A STUDY TO EVALUATE THE EFFECTIVENESS OF COMPUTER AIDED TEACHING PROGRAMME REGARDING GENETIC COUNSELLING IN TERMS KNOWLEDGE AND ATTITUDE AMONG UNDERGRADUATE STUDENTS IN SELECTED COLLEGES AT MEERUT

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ABSTRACT

Genetic counselling is the process of advising individuals and families affected by or at risk of genetic disorders to help them understand and adapt to the medical, psychological and familial implications of genetic contributions to disease. The process integrates interpretation of family and medical histories to assess the chance of disease occurrence or recurrence, education about inheritance, testing, management, prevention, resources and counselling to promote informed choices and adaptation to the risk or condition. suggested the report of the prevalence of genetic disorders globally. 7.6 million children are born with severe genetic or congenital malformation annually. The congenital and genetic disorder are most common cause of infant and childhood mortality. So, the genetic counselling is important for the individual. OBJECTIVES: -1.To develop a computer aided teaching programme regarding genetic counselling for under graduate students.2.To assess and evaluate the knowledge and attitude of under graduate students regarding genetic counselling before and after administration of computer aided teaching programme in experimental as compared to control group.3.To find out the correlation between post-test knowledge and attitude score of under graduate student regarding genetic counselling in experimental group.

METHODS: -Quasi- experimental research was done on 100 undergraduate female students i.e. 50 in experimental and 50 in control group. The sample was selected by total enumeration sampling technique. Demographic variables, self structured knowledge questionnaire and attitude scale tool were used to collect the data

RESULTS: - The study revealed that the mean post- test knowledge score of experimental group (21.18 ±1.83) of undergraduate students regarding genetic counselling were higher than the mean pre-test knowledge score of experimental group (10.52±1.58) of undergraduate students regarding genetic counselling. In control group the mean of the pre-test and post test score was 10 and 9.66 and standard deviation of the pre-test and post-test score was 1.45 and 1.55. The mean difference was 0.34 and the paired t teat score was 1.359 which is less than table value therefore the results were not significant at 0.05 level of significance. The mean post- test attitude score of experimental group (42.08± 3.811) of undergraduate students regarding genetic counselling were less than the mean pre-test attitude score of experimental group (20.78+-3.781) of undergraduate students regarding genetic counselling. In control group the mean of the pre-test and post test score was 19.56 and 19.14 and standard deviation of the pre-test and post-test score was 2.322 and 2.913. The mean difference was 0.42 and the paired t test score was1.246 which is less than table value therefore the results were not significant at 0.05 level of significance. The correlation co-efficient between post-test knowledge and pot-test attitude score ofundergraduate students in experimental group was 0.18 which indicated a moderate positive correlation regarding genetic counselling among undergraduate students. **CONCLUSION: -**The study concludes that the computer aided teaching programme is an effective method to improve the knowledge and to change the attitude regarding genetic counselling among undergraduate students.

INTRODUCTION

Genetic counselling is the process of advising individuals and families affected by or at risk of genetic disorders to help them understand and adapt to the medical, psychological and familial implications of genetic contributions to disease. The process integrates interpretation of family and medical histories to assess the chance of disease occurrence or recurrence, education about inheritance, testing, management, prevention, resources and counselling to promote informed choices and adaptation to the risk or condition. suggested the report of the prevalence of genetic disorders globally. 7.6 million children are born with severe genetic or congenital malformation annually. The congenital and genetic disorder are most common cause of infant and childhood mortality. So, the genetic counselling is important for the individual.

NEED FOR THE STUDY

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. Each stage should be a positive experience, ensuring women and their babies reach their full potential for health and well-being.

Although important progress has been made in the last two decades, about 25000 women died during and following pregnancy and childbirth in 2017. This member is unacceptly high.

As we can see IMR rate is 29.8% and MMR is 113% in India. This all is just because of some community participation issues. The main cause is that girls marry before the age of 18 years i.e. early marriage which puts them in a great problem without knowing anything. This problem also arises when they are not educated.

