

# “A Study To Determine The Relationship Between Selected Demographic Variables And Its Effect On The Knowledge Of Adolescent Girls Regarding Reproductive Health Among Adolescent Girls Of Selected Schools In And Around Karad City.”

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## Abstract

**Introduction :** More than quarter of worlds population is between the ages of 10 to 24, with 86% living in less developed countries. These young generation are tomorrows parents. The reproductive health decisions they make today will affect the health & wellbeing of their communities & of their countries for decades to come.(1) In this research study adolescent will learn about changes during adolescence & why it is important to deal with health problems of adolescents regarding reproductive health.

**Material and Methods:** Evaluative approach. This study conducted in the Marathi medium school in and around Karad city. Using one group pre & post test design was used. Non-probability Purposive sampling technique was used. Sample size was 785 adolescent girls. On 1<sup>st</sup> day pretest included knowledge of adolescent girl on reproductive health through structured questionnaires, effective educational intervention package was administered followed by post test on 7<sup>th</sup> day. The data was collected, tabulated and analyzed in terms of using the objective of study was to determine the relationship between selected demographic variables and its effect on the knowledge of adolescent girls regarding reproductive health.

**Result :** considering age factor ‘p’ values at both times <0.0001 which is considered extremely significant, this was indication of improvement in after Adolescent health interventional package, considering standard has some association with pre and post intervention on knowledge of adolescent girl, considering birth order, no. of siblings, age of menarche and source of information ‘p’ values at both times >0.05 which is not significant, this was indication of similar improvement in after Adolescent health interventional package

**Conclusion:** There was association between age and standard of adolescent girls with pre and post intervention on knowledge of adolescent girls.

**Keywords:** Adolescent girl, Determine, Reproductive health.

## I. INTRODUCTION

Adolescence is one of lifes most fascinattng and complex life stages & is accompanied by special reproductive health needs. Adolescents are resilient, resourceful and energetic. They can support each other through peer to peer counselling , education & outreach and contribute to their communities through activities. (2)Learning is the addition of new knowledge and experience. Interpreted in the light of past knowledge and experience.(3) Adolescent is the most important and sensitive period of one’s life. (4)Menstruation and related practices are still having socio-cultural restrictions that resulting in the adolescent girls ignorant scientific facts and hygienic health practices, necessary for maintaining positive reproductive health [5]. Hygiene related practices of women during menstruation are of considerable importance as it has a health impact in terms of increased vulnerability to infection [6]. When adolescent girls facing first menstrual period that time there is a little awareness. Parents negative attitude about menstruation in discussing openly has blocked the access of adolescent girls knowledge of reproductive health in rural communities.(7) An official press release said the scheme envisaged supplying a pack of six sanitary napkins to Below Poverty Line girls at a nominal cost of 1 rs. per pack. All girls in the Above Poverty Line category charged 5 rs. per pack of sanitary napkins (or the final determined cost in the

state). This was approved by the Mission Steering Group of the National Rural Health Mission (NRHM) chaired by Union Minister of Health and Family Welfare Ghulam Nabi Azad[8].

Reaching out to the adolescents through outreach services is one of the global standard for quality health care for the adolescents. The purpose community outreach activities in adolescent health care reaching adolescents by bringing the health related services close to where adolescents are. Focus on the fulfillment of global standards laid by the WHO to approach, promote, enhance and analyze health among adolescent girls. By providing interventional package to adolescent girls will encompass the provision of curative, promotive, preventing and counseling and out reach services in the community setting primary schools at large. Adolescent girls which are residing in the rural area will increase proper knowledge related to reproductive health in that anatomy & physiology of reproductive system, menstruation & menstrual hygiene & early pregnancy, contraception & contraceptives which was help them to focus on this age group on health promotion and for proper growth and development, this benefit was help the community at large.

#### **Significance of the study:**

To determine the relationship between selected demographic variables & its effect on knowledge of adolescent girls regarding reproductive health which will help to minimizing the risk of further complications.

#### **OBJECTIVES OF THE STUDY**

To determine the relationship between selected demographic variables and its effect on the knowledge of adolescent girls regarding reproductive health.

