# FAMILY LIFE EDUCATION AND SAFE SEX: PERCEPTION AND ATTITUDE AMONG INDIAN ADOLESCENTS

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Adolescence is a time for self-definition, marked by significant physical, psychosocial and cognitive change. It has been conventional to define adolescence as the second decade of life[1] The adolescent is an important period, in which a child undergoes biological transition, which is characterized by puberty, related changes in physical appearance and the attainment of reproductive capability, psychological or cognitive transition, which reflects an individual's thinking, and social transition, which is related to rights, privileges and responsibilities of an individual[2].

Adolescent are the most vulnerable groups whose taste and preferences, attitude and behaviour always involve certain amount of risk. As they mature and become sexually active, more adolescents are face serious health risks - today millions of adolescents are faced with the problems like early marriage and childbearing, incomplete education, and the threat of HIV/AIDS. However, most adolescents go through adolescence with little or no knowledge of the body's impending physical and physiological changes and most of them face these risks with too little factual information, too little guidance about sexual responsibility, and too little access to health care. In a country like India, where discussion about sexuality with young children is almost absent, adolescents are not prepared mentally or psychologically to cope with these changes.

Moreover, demographic, epidemiological and socio-economic trends in the countries are combining to create different patterns of life styles for adolescents which could also create vulnerable environment for them. In addition to the important biological gender differences between adolescents, rural adolescent girl's socio-economic status and cultural position in most of the countries differ significantly from those of adolescent urban girls[3]. Under this backdrop, this study made an attempt to assess adolescent girls' knowledge, perceptions and attitudes towards family life education and RTIs/STIs/HIV/AIDS and safer sex practice.

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[1] Steinberg, L and SB. Silverberg, (1986), The Vicissitudes of autonomy in early adolescence, Child Development, 57, 841-851.
[2] Agampodi SB, and TC Agampodi, (2008). Adolescents perception of reproductive health care services in Sri Lanka. *BMC Health Services Research*. May 3;8:98
3 Esman, A. (1990). *Adolescence and Culture*, New York: Colombia University Press.

Methods and materials: The study samples were drawn from District Level Household and Facility Survey-3 (DLHS-III). The field work of DLHS-3 was carried out during December 2007-December 2008 in 34 states and union territories covering 601 districts in the country. A multi-stage stratified systematic sampling design was adopted for DLHS-III. The Census of India 2001 was the sampling frame for DLHS-III. In all 7, 20,320 households were covered throughout the country, in which 1, 66,260 unmarried women were interviewed of which around 73 percent hailed from rural areas.

In this paper totally 94,122 rural adolescent girls were considered for the analysis (15-19 years). Several questions were asked to unmarried women aged 15-24 years, for the first time in DLHS-3 such as knowledge and source of information of RTI/STI, HIV/AIDS, and Family Life Education and Reproductive Health. Information collected from unmarried women under 18 years with the consent from their parents included knowledge of family life education, awareness about legal age at marriage, awareness about contraception, menstruation related problems, and knowledge of RTI/STI and HIV/AIDS by source of information. The Statistical Package for the Social Sciences[4] Version 13 was used for bivariate analysis (chi-square ($\Psi 2$) test), and logistic regression analysis to assess the influences of socio-economic and demographic (SED) variables on the dependent variables.

## RURAL ADOLESCENTS - PROFILE

In this paper totally 94,122 rural adolescent girls were considered for the analysis (15-19 years). The table 1 discloses the percentage distribution of rural adolescent girls aged 15-19 years by their background characteristics. It is found from the table that almost equal proportions of girls were in the 15 and 16 age categories (25.7 percent and 25.3 percent respectively). Little above one-fifth was fall in the age group of 18 years and less than one-fifth were in the 17 age category. The remaining 10 percent fall in the 19 years age category. It is observed that more than seventy percent of them were Hindus, followed by Muslims (12.3 percent). The Christian constitute around seven percent. In case of caste, it is found that a significant proportion of women hailed from OBC families (36 percent) and the ST adolescents constitute more than one-fifth (22.0 percent). It is noticed from the table that only 2.5 percent of the rural adolescents had undergone the degree/diploma and another thirteen percent were completed 11-12 years of schooling. More than half of the adolescents were completed 6-10 years of education and it is also observed that about twelve percent of the adolescents were illiterates.