STATEMENT OF THE PROBLEM

"A study to evaluate the effectiveness of computer aided teaching programme regarding genetic counselling in terms of knowledge and attitude among undergraduate students in selected colleges at Meerut.

OBJECTIVES

- To develop a computer aided teaching programme regarding genetic counselling for under graduate students.

- To assess and evaluate the knowledge and attitude of under graduate students regarding genetic counselling before and after administration of computer aided teaching programme in experimental as compared to control group.

- To find out the correlation between post-test knowledge and attitude score of under graduate student regarding genetic counselling in experimental group.

OPERATIONAL DEFINITIONS

1. **Effectiveness**: It refers to the extent to which the computer aided teaching programme improves the level of knowledge and attitude regarding genetic counselling among under graduate students.

2. **Computer Aided Teaching Programme:** In this study, it refers to the systematically planned teaching programme which is assisted by using PowerPoint presentation on delivering lecture regarding genetic counselling among under graduate students for a duration of 30-45 minutes.

3. **Knowledge**: It refers to the level of understanding regarding genetic counselling by structured knowledge questionnaire.

4. **Attitude**: In this study, it refers to the belief, opinion and behavior regarding genetic counselling will be assessing by Likert scale.

5. **Genetic Counselling**: In this study, it emphasizes on the importance of geneticcounselling towards genetic disease/ chromosomal abnormalities among undergraduate students.

6. **Under graduate students**: In this study, it refers to the non-medical under graduate final year female students.

HYPOTHESIS

H_1: The mean post-test knowledge and attitude score of under graduate students will be significantly higher than the mean pre-test knowledge and attitude score regarding genetic counselling at 0.05 level of significance.

H_2: There will be significant correlation between post-test level of knowledge and attitude score regarding genetic counselling among under graduate students in experimental group.

ASSUMPTIONS

1. Under graduate students may have inadequate knowledge and attitude regarding genetic counselling.

2. Computer aided teaching programme may improve the level of knowledge and attitude regarding genetic counselling.

DELIMITATIONS

1. The study is delimited to the female students who were undergraduate students studying in selected colleges at Meerut.