## **II. MATERIAL & METHODS**

**Source of data :** Adolescent girls studying in 7<sup>th</sup>, 8<sup>th</sup> & 9<sup>th</sup> of selected schools in and around Karad.

**Research approach:** Quantitative and qualitative approach was used for the study.

**Research design:** Experimental research design. (prospective study)

**Research setting:** Selected Marathi medium schools from Karad city and Up to 15 kilometers radius from Karad.

**Population:** The population of the study comprises of Adolescent girls studying in 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> std. from selected school in and around Karad.

**Sample :** Adolescent girls studying in 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> std. from selected school in and around Karad..

**Sample size:** With 95% confidence and 5% error minimum number of adolescent girls required for study is 785 Adolescent girls.

**Sampling technique:** Convenient sampling technique.

#### **CRITERIA FOR SELECTING THE SAMPLE**

The sample selection was based on following criteria.

**Inclusion criteria:** Adolescent girls:

1. Adolescence girls who between the age group of 12-15 years.

**Exclusion criteria:** Adolescent girls:

- 1) Whose parents are not available for giving consent at time of data collection.
- 2) Who are not available at the time of data collection
- 3) Adolescent girls who didn't have good auditory or listening capacity

#### **TOOL FOR DATA COLLECTION**

**Data Collection Tool :**

**Section I :** A Proforma to collect socio-demographic data of participants and their parents.

**Section II :** A Proforma to collect the information regarding knowledge of reproductive health among adolescent girls.

Knowledge regarding the Anatomy and Physiology of Reproductive system, menstruation & menstrual hygiene & early pregnancy, contraception & contraceptives.

**Section III:** Association of selected demographic variables on knowledge of adolescent girls regarding reproductive health

#### **PLAN FOR DATA COLLECTION:-**

- Ethical clearance was obtained from ethical committee of KIMSDU, Karad.
- In and around Karad Taluka up to 15 kilometers radius from Karad total 37 marathi medium schools are there among them 10 schools was selected by lottery method and under that 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> std. adolescent girls was selected from (261) 7<sup>th</sup> std, (261) 8<sup>th</sup> std & (262) 9<sup>th</sup> std adolescent girls from Marathi medium schools in and around Karad city. After obtaining their assent and the consent of their parents. The data was collected 785 adolescent girls. More samples was taken to prevent attrition rate (mortality) or drop out.
- Informed consent was obtained from concerned authority Principal of the school.
- Purpose of the study was explained to the parents and participant and informed consent will be obtained from the parents of girls who are below age of 17 years and those girls are above 18 years old child assent will be obtained from them.

## OPERATIONAL PLAN AND DATA COLLECTION PROCEDURE:

### Phase -I

Conduct Focus group discussion involves gathering the stakeholders like adolescent girls, parents and teachers and discuss on adolescent period where the researcher ask the question and understand the parent child interpersonal engagement and perceived barriers to family support by the adolescent girls.

- Validate the tools and determine their Reliability
- Train a team of trained assistants / educators and ensure preparation through objective evaluation of their knowledge using structured questionnaire and competency through Microteaching sessions.
- Prepare a schedule for a parent meeting , health education session.
- Obtain permissions from appropriate authorities like school approval.

### Phase -II

Obtain written consent from the parents of the adolescent girls and assent from the adolescent girls through a orientation program

- Randomly selected 30 girls in each class for pilot study.

### Phase- III

- Conduct pre-test of knowledge on reproductive health among respondents to providing pre test knowledge questionnaires.
- Administer the educational intervention on reproductive health and delivered educational session on reproductive health of adolescent girls.
- Administer Post test after one week of the delivery of the program with help of school teachers.

### Adolescent health intervention package:

Consist of Focus group discussion, educational intervention on reproductive health & Tend& befriend program: a parent based intervention

Tend& befriend program : This program refers to a health interaction of the researcher with the parents of the adolescents which would include delivery of knowledge and discussion regarding reproductive health.

