"A study to assess the effectiveness of Planned Teaching Program on early detection & treatment of Hearing Impairment in Children (under 3 years) among mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.)."

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ABSTRACT

A child hearing loss can often be complex. Differential diagnoses exist for deficits of both the conductive and sensorineural components of the hearing mechanism. Whether hearing loss is congenital and acquired raises different sets of considerations.

Need of the study: Recently researcher went to ENT-OPD of Peoples Hospital Bhopal and observed that the caregivers and mothers came for cochlear implantation of their children doesn't have any idea/ knowledge regarding prevention, early detection & treatment of hearing impairment. So, this is the reason behind conducting/ choosing this study.

Research Methodology
Research approach-In this study pre-experimental research approach was used.

Research design- In the present study the researcher adopted a pre-experimental (one group pre-test post- test research design).

Population- Mothers who attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.) and willing to participate in this study.

Sampling Technique - Probability Convenient Sampling Technique.

Sample Size - 60 Mothers

Setting-ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.).

Research Tool- Self-structured Questionnaire

Result- Association of knowledge with selected demographic variables was tested by using Chi-Square. The Chi-Square value is significant compared to the tabulated value of 0.05 level of significant relationship between knowledge scope withdemographic variables. Thus, the hypothesis by the investigator H1 is accepted i.e. there is significant relationship between the knowledge score and selected demographic variables.

Conclusion-On the basis of the findings of the study the following conclusion were drawn. Analysis of post-test knowledge score of mothers regarding early detection and treatment of hearing impairment in children (under 3 years) was done and tabulated in Table No.7 (Fig.No.9) Shows that majority of the 38(63.3%) mothers are having good knowledge, 22(36.7%) mothers are having average knowledge and 0(0%) mothers are having poor knowledge.

Keywords- Assessment, Effectiveness, Early Detection, Study, Treatment, Hearing Impairment, Mother's.

INTRODUCTION

A child hearing loss can often be complex. Differential diagnoses exist for deficits of both the conductive and sensorineural components of the hearing mechanism. Whether hearing loss is congenital and acquired raises different sets of considerations. A comprehensive discussion of the various causes of child hearing loss for exceeds the scope of this discussion. Hearing is important part of development of speech and verbal communication. Hearing impairment may be congenital or acquired.

NEED OF THE STUDY
In Karnataka state, according to estimate population of 2078 census, it is estimate that there are 20,898 children who are suffering from hearing impairment in the age of 0-6 years and most of these are from birth.

BY WHO REPORT (2021)
Recently researcher went to ENT-OPD of Peoples Hospital Bhopal and observed that the caregivers and mothers came for cochlear implantation of their children doesn't have any idea/ knowledge regarding prevention, early detection & treatment of hearing impairment. So, this is the reason behind conducting/ choosing this study.

RESEARCH APPROACH
In this study Pre-experimental research approach was used to assess effectiveness of Planned Teaching Program on early detection & treatment of Hearing Impairment to Children (under 3 years) among mothers attending ANC/ PNC/ Pediatric -OPD at 33 People's Hospital Bhopal. This approach is considered by the investigator as the most suitable for this study.

RESEARCH DESIGN
In the present study the researcher adopted a pre-experimental (one group pre-test post- test research design). Pre-experimental design is not including mechanism to compensate for the absence of either randomization or a control group. One group pre-test post-test design provides comparison between a group of subjects before and after the experimental treatment.

SETTING
The present study was conducted in ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.).

POPULATION
In this present study, the population were the mothers who attending ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.) and willing to participate in this study.

SAMPLE AND SAMPLE SIZE
In the present study the sample comprises of 60 mothers who attending ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.).

SAMPLING TECHNIQUE
In present study the samples were selected through a Probability convenient sampling technique.