2. The sample size is limited to 100 (50 Experimental and 50 Control group).

3. Computer aided teaching programme was administered on 1st day (30-45 minutes' duration) once during data collection period.
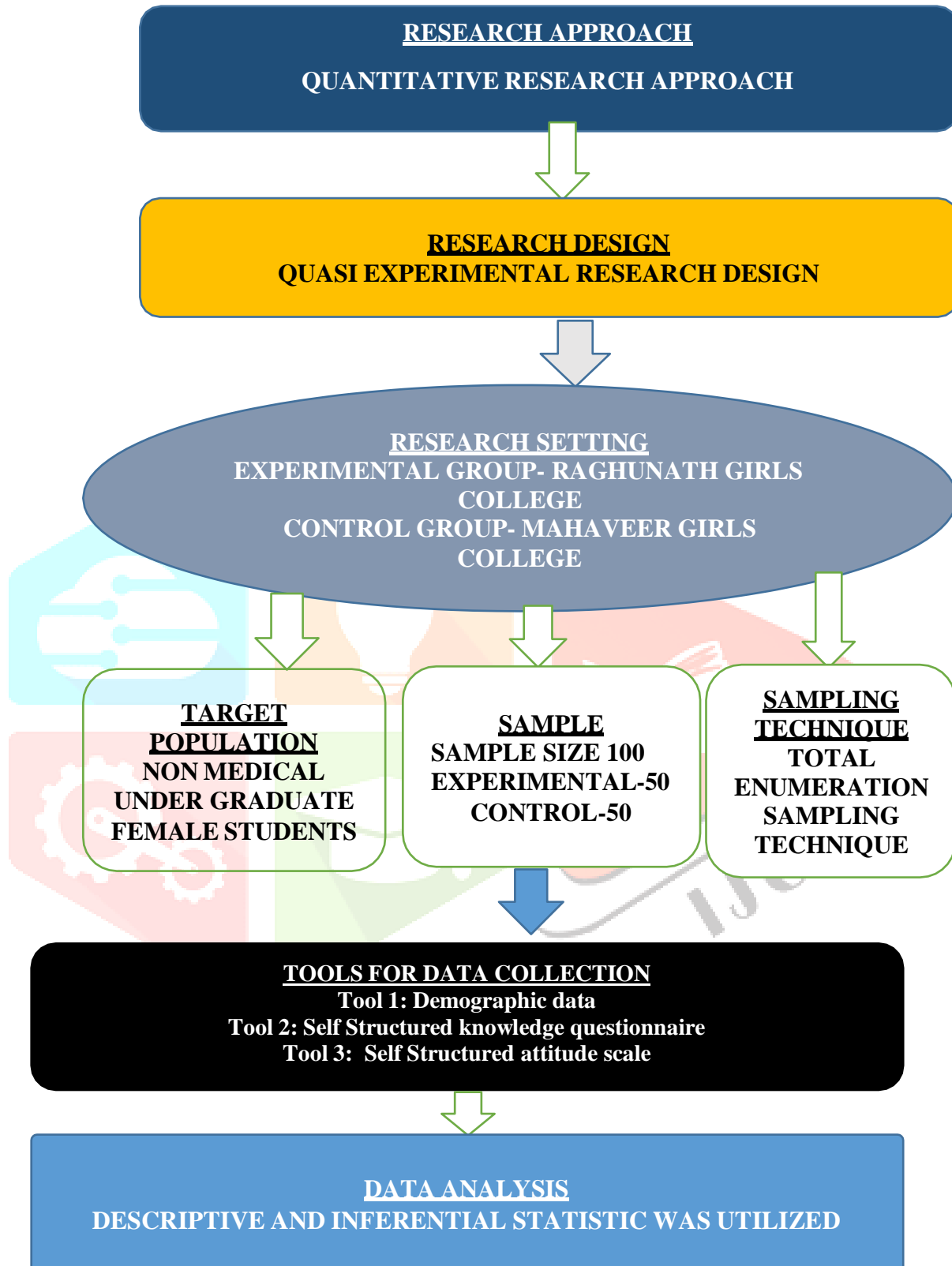
REVIEW OF LITERATURE

Review of literature is an important step in the development of the research project. It helps the researchers to design the proposed of study in a scientific manner as it helps to know the strength and weakness of the research that are done previously, so as to achieve desire outcome. Review of literature attempts to present view of studies done, methodology used and conclusion achieved by the previous researchers which will help in this study. The sources are scholarly journals, text books, internets, published and unpublished dissertations.

The review of literature is organized under the following headings:

- Literature related to incidence of genetic disorders.
- Literature related to under graduate student's knowledge regarding genetic disorders.
- Literature related to under graduate student's knowledge and attitude regarding genetic counselling.

RESEARCH METHODOLOGY

RESEARCH APPROACH

QUANTITATIVE RESEARCH APPROACH

RESEARCH DESIGN
QUASI EXPERIMENTAL RESEARCH DESIGN

RESEARCH SETTING
EXPERIMENTAL GROUP- RAGHUNATH GIRLS COLLEGE
CONTROL GROUP- MAHAVEER GIRLS COLLEGE

TARGET POPULATION
NON MEDICAL UNDER GRADUATE FEMALE STUDENTS

SAMPLE
SAMPLE SIZE 100
EXPERIMENTAL-50
CONTROL-50

SAMPLING TECHNIQUE
TOTAL ENUMERATION SAMPLING TECHNIQUE

TOOLS FOR DATA COLLECTION
Tool 1: Demographic data
Tool 2: Self Structured knowledge questionnaire
Tool 3: Self Structured attitude scale

DATA ANALYSIS
DESCRIPTIVE AND INFERENTIAL STATISTIC WAS UTILIZED

Population

The target population for the study were under graduate female students.

Sampling technique

In this present study total enumeration sampling technique was used for collecting the sample.

