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Effectiveness of planned teaching programme on knowledge and attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls studying in a selected pre- university college of Bagalkot

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Abstract

The experimental study with 50 adolescent girls between 13-17 years of age selected through Multi-stage random sampling technique. One group pre test post test design was used. Data was collected by means of a structured questionnaire schedule which was divided into 2 parts (one socio- demographic data, the second part on knowledge and attitude regarding effects of consanguineous marriage on fetus and its prevention). The reliability of the tool was established by Split Half method. The Karl Pearson's coefficient of correlation $r = 0.8097$, and content validity of the tool was established by 9 experts in the field of obstetrics & gynecological nursing. Data was analyzed by using descriptive and inferential statistical in terms of mean, frequency distribution, percentage 't' test and chi-square test. It was proved that there was increase in the knowledge & attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls, after implementing planned teaching programme, thus planned teaching programme on effects of consanguineous marriage and its prevention was effective.

Keywords: Effectiveness, knowledge, attitude, consanguineous marriage

Introduction

“Marriage is the agreement to let a family happen”

Marriage is a social, religious, spiritual and legal union of individuals. Wedding ceremonies are an important feature of any culture. They can mark the beginning of a new life, the joining of two families or act as a public confirmation of the love between two people. Indian marriages are deemed almost necessary in the Indian society. Arranging a marriage is the responsibility of Indian parents and other relatives of both bride and groom. In India, there is no greater event in a family than a wedding.

Blood Related marriages are called consanguineous marriages — sanguine meaning blood.

When you marry biologically related or blood relatives then it is consanguineous marriage. Most commonly in our part of the world, first cousins — uncle's son marries auntie's daughter or vice versa. However another type of marriage is where maternal uncle marries his niece (sister's daughter). Theoretical risk of having a genetic defect child is higher in the latter type of marriage than the former. Most of us do not even recognize the pros and cons of such marriages.

While assessing the consequence of consanguineous against non-consanguineous (non-blood related) marriages in health and disease, several scientific studies have shown that consanguinity leads to death of infants before, during or immediately after birth, increased incidence of birth defects, genetic diseases including blinding disorders, blood cancer (acute lymphocytic leukemia), breathing problems for children at birth (apnea), increased susceptibility to disease etc.

Some scientists contradict these studies and state that other biological factors could be accountable for the results and not consanguinity alone.

Some studies have shown that consanguinity could increase the incidence of many blinding disorders like retinitis pigmentosa, Leber congenital amaurosis, Lawrence-Moon-Bardet-Biedl syndrome, Stargardt disease, Usher syndrome etc (Consanguinity and Ocular Genetic Diseases in South India: Analysis of a Five-year study. Community Genetics: 2002;5:180-185). Consanguinity could increase the risk of inheriting any one of the 4968 (autosomal recessive) genetic diseases that could affect any part of the body from head to foot. Consanguineous marriages result in children with genetic diseases. Due to inheritance parents and children, and brothers and sisters, commonly share 50 percent of their genetic make-up. Similarly uncle and niece share 25 percent and first cousins 12.5 percent of their inherited genetic material as it originates from a common ancestor. In such situations if there are any

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'silent' genetic defects, then such errors manifesting as a disease in the child of a consanguineous parents is high.

Prevention of consanguineous marriage by improving level of education, socioeconomic conditions and higher age of marriage, a decline in the prevalence of close consanguineous unions can be predicted. The public education may have to be taken at school level during adolescence to instill the biological risk of close marriages. Parents must be aware of the close associations of their children with the children of their brothers and sisters during their adolescence. Pre-marriage counseling for couples who have a family history of epilepsy and preconception counseling for those with consanguineous marriage will facilitate informed family planning.

