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Effect of Intervention on knowledge of rural school going adolescent girls about pubertal changes

Effects of information dissemination on pubertal changes among adolescent school girls in the rural area of Varanasi district, Uttar Pradesh(location)

Abstract

Aim: The study focused on measuring effect of intervention on knowledge of adolescent girls in rural areas about different pubertal changes occurring to them.

The aim is to study the understanding on pubertal changes among adolescent school girls using information dissemination

Study Design: The study had a cross sectional design with intervention given to the experimental groups.

Methodology: This is a cross-sectional study among adolescent girls aged 12-18 years in the rural area of Varanasi district,..... This was conducted among 240 adolescent school girls across 5 selected villages following consent and assent in Varanasi district in Uttar Pradesh over (duration of time in weeks/months). A self-structured questionnaire was administered.....Awareness creation was done using group/individual information dissemination over the period of 3 months. Data was collected into excel sheet and analysis done using paired t test.

Place and Duration of study: Varanasi district, 2 years.

Methodology: The sample consisted of 240 school going adolescent girls in the age range of 12 to 18 years selected from five villages of Varanasi district in Uttar Pradesh. A self structured interview schedule was used for data collection. The educational intervention regarding awareness about changes during adolescent years was given in the form of lectures, discussions, video shows, etc for three months in the selected schools. The data was analysed applying paired t test for knowing the significant effect of intervention.

Results: Respondents showed lack of knowledge regarding meaning of menstruation, male and female reproductive organs, growth of primary and secondary sex characteristics during

29 adolescence and external and internal changes in body during adolescence. Significant
30 differences were seen in awareness regarding aspects of pubertal changes during adolescence
31 among respondents due to intervention among respondents of experimental group.

32 **Conclusion: Information dissemination on pubertal changes in schools to adolescent girls is an**
33 **effective way in improving their developmental phase**

34 Conclusion: Educational intervention in the schools can be an effective means to bring on
35 significant changes in the knowledge levels of adolescent girls.

36 **Key words:** Adolescence, Intervention, Puberty, Health

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41 **Introduction**

42 Adolescents are an important subgroups of the population and constitute almost 21 % of the
43 country's population (i.e. about 268 million)¹. This is the transient phase which requires proper
44 guidance, awareness and knowledge about various aspects of life so as to develop into healthy
45 adults. It is the time when the adolescent not only experiences physiological changes but also
46 emotional, social and mental changes. Adolescent girls, being in the vulnerable zone of
47 “females,” are exposed to different kinds of restrictions within their families due to cultural
48 demands. This is coupled with being dependent on others regarding decisions on education,
49 work, marriage and other social responsibilities. Evidences are there about poor knowledge and
50 lack of awareness about physical and psychological changes occurring during adolescence and
51 this goes hand in hand with their vulnerability to fall for different kinds of health problems
52 related to reproductive health, substance abuse and many other issues^{2,3,4}. Thus the health and
53 development need of this section **adolescent girls** of the population are huge and needs to be
54 addressed properly.

55 Adolescence is period in which different habits are formed and is a phase of increased
56 risk taking and susceptibility to various problems during the time of puberty. Adolescents
57 experience various kinds of changes occurring in their bodies due to the effect of various