## III RESULTS

### Section I Table 1– A Distribution of demographic characteristics of Adolescent Girl ( n=785)

Demographic Variables	Frequency	Percentage
<b>Age</b>		
12 yrs	81	10.32
13 yrs	242	30.83
14 yrs	266	33.89
15 yrs	194	24.71
16 yrs	2	0.25
<b>Std</b>		
7 th	226	28.79
8 th	189	24.08
9 th	370	47.13
<b>Birth order</b>		
1 st	339	43.18
2 nd	356	45.35
3 rd	77	9.81
4 th	10	1.27
5 th	2	0.25
6 th	1	0.13
<b>No. of Siblings</b>		
0	13	1.66
1	463	58.98
2	229	29.17
3	63	8.03
4	13	1.66
5	2	0.25
6	2	0.25
<b>Age of Menarche</b>		
11 yrs	18	2.29
12 yrs	177	22.55
13 yrs	344	43.82
14 yrs	162	20.64
15 yrs	7	0.89
No Menarche	77	9.81

School Name		
1	107	13.63
2	90	11.46
3	69	8.79
4	74	9.43
5	26	3.31
6	82	10.45
7	32	4.08
8	128	16.31
9	80	10.19
10	97	12.36
Source of information regarding adolescent health		
Friends	170	21.66
Other	23	2.93
Parents	382	48.66
Teacher	210	26.75

Above table reveals that majority 266 (33.89%) adolescent girls were in the age group of 14 years old. 262 (33.37%) were std 7<sup>th</sup> & 262 (33.37%) were std 8<sup>th</sup>, 355(45.22%) were 2<sup>nd</sup> birth order, 463 (58.98%) were 1 no. of siblings, 344 (43.82%) were 13 age of menarche, 128(16.31%) were 8 no of school. 382 (48.66%) of adolescent girls received information regarding adolescent health from her parents.

**Section I - Table 2: B – Distribution of demographic characteristics of adolescent girl parents (n=785)**

Demographic Variables	Frequency	Percentage
Mothers Education		
Illiterate	10	1.27
Primary	110	14.01
Secondary	446	56.82
Higher secondary	153	19.49
Graduate	58	7.39
PG	8	1.02
Fathers Education		
Illiterate	5	0.64
Primary	56	7.13
Secondary	349	44.46
Higher secondary	238	30.32
Graduate	119	15.16
PG	18	2.29
Mothers Occupation		
House wife	673	85.73
Government Employee	11	1.40
Private Employee	41	5.22
Self Employee	28	3.57
Daily Employee	32	4.076
Fathers Occupation		
Government Employee	16	2.04
Private Employee	137	17.45
Self Employee	525	66.88
Daily Employee	105	13.38
Unemployed	2	0.25
Family Income ( monthly)		
Below 5000	1	0.13
5001-10000	63	8.03
10001-15000	257	32.74
15001 & above	464	59.11
Type of family		
Joint	409	52.10
Nuclear	376	47.90
Residence		
Rural	491	62.55
Urban	294	37.45

Above table revealed that majority of adolescent girl mothers 446 (56.82%) received secondary education , majority of adolescent girl fathers 349 (44.46%) received secondary education, Majority adolescent girls mothers occupation 673( 85.73%) were housewife. Majority adolescent girls fathers occupation 525( 66.88%) were self employee 464 (59.11%) had monthly income of 15001 & above 409 (52.10%) adolescent girls parents belongs to Joint family. Majority of adolescent girls parents 491( 62.55%) belongs to Rural residence.