Need for the study

“Marriage is popular because it combines the man and superman”

Consanguineous marriage is the union of individuals having at least one common ancestor.⁸ Inbreeding in human populations is reported to cause loss of fetus and increase in the incidence of post and prenatal deaths. This deterioration in the reproductive fitness of the population is mainly due to homozygosity of the deleterious alleles present in its gene pool. As the various traits of human behavior are controlled by the genetic system and more so in and near the operational environment of the middle class socioeconomic status, it is quite logical to think that some deterioration in these traits might be occurring in the populations which practice consanguinity. The present work therefore was aimed to know the effects of consanguinity on a few of the cognitive and social behaviors.

While assessing the consequence of consanguineous against non-consanguineous marriages in health and disease, several scientific studies have shown that consanguinity leads to death of infants before, during or immediately after birth, increased incidence of birth defects, genetic diseases including blinding disorders, blood cancer acute lymphocytic leukemia, breathing problems for children at birth -apnea, increased susceptibility to disease, deafness, skin diseases, neurodegenerative conditions, congenital heart disease, multiple malformations, mental retardation, developmental disorders, still birth rate, inborn errors of metabolism and congenital cataract, bifid tongue, cyanotic heart disease, cleft palate, hydrocephalus, also consanguineous pregnancy to reduced rates of involuntary sterility and prenatal losses.

The effect of consanguinity on fetal growth and development was studied in 3700 consecutive births 26% of the total births were to consanguineous couples. Hindus had a higher frequency of consanguineous marriages, uncle-niece unions being the commonest type, whereas Moslems preferred first cousin marriages. The incidence of congenital malformations was 39.1/1000 births with a significantly higher incidence among the consanguineous group (8.01) as against the non consanguineous group (2.42%) (P less than 0.001). The incidence of malformations was higher in the uncle-niece mating (9.34%) compared to the first cousin marriages (6.18%) (P less than 0.001). Malformations of major systems were significantly more frequent among the consanguineous couples, whereas malformations of the eyes, ears, and skin did not show any significant effect of consanguinity. Stillbirth rates were significantly higher in the consanguineous group, irrespective of the mother's

socioeconomic status, and were higher in uncle-niece mating compared to first cousin and beyond first cousin unions in both the poor and middle/upper class. The mean length was less in babies born to consanguineous parents belonging to the poor social class only.

A recent study in the state of India showed rate of consanguineous marriage was 54 percent with confidence limits of 52.3-55.7 percent bronchial asthma, mental retardation; epilepsy and diabetes were significantly more common in offspring of the consanguineous than non-consanguineous couples.⁹ Analysis of data on 106,848 marriages in the cities of Bangalore and Mysore, south India, between 1980 and 1989 showed that levels of consanguineous marriage varied between cities through time and by religion.

The young age of marriage in consanguineous couples further implicates a need to increase awareness programs among the young generation about the deleterious effects of consanguineous marriages. It is clear that the social benefits derived from such marriages are of paramount importance to consanguineous couples; however, the availability of preventive measures should be emphasized. Further genetic investigation conducted in this area to elucidate the mode of inheritance is required. India needs to take a big leap in this direction with consanguineous marriages being more prevalent.

So the investigator felt that there is a need to assess the knowledge and attitude of adolescent girls regarding effects of consanguineous marriage on fetus and its prevention. So the planned teaching programme may helps to improve the knowledge of adolescent girls and also can be prevented in their future life. The education and pre-marriage counseling should be given to the adolescent girls before marriage.

Statement of the problem

“A Study To Assess The Effectiveness Of Planned Teaching Programme On Knowledge And Attitude Regarding Effects Of Consanguineous Marriage On Fetus And Its Prevention Among Adolescent Girls Studying In A Selected Pre-University College Of Bagalkot”.

Objectives of the study

1. To assess the knowledge regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls.
2. To assess the attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls.
3. To find out the co-relation between knowledge and attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls.
4. To assess the effectiveness of planned teaching programme on knowledge and attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls.
5. To find out the association between knowledge regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls with their selected socio-demographic variables.
6. To find out the association between attitude regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls with their selected socio-demographic variables.