58 hormones. Past researches have verified the effects of puberty on adolescent moods, self image
59 and interaction with peers and parents⁵. There is a marked development regarding reproductive
60 biology yet adolescents often lack knowledge of **common** reproductive health issues. According
61 to a review study by Bej⁶, awareness about sexuality and other reproductive health issues **varied**
62 **from 40 % to poor**. This is coupled with the absence of scientific and authentic information to
63 know and understand these issues and causes anxiety and curiosity among the adolescents who
64 may thus be pushed into different courses of actions without having a chance to think fully of the
65 consequences. Even information about physical maturation is often not ~~disclosed~~(discussed)
66 within the family, on the assumption that the silence will convey the taboo nature of this topic,
67 protect a child's innocence and encourage appropriate behavior. Santhya and Jejeebhoy⁵ have
68 highlighted that although there are many national programmes that aim to address the needs of
69 the young, youth are, for the most part, unprepared to meet the needs of a globalizing world. The
70 schools which are considered to be as temples of learning, also do not address the issues of
71 growing up and many times the teachers skip the chapters in the books pertaining to adolescence
72 ~~stage or growing up~~ or even reproductive system. As a result, the adolescent boys and girls fail to
73 gain proper knowledge and often resort to faulty methods of acquiring knowledge. A study done
74 in Iran emphasized on role of secondary schools in improving the attitudes and knowledge of
75 adolescents towards pubertal changes⁸. Researches also indicate that good knowledge and
76 attitudes regarding puberty helps in preparing adolescents not only for promoting their physical
77 health but also it helps in coping for their struggles with puberty^{9, 10}.

78 Thus this study **aimed at** ~~was planned to know~~**ing** ~~assessing~~ the level of understanding
79 related to pubertal changes and **effect of information dissemination among adolescent school**
80 **girls** ~~among school going adolescent school girls and the effect of~~ **information dissemination**
81 ~~educational intervention on their knowledge.~~

82 **Material and Methods**

83 The present study adopted a cross-sectional approach with an experimental design. The
84 respondents were divided into experimental and control groups with the experimental group
85 receiving intervention for a period of three months

86 ***Study area and sample:***

87 The study was carried out in the various government schools of Varanasi district of Uttar
88 Pradesh. Multi-level stratified sampling was used wherein one district from the state was
89 selected, then block and finally the schools where the study was conducted. A total of 240
90 schools with ~~going~~ adolescent girls were taken as sample and were selected from various
91 government schools of the selected district areas.

92 A list of secondary and senior secondary schools of the respective block (Araijiline) was
93 obtained and four government schools which had more than 100 girl students enrolled at
94 secondary level, were finally selected randomly. The principals of the schools were contacted
95 and were briefed about the importance of the study and the willingness of the participants was
96 sought. Accordingly 60 adolescent girls were selected between the age group of 12 to 18 years
97 and from 8th to 12th standards of each school, thus making 240 girls.

98 ***Tools***

99 A self-structured interview schedule was used for collecting data. It consisted of sections of
100 background information and specific information related to knowledge regarding aspects of
101 menstruation. Each participant was contacted separately in the school and the desired
102 information was sought.

103 From the baseline data it was seen that although girls in the selected schools showed low levels
104 of knowledge, two schools with maximum percentage of respondents having low levels of
105 knowledge, from each district, were finally selected for the intervention programme. Thus two
106 schools (with 120 girls) were selected as control group while intervention was provided to the
107 rest 120 girls for a period of three months (Experimental group).

108 The intervention programme consisted of participatory sessions involving lectures and
109 discussions on topics of adolescence, physical changes during adolescence, importance of
110 puberty, etc. Post testing was done after a gap of one month from the last day of intervention
111 programme to measure the impact and gain in knowledge levels. Respondents from the
112 fourselected schools in were interviewed by the use of the same interview schedule that was used
113 at the time of pre-testing.

114 ***Analysis***

115 The data was coded, scored and compiled for final analysis through the use of SPSS (version
116 17.0). Appropriate statistical measures were applied to ascertain the impact of intervention.

117

118 **Results and Discussion**

119 *Socio-demographic profile*

120 The socio-demographic profile of the respondents is presented in Table 1 and it can be seen that
121 majority of them were between the age group of 15 to 16 years and were studying in 11th and 12th
122 standards, i.e. above high school level. Majority of the parents were educated till upper primary
123 level. Maximum percentage of girls had medium- sized families with five to eight members with
124 a monthly income in the range of Rs 5000/- to Rs 10000/-. The caste composition of the rural
125 families revealed that about 39.02 per cent were in the OBC group.

