Original Research Article

EFFECTIVENESS OF NURSE LED INTERVENTION ON PREMARITAL GENETIC COUNSELING IN TERMS OF KNOWLEDGE AND ATTITUDE AMONG THE UNMARRIED GIRLS IN SELECTED RURAL AREA, RAJKOT

ABSTRACT

Introduction: A genetic disorder is an illness caused by abnormalities in gene on chromosome, especially a condition that is present from before birth.

Objective: (1) To assess the pre-test & Post-test level of the knowledge and attitude regarding premarital genetic counselling among unmarried girls in the selected rural area, Rajkot.(2)To find out the effectiveness of nurse led intervention on premarital genetic counselling among unmarried girls (3)To find out the co-relation between post-test knowledge and attitude regarding premarital genetic counselling among unmarried girls (5) To find out association between the level of knowledge and attitude regarding premarital genetic counselling among unmarried girls with the selected demographic variables.

Methods: Quantitative research design was used with one group pre-test post-test. The researcher used Non-probability convenience sampling technique for selecting 40 samples. **Tool**: knowledge questioner & 5 point likert's scale was used to assess the Knowledge & attitude. The reliability of structured knowledge questionnaire was 0.72 and 5 point likert's attitude scale was 0.79 determined by using karl pearson's formula.

Data Analysis& Results: Descriptive and Inferential statistics was used to analyze the data. 'The obtain' t' value for knowledge was 12.75 & for attitude scale was 13.81which was significant at 0.05. The findings of the study shows that nurse led intervention is effective in improvement of knowledge and change the unfavourable attitude in to favourable attitude

Conclusion: There is that most of the girls had poor knowledge and unfavourable attitude in the pre-test and they improved to good knowledge and favourable attitude after applying nurse led intervention on premarital genetic counselling.

Key words: effectiveness, nurse led intervention, premarital, genetic counseling, unmarried girls ,knowledge, attitude

INTRODUCTION

Genetics is the science of inheritance. It aims to understand the mechanism by which the blueprints for life are passed through generations. Genes hold the information to build and maintain an organism's cells and pass genetic traits to offspring[2]

Genetic counselling is a process in which patients or individuals at the risk of a genetic disorder are made aware of the consequences of the disorder, its transmission and the ways by which this can be prevented or mitigated. In brief, the fundamental purpose of genetic counselling is to help the individual or family understand their risks and options and to empower them to make informed decisions. The most important aspect of genetic counselling is to identify genetic disorders in a given population and come to a possible solution. This can be done by simply taking a detailed family history and recognizing some of the genetic disorders, ordering genetic tests, evaluating the results and helping the person to understand and reach decisions about what to do next.[3]

Due to rapid advancement in scientific knowledge of genetics in various fields; healthcare, research, Genetics has transformed into the major component of modern medicine policy, and education. The latest progress in genetic and genomic discoveries has led to the development of new and improved genetic testing methods for screening, to identify a trait, diagnose a genetic disorder, and/or identify individuals who are more prone to genetic diseases, or higher at risk[4].

OPERATIONAL DEFINITIONS

Knowledge

It refers to awareness regarding premarital genetic counseling among the unmarried girls is assessed by using a structured knowledge questionnaire prepared by researcher.

Attitude

It refers to the expression or feeling of the unmarried girls as perceived by them towards premarital genetic counseling is assessed by using 5 points Likert's scale.

Nurse led intervention

It refers to an educational material prepared for the unmarried girls to prevent genetic disease which contains information regarding inheritance pattern of genetic disease, life style, age of conception consanguinity, diet pattern, environmental effect, given by means of pamphlets and power point presentation.

Unmarried girls

It refers to all the girls who are not married and age group between 17-25 years residing in the rural area. .

NEED FOR THE STUDY

Premarital Genetic counselling plays a major role in the prevention and also the treatment of the various genetic disorders Genetic disorders especially genetic blood disorders such as Thalassemia and sickle cell disease, hypertension, mental retardation, chromosomal disorder, are chronic in nature with no prospect of cure and require costly, lifelong care and management. In this way they can impose health care and psychosocial burden on the patient, family, society and the nation. The incidences of these disorders are increasing day by day in India especially in Gujarat.[5]

WHO secretarial (2010)reported that, globally every year's 7.8 million children are born with a serious birth defect of genetic. Hundreds of thousand born with serious birth defects due to teratogens, including fetal alcohol syndrome, maternal iodine deficiency each year's, congenital syphilis and congenital rubella syndrome. More than 3.3 million children die from birth defect each year's, where more than 90% of birth and 95% of deaths of children with serious birth defects occur.[6]