Operational definitions

1. **Assess:** In this study assess refers to a statistical measurement of knowledge and attitude of adolescent girls regarding effects of consanguineous marriage on fetus and its prevention.
2. **Knowledge:** In this study knowledge refers to awareness regarding effects of consanguineous marriage on fetus and its prevention among adolescent girls.
3. **Attitude:** In this study attitude refers to way of thinking or feeling about effects of consanguineous marriage on fetus and its prevention among adolescent girls.
4. **Planned teaching programme:** In this study planned teaching refers to a planned health education regarding knowledge and attitude on the effects of consanguineous marriage on fetus and its prevention among adolescent girls prepared by the investigator.
5. **Selected pre-university college:** In this study it refers to a pre-university college which offers science course.
6. **Consanguineous marriage:** In this study consanguineous marriage refers to the formal union of a man and a woman between close biological kin.
7. **Fetus:** In this study fetus refers to the unborn baby after ten weeks of gestation until birth.
8. **Adolescent girls:** In the present study adolescent girls refers to the girls between the 13-17years of age who are studying in a selected P.U.C Science college.
9. **Effects of consanguineous marriage on fetus:** In this study effect of consanguineous marriage on fetus refers to congenital malformations fetal loss, and still birth.
10. **Prevention:** In this study prevention refers to the

measures taken to prevent the effects of consanguineous marriage on fetus.

Hypothesis

- H₁:** A significant difference will be found between means of pretest and posttest knowledge and attitude scores of adolescent girls.
- H₂:** A significant association will be found between the knowledge and attitude of adolescent girls regarding effects of consanguineous marriage on fetus and its prevention with selected socio demographic variables.

Assumptions: The study assumes that

1. The adolescent girls have inadequate knowledge and unfavorable attitude regarding effects of consanguineous marriage on fetus and its prevention.
2. The adolescent girls will co-operate in teaching programme to enhance their knowledge and attitude regarding effects of consanguineous marriage on fetus and its prevention.

Delimitations

1. Prescribed data collection period only 20-30 days.
2. Sample size is limited to 50 adolescent girls.
3. Study is delimited adolescent girls between 13-17years of age.

Conceptual framework

Modified Conceptual Frame Work based on General System Theory (Von Ludwig Bertalamffy's), as shown in fig. 1.