126 Table 1. Socio-demographic profile of rural respondents

Sl. No.	Parameters	Sample n = 240, (%)
1.	Age	
	12 to 14 years	26.3
	15 to 16 years	45.8
	Above 16 years	27.9
2.	Level of education	
	Below High School	33.8
	High School	23.3
	Above High School	42.9
3.	Education of mothers	
	Illiterate	23.1
	Primary	16.8
	Upper primary	35.3
	High school	18.1
	Intermediate	2.5
	Graduate & Above	4.2
4.	Education of Father	
	Illiterate	1.8
	Primary	3.1
	Upper primary	33.8
	High school	30.2
	Intermediate	16.9
	Graduate & Above	14.3
5.	Family size	

	Small (1 – 4 members)	5.0
	Medium (5 to 8 members)	59.2
	Large (Above 8 members)	35.8
6.	Caste	
	General	22.1
	SC	38.8
	ST	-
	OBC	39.2
7.	Monthly income of families	
	Upto Rs 5000/-	2.1
	Rs 5001/- to Rs 10000/-	35.4
	Rs 10001/- to Rs 15000/-	32.1
	Above Rs 15000/-	30.4

127 Note: All figures in percentage

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136 **Table 2. Awareness of respondents regarding meaning of reproductive system before and**
 137 **after intervention**

Responses	Rural(N=240)							
	Pre							
	Exp (n=120)				Con (n=120)			
	Pre		Post		Pre		Post	
No Knowledge	112	93.3	22	18.3	119	99.2	101	84.1
A system where new individuals are produced	0	0	36	30.0	0	0	0	0
Reproductive organs of body	0	0	69	57.5	1	0.8	6	5.0
Child birth process	8	6.6	0	0	0	0	13	10.8

138

139 Distribution of respondents according to their awareness regarding meaning of menstruation is
 140 being depicted in Table 2. It can be seen that most of the respondents among both the groups
 141 (93.3% : experimental and 99.2 % : control) did not know about the meaning of reproductive

142 system during pre-test. The whole reproductive system of males and females were explained
 143 during the sessions of intervention and the post testing data showed gain in knowledge as evident
 144 from increase in percentage from 0 (pre-test) to 30 per cent (at the time of post-test) who related
 145 the meaning to a system where new individuals are produced and 0 (during pre-test) to 57.5 per
 146 cent (during post-test) for reproductive organs of the body among experimental group. No such
 147 change was observed among the control group respondents. Thus intervention resulted in gain in
 148 knowledge with respect to meaning of reproductive system. The results of the present study are
 149 supported by findings of Rathinasabapathy ¹¹ who found a similar kind of situation where poor
 150 knowledge on reproductive organs and its meaning was reported by study participants during pre
 151 test which increased after providing education intervention to the adolescent girls

152 **Table 3. Knowledge of respondents on reproductive organs and their functions before and**
 153 **after intervention**

Responses	Respondents							
	Exp (n=120)				Con (n=120)			
	Pre		Post*		Pre		Post	
	F	P	F	P	F	P	F	P
Male reproductive organs								
Testes	0	0	53	44.2	0	0	0	0
Function (production of sperms)	0	0	52	43.3	0	0	0	0
Penis	0	0	56	46.7	0	0	1	0.8
Function (release of urine & semen)	0	0	56	46.7	0	0	0	0
Scrotum	0	0	30	25.0	0	0	0	0
Function (holds testes)	0	0	28	23.3	0	0	0	0
Female reproductive organs								
Ovaries	1	0.8	70	58.3	1	0.8	1	0.8
Function (production of eggs)	0	0	48	40.0	0	0	0	0
Uterus	2	1.7	59	49.2	5	4.2	5	4.2
Function (baby develops)	1	0.8	36	30.0	5	4.2	6	5.0
Fallopian tube	0	0	31	25.8	0	0	0	0
Function	0	0	23	19.2	0	0	0	0
Vagina	2	1.7	60	50.0	0	0	0	0
Function	0	0	60	50.0	0	0	0	0