**Section II: Table 3:** Knowledge regarding the Anatomy & physiology of a Reproductive system, menstruation & menstrual hygiene of respondents and Pregnancy, contraception & contraceptives (27)

Knowledge Score	Pre Test Knowledge Frequency (%)	Post Test Knowledge Frequency (%)
Poor (0 - 9)	56(7.13%)	0 (0.00)
Average (10 – 18)	729(92.87)	19 (2.42)
Good (19 – 27)	0 (0.00)	766 (97.58)

**Table 4 :** (n=785)

Pre test knowledge	Post test knowledge of Adolescent girls					
	Average		Good		Total	
	No.	%	No.	%	No.	%
Poor	3	0.38	53	6.75	56	7.13
Average	16	2.03	713	90.82	729	92.86
Total	19	2.42	766	97.57	785	100

Above table depicts that those adolescent girls 7.13% and 92.86% having poor and average knowledge respectively after administration of intervention package on knowledge regarding Anatomy & physiology of Reproductive system, menstruation & menstrual hygiene and Pregnancy, contraception & contraceptives. Majority adolescent girls 97.57% and 2.42% changed into good and average knowledge respectively and nobody remain in poor category after listening interventional package.

**Table 5:** (n=785)

Knowledge Score	Pre Test			Post Test		
	Poor No. (%)	Average No. (%)	Good No. (%)	Poor No. (%)	Average No. (%)	Good No. (%)
Anatomy and Physiology (12)	290 (36.94)	495 (63.06)	0 (0.00)	0 (0.00)	143 (18.22)	642 (81.78)
Menstruation & Menstrual hygiene(10)	17 (2.17)	764 (97.32)	4 (0.51)	0 (0.00)	1 (0.13)	784 (99.87)
Pregnancy, Contraception & Contraceptives (5)	72 (9.17)	713 (90.83)	0 (0.00)	0 (0.00)	444 (56.56)	341 (43.43)

**Table 6 :** Mean  $\pm$ SD knowledge score of adolescent girl regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene & pregnancy, contraception & contraceptives.

Pre Test Mean $\pm$ SD	Post Test Mean $\pm$ SD	Gain (Difference) Mean $\pm$ SD	Paired t test value	P value
11.4866 $\pm$ 1.51864	21.2662 $\pm$ 1.82365	9.77961 $\pm$ 2.209	124.02	<0.0001

Above Table reveals that, mean  $\pm$  SD post test knowledge score was higher than mean  $\pm$  SD pre test knowledge score. There was significant difference was found between mean  $\pm$  SD pre test and post test knowledge score. (P <0.0001)

**Section III: Table 7:** Association between Age & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls.

Age	No. (%)	Pre test Knowledge	Post test Knowledge
		Mean $\pm$ SD	Mean $\pm$ SD
12 to 13 yrs	323 (41.14)	10.8513 $\pm$ 1.217	20.5077 $\pm$ 1.531
14 to 16 yrs	462 (58.85)	11.9307 $\pm$ 1.552	21.7965 $\pm$ 1.826
Unpaired 't' test value		10.454	10.387
'P' value		<0.0001	<0.0001

Above table depicts that unpaired 't' test value Before Adolescent health interventional package was 10.454& after Adolescent health interventional package was 10.387 as 'p' values at both times <0.0001 which is considered extremely

significant, this was indication of improvement in after Adolescent health interventional package as compared to Before Adolescent health interventional package in both age groups.

**Table 8:** Association between standard & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls.

standard	No.	%	Pre test Knowledge		Post test Knowledge	
			Mean	±SD	Mean	SD
7	262	(33.37)	10.9122	±1.288	20.1755	±1.197
8	262	(33.37)	11.4503	±1.303	21.2099	±1.602
9	261	(33.24)	12.0996	±1.695	22.4176	±1.866
F value			44.529		132.11	
'P' value			<0.0001		<0.0001	

Above table depicts that One way ANOVA was used to check the equality of means of knowledge scores for before and after Adolescent health interventional package for different standard wise of adolescent girl. standard wise comparison of knowledge scores before and after Adolescent health interventional package revealed that knowledge scores were different for before as well as for after Adolescent health interventional package. This indicates standard has some association with pre and post intervention on knowledge of adolescent girl.