Genomic resource centre(2016) stated that estimated incidence of genetic disease in infants is between 1 in 1000 to 1 in 500 in unites states.[7]

OBJECTIVES OF THE STUDY

1) To assess the pre -test level of the knowledge and attitude regarding premarital genetic counselling among unmarried girls in the selected rural area, Rajkot. 2) To assess the post -test level of the knowledge and attitude regarding premarital genetic counselling among unmarried girls in the selected rural area, Rajkot. 3) To find out the effectiveness of nurse led intervention on premarital genetic counselling among unmarried girls in the selected rural area, Rajkot. 4) To find out the co-relation between posttest knowledge and attitude regarding premarital genetic counselling among unmarried girls in their selected rural area, Rajkot. 5) To find out association between the level of knowledge and attitude regarding premarital genetic counselling among unmarried girls with the selected demographic variables.

HYPOTHESIS

H_1: There will be a significant difference between pre and post level of knowledge and attitude regarding premarital genetic counselling among the unmarried girls at $p<0.001$.

H_2: There will be a significant effectiveness of nurse led intervention on premarital genetic counselling among the unmarried girls at $p<0.001$.

H_3: There will be a significant relationship between post-test knowledge and attitude regarding premarital genetic counselling among the unmarried girls at $p<0.001$.

H_4: There will be a significant association in level of knowledge and attitude regarding premarital genetic counselling among unmarried girls with their selected demographic variables.

MATERIAL AND METHODS

- **Research approach:** Quantitative approach.
- **Research design: Quasi experimental research approach, one group pre-test post-test**
- **Target population:** All the unmarried girls.
- **Accessible population:** All the unmarried girls between the age group of 17-25 years living in the selected rural area of Rajkot
- **Sampling technique:** Non probability purposive sampling technique
- **Sample size:** 40 unmarried girls who are living in the selected rural area, Rajkot.
- **Inclusion criteria:**

The study includes:

1. Girls who are living in the selected rural areas.
2. Girls who are willing to participate in the study.
3. Girls who are present at the time of data collection.
4. Girls with the age group between 17year-25year.
5. Girls who are unmarried

- **Exclusion criteria**

The study includes:

1. Girls who are get married
2. Girls who are not physically fit.

- **Data collection tool:** standardized tool was used.
    1. Structured Knowledgequestioner - to assess the knowledge.
    2. 5 point likert's scale –to assess the attitude
- **Data analysis:** Descriptive statistics and inferential statistics.

RESULT AND DISCUSSION

A. Findings related to demographic variables

1. The majority of (42.5%) unmarried girls are in the age group of 20-22 year.
2. The majority of (47.5%) unmarried girls had secondary education.
3. The majority of (77.5%) unmarried girls belongs to Hindu region
4. The majority of (45%) unmarried girls family income is Rs.10000-15000
5. The majority of (75%) unmarried girls belongs to joint family.
6. The majority of (92.5%) unmarried girls has non consanguineous parents.
7. The majority of (50%) unmarried girls has no any hazardous exposure.

B. Findings related to effectiveness of nurse led intervention on premarital genetic counselling among unmarried girls.

With regard to pretest 1(2.5%) sample had good knowledge, 32 (80%) average knowledge and 7 (17.5%) sample had poor knowledge. After the administration of Nurse led intervention on Premarital Genetic Counselling by means of pamphlets and power point presentation 1(2.5%) sample had poor, 28 (70%) average knowledge and 11(27.5 %) good knowledge.

After the administration of nurse led intervention on premarital genetic counselling 35 (87.5%) Samples showed favourable attitude and 5(12.5%) sample show unfavourable attitude towards premarital genetic counselling.

The posttest knowledge and attitude value of mean was 17.37 with standard deviation 2.92 and for attitude test mean of posttest was 69.97 and standard deviation was 4.62.

When comparing the pre and post-test level of knowledge calculated t value was =12.75 and post-test level, of attitude calculated t value = 13.81 which was significant at $p < 0.05$ level. The findings revealed that there was statistically significant difference in the level of knowledge and attitude regarding premarital genetic counselling among unmarried girls.

C. Findings related to find out association between demographic variables and post-test level of knowledge and attitude.

With regard to association between the post level of knowledge and post-test level of attitude with their selected demographic variables such as age, education, consanguinity of parents, family income, type of family, hazardous exposure, were not significant. . Consanguinity of parents had association with $p=3.84$ ($df= 1$), at 0.001 level.