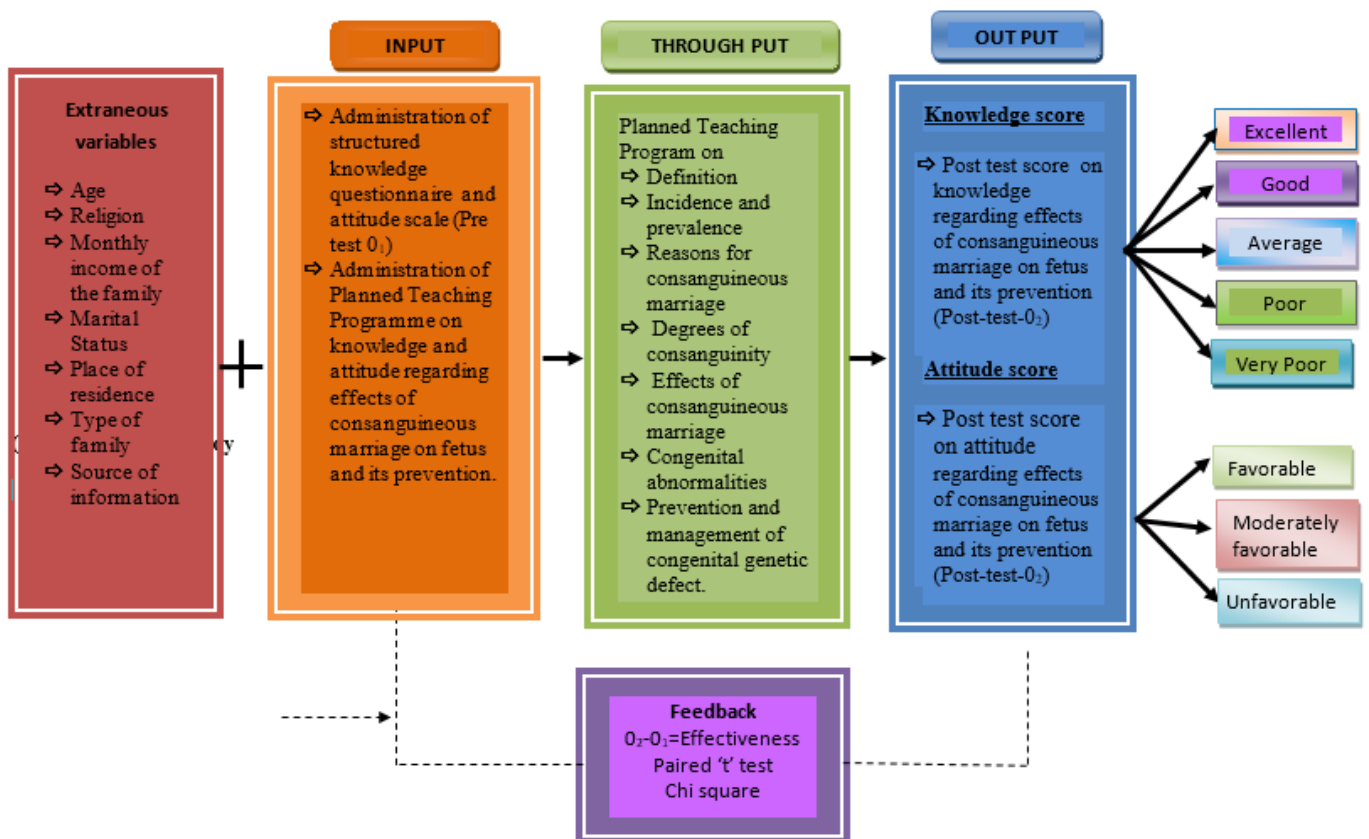


Fig 1: Modified conceptual frame work based on general system theory (Von ludwig bertalamffy's)

Research methodology

Research Approach: evaluative approach was adopted in this study.

Research design: Pre experimental one group pre test post test was used for the study.

Setting of the Study: the study was conducted in B. V. V. Sangha's Independent pre-university Science College, Vidyagiri, Bagalkot.

Population: The population of the study were adolescent girls.

Sample and sample size: 50 adolescents.

Sampling technique: Multi-stage random sampling technique was used in this study.

Variables of the study

- **Dependent variable:** Knowledge and attitude of adolescent girls regarding effects of consanguineous marriage on fetus and its prevention.
- **Independent variable:** Planned teaching programme on effects of consanguineous marriage on fetus and its prevention.
- **Extraneous variables:** Age, Religion, Monthly income of the family, Marital status, Place of residence, Type of family, Source of information regarding consanguineous marriage.

Results: The Data was presented under the following headings:

Section-I: Distribution of the subjects according to socio-demographic variables.

Findings revealed that out of 50 subjects

- Majority of 17(34%) of adolescent girls were in the Age group of 16-17 years, 15(30%) of them were in the Age group of 15-16years, 10(20%) of them were in the Age group of 14-15 years, and least 8(16%) of them were in the Age group of 13-14 years.
- Majority of 24 (48%) of the adolescent girls were belongs to Hindu religion, while 16(32%) of them were belongs to Christians and 10(20%) of them were belongs to Muslim.
- Majority of 16(32%) of the adolescent girls had a family income below Rs. 2000, 15(30%) had an income of Rs. 2000-4000, 12(24%) had an income of Rs. 4001-6000, 7(14%) had an income of Rs. 6001-8000.
- Majority of 33(66%) of the adolescent girls were married and the rest 17(34%) of them were unmarried.
- Majority of 27(54%) of them were staying in urban area and 23(46%) of them were staying in rural area.
- Majority of 35(70%) of them were belongs to nuclear family and 15(30%) of them were belongs to joint family.
- Majority of 18(36%) of them were getting information from physician, 12(24%) of them from news paper & relatives, and 8(16%) of them from journals.