**Table 1 Percentage of rural adolescent girls aged 15-19 years, according to selected background characteristics, India**

[4] SPSS (Inc) Statistical package for Social Sciences(SPSS) Version 12.0. John Wiley & Sons Australia Ltd. Sydney; 2006.

| Background Conditions | Adolescents | |
|---|---|---|
| | Number | Percentage |
| **Age (in years)** | | |
| 15 | 24182 | 25.7 |
| 16 | 23775 | 25.3 |
| 17 | 17287 | 18.4 |
| 18 | 19832 | 21.1 |
| 19 | 9046 | 9.6 |
| **Religion** | | |
| Hindu | 68866 | 73.2 |
| Muslim | 11578 | 12.3 |
| Christian | 6374 | 6.8 |
| Sikh | 3093 | 3.3 |
| Buddhist | 1996 | 2.1 |
| Others | 2215 | 2.4 |
| **Caste** | | |
| ST | 20302 | 22.0 |
| SC | 16442 | 17.8 |
| OBC | 33277 | 36.0 |
| Others | 22339 | 24.2 |
| **Level of Schooling** | | |
| No education | 11049 | 11.7 |
| 1-5 years of schooling | 14177 | 15.1 |
| 6-10 years of schooling | 53905 | 57.3 |
| 11-12 years of schooling | 12639 | 13.4 |
| Degree/Diploma holder | 2352 | 2.5 |
| **Agri. Land in acre** | | |
| No land | 30645 | 32.6 |
| less than 1.5 acres | 29982 | 31.9 |
| 1.5 - 5 acres | 24341 | 25.9 |
| 5.01- 10 | 5736 | 6.1 |
| 10.1 - 15 | 1428 | 1.5 |
| Above 15 acres | 1990 | 2.1 |
| **Type of house** | | |
| Kachha | 37867 | 40.2 |
| Semi-pucca | 34745 | 36.9 |
| Pucca | 21510 | 22.9 |
| **Ownership of house** | | |
| Yes | 90877 | 96.6 |
| No | 3245 | 3.4 |
| **Own electricity** | | |
| Yes | 61284 | 65.1 |
| No | 32838 | 34.9 |
| **Wealth index** | | |
| Poorest | 15167 | 16.1 |

| | | |
|---|---|---|
| Poorer | 19412 | 20.6 |
| Middle | 23975 | 25.5 |
| Richer | 23202 | 24.7 |
| Richest | 12349 | 13.1 |
| **Total** | **94122** | **100.0** |

It is found that a significant proportion of adolescents were residing in the kachha houses (40.2 percent) and another thirty-seven were living at the semi-pucca houses. And only twenty-three percent of the rural adolescents were residing at pucca houses. However, overwhelming majority of them residing in their own houses (96.6 percent). More than one-third of the houses were not had electricity facility. With regard to possession of agricultural land, about one-third of adolescent families did not have any agricultural land and another one-third of the households own less than 1.5 acres of agricultural land. Further it is observed that only 10 percent of the families hold above 5 acres of agricultural land.

Combining household amenities, assets and durables, a wealth index is computed at the national level and divided into quintiles. The principle of factor loading to amenities, assets and durables derived by factor analysis is used for the computation of the wealth index. Households are categorized from the poorest to the richest groups corresponding to the lowest to the highest quintiles at the national level. Based on these classifications, 37 percent of the study population was fall under the lowest wealth quintile (16.1 percent in poorest and 20.6 percent in poorer WI) and a equal proportion fall in the highest wealth quintile (13.1 percent in richest and 24.7 percent in richer WI).

## FAMILY LIFE EDUCATION

Adolescents in all society learn their responsibilities towards their family and elderly by observing and following the behavior of others. Due to rapid social change all over the world, the young generation is presently facing an enormous problem in coping with the erosion of traditional family, social life, and values. Under this environment adolescent Family Life Education (FLE) can help the adolescents especially in the transition from childhood to youth. The education that provides knowledge on physical, mental, social, moral, behavioral, and mentality changes and developments during puberty is generally called Family Life Education.

Family life education is one of the educational innovations that are aimed at enabling the existing education system to respond to the emerging needs and requirements. Family life education, however, has been conceptualized in more than one way, though it has always focused on various dimensions of the institution of family and the life within it. In certain context this concept has been used as a synonym, and also at times as a euphemism of sex education, while in the other it has been designed as an

educational intervention to reinforce the process of social learning for better understanding of the institution of family and its crucial role as a basic social institution.

**Table 2 Percentage of rural adolescent girls aged 15-19 years who aware, perception and received of FLE according to selected background characteristics, India**