DEVELOPMENT AND DESCRIPTION OF TOOL
A structured questionnaire and checklist were developed by the investigator to assess the effectiveness of planned teaching programme on knowledge regarding early detection & treatment of Hearing Impairment in Children (under 3 years) among mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.). The tools were prepared on the basis of the objective of the study, review of literature that provides adequate content for the tool preparation. Personal experience of the investigator in the clinical field, expert opinion from doctors of Pediatric departments & HOD of Pediatric and teachers.

PROBLEM STATEMENT
"A study to assess the effectiveness of Planned Teaching Program on early detection & treatment of Hearing Impairment in Children (under 3 years) among mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.)."

OBJECTIVE OF THE STUDY
1. To Assess the Pre-existing knowledge score level on Early Detection & Treatment of Hearing Impairment in Children (Under 3 Years) among the mothers attending ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.).

2. To Provide the Planned Teaching Program on Early Detection & Treatment of Hearing Impairment in Children (Under 3 Years) among the mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.).

3. To Assess the Post-test knowledge score level on Early Detection & Treatment of Hearing Impairment in Children (Under 3 Years) among the mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.).

4. To Evaluate the effectiveness of Planned Teaching Program by comparison of Pre-test & Post-test knowledge score level on Early Detection & Treatment of Hearing Impairment in Children (Under 3 Years) among the mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.).

5. To Determine the association between Post-test knowledge score level on Early Detection and Treatment of Hearing Impairment in Children (Under 3 Years) among the mothers attending ANC/ PNC/ Pediatric-OPD at people's Hospital with their selected sociodemographic variables.

RESEARCH METHODOLOGY

Research approach-In this study pre-experimental research approach was used.

Research design- In the present study the researcher adopted a pre-experimental (one group pre-test post- test research design).

Population- Mothers who attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.) and willing to participate in this study.

Sampling Technique - Probability Convenient Sampling Technique.

Sample Size - 60 Mothers

Setting- ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.).

Research Tool- Self-structured Questionnaire

Data Collection Procedure:
After obtaining content validity and reliability of tools from various experts. Pilot study done with sample of 10. The value shows r1 0.62 feasibility. So, researcher planned to do main study. The investigator obtained written permission from the 43 concerned authority prior to the data collection. The final study was conducted from 30th January' 23 to 25th February' 23. Actual data collection was done from 60 mothers who have attended ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.). The following schedule was followed for data collection: The investigator approached the subjects, informed them regarding the objectives of the study and obtained their consent after assuring the confidentially of the data. The investigator had done pre-test by administering a structured questionnaire. Planned teaching program was given to the subjects regarding early detection and treatment of hearing impairment. Everyday 10 to 12 samples were taken for pre as well as for post-test. The duration of the data collection for each sample was 20 to 30 minutes. The investigator thanked and appreciated all participants for their cooperation.

DATA ANALYSIS AND INTERPRETATION

Section I Distribution of sample according to the demographic variable by using frequency and percentage.

Table -1: Distribution of Number of children according to frequency and percentage.

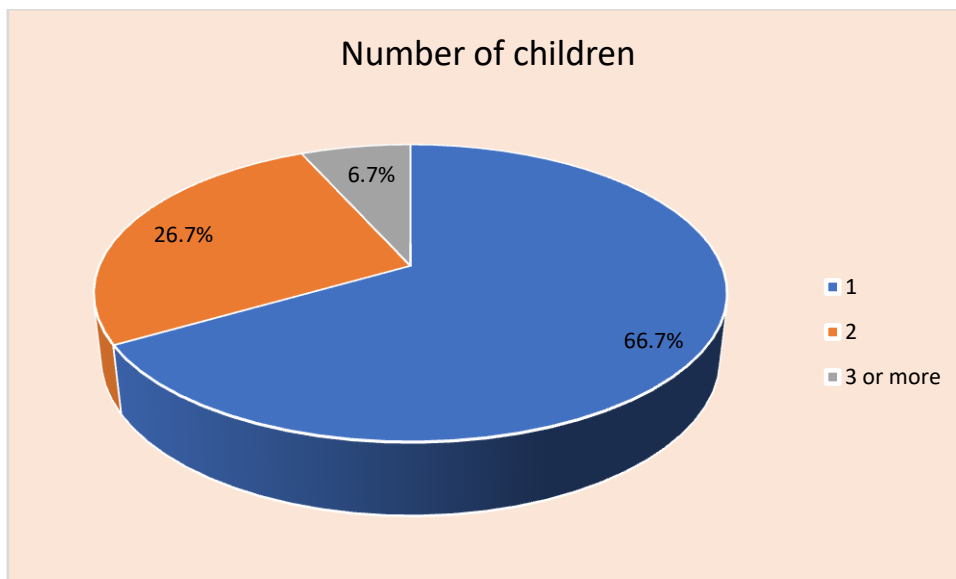| Number of children	Frequency	Percentage
1	40	66.7
2	16	26.7
3 or more	4	6.7
Total	60	100.0