The present study was to evaluate the effectiveness of nurse led intervention on premarital genetic counselling among unmarried girls in selected area Rajkot.One group pre test and post test design was chosen for this study. The samples were selected for this study by adopting non-probability convenience sampling technique. The samples for present study to decide to be among 40 unmarried girls. The data was collected by using knowledge questioner and 5 point likert's scale.

The tool was used to collect the data, which consist of two parts. Part-1 consisted of demographic variables. Part -2 consisted of two-parts a. knowledge questioner b.5 point likert's scale

The contents of tool of tool were checked and evaluated by five experts. The experts were 2 specialised doctors in obstetrics and gynaecology, three experts specialised in obstetrics and gynaecological nursing. Data collected for 6 weeks in selected rural area of Rajkot.

The data collected was analysed through descriptive statistics (frequency and percentage distribution) and inferential statistics (t-test and chi-square test) to test the hypothesis

TABLES AND GRAPHS

Table 1 frequency and percentage distribution of selected demographic variables

[N=40]

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE %
1.	**Age in**		
	a)17-19 year	8	20.0
	b)20-22 year	**17**	**42.5**
	c)23-25 year	15	37.5
	d)Above 25 year	0	0
2.	**Education**		
	a)Primary	9	22.5
	b)Secondary	**19**	**47.5**
	c)Graduate	9	22.5
	d)Illiterate	3	7.5
3.	**Religion**		
	a)Hindu	**31**	**77.5**
	b)Muslim	8	20.0
	c)Christian	1	2.5
	d)Other	0	0
4.	**Family income per month**		
	a)Rs.5000-10000	12	30.0
	b)Rs.10000-15000	**18**	**45.0**
	c)Rs.15000-25000	7	17.5
	d)above Rs.30000	3	7.5
5.	**Type of family**		
	a)Joint	**30**	**75**
	b)Nuclear	10	25
6.	**Consanguinity of parents**		
	a)Yes	3	7.5
	b)No	**37**	**92.5**
7.	**Occupational hazard**		
	a)Exposure to radiation	0	0
	b)Exposure to pesticide	10	25
	c)Exposure to house hold	10	25
	d) No any hazardous exposure	**20**	**50**

Table 2(A): Comparison of pre-test and post-test level of knowledge regarding premarital genetic counselling among unmarried girls.

[N=40]

KnowledgeScore	Mean	Mean difference	S.D	Calculated 't' test
Pretest	11.07	5.62	**2.72**	t= 12.75*** p= 3.55 (S)
Posttest	17.37		**2.92**	

*** p< **0.001, S –Significant**

Table 2(B): Comparison of pre-test and post-test level of attitude regarding premarital genetic counselling among unmarried girls. **[N=40]**

Attitude	Mean	MeanDifference	SD	Calculated 't' test
Pretest	47.5	22.475	5.884	t= 13.815*** p= 3.55 (S)

Posttest	69.97		4.620	

***p< 0.001, S – significant

Table 3 : Frequency distribution of association of selected demographic variables with the post test level of knowledge. **[N=40]**

DEMOGRPHIC VARIABLES	KNOWLEDGE LEVEL			TOTAL	CHIQUESQUARE VALUE
	GOOD	AVERAGE	POOR		
	F	F	F		
1 Age in year					χ^2 = 1.942
a)17-19	4	3	10	8	df=2
b)20-22	13	4	0	17	P=5.99
c)23-25	11	4	0	15	NS
d)Above 25	0	0	0	0	
2 Education					χ^2 = 2.350
a)Primary	7	2	0	9	df=3
b)Secondary	14	4	1	19	P=7.82
c)Graduate	6	3	0	9	NS
d)Illiterate	1	2	0	3	
3 Religion					χ^2 =0.657
a)Hindu	22	8	1	31	df=2
b)Muslim	5	3	0	8	P=5.99
c)Christian	1	0	0	1	NS
d)Other	0	0	0	0	
4 Family income	9	2	1	12	χ^2 = 7.281
a)Rs.5000-10000	14	4	0	18	df=6
b)Rs.10000-15000	2	5	0	7	P=12.59
c)Rs.15000-25000	3	0	0	3	NS
d)above 30000					
5 Type of family					χ^2 = 0.00
a)Joint	21	8	1	30	df=2
b)Nuclear	7	3	0	10	P=5.99
					NS
6 Consanguinity of parents					**χ^2 = 7.668** **df=1**
a)Yes	7	2	0	3	**P=3.84**
b)No	27	9	1	37	**S**
7Occupational hazard					
a)Exposure to radiation	0	0	0	0	χ^2 = 2.875 df=2
b)Exposure to pesticide	7	3	0	10	P=5.99 NS
c)Exposure to house hold	5	4	1	10	
d) No any exposure	16	4	0	20	