| Background Conditions | Family Life education | | |
|---|---|---|---|
| | Awareness | Perception | Received |
| **Age (in years)** | *** | *** | *** |
| 15 | 59.4 | 69.6 | 35.2 |
| 16 | 64.5 | 73.7 | 38.8 |
| 17 | 69.6 | 78.8 | 43.9 |
| 18 | 70.3 | 78.3 | 44.1 |
| 19 | 75.4 | 82.8 | 49.1 |
| **Religion** | *** | *** | *** |
| Hindu | 66.1 | 75.6 | 40.8 |
| Muslim | 63.8 | 74.4 | 36.9 |
| Christian | 68.9 | 74.2 | 45.7 |
| Sikh | 80.9 | 87.4 | 48.3 |
| Buddhist | 74.0 | 77.2 | 48.0 |
| Others | 56.3 | 62.0 | 38.0 |
| **Caste** | *** | *** | *** |
| ST | 61.5 | 67.6 | 36.4 |
| SC | 65.3 | 74.8 | 39.2 |
| OBC | 73.0 | 82.7 | 47.3 |
| Others | 65.5 | 75.9 | 40.6 |
| **Level of Schooling** | *** | *** | *** |
| No education | 40.2 | 46.9 | 18.9 |
| 1-5 years of schooling | 48.6 | 59.0 | 13.8 |
| 6-10 years of schooling | 70.7 | 80.8 | 45.3 |
| 11-12 years of schooling | 86.6 | 92.6 | 65.8 |
| Degree/Diploma holder | 89.3 | 94.1 | 68.5 |
| **Type of house** | *** | *** | *** |
| Kachha | 58.8 | 8.0 | 31.7 |
| Semi-pucca | 68.5 | 77.4 | 43.4 |
| Pucca | 76.4 | 85.3 | 53.2 |
| **Wealth index** | *** | *** | *** |
| Poorest | 50.1 | 60.1 | 23.8 |
| Poorer | 58.9 | 69.2 | 32.1 |
| Middle | 66.3 | 75.3 | 40.5 |
| Richer | 75.1 | 83.5 | 50.2 |
| Richest | 81.9 | 89.3 | 59.3 |
| **Total** | **66.4** (62495) | **75.4** (71003) | **41.0** (38545) |

***refers to significant at 1 level (chi-square results –FLE awareness, perception and received FLE and SED characteristics)

The DLHS-III obtained the details about family life education such as awareness of family life education, whether received the FLE, age at which family life education should be introduced and from which standard it should be introduced. The table 2 presents the percentage distribution of rural adolescent girls' awareness, perception on FLE and the proportion of adolescents received FLE in India.

It was found that about two-third of the adolescents (66.4 percent) were aware of family life education, however, only forty-one percent of the rural adolescent girls were received the FLE. With regard to awareness of FLE, the proportion was slightly higher in case of young adolescents (59.4 percent in 15 years) than the late adolescents (75.0 percent in 19 years). Awareness about family life education is high among Sikh and Buddhist adolescents (48 percent) and less among the Muslim girls (36.9 percent). Adolescents belonging to ST lagged behind in awareness (61.5 percent) than the rest of the caste groups. But awareness about family life education increases as the level of education and wealth quintile increases. It is found that around forty percent of the illiterates were aware of FLE and this proportion for the degree/diploma holder was more than doubled (86.6 percent), with regard to Wealth index, just half of the poorest adolescents aware of FLE and this proportion for the adolescents hailing from richest WI was 82 percent.

More than seven out of every ten adolescents **perceived that family life education is important.** This proportion was very high among the late adolescent girls (82.8 percent in 19 years), Sikh adolescents (87.4 percent), other religious groups (82.7 percent), degree/diploma holders (94.1 percent) and richest wealth index group adolescents (89.2 percent).

These adolescent girls were further asked if they ever had received family life education. It was found that about two-fifth of the adolescents (41.0 percent) had ever received family life education. The corresponding percentages were more among Sikh and Buddhist adolescent girls (48 percent), degree/diploma holders (68.5 percent) and adolescents belonging to richest WI (59.2 percent). This proportion was less among the young girls (35.2 percent in 15 years), Muslim and ST girls (36 percent) and illiterate adolescents (18.9 percent).

As can be seen in Table 2, the bivariate analysis is performed using a chi-square ($\Psi 2$) test, and results of this study showed a significant association between FLE (awareness, perception and received) and each of the explanatory variables under study. The analysis of adjusted data for adolescents' FLE awareness and perception by their socio-economic and demographic status demonstrated that the adolescents' age, religion, caste, education, and their wealth index shows a significant association with FLE perception, awareness and received FLE ($p<0.000$).

**Determinants of adolescent perception towards FLE:** The influences of socio-economic and demographic (SED) variables in determining the perception on FLE are examined by logistic regression among the adolescents. The logistic regression analysis results table shows that the odd ratios (Exp (B)) indicate the effect of each of the predictor variables on the perception of FLE, controlling for other variables included in the model. Estimates of odds less than 1.0 indicate that the FLE perception is less than that for the reference category of each variable and estimates of odds greater than 1.0 indicate that the FLE perception is greater than that for the reference category.

**Table No. 3 Odds Ratios from Logistic regression examining the effect of selected SED variables on Perception of Family Life Education among rural adolescent girls in India**