154 * The total percentage may be more than 100 due to multiple responses

155 Respondents were enquired about the various male and female reproductive organs present in the
 156 body along with their functions (Table.3) and the pretest data showed complete lack of
 157 knowledge among the respondents. It was surprising to note that none of the girls could actually
 158 name any male reproductive organ. Although the topics related to reproductive organs were
 159 included in their textbooks but inspite of that a dismal picture prevailed. There was a huge gain
 160 in knowledge (over 40% at the time of post-testing), of the respondents pertaining to the names
 161 of male reproductive organs. Over 40 per cent of the experimental group girls could identify and
 162 name certain male reproductive organs, such as, testes (44.2%) and its function (43.3%), penis
 163 (46.7%) and its function (46.7%) and scrotum (25%) along with its functions (23.3%) during the
 164 period after intervention.

165 Control group respondents did not show increase in the knowledge about the female reproductive
 166 organs. Thus lack of knowledge with respect to male and female reproductive organs along with
 167 their functions was observed during the period of pretesting. Similar findings were noted from
 168 studies by Singh and Rathor¹² and Verma *et al*¹³ where adolescent girls were less aware about
 169 male and female reproductive organs. A study by Shankar *et al*¹⁴ reported that over 80 percent of
 170 the adolescent girls were unaware of the appearance of secondary sexual characteristics in both
 171 the genders

172 **Table 4. Distribution of adolescent girls on the basis of their knowledge of primary and**
 173 **secondary sex characteristics during adolescence before and after intervention**

Responses	Respondents							
	Exp (n=120)				Con (n=120)			
	Pre		Post*		Pre		Post	
	F	P	F	P	F	P	F	P
Primary sex characteristics								
Changes in male reproductive organs	0	0	65	54.2	0	0	0	0
Changes in female reproductive organs	0	0	101	84.2	0	0	0	0
Secondary sex characteristics								
Appearance of moustache in boys	0	0	75	62.5	0	0	0	0
Appearance of beard in boys	0	0	86	71.7	0	0	0	0
Appearance of under-arm hair in boys	0	0	47	39.2	0	0	0	0

Appearance of pubic hair in boys	0	0	40	33.3	0	0	0	0
Appearance of under-arm hair in girls	0	0	70	58.3	0	0	0	0
Appearance of pubic hair in girls	0	0	47	39.2	0	0	0	0
Breast development in girls	0	0	57	47.5	0	0	0	0

174
175 Respondents were asked about the primary and secondary sex characteristics / changes occurring
176 during adolescence in boys and girls and the data pertaining to this have been presented in Table
177 4. It was shocking to see that none of the respondents among experimental and control groups
178 could name a single primary or secondary sex characteristic, even simple characteristics like
179 appearance of moustache or beard in boys was also not known to them. The most interesting fact
180 was that all the girls were in the stage of adolescence and were experiencing such changes, still
181 none of them perceived those changes as primary or secondary sex characteristics.

182 The education given to them during intervention showed a gain in knowledge in all the aspects
183 among the experimental group. Majority of them became aware about primary sex
184 characteristics, during post-testing, as changes in female reproductive organs (84.2%) that is
185 uterus, ovaries and vagina and changes in male reproductive organs of testes, penis and scrotum
186 (54.2%). The secondary sex characteristics known to them during post testing were appearance
187 of beard in boys (71.7%), appearance of under arm hair in girls (58.3%), appearance of
188 moustache in boys (62.5%), breast development in girls (47.5%), appearance of pubic hair in
189 girls (39.2%) and in boys (33.3%). A study by Hunshal *et al*¹⁵ concluded that intervention
190 programme benefited the adolescent girls in terms of gain in proper knowledge about pubertal
191 changes and reproductive system.