Section- II: Assessment of pre test knowledge and attitude of subjects regarding effects of consanguineous marriage on

fetus and its prevention.

- **Pre test overall knowledge & attitude score on effects of consanguineous marriage on fetus & its prevention.**

The assessment of Mean and SD of overall pre test knowledge score is 47.7(SD= 2.305) & overall pre test attitude score is 42.84(SD=13.369).

- **Distribution of subjects according to Pre Test Level of Knowledge.**

Majority of 27(54%) of the adolescent girls had average pre test knowledge level, 18(36%) had poor knowledge, and 5(10%) were had good knowledge, and 0(0%) were had excellent & very poor pre test knowledge level of the adolescent girls regarding effects of consanguineous marriage on fetus and its prevention.

- **Distribution of subjects according to Pre Test Level of attitude.**

Majority of 28(56%) of the adolescent girls had unfavorable pre test level of attitude, and 22(44%) had moderately favorable and least 0(0%) had favorable level of attitude regarding effects of consanguineous marriage on fetus and its prevention.

- **Demographic wise assessment of pre test knowledge-**

There is high significant difference in pre test knowledge score among the subgroups of age (F= 8.465, P=0.000), marital status (t= 3.289, P=0.002), source of information (F= 9.254, P=0.000) and there is no significant pre test knowledge score among the subgroups of religion (F= 0.114, P=0.892), Monthly income of the family (F= 1.027, P=0.390), place of residence (t= 1.952, P=0.057), type of family (t= 0.013, P=0.989).

- **Demographic wise assessment of pre test attitude-**

There is no significant difference in pre test attitude score among the subgroups of age (F= 0.891, P=0.453), religion (F= 2.236, P=0.118), monthly income of the family (F= 0.167, P=0.918), marital status (Independent group t = 0.497, P=0.622), place of residence (Independent group t= 0.868, P=0.390), type of family (Independent group t= 0.506, P=0.615), and there is significant difference in pre test attitude score among the subgroups of source of information (F= 4.019, P=0.012).

Section-III: Assessment of post test knowledge and attitude of subjects regarding effects of consanguineous marriage on fetus and its prevention.

- **Post test overall knowledge and attitude score on effects of consanguineous marriage on fetus and its prevention.**

The assessment of Mean and SD of overall post test knowledge score is 67.4 (SD= 3.019) & overall post test attitude score is 73.76 (SD=12.547).

- **Distribution of subjects according to Post Test Level of Knowledge.**

Majority of 21(42%) of the adolescent girls had average post test knowledge level, 19(38%) had good knowledge and 10 (20%) were had excellent post test knowledge and 0(0%) had poor and very poor knowledge during post test regarding effects of consanguineous marriage on fetus and its prevention.

- **Distribution of subjects according to Post Test Level of attitude.**

Majority of 35(70%) of the adolescent girls had

favorable post test level of attitude, 15(30%) had moderately favorable post test level of attitude and 0(0%) were had unfavorable post test level of attitude regarding effects of consanguineous marriage on fetus and its prevention.

▪ **Demographic wise assessment of post-test knowledge**

There is high significant difference in post test knowledge score among the subgroups of age ($F=6.299$, $P=0.001$), marital status ($t=4.774$, $P=0.000$), source of information ($F=35.964$, $P=0.000$), place of residence ($t=2.816$, $P=0.007$), and thus there is no significant difference in post test knowledge score among the subgroups of religion ($F=0.971$, $P=0.386$), monthly income of the family ($F=1.251$, $P=0.302$), type of family ($t=1.255$, $P=0.216$).