| SED variables | B | S.E. | Sig. | Exp(B) | 95.0 C.I.for EXP(B) | |
|---|---|---|---|---|---|---|
| | | | | | Lower | Upper |
| **Age (in years)*** ** | | | | | | |
| 15-17 (ref) | | | | 1.000 | | |
| 18-19 | .183 | .022 | .000 | 1.201 | 1.151 | 1.253 |
| **Religion*** ** | | | | | | |
| Hindu(ref) | | | .000 | 1.000 | | |
| Muslim | .231 | .031 | .000 | 1.260 | 1.185 | 1.340 |
| Christian | .305 | .044 | .000 | 1.357 | 1.244 | 1.480 |
| Sikh | .216 | .064 | .001 | 1.242 | 1.096 | 1.407 |
| Buddhist | .240 | .074 | .001 | 1.271 | 1.099 | 1.470 |
| Others | -.250 | .060 | .000 | .779 | .692 | .877 |
| **Caste*** ** | | | | | | |
| ST (ref) | | | .000 | 1.000 | | |
| SC | .176 | .032 | .000 | 1.192 | 1.120 | 1.268 |
| OBC | .144 | .028 | .000 | 1.155 | 1.092 | 1.221 |
| Others | .315 | .033 | .000 | 1.370 | 1.284 | 1.462 |
| **Level of Schooling*** ** | | | | | | |
| No education (ref) | | | .000 | 1.000 | | |
| 1-5 years of schooling | .478 | .030 | .000 | 1.613 | 1.522 | 1.709 |
| 6-10 years of schooling | 1.424 | .027 | .000 | 4.152 | 3.938 | 4.378 |
| 11-12 years of schooling | 2.211 | .047 | .000 | 9.120 | 8.317 | 10.002 |
| Degree/Diploma holder | 2.328 | .103 | .000 | 10.261 | 8.389 | 12.552 |
| **Wealth index*** ** | | | | | | |
| Poorest (ref) | | | .000 | 1.000 | | |
| Poorer | .129 | .028 | .000 | 1.137 | 1.077 | 1.201 |
| Middle | .190 | .028 | .000 | 1.209 | 1.143 | 1.278 |
| Richer | .396 | .031 | .000 | 1.486 | 1.397 | 1.581 |
| Richest | .569 | .043 | .000 | 1.767 | 1.624 | 1.923 |
| Constant | -.107 | .032 | .001 | .898 | | |
| -2 Log likelihood | 73123.810 | | | | | |

Note: *** significant at 0.001, (Ref.) indicates the reference category of the variable.

The regression result reveals that almost in each of the variables the odds decrease with the categories of a variable when compared to the respective variable's first category, indicating a decreasing of perception when improving the background conditions of adolescents. In this model, age, religion, caste, occupation and wealth index are found to be highly significant with the adolescents' FLE perception. There is a significant positive relationship between age of adolescents and perception of FLE. It is found that the young adolescent age group (15-17) and late adolescents in the age group 18-19 years are at a significantly higher perception towards FLE. A higher proportion of Christian adolescents perceived the family life education is to be important. When compared with ST adolescents, adolescents who fall in the 'other' category have significantly higher probability of perception towards FLE (OR=1.370). There is a significant positive relationship between level of education of adolescents and perception of FLE. It is found that the illiterate adolescent and adolescents with 6-10 years of schooling are at a significantly higher perception towards FLE (OR=1.613). The perception toward FLE is about ten times higher among degree/diploma adolescents than the illiterate adolescents. As compared with adolescents living in poorest wealth index, adolescents residing in richer and richest are more likely to be perceived towards FLE (OR=1.486 and OR=1.767).

It can be inferred from table that the logistic regression analysis identified age, religion, caste, education, and household economic status (WI) of adolescents are found to be determinants of adolescents' perception towards family life education.

## AWARENESS OF RTI/STI AND HIV/AIDS

One of the important components of the Reproductive and Child Health (RCH) programme is to lead a healthy sexual life without any fear of contracting disease. RCH programmes focus much emphasis on promoting and encouraging healthy sexual behaviour through Information, Education and Communication (IEC) activities.

With growing awareness about different aspects of reproductive health it now becomes necessary to find out how many unmarried women are aware of RTIs/STIs. The table-1 shows the awareness of the adolescents about RTI/STI and HIV/AIDS in rural India as well as the awareness differentials by background characteristics of the adolescents. It is found that one-fifth of the unmarried adolescent girls in rural India were aware of RTIs/STIs. The proportion of adolescents who were aware of RTI/STI was comparatively higher in young adolescents (20.5 percent, 15 years) than late adolescents (33.1percent, 19 years). The awareness on RTI/STI was higher among Sikh girls (39.7 percent) than the rest of the categories. Nearly one-third of the rural OBC adolescents were aware about RTI/STI and this proportion

for SC was 25.0 percent and ST was 19 percent. Awareness of RTI/STI increased from 9.7 percent among non-literate women to forty-five percent among girls who had completed eleven to twelve years of schooling, and it further increased to 50 percent among degree/diploma girls. The adolescents who were living in Pucca house were comparatively higher understanding on RTI/STI (35.5 percent) than the counterparts. The awareness proportion on RTI/STI was increases with their agricultural land possession. The adolescents who had more than fifteen acres of land had higher awareness (31.3 percent) than the landless adolescents (25.6 percent). The wealth index showed a positive relationship with awareness of RTI/STI, ranging from fourteen percent among adolescents with a low standard of living to forty-one percent among adolescent girls with a high standard of living. It can be concluded that awareness of RTI/STI was lower among young girls, illiterate girls, adolescents from Scheduled Tribes, and unmarried adolescents from households with a low standard of living.