Figure No. 1 Pie diagram showing the percentage distribution of Number of children.

Table No.1(Figure No.1) Shows that majority of the 40(66.7%) mothers having 1 child, 16(26.7%) mothers having 2 children and 4(6.7%) mothers having 3 or more children.

Table-2: Distribution of Is anyone in your family have this? according to frequency and percentage.

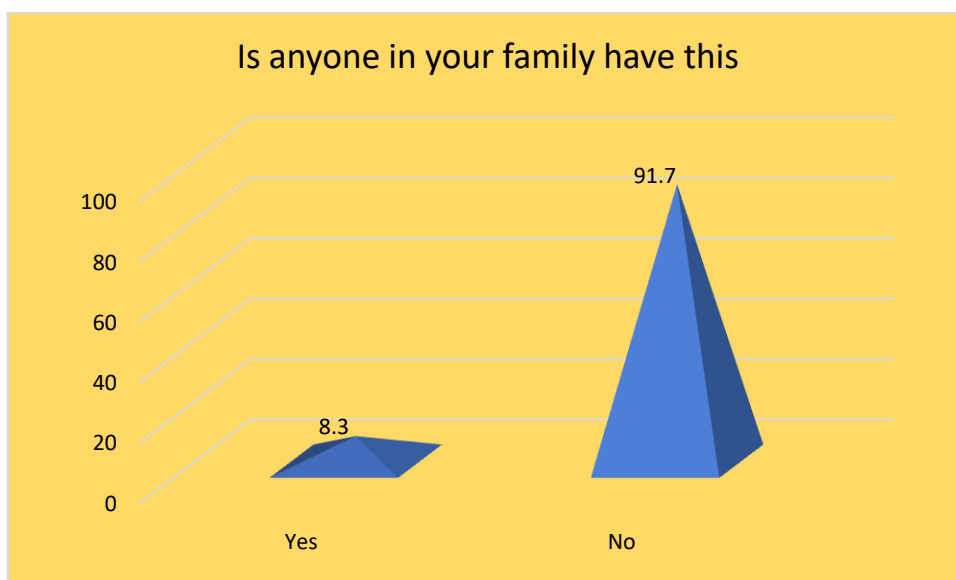| Is anyone in your family have this?	Frequency	Percentage
Yes	5	8.3
No	55	91.7
Total	60	100.0

Figure No.2 Bar diagram showing the percentage distribution of presence of hearing impairment in family.

Table No.2 (FIGURE NO.2) Shows that majority of the 55(91.7%) of family doesn't having family history of hearing impairment, 5(8.3%) of family is having family history of hearing impairment.

Table-3: Distribution of Occupation of parent according to frequency and percentage.