192 **Table 5. Distribution of respondents on the basis of awareness of external changes**
193 **occurring during puberty in boys and girls before and after intervention**

Responses	Respondents (N= 240)							
	Exp (n=120)				Con (n=120)			
	Pre*		Post*		Pre*		Post	
	F	P	F	P	F	P	F	P
Girls								
Increase in height	36	30.0	75	62.5	52	43.3	54	45.0
Changes in weight	16	13.3	64	53.3	4	3.3	10	8.3

Changes in breast proportions	14	11.6	50	41.7	8	6.7	8	6.7
Changes in body proportions	2	1.6	41	34.2	1	0.8	1	0.8
Being slim	8	6.6	33	27.5	13	10.8	13	10.8
Other changes (hair in other body parts)	14	11.6	79	65.8	12	10.0	11	9.2
Menarche	15	12.5	72	60	16	13.3	20	16.7
Difference in facial appearance /skin changes	15	12.5	38	31.7	11	9.2	13	10.8
No knowledge	84	70.0	45	37.5	68	56.6	66	55.0
Boys								
Increase in height	30	25.0	48	40.0	28	23.3	30	25.0
Changes in weight	8	6.6	40	33.3	3	2.5	4	3.3
Changes in voice	17	14.1	46	38.3	11	9.2	14	11.7
Appearance of moustache & beard	20	16.6	56	46.7	22	18.3	28	23.3
Other changes (hair in other body parts)	3	2.5	73	60.8	5	4.2	6	5.0
Broadening of chest & shoulders	3	2.5	80	66.7	2	1.7	13	10.8
No knowledge	90	75.0	40	33.3	92	76.6	90	75.0

194

195 A lot of improvement was seen among the experimental group participants in rural during
196 post testing which was due to the interactive educative sessions during the intervention period.
197 Increase in responses was seen in all categories of awareness of changes occurring in boys
198 during puberty and the highest among them was in the response of broadening of chest and
199 shoulders (2.5% at pre-test to 66.7% at post-test) followed by other changes (2.5% at pre-test to
200 60.8% during post-testing) and changes in weight (6.6% at pre-test to 33.3% at post-test). More
201 percentage of girls were aware of the changes like increase in height, voice changes and
202 appearance of moustache and beard. Deshmukh *et al*¹⁶ also noticed significant improvement in
203 knowledge about physical changes in their study on determining effectiveness of a health
204 education intervention programme in adolescent girls. According to the findings of a study on
205 awareness regarding pubertal changes in school going adolescent girls, the most common
206 knowledge perceived by one third of girls were growth of pubic hair, increase in weight and
207 height and menarche¹⁷. Post testing showed a sharp increase in awareness pertaining to all major
208 changes occurring in girls during puberty among experimental group while not much difference

209 in responses was seen among control group girls. More percentage of girls knew about the
 210 changes like increase in height, weight differences, changes in breast and body proportions,
 211 occurrence of menarche as well as other changes.

212 External bodily changes during any phase of life, especially during adolescence, are
 213 easier to observe than the internal ones. Certain peculiar changes like increase in height or
 214 weight during puberty are most likely to be perceived and should be known to the people of that
 215 cohort. However, it was surprising to note that simple variations in height and weight,
 216 occurrence of menarche as external change during puberty in girls was not known to the
 217 respondents. This suggests a clear ignorance on the part of these youngsters for not realizing
 218 important changes in themselves. The findings of the present study are supported by results of a
 219 research on knowledge and information in psychological and physiological problems among
 220 adolescent school girls who concluded that adolescent girls had poor knowledge on puberty and
 221 the pubertal problems¹⁷. Sandhya and Panthee⁵ in their study on awareness and attitude on
 222 pubertal changes among adolescents in Nepal also revealed unfavorable attitudes and knowledge
 223 regarding changes occurring during puberty and negative attitude towards changes in terms of
 224 fear, sadness, etc.