**Table 4 Percentage of rural adolescent girls aged 15-19 years who are aware of RTI/STI and HIV/AIDS according to selected background characteristics, India**

| Background Conditions | Heard about | |
|---|---|---|
| | STI/RTI | HIV/AIDS |
| **Age (in years)** | *** | *** |
| 15 | 20.5 | 59.7 |
| 16 | 24.0 | 65.4 |
| 17 | 28.5 | 71.9 |
| 18 | 28.9 | 71.6 |
| 19 | 33.1 | 80.4 |
| **Religion** | *** | *** |
| Hindu | 26.1 | 67.2 |
| Muslim | 23.3 | 56.1 |
| Christian | 23.8 | 80.9 |
| Sikh | 39.7 | 89.7 |
| Buddhist | 23.8 | 86.0 |
| Others | 20.9 | 67.3 |
| **Caste** | *** | *** |
| SC | 25.0 | 66.0 |
| ST | 19.0 | 64.1 |
| OBC | 31.2 | 77.2 |
| Others | 27.0 | 65.4 |
| **Level of Schooling** | *** | |
| No education | 9.7 | 19.8 |
| 1-5 years of schooling | 13.7 | 40.3 |
| 6-10 years of schooling | 26.8 | 77.3 |
| 11-12 years of schooling | 44.6 | 95.7 |
| Degree/Diploma holder | 50.9 | 94.8 |
| **Agri. Land in acre** | *** | *** |

| | | |
|---|---|---|
| No land | 25.6 | 67.7 |
| less than 1.5 acres | 24.9 | 65.3 |
| 1.5 - 5 acres | 25.5 | 69.2 |
| 5.01- 10 | 30.3 | 72.0 |
| 10.1 - 15 | 30.7 | 75.1 |
| Above 15 acres | 31.3 | 75.0 |
| **Type of house** | *** | *** |
| Kachha | 18.9 | 56.1 |
| Semi-pucca | 27.4 | 70.5 |
| Pucca | 35.5 | 84.5 |
| **Wealth index** | *** | |
| Poorest | 14.2 | 39.0 |
| Poorer | 19.3 | 53.9 |
| Middle | 24.8 | 70.2 |
| Richer | 32.0 | 83.0 |
| Richest | 41.0 | 92.5 |
| **Total** | **25.8 (24320)** | **67.9 (63889)** |

***refers to significant at 1 level (chi-square results –Awareness of RTI/STI/HIV/AIDS and SED characteristics)

Awareness on HIV/AIDS: Acquired Immuno Deficiency Syndrome (AIDS) is an illness caused by the Human Immuno Virus (HIV), which weakens the immune system and leads to death through secondary infection such as tuberculosis or pneumonia. The virus is generally transmitted through sexual contact, through the placenta of HIV-infected women to their children, or through contact with a contaminated needle (injections) or blood. Prevalence of HIV/AIDS has been on the rise for more than a decade in India. To prevent HIV transmission, the government has been making various efforts.

The table 4 discloses that when compared to the percentage of awareness about RTI/STI, the percentage of awareness about HIV/AIDS was relatively high among rural adolescent girls. This should be attributed to the efforts made in prevention of HIV/AIDS by the programme administrators. In total, more than two-third of the rural adolescent girls were aware about HIV/AIDS (67.9 percent). Knowledge of HIV/AIDS was as high as 80 percent among late adolescent girls and this proportion for young adolescents was 59.7 percent (15 years girls). The Muslim girls were much lower understanding on HIV/AIDS (56.1percent) than the remaining religious groups. The adolescent girls from Scheduled Tribes had lower knowledge on HIV/AIDS (64.1 percent) than their counterparts. As expected, knowledge of HIV/AIDS steadily increased with an increase in educational level from 19.8 percent among non-literate adolescents to 94.8 percent among degree/diploma holders. With regard to the proportion of HIV/AIDS awareness, the adolescents from households with a richest standard of living had more than doubled (92.5 percent) than the poorest girls (39.0 percent). The possession of agricultural land also much

influenced by the understanding on HIV/AIDS. Knowledge about HIV/AIDS was higher in Pucca house residents (84.5 percent) compared to Kachha house residents (56.1percent). It can be concluded that awareness of HIV/AIDS was lower among young and illiterate girls, and adolescents from Scheduled Tribes. As expected, knowledge of HIV/AIDS steadily increased with an increase in educational level and the standard of living.

**Source of information and mode transmission of RTI/STI**

The most prominent source of information about RTI/STI was found to be television followed by friends/relatives. About forty-six percent of adolescents reported that the television was their main source of information about RTI/STI. The next major source of information was the respondents' friends/relatives (43.6 percent). The print media (magazine/books), school teacher and radio also played a vital role in disseminating information about RTI/STI.