Occupation of parent	Frequency	Percentage
Medical field	3	5.0
Technical field	3	5.0

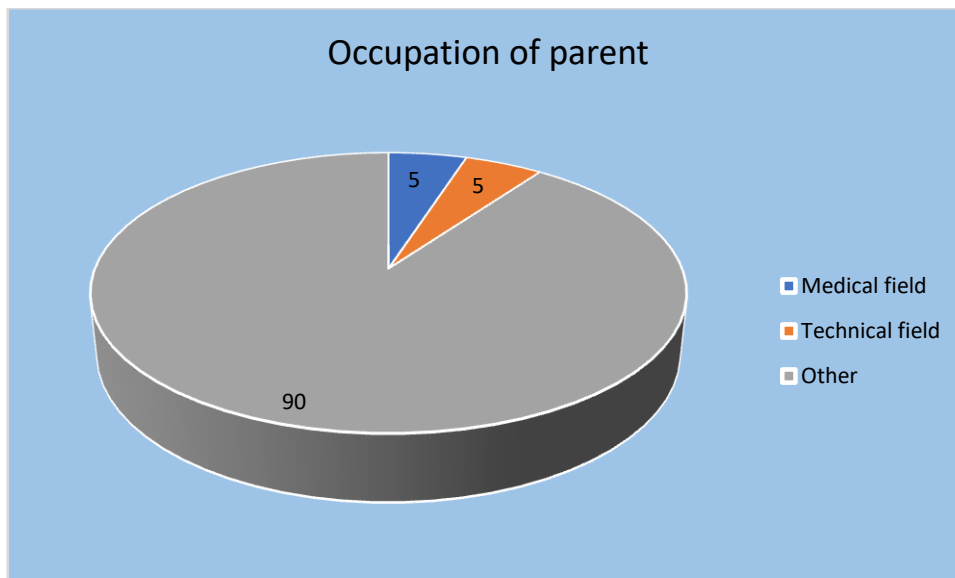| Other	54	90.0
Total	60	100.0

Figure No.3 Pie diagram showing the percentage distribution of Occupation of parent.

Table No.3 (FIGURE NO.3) Shows that majority of the 54(90%) of parents are working in other filed, 3(5%) of parents are working in medical filed and 3(5%) of parents are working in technical filed.

Table-4: Distribution of Monthly income (in rupees) according to frequency and percentage.

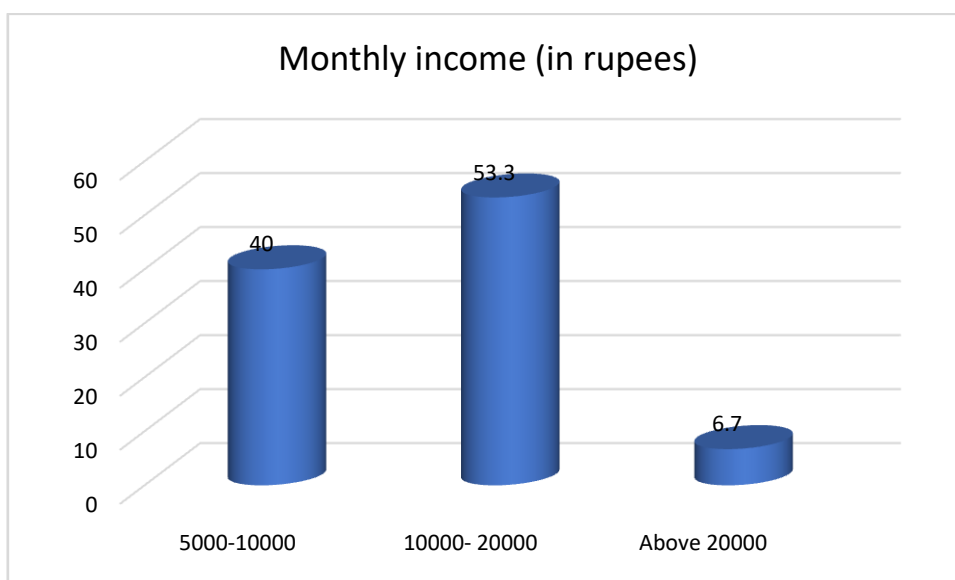| Monthly income (in rupees)	Frequency	Percentage
5000-10000	24	40.0
10000- 20000	32	53.3
Above 20000	4	6.7
Total	60	100.0

Figure No.4 Bar diagram showing the percentage distribution of Monthly income (in rupees).