Sample size

The sample size in the study consist of 100 samples which includes 50 samples in experimental group and 50 samples in control group.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA

The study includes the college students:

- Who are studying UG degree.

- Who are willing to participate in the study?

EXCLUSION CRITERIA

The study excludes the college students:

- Who are not available during the time of data collection.

- Who have been sensitized with similar educational session previously.

DEVELOPMENT OF THE TOOLS

The following process were involved in the development of the tools-

1. Review of research and non- research literature and opinion of the experts.
2. Consultation with the experts the related field and scoring of the tool.
3. Development of knowledge questionnaire and attitude scale.
4. Obtaining opinion of experts to ascertain the appropriateness of item of thestructured questionnaire.
5. Assessing items for content validity.
6. Try out tools.
7. Estimation of reliability, item analysis and discrimination value.

DATA COLLECTION TOOLS

Part I- Consist of demographic variables.

Part II- Consist of total 25 items related to knowledge regarding genetic counselling. There were four section.

Part III- Self structured attitude scale consist of 10 items for assessing attitude towards genetic counselling.

Scoring key for knowledge questionnaire

Adequate   : 21-25

Moderate   : 11-20

Inadequate   : 1-10

Scoring key for Attitude Scale

Positive   : 41-50

Neutral   :31-40

Negative   : 21-30

Sikken   : 10:20

ANALYSIS AND INTERPRETATION OF THE DATA

Data presented in the table of experimental group depicts: -

- As per age group all of the samples 50 (100%) were 20 years and above and no one belongs to age group of 17 years, 18 years and 19 years.
- As regards the course of study, majority of the students i.e. 25 (50%) were studying B. Com and 25 (50%) B.A. and none of the students in 0(0%) were studying B. EDand hotel management.
- As per the religion most of the students i.e. 40 (80%) were Hindu and 10(20%) were Muslim and none of them were Christian 0(0%) and Sikh 0(0%).
- As per the type of family, majority of the samples 20(40%) belongs to nuclear family, 15(30%) belongs to extended family and 15(30%) belongs to joint family.
- Majority of the students 46(92%) did not had any history of consanguineous marriagewere as only 4(8%) of students had history of consanguineous marriage in family.
- All of the students 50(100%) did not have any previous knowledge regarding genetic counselling.

Data presented in the table of control group depicts: -

- As per age group all of the samples 50 (100%) were 20 years and above and no one belongs to age group of 17 years, 18 years and 19 years.
- As regards the course of study, majority of the students i.e. 30 (60%) were studying B. Com and 20 (40%) B.A. and none of the students in 0(0%) were studying B. EDand hotel management.
- As per the religion most of the students i.e. 45(90%) were Hindu, 3(6%) wereMuslim, 2(4%) were Sikh and none of them were Christian 0(0%).
- As per the type of family, majority of the samples 15(30%) belongs to nuclear family, 20(40%) belongs to extended family and 15(30%) belongs to joint family.
- Majority of the students 50(100%) did not had any history of consanguineousmarriage

were as 0(0%) of students had history of consanguineous marriage in family.