**Table 5 Percentage of rural adolescent girls aged 15-19 years who are aware of RTI/STI and HIV/AIDS by source of information and mode of transmission according to selected background characteristics, India**

| RTI/STI | Percentage of Adolescents |
|---|---|
| **Sources of Information** | |
| TV | 45.9 |
| Friends/Relatives | 43.6 |
| Magazine/books | 33.9 |
| School teacher | 30.6 |
| Radio | 28.7 |
| Pamphlets | 11.0 |
| Doctor | 7.0 |
| Health worker | 4.5 |
| Cinema | 4.1 |
| **Mode of Transmission of RTI/STI** | |
| Sex with persons having many partners | 67.8 |
| Sex with sex workers | 30.5 |
| Unsafe delivery | 20.3 |
| Sex with homosexuals | 18.1 |
| Unsafe abortion | 14.7 |
| IUD insertion | 11.3 |
| Other | 12.1 |
| **Sources of information on HIV/AIDS** | |
| TV | 66.5 |
| Magazine/books | 39.1 |
| Friends/Relatives | 32.0 |

| | |
|---|---|
| School teacher | 31.3 |
| Radio | 27.9 |
| Pamphlets | 17.1 |
| Cinema | 7.4 |
| Doctor | 7.4 |
| Health worker | 4.3 |

Adolescents who were aware of RTI/STI further asked about the mode of transmission. More than two-thirds of the rural adolescents (67.8 percent) mentioned unsafe sex with persons who have many partners as a mode of transmission of RTI/STI. The next highest proportion reported that unsafe sex with sex workers may transmit the RTI/STI (30.5 percent). Unsafe delivery and sex with homosexuals were mentioned by 20 and 18 percent adolescents respectively. A significant proportion of adolescents also mentioned the unsafe abortion (14.7 percent).

**Source of information and mode transmission of HIV/AIDS**

The rural adolescents were asked about their source of information on HIV/AIDS, and they were further questioned about the mode of transmission of the HIV/AIDS. The knowledge on prevention and their misconception also assessed during the survey. It is found that about two-third of adolescents reported that they had received information of HIV/AIDS from mass media (TV), followed by print media about 39 percent (Magazine/books). About one-third of the adolescents received the message on HIV/AIDS from their friends or relatives. The school teacher also played a significant role in promoting the knowledge on HIV/AIDS (31.3 percent). With regard to the knowledge on HIV/AIDS, the role of health nurse and Doctors was insignificant among the rural adolescent girls. There is a positive relationship between increasing awareness of HIV/AIDS through electronic and print media and education and standard of living.

**Mode of HIV/AIDS transmission**

HIV/AIDS has been transmitted through either, unsafe sex with homosexuals or unsafe sex with persons having many partners or unsafe sex with sex workers or unprotected sex with hiv/aids person or infected mother to child or transfusion of infected blood. The rural adolescents were assessed with above statements on their level of knowledge on mode of HIV transmission.

Among adolescents who reported different ways of transmission of HIV/AIDS, a large proportion (61.9 percent) mentioned transfusion of infected blood. Among all the socio-economic groups, unsafe sex with a person having multiple partners was the main mode of transmission of HIV/AIDS (59.2 percent). Other modes reported by adolescents were unprotected sex with HIV/AIDS infected person (36.2 percent), mother to child (34.6 percent), unsafe sex with sex workers (26.9 percent), and thirteen percent of the rural

adolescent girls mentioned that unsafe sex with homosexuals could also be a mode of transmission of HIV/AIDS.

The table 6 reveals the fact that among the rural adolescents only 2.5 percent of them did not have any knowledge on the transmission of HIV/AIDS. Just above one-fourth of them reported any one of the transmission mode (27.4 percent) and about one-third reported any two modes and another 22 percent stated any three modes of HIV/AIDS transmission. The other interesting observation made from the table is that very meager proportion of adolescents in the rural India knew about all the six modes of HIV/AIDS transmission (2.2 percent). Based on these scores, the adolescents were classified as low level of knowledge and high level of knowledge on HIV/AIDS mode of transmission and it is noticed from the table that though overwhelming majority of the rural adolescents had the knowledge on HIV/AIDS mode of transmission, only 16.5 percent fall in the higher level of knowledge category.

**Table 6 Percentage of rural adolescent girls aged 15-19 years who are aware of HIV/AIDS by level of knowledge on mode of transmission in India**

| Knowledge on mode of HIV/AIDS transmission | Number of Adolescents | Percentage of Adolescents |
|---|---|---|
| Transfusion of infected blood | 32643 | 61.9 |
| Unsafe sex with persons having many partners | 31204 | 59.2 |
| Unprotected sex with hiv/aids person | 19101 | 36.2 |
| Infected mother to child | 18226 | 34.6 |
| Unsafe sex with sex workers | 14175 | 26.9 |
| Unsafe sex with homosexuals | 6846 | 13.0 |
| **Level of knowledge on transmission of HIV/AIDS** | | |
| No knowledge | 1296 | 2.5 |
| Knew any one mode | 14466 | 27.4 |
| Knew any two mode | 16662 | 31.6 |
| Knew any three mode | 11624 | 22.0 |
| **Low level of knowledge** | **44048** | **83.5** |
| Knew any four mode | 5158 | 9.8 |
| Knew any five mode | 2351 | 4.5 |
| Knew all six modes | 1186 | 2.2 |
| **Higher level of knowledge** | **8695** | **16.5** |