Table No.4 (FIGURE NO.4) shows that majority of family income were Rs.10000-20000/- is 32(53.3%), Rs.5000-10000/- is 24(40%) and above Rs.20000/-is 4(6.7%).

Table -5: Distribution of Education level of parents according to frequency and percentage.

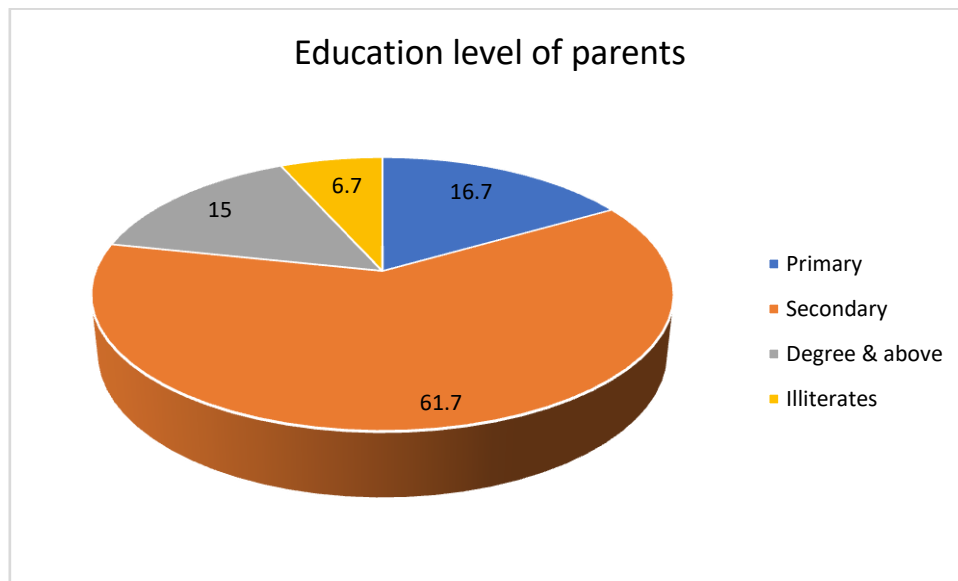| Education level of parents	Frequency	Percentage
Primary	10	16.7
Secondary	37	61.7
Degree & above	9	15.0
Illiterates	4	6.7
Total	60	100.0

Figure No.5 Pie diagram showing the percentage distribution of Education level of parents.

Table No.5 (Figure No5) shows that majority of the 37(61.7%) of parents education status was Secondary, 10(16.7%) of parents education status was primary, 9(15.0%) of parents education status was Degree & above and 4(6.7%) of parent education status was illiterate.

Section II
Analysis of pre-test score knowledge of mothers regarding early detection and treatment of hearing impairment in children (under 3 years).