Figure-1 Percentage distribution of pretest and posttest level of knowledge regarding premarital genetic counseling among unmarried girls

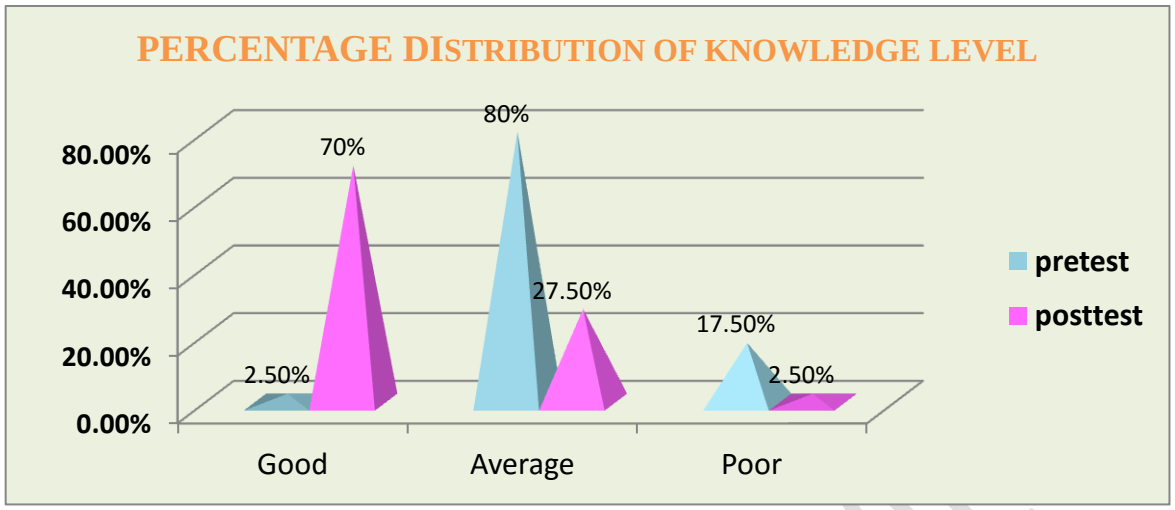
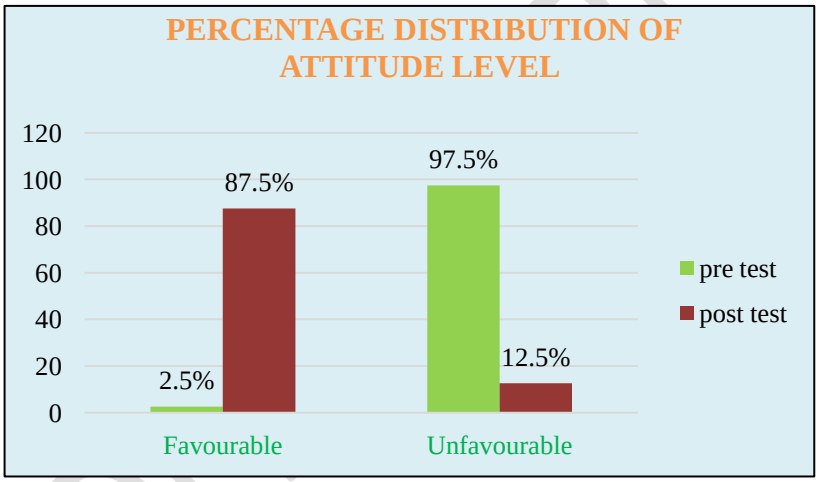


Figure-2 percentage distribution of pretest and posttest level of attitude among unmarried girls



CONCLUSION

The main conclusion from the study is there is that most of the girls had poor knowledge and unfavourable attitude in the pre-test and they improved to good knowledge and favourable attitude. This shows the imperative needs to understand the nurse led intervention by means of power point presentation regarding premarital genetic counselling among unmarried girls and it will improve the knowledge and attitude on premarital genetic counselling

ETHICAL COMMITTEE APPROVAL: It was taken from institutional ethical committee shri anand college of nursing, and got permission from Surpanch of gadhka village.
CONFLICT OF INTEREST: Nil
SOURCE OF FUNDING: Self

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