Tukey's multiple comparison test was done to check between which pair of standard groups, there were significant differences. It was found that, before Adolescent health interventional package, there was significant difference between and & 7<sup>th</sup>& 8<sup>th</sup> (P < 0.001) & 7<sup>th</sup>& 9<sup>th</sup> (P< 0.001) and 8<sup>th</sup>& 9<sup>th</sup> std (P < 0.001) After Adolescent health interventional package, there was significant difference between 7<sup>th</sup>& 8<sup>th</sup> (P<0.001) 7<sup>th</sup>& 9<sup>th</sup> (P< 0.001) & 8<sup>th</sup>& 9<sup>th</sup>(P< 0.001)

**Table 9:** Association between Birth order & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls.

Birth order	No. (%)	Pre test Knowledge		Post test Knowledge
		Mean	±SD	Mean ±SD
1	340 (43.31)	11.6205	±1.482	21,2058±1.729
2& above	445 (56.68)	11.3842	±1.540	21,3123±1.893
Unpaired 't' test value		2.165		0.8104
'P' value		0.0307		.4180

Above table depicts that unpaired 't' test value Before Adolescent health interventional package was 2.165& after Adolescent health interventional package was 0.8104. 'p' value was 0.0307 considered significant but after Adolescent health interventional package 'p' value was 0.4180 which is considered not significant, this was indication of no improvement in this was indication of no improvement in after Adolescent health interventional package as compared to Before Adolescent health interventional package in both birth order.

**Table 10:** Association between no. of siblings & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls

no. of siblings	No.	%	Pre test Knowledge		Post test Knowledge	
			Mean	±SD	Mean	±SD
0-1	476	(60.63)	11.5840	±1.526	21.3214	±1.829
2& above	309	(39.36)	11.3365	±1.498	21.1812	±1.814
Unpaired 't' test value			2.236		1.052	
'P' value			0.0256		0.2929	

Above table depicts that unpaired 't' test value Before Adolescent health interventional package was 2.236 & after Adolescent health interventional package was 1.052. 'p' value was 0.0256 considered significant but after Adolescent health interventional package 'p' value was 0.2929 which is considered not significant, this was indication of no improvement in this was indication of no improvement in after Adolescent health interventional package as compared to Before Adolescent health interventional package in both no. of siblings group.

**Table 11:** Association between age of menarche & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls

age of menarche	No.	%	Pre test Knowledge		Post test Knowledge	
			Mean	±SD	Mean	±SD
11-13	539	(68.66)	11.4638	±1.451	21.2077	±1.786
14,15 & No	246	(31.33)	11.5365	±1.660	21.3943	±1.900
Unpaired 't' test value			0.6225		1.330	
'P' value			0.5338		0.1839	

Above table reveals that unpaired 't' test value Before Adolescent health interventional package was 0.6225 & after Adolescent health interventional package was 1.330 As 'p' values at both times >0.05 which is not significant, this was indication of similar improvement in after Adolescent health interventional package as compared to Before Adolescent health interventional package in both age of menarche groups.

**Table 12:** Association between source of information & pre & post existing knowledge regarding anatomy & physiology of reproductive system, menstruation & menstrual hygiene, pregnancy, contraception & contraceptives of adolescent girls

source of information	No. %	Pre test Knowledge	Post test Knowledge
		Mean ±SD	Mean ±SD
Friends & other	193 (24.58)	11.4766 ±1.528	21.1398 ±1.550
Parents & teachers	592 (75.41)	11.4898 ±1.517	21.3074 ±1.904
Unpaired 't' test value		0.1046	1.108
'P' value		0.9167	0.2680

Above table reveals that unpaired 't' test value Before Adolescent health interventional package was 0.1046 & after Adolescent health interventional package was 1.108 As 'p' values at both times >0.05 which is not significant, this was indication of similar improvement in after Adolescent health interventional package as compared to Before Adolescent health interventional package in both source of information related to adolescent health groups.

#### IV DISCUSSION

Adolescence as a transition period between childhood and adulthood is a relatively new concept in developing countries, where such transition tended to be a more rapid event marked by the beginning of reproductive maturity. It is very stressful developmental period of adolescents filled with major changes like physical development, sexuality, and cognitive development, emotionality, and also relation with the others. Adolescents also experience significant changes in their ability to assess and comprehend complex situations and information and in their desire to become independent, unique individuals. So, this study aims to determine the relationship between selected demographic variables and its effect on the knowledge of adolescent girls regarding reproductive health.