Table-6 Distribution of Pre-test according to frequency and percentage

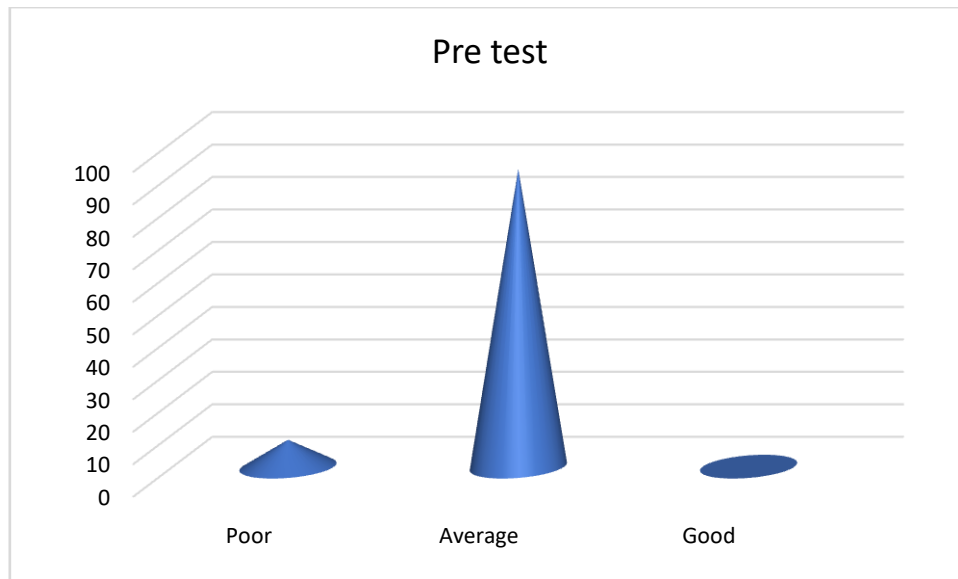| Pre test	Frequency	Percent
Poor	5	8.3
Average	55	91.7
Good	0	0
Total	60	100.0

Figure No.6 Bar diagram showing the percentage distribution of mother knowledge according to pre-test knowledge score.

Table No.6 (FIGURE NO.6) Shows that majority of the 55(91.7%) mothers are having average knowledge, 5(8.3%) mothers are having poor knowledge and 0(0%) mothers are having good knowledge.

Section-III
Analysis the post-test score knowledge of mothers regarding early detection and treatment of hearing impairment in children (under 3 years).

Table-7 Distribution of Post-test according to frequency and percentage.

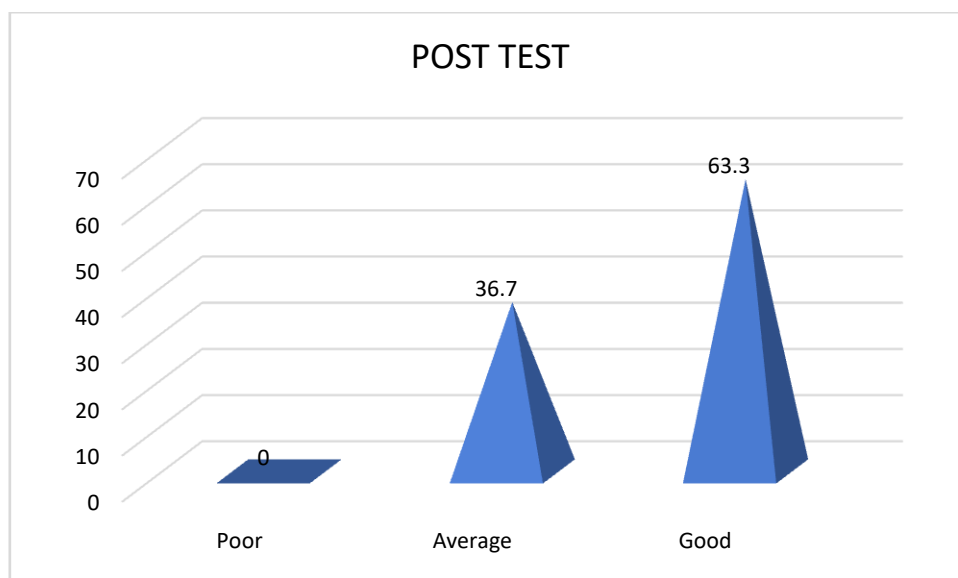| POST TEST	Frequency	Percent
Poor	0	0
Average	22	36.7
Good	38	63.3
Total	60	100.0

Figure No.7 Bar diagram showing the percentage distribution of mother knowledge according to post-test knowledge score.

Table No.7 (Figure No.7) Shows that majority of the 38(63.3%) mothers are having good knowledge, 22(36.7%) mothers are having average knowledge and 0(0%) mothers are having poor knowledge.