| | | |
|---|---|---|
| **Total** | **52743** | **100.0** |

With regard to higher level of knowledge on mode of HIV/AIDS transmission, the young adolescents comparatively had less understanding on mode of HIV/AIDS transmission (14.6 percent, 15 years) than the late adolescent girls (18.9 percent, 9 years). Muslim adolescents had less knowledge (11.7 percent) regarding the mode of transmission of HIV/AIDS compared to other religious adolescents. The higher level of knowledge on mode of HIV/AIDS transmission is increases with their educational level increases (5.7 percent among illiterates to 24.4 percent among degree/diploma holders). Adolescents from the highest wealth quintile households had more knowledge (20.0 percent) about the mode of transmission of HIV/AIDS than their counterparts.

**Determinants of adolescent knowledge on mode of transmission of HIV/AIDS:** The influences of socio-economic and demographic (SED) variables in determining the knowledge on mode of transmission of HIV/AIDS and adolescents' misconception on HIV/AIDS are examined by logistic regression among the rural adolescent girls. The logistic regression analysis results table 7 shows that the odd ratios (Exp (B)) indicate the effect of each of the predictor variables on the knowledge on mode of HIV/AIDS transmission/misconception on HIV/AIDS, controlling for other variables included in the model. Estimates of odds less than 1.0 indicate that the knowledge on mode of HIV/AIDS transmission/misconception on HIV/AIDS is less than that for the reference category of each variable and estimates of odds greater than 1.0 indicate that the knowledge on mode of HIV/AIDS transmission/misconception on HIV/AIDS is greater than that for the reference category.

In this model, religion, caste, education and wealth index are found to be highly significant with the adolescents' knowledge on mode of HIV/AIDS transmission (except age). It is found that the Muslim adolescents have significantly less knowledge on mode of HIV/AIDS transmission (OR=0.737) and Christian adolescents are 1.5 times higher level of knowledge on mode of HIV/AIDS transmission than the reference category. There is a significant positive relationship between level of education of adolescents and knowledge on mode of HIV/AIDS transmission. It is found that the degree/diploma holders are about four times higher level of knowledge on mode of HIV/AIDS transmission (OR=4.119). As compared with adolescents living in poorest wealth index, adolescents residing in richer and richest are more likely to be higher level of knowledge on mode of HIV/AIDS transmission (OR=1.845 and OR=2.032).

It is inferred from logistic regression result table that the regression analysis identified, religion, caste, education, and household economic status (WI) of adolescents are found to be determinants of adolescents' knowledge on mode of HIV/AIDS transmission.

The influences of SED variables in determining the adolescents' misconception on HIV/AIDS are examined by logistic regression among the rural adolescent girls. It is found that the religion, education and wealth index are found to be highly significant with the adolescents' misconception on HIV/AIDS (except caste). When compared with Hindu adolescents, the Buddhist (1.6 times) and Muslim (1.7 times) adolescents have significantly higher misconception on HIV/AIDS. It is also found that the Sikh and Christian adolescents have significantly less misconception on HIV/AIDS (OR=0.599 and OR=0.972 respectively).

**Table No.7 Odds Ratios from Logistic regression examining the effect of selected SED variables on level of knowledge on mode of transmission and misconception on HIV/AIDS among rural adolescent girls in India**

| SED variables | Level of Knowledge on mode of transmission | | | Misconception on HIV/AIDS | | |
|---|---|---|---|---|---|---|
| | B | Sig. | Exp(B) | B | Sig. | Exp(B) |
| **Age (in years)** | | | **NS** | | | ** |
| 15-17 (ref) | | | 1.000 | | | 1.000 |
| 18-19 | .033 | .205 | 1.034 | -.061 | .002 | .941 |
| **Religion** | | | *** | | | *** |
| Hindu(ref) | | .000 | 1.000 | | .000 | 1.000 |
| Muslim | -.305 | .000 | .737 | .547 | .000 | 1.729 |
| Christian | .423 | .000 | 1.526 | -.028 | .455 | .972 |
| Sikh | -.231 | .000 | .793 | -.512 | .000 | .599 |
| Buddhist | .210 | .003 | 1.234 | .526 | .000 | 1.693 |
| Others | .646 | .000 | 1.908 | -.257 | .000 | .773 |
| **Caste** | | | *** | | | **NS** |
| ST (ref) | | .000 | 1.000 | | .562 | 1.000 |
| SC | -.348 | .000 | .706 | -.021 | .510 | .979 |
| OBC | -.355 | .000 | .701 | .009 | .758 | 1.009 |
| Others | -.338 | .000 | .713 | -.018 | .574 | .983 |
| **Level of Schooling** | | | *** | | | *** |
| No education (ref) | | .000 | 1.000 | | .000 | 1.000 |
| 1-5 years of schooling | .267 | .038 | 1.306 | .009 | .862 | 1.009 |
| 6-10 years of schooling | .896 | .000 | 2.450 | -.273 | .000 | .761 |
| 11-12 years of schooling | 1.244 | .000 | 3.470 | -.618 | .000 | .539 |
| Degree/Diploma holder | 1.416 | .000 | 4.119 | -.704 | .000 | .495 |
| **Wealth index** | | | *** | | | *** |
| Poorest (ref) | | .000 | 1.000 | | .000 | 1.000 |
| Poorer | .388 | .000 | 1.474 | .004 | .901 | 1.004 |
| Middle | .465 | .000 | 1.591 | -.022 | .508 | .978 |
| Richer | .613 | .000 | 1.845 | -.189 | .000 | .828 |
| Richest | .709 | .000 | 2.032 | -.479 | .000 | .620 |
| Constant | -2.878 | .000 | .056 | -.363 | .000 | .696 |
| -2 Log likelihood | 45215.772 | | | 76055.777 | | |