▪ **Demographic wise assessment of post test attitude-**

There is high significant difference in post test attitude score among the subgroups of marital status ($t=3.289$, $P=0.002$) source of information ($F=5.174$, $P=0.004$), and there is no significant difference in post test attitude score among the subgroups of age ($F=1.802$, $P=0.16$), religion ($F=0.783$, $P=0.463$), monthly income of the family ($F=1.917$, $P=0.14$), place of residence ($t=1.952$, $P=0.057$), and type of family ($t=0.302$, $P=0.764$).

Section- IV: Comparison of pre and post test knowledge and attitude scores among subjects.

Paired t-test is used to compare the difference between the pre test and post test knowledge and attitude scores. There is high significant difference between pre test & post test knowledge score is ($t=13.184$) & pre test & post test attitude score is ($t=19.144$), Hence H_1 stated is accepted.

Section V: Correlation between pre and post test knowledge and attitude scores.

There is weak positive correlation between knowledge & attitude scores ($r=0.021$, $P=0.888$), where as medium positive correlation between knowledge & attitude score during post test ($r=0.467$, $P=0.001$).

Section VI: Association between the selected demographic variable and pre and post test knowledge and attitude.

▪ **Association between pre test level of knowledge & their demographic variables.**

There is significant association between pre test knowledge score and sociodemographic variables with the age ($\chi^2=22.008$, $P=0.001$), marital status ($\chi^2=10.141$, $P=0.006$), and source of information ($\chi^2=17.811$, $P=0.007$), and thus there is no significant association between pretest knowledge score and the sociodemographic variables with religion ($\chi^2=4.61$, $P=0.33$), monthly income of the family ($\chi^2=2.931$, $P=0.817$), place of residence ($\chi^2=5.940$, $P=0.051$) and type of family ($\chi^2=0.547$, $P=0.761$), Hence H_2 stated is accepted for age, marital status, and source of information and it is rejected for other sociodemographic variables.

▪ **Association between pre test level of attitude & their demographic variables.**

There is significant association between pretest level of attitude and their sociodemographic variables with the source of information ($\chi^2=10.148$, $P=0.017$), and thus

there is no significant association between pretest level of attitude and their sociodemographic variables with the age ($\chi^2=3.151$, $P=0.369$), religion ($\chi^2=4.613$, $P=0.100$), monthly income of the family ($\chi^2=3.299$, $P=0.348$), marital status ($\chi^2=0.792$, $P=0.373$), place of residence ($\chi^2=3.181$, $P=0.075$) type of family ($\chi^2=0.139$, $P=0.709$), Hence H_2 stated is accepted for source of information and it is rejected for other sociodemographic variables.

▪ **Association between post test level of knowledge & their demographic variables.**

There is high significant association between posttest knowledge score with the marital status ($\chi^2=10.664$, $P=0.005$), Source of information ($\chi^2=49.083$, $P=0.000$), and thus there is no significant association between posttest knowledge score with age ($\chi^2=12.001$, $P=0.062$), religion ($\chi^2=3.358$, $P=0.500$), monthly income of the family ($\chi^2=4.239$, $P=0.644$), place of residence ($\chi^2=3.811$, $P=0.149$), and type of family ($\chi^2=1.254$, $P=0.534$). Hence H_2 stated is accepted for marital status and source of information and it is rejected for other sociodemographic variables.

▪ **Association between post-test level of attitude & their demographic variables.**

There is no significant association between posttest level of attitude with age ($\chi^2=2.418$, $P=0.490$), religion ($\chi^2=1.31$, $P=0.52$), marital status ($\chi^2=1.532$, $P=0.216$), monthly income of the family ($\chi^2=4.753$, $P=0.191$), place of residence ($\chi^2=0.464$, $P=0.496$), type of family ($\chi^2=0.454$, $P=0.501$) and source of information ($\chi^2=5.556$, $P=0.135$) Hence H_2 stated is rejected for these socio-demographic variables.

The above finding states that "Research hypothesis H_1 . There is significant difference in the knowledge and attitude regarding consanguineous marriage among Independent pre-university science College students" regarding effects of consanguineous marriage on fetus and its prevention as stated by the investigator earlier was accepted.

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