225 **Table 6. Awareness of adolescent school girls regarding internal changes occurring among**
 226 **girls and boys during puberty before and after intervention**

Responses	Rural (N = 240)							
	Exp (n=120)				Con (n=120)			
	Pre*		Post*		Pre		Post*	
	F	P	F	P	F	P	F	P
Girls								
Maturation of organs	0	0	23	19.2	0	0	0	0
Aggression	2	1.7	25	20.8	0	0	0	0
Emotional changes	4	3.3	28	23.3	1	0.8	1	0.8
Interest in boys	4	3.3	18	15	1	0.8	1	0.8
Interest in fashion	1	0.8	18	15.0	1	0.8	1	0.8
Increase in mature thinking	10	8.3	67	55.8	2	1.7	8	6.7
No knowledge	110	91.7	84	70.0	115	95.8	113	94.2
Boys								
Maturation of organs	0	0	25	20.8	0	0	1	0.8
Aggression	1	0.8	33	27.5	0	0	4	3.3
Emotional changes	1	0.8	11	9.2	0	0	4	3.3

Interest in girls/ affairs	5	4.2	44	36.7	0	0	4	3.3
Interest in fashion	0	0	0	0	0	0	0	0
Increase in mature thinking	7	5.8	40	33.3	2	1.7	6	5.0
No knowledge	115	95.8	76	63.3	118	98.3	114	95.0

227
228 Table 6 provides details of distribution of respondents according to their knowledge of various
229 internal changes occurring among boys and girls during puberty. It was observed that more than
230 90 per cent of the respondents in experimental and control groups (91.7% and 95.8%) did not
231 know anything about the internal changes occurring during adolescence in girls. Only 8.3 percent
232 of girls in experimental group were aware of the increase in knowledge / mature things in girls as
233 internal changes at the time of pre-test. An equal percentage of experimental group (3.3%) and
234 control group (0.8%) in rural areas felt that emotional changes among adolescent girls and boys
235 was something that happened internally. This lack of knowledge pertaining to emotional
236 changes on the part of girls of the present study are validated by a study of Jain *et al*¹⁸ who
237 found that only seven percent of adolescent school going girls were aware of any kind of
238 emotional changes occurring during the period of adolescence. Internal changes during
239 adolescence are difficult to observe but one can always feel the changes in mood or emotions.
240 The most obvious change that can be felt is the emotional variations occurring in the form of
241 mood changes or increase in aggression or anger. If persons are sensitive towards themselves, the
242 changes can be felt by them. On the whole, it was seen that respondents in the present study were
243 less aware of the internal changes in boys during adolescence than in girls, which was obvious as
244 they must have felt some of the changes within themselves. The present findings are in
245 congruence with results of a study by Abajobir and Seme¹⁹ which concluded that most of the
246 rural adolescents did not know about the changes taking place in boys and girls during puberty.

247 **Table 7. Perception of girls on behavioural changes of the family members during**
248 **adolescence**

Responses	Rural			
	Exp (n=120)*		Con (n=120) *	
	F	P	F	P
Restriction in overall movement	8	6.6	26	21.6
Not allowed to play	46	38.3	3	2.5
Don't let go alone /don't let go anybody's house	16	13.3	21	17.5

Planning about marriage	11	9.2	4	3.3
More household responsibilities	8	6.6	8	6.6
Expects to take care of siblings	0	0	0	0
Understands our behaviour	13	10.8	6	5.0
No knowledge	50	41.6	77	64.1