In the present study total knowledge on reproductive health depicts that those adolescent girls 7.13% and 92.86% having poor and average knowledge respectively after administration of educational intervention on knowledge regarding Anatomy & physiology of Reproductive system, menstruation & menstrual hygiene and Pregnancy, contraception & contraceptives. Majority adolescent girls 97.57% and 2.42% changed into good and average knowledge respectively and nobody remain in poor category after listening educational intervention. Total knowledge on reproductive health reveals that mean ± SD post test knowledge score was higher than mean ± SD pre test knowledge score. There was significant difference was found between mean ± SD pre test and post test knowledge score. (P <0.0001) above findings supported to study conducted by *C I Mba et al* did an interventional study to evaluate the impact on reproductive health education on knowledge and the attitude of adolescents girls in a rural Nigerian community on reproductive health related issues. It compared an adolescents in the secondary schools (study group), which was received health educations on the reproductive health with another secondary schools (control group), which did not receive any health educations. The impact of programme was evaluated by the pre knowledge and post knowledge gain in 6 weeks after using same questionnaire. Result showed that there was significant (p < 0.05) gain in post knowledge score with effect of health education.<sup>9</sup>

In the present study Mean ±SD knowledge score of adolescent girl regarding anatomy & physiology of reproductive system, knowledge score of adolescent girl regarding menstruation & menstrual hygiene, Knowledge score regarding Pregnancy, contraception & contraceptives reveals that mean ± SD post test knowledge score was higher than mean ± SD pre test knowledge score. There was significant difference was found between mean ± SD pre test and post test knowledge score. (P <0.0001). The results of the present study are in congruent with the study of **Simona et al (2009)**(10) who found poor knowledge among adolescents about human reproduction system. He reported that, nearly one quarter of the adolescents had Knowledge about female reproductive system.

In the present study considering age factor 'p' values at both times <0.0001 which is considered extremely significant, this was indication of improvement in after Adolescent health interventional package, considering standard has some association with pre and post intervention on knowledge of adolescent girl, considering birth order, no. of siblings, age of menarche and source of information 'p' values at both times >0.05 which is not significant, this was indication of similar improvement in after Adolescent health interventional package This result is in congruent with the **Aljohara et al., (2013)** (11) who found that, Majority of students belonged to second or more order of birth and most of them had fathers with graduate and above level of education.

Analysis of the results of the present study indicated that more than two third of the students in respondents agree on important that the educational curriculum includes reproductive health which reflect student's needs to health education about reproductive health and help in clarify and strengthen positive values and attitudes. These results go in line with the recommendation of the World Health Organization (**WHO, 2008**) (12) that reproductive health education be provided within the context of school programs and activities that promote health. This project has accepted by the students, parents, and school administrators (**Tawfik, 2011**) (13). Also **Kirby D, et al. (2005)** (14) reported that in order to young people

make good decisions about reproductive health, they need good information, values and attitudes consistent with health goals, skills to behave consistently with their knowledge and values, and access the qualitative health services. Education based curriculum can be contribute to the provided as per need of young generation in the structured format, with approaches which is flexible can be implimentation of variety of the different settings.

## V CONCLUSION & RECOMMENDATIONS

During the study it was observed that, all the respondents were very conscious and interested to learn on reproductive health, the selected aspects about the Anatomy & physiology of Reproductive system of female, menstruation and importance of menstrual hygiene & pregnancy, contraception & contraceptives. Result depicts that among selected demographic variables age factor 'p' values at both times <0.0001 which is considered extremely significant, this was indication of improvement in after Adolescent health interventional package, considering standard has some association with pre and post intervention on knowledge of adolescent girl, considering birth order, no. of siblings, age of menarche and source of information 'p' values at both times >0.05 which is not significant, this was indication of similar improvement in after Adolescent health interventional package. Analysis of the results of the present study indicated that more than two third of the students in all respondents agree on important that the educational curriculum includes reproductive health which reflect student's needs to health education about reproductive health and help in clarify and strengthen positive values and attitudes

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