Section-IV

Analysis of the effectiveness of Planned Teaching Program on knowledge score of mothers regarding early detection and treatment of hearing impairment in children (under 3 years).

Table-8 Comparison of Pre and Post test

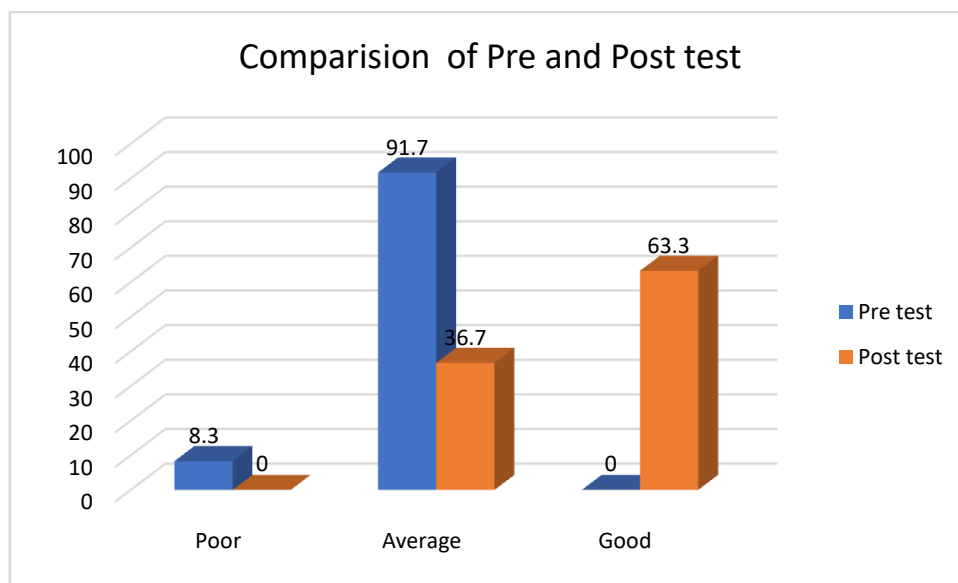|	Pre test		Post test	
	Frequency	Percent	Frequency	Percent
Poor	5	8.3	0	0
Average	55	91.7	22	36.7
Good	0	0	38	63.3
Total	60	100.0	60	100.0

Figure No.8 Bar diagram showing the percentage difference pre-test and post-test knowledge score regarding early detection and treatment of hearing impairment in children (under 3 years).

Table No.8 (Figure No.8) Shows that according to mean there was significant difference between pre and post test knowledge score.

Section-V

Association of knowledge score with selected demographic variable by using Chi-Square test.

Table-9: Association of socio demographic data with post test

	Poor	Average	Good	Total	Chi square value	df	P value	Significance
Number of children								
1		6	34	40	6.47	2	0.03	S
2		7	9	16				
3 or more		2	2	4				
Is anyone in your family have this?								
Yes		1	4	5	.652	1	.419	NS
No		21	34	55				
Occupation of parent								
Medical field		3	0	3	6.333	2	.042	S
Technical field		1	2	3				
Other		16	38	54				
Monthly income								

(in rupees)							
5000-10000	9	15	24	.386	2	.825	NS
10000- 20000	11	21	32				
Above 20000	2	2	4				
Education level of parents							
Primary	6	4	10	8.95	3	0.029	S
Secondary	6	31	37				
Degree & above	2	7	9				
Illiterates	2	2	4				

(Result significant at 0.05% level of significant

Abbreviation

     MS= Most significant

     S= Significant

     NS= Not significant

SUMMARY

The aim of the study was to determine the knowledge of mothers regarding the early detection and treatment of hearing impairment in children (under 3 years). Statement of the problem was- "A study to assess the effectiveness of Planned Teaching Program on early detection and treatment of Hearing Impairment to Children (under 3 years) among mothers attending ANC/PNC/Pediatric-OPD at People's Hospital Bhopal (M.P.)."