249

250 Table 7 depicts the distribution of respondents according to their perception on behavioural
 251 changes of their family members during the period of adolescence across the two settings. It can
 252 be seen that majority of the respondents in experimental and control groups (41.6% and 64.1%)
 253 did not have any knowledge on this aspect. Respondents perceived many behavioural changes,
 254 especially in their parents, during their process of 'growing up.' More percentage of girls in the
 255 experimental group (38.3%) were not allowed to play than the control group (2.5%) while
 256 respondents in the control group complained more of restrictions outside their house (21.6%) and
 257 were not allowed to go alone or sleep alone (17.5% as against 13.3% experimental group girls).
 258 An equal percentage of respondents in both groups (6.6%) expressed an increase in sharing of
 259 household work or responsibilities while a little less than on tenth of them realized that their
 260 parents took more care of them ("dhyan dete hain") and understood their changing behaviour.
 261 Respondents also felt that their parents have started to discuss about their marriages (9.1%:
 262 experiment and 3.3%: control group). It is clear that respondents definitely felt a change in the
 263 behaviour of parents during the adolescence years, especially after their menarche, and were
 264 expected to behave like mature adults. Certain issues like security, marriage, restrictions on
 265 movements outside home were seen. As can be seen from the perception of the girls, parents
 266 were more concerned about these aspects. This may be because of the concern on the safety of
 267 girls and women in the rural areas as the young girls are more vulnerable to various kinds of
 268 atrocities.

269 **Table 8. Difference in mean scores of puberty related knowledge of rural and tribal**
 270 **respondents before and after intervention**

Area	Groups	No.	Mean	SD	t cal	Pp-value
Rural region						
Puberty related knowledge scores	Pre Experimental	60	6.53	5.61	35.55**	0.000
	Post Experimental	60	29.93	7.61		
	Pre Control	60	5.45	4.48	0.56 NS	0.570
	Post Control	60	5.55	4.16		

271 ** Highly Significant NS Non Significant

272 Table 8 depicts the statistical difference in mean scores of experimental and control groups. The
273 mean scores related to knowledge of puberty aspects of both groups were calculated before and
274 after intervention and it can be observed that there was a highly significant difference between
275 the respondents of experimental group before and after intervention ($t_{cal} = 35.55$; $p =$
276 0.000). Thus the adolescent girls of the experimental groups were able to identify the various
277 external and internal changes during adolescence, name the male and female reproductive organs
278 and related aspects of puberty after the intervention. The findings of the present study is
279 supported by results of a study done by Deshmukh *et al*¹⁶ and Sandhya and Panthee⁵ who found
280 poor pretest knowledge among adolescents regarding growing up which improved significantly
281 after the intervention. This validates the point that if a better understanding of the changes
282 occurring during puberty is developed, it will help in laying good foundation for the reproductive
283 health, especially for girls²⁰. Also a review study by Bhanu and Anuradha²¹ revealed that
284 adolescent girls should be equipped with the right information regarding pubertal changes, which
285 would eventually leads to better reproductive health as well as future motherhood.

286

287

288 **Conclusion**

289 Adolescent years are one of the most important years of life and poses significant challenges in
290 the lives of boys and girls, specifically more on girls due to the societal and cultural expectations.
291 Puberty is one of the central aspects of this phase as it facilitates the adolescent to move into the
292 world of adulthood. In Indian societies, especially in villages, the discussion about pubertal
293 changes are generally not done which results into unawareness about the changes taking place in
294 their body and the reasons of these changes. In addition, chapter on adolescence in school
295 curriculum is skipped by the teachers in the schools also due to embarrassment among teachers
296 to discuss these issues openly. This leads to lack of knowledge among girls and boys.

297 The present study concluded that adolescent school girls lack of knowledge on about pubertal
298 changes. However, information dissemination led to a significant change in knowledge and
299 attitude and thus contributed in terms of better understanding of their bodies and laid
300 implications for their future health. ~~during puberty and restrictions on the adolescent girls.~~

301 ~~Educational intervention provided to the adolescent girls in the schools brought a significant~~
302 ~~change in knowledge and attitude and thus contributed in terms of better understanding of their~~
303 ~~bodies and laid implications for their future health.~~

304

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