- All of the students 50(100%) did not have any previous knowledge regarding genetic counselling.
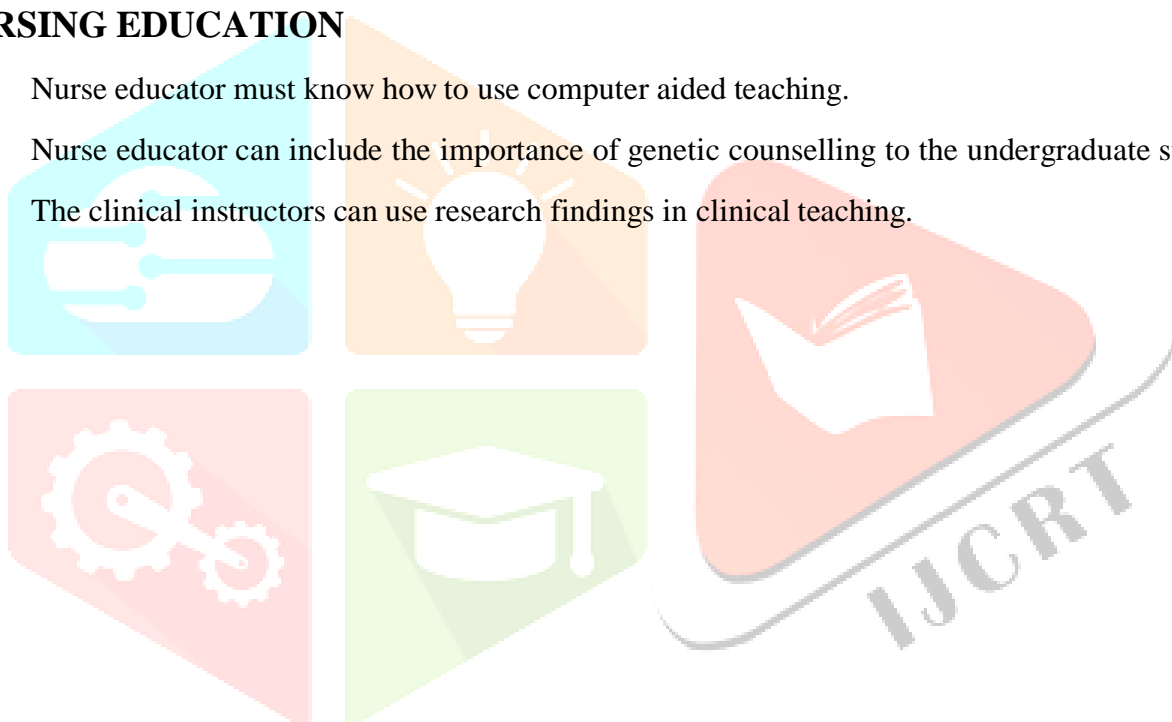
NURSING IMPLICATIONS

The finding of the present study has implications for Nursing practice, nursing education, Nursing administration and Nursing research.

NURSING PRACTICE

An obstetrics and gynaecology nurse should know the importance of computer aided teaching programme regarding genetic counselling among under graduate female students. He/she can teach the undergraduates student regarding importance of genetic counselling and how they can identify prenatal genetic disorders.

NURSING EDUCATION

- Nurse educator must know how to use computer aided teaching.
- Nurse educator can include the importance of genetic counselling to the undergraduate students.
- The clinical instructors can use research findings in clinical teaching.

OBSTRITICS AND GYNAECOLOGICAL NURSING

- Assessment of level of knowledge and attitude using knowledge questionnaireand attitude scale is helpful tool for undergraduate female students.

- Staff nurse and clinical instructors in obstetrics and gynecology ward can usethese research findings in community and obstetrics and gynecology settings.

NURSING ADMINISTRATION

- A nurse administrator can conduct a workshop and can make students andstaff nurses to participate in it.

- The nurse should prepare clinical presentation in importance of geneticcounselling on knowledge and attitude among students.

NURSING RESEARCH

- Nurse researcher should conduct more studies on particular topic among various students

- Nurse researchers can conduct this study in large sample.

RECOMMENDATION

- Same study can be conducted in large number of sample to generalize thefindings.

- A study can be conducted to assess the level of knowledge and attitude amongstaff nurses or nursing student.

- A study can be conducted to evaluate the effectiveness of computer aidedteaching programme among nursing student.

LIMITATIONS

- The study was selected using non probability total enumeration samplingtechnique which limit the generalization of the findings.

- The study was done on undergraduate female students who were available atthe time of data collection

- The sample size was limited to 100.

POBLEM FACED DURING RESEARCH STUDY

- Due to Covid -19 pandemic, it was difficult for the researcher to obtainpermission for the main study from the colleges.
- During data collection researcher faced difficulty in gathering students as covid-19 protocols needs to be followed.
- It was difficult to maintain social distancing while taking the class regardinggenetic counselling.

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