In the study- mothers who attending ANC/PNC/Pediatric-OPD at People's Hospital Bhopal will have some knowledge regarding early detection and treatment of hearing impairment in children (under 3 years). Variables are the conditions or characteristics that the investigator observes manipulates or controls. "The two types of variables were identified in these studies": - Independent Variables: In the present study the independent variable refers to the planned teaching Program on early detection & treatment of Hearing Impairment in Children (under 3 years) among mothers. Dependent Variable: In this present study the dependent variable refers to the knowledge score of mothers who attending ANC/ PNC/ Pediatric-OPD at People's Hospital Bhopal (M.P.). A conceptual frame work is the precursor of a theory. It provides broad perceptive for nursing practice, research and education. There overall purpose to make scientific findings meaningful and generalizable. Conceptual frame work- is the planning of a study. It represents an understanding of the phenomenon of interest and reflects the assumption and philosophical views of investigation. According to POLIT and HUNGLER a conceptual frame work is inter related concepts on abstraction that are assembled together in some scheme by virtue of their relevance to a common theme. It is device that helps to stimulate research and the extension of knowledge by providing both direction and impetus. Theories and Conceptual frame work provide direction and guidance for structural professional nursing practice, education and research. In research the frame work offers a systemic approach to identify question for study, selected appropriate valuable and interpretation finding. In the present study I applied a modified general open system model recommended by WHO which include: 1. Input, 2. Process, 3. Output. INPUT: Here in the input resources are taken from the external environment. It includes: - Number of children, Family history about hearing impairment, Occupation of parent, Family monthly income, Education level of parent PROCESS: The process of conversion or transformation of resources within a system. In the present study, admission of self-structured questionnaire to assess the effectiveness of Planned Teaching Program on early detection & treatment of Hearing Impairment in Children (under 3 years) among mothers attending ANC/ PNC/ Pediatric -OPD at People's Hospital Bhopal (M.P.)." OUTPUT: The work of the system exported back into the environment. In the present study the output is: Sample that are having good knowledge about the early detection & treatment of Hearing Impairment. Sample that are having average and poor knowledge about the early detection & treatment of Hearing Impairment.

CONCLUSION

On the basis of the findings of the study the following conclusion were drawn. Analysis of post-test knowledge score of mothers regarding early detection and treatment of hearing impairment in children (under 3 years) was done and tabulated in Table No.7 (Fig.No.9) Shows that majority of the 38(63.3%) mothers are having good knowledge, 22(36.7%) mothers are having average knowledge and 0(0%) mothers are having poor knowledge. After comparison proved that the Planned Teaching Program was effective for increasing the knowledge of mothers regarding early detection and treatment of hearing impairment in children (under 3 years). By all these findings it was evident that most of the mothers were unaware about early detection and treatment of hearing impairement in children and there is a need to educate them regarding these issues. My study helped 60 mothers to gain the knowledge. The supportive study was given by Aparna Kale (Department of paediatric nursing, Bharati Vidhyapeet College of Nursing, Sangli, Maharashtra) on "Effectiveness of planned teaching program regarding the care of

children with Hearing Impairment among the caretakers in selected schools of Sangli District in India. Result: the 33.3% of caretaker were between 30-40 years, 63.34% of caretakers were undergraduates, place-wise 58.34% of caretakers were from urban, 61.66% of caretaker had previous knowledge. The preceding data show that caretaker who got planned training on 68 hearing impaired children had higher mean knowledge scores in post-test than pretest. Thus, structured training on caring for hearing impaired youngsters worked. Thus, alternate hypothesis wins over null hypothesis.

RECOMMENDATION

On the basis of the study findings following recommendation have been made for future study:

1. A similar study can be done on large sample.
2. A comparative study can be conducted between the pre-test and post-test in different time intervals. 3. An experimental study can be conducted with a similar intervention.
4. A comparative study between knowledge of urban and rural mothers on the similar topic can be undertaken.

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