd ed. Jaypee Brothers Medical Publishers Pvt. Limited. Chapter 3, Maternal and Prenatal Genetics, 2010, 152-53.
4. Suresh Sharma K. Human genetics in Nursing.2nd ed. Jaypee Brothers Medical Publishers Pvt. Limited. Chapter 3, Maternal and Prenatal Genetics, 2010, 155.
5. Khdair SI, Al-Qerem W, Jarrar W. Knowledge and attitudes regarding genetic testing among Jordanians: An approach towards genomic medicine. Saudi Journal of Biological Sciences, 2021 Apr 20.
6. Sharma MN, Gayathri R, Priya VV. Awareness of prenatal genetic screening test among pregnant mothers. Drug Invention Today, 2019 Sep 1, 11(9).