Note: *** significant at 0.001, ** significant at 0.01, NS = not significant.

(Ref.) indicates the reference category of the variable

There is a significant negative relationship between level of education of adolescents and misconception on HIV/AIDS. It is found that the illiterate adolescent and adolescents with 6-10 years of schooling are at a significantly higher misconception on HIV/AIDS (OR=1.009). The degree/diploma holders have significantly less misconception on HIV/AIDS (OR=0.459) when compare the illiterate adolescents. As compared with adolescents living in poorest wealth index, adolescents residing in richer and richest are less likely to be misconception towards HIV/AIDS (OR=0.828 and OR=0.620).

It can be inferred from table that the logistic regression analysis identified, religion, education, and household economic status (WI) of adolescents are found to be determinants of adolescents' misconception towards HIV/AIDS.

**Misconceptions about HIV/AIDS**

People generally have many misconceptions about the ways of transmission of HIV/AIDS, such as 'shaking hands' with a person having AIDS, 'hugging' and 'kissing' them, 'sharing their clothes' or 'sharing eating utensils', 'stepping on urine/stool', 'through insect bites', being bitten by mosquitoes, fleas or bedbugs' etc. All these queries were posed to the respondents who had heard of HIV/AIDS.

**Table 8 Percentage of rural adolescent girls aged 15-19 years who are aware of HIV/AIDS by their misconceptions in India**

| GETTING HIV/AIDS | Number of Adolescents | Percentage of Adolescents |
|---|---|---|
| From mosquito | 14945 | 23.4 |
| Stepping on urine/stool | 8848 | 13.9 |
| Sharing food/eating utensils | 8654 | 13.5 |
| Kissing | 8548 | 13.4 |
| Sharing clothes | 7309 | 11.4 |
| Hugging | 5890 | 9.2 |
| Shaking hand | 5414 | 8.5 |

It is evident from the above table that being bitten by mosquitoes, fleas or bedbugs was commonly reported as the ways of getting HIV/AIDS infection by rural adolescent girls. The percentage of rural adolescents who reported that HIV/AIDS could be transmitted by being bitten by mosquitoes or flees or bedbugs were just little less than one-fourth. Other misconceptions about the spread of HIV/AIDS were 'stepping on urine/stool' (13.9 percent), 'sharing food' (13.5 percent), 'kissing' (13.4 percent), 'sharing clothes' (11.4 percent), 'hugging' (9.2 percent), and 'shaking hands' (8.5 percent).

It is also noticed from the analysis that more than two-third of the rural adolescent girls (68.6 percent) were not had any misconception about the ways of transmission of HIV/AIDS. The table 9 presents the percentage distribution of adolescents by any one kind of misconception about mode of transmission of HIV/AIDS and it is found that the young rural adolescents had more misconception about the mode of transmission of HIV/AIDS than the late adolescents (34.3 and 28.1 percent respectively). The Muslim girls (44.0 percent), ST adolescents (33.1 percent), illiterate rural girls (42.7 percent) and adolescents from poorer wealth index (36.1 percent) had more misconception about the mode of transmission of HIV/AIDS than the respective counterparts.

**Table 9 Percentage of rural adolescent girls ages 15-19 years having any one misconception on mode of transmission of HIV/AIDS among those who have heard about HIV/AIDS, according to selected background characteristics, India**

| Background Conditions | Any one Misconception | Level of Knowledge on HIV/AIDS transmission | | |
|---|---|---|---|---|
| | | No | Low | High |
| **Age (in years)** | *** | | *** | |
| 15 | 34.3 | 2.9 | 82.5 | 14.6 |
| 16 | 31.8 | 2.6 | 81.9 | 15.4 |
| 17 | 31.1 | 2.4 | 80.8 | 16.8 |
| 18 | 29.8 | 2.0 | 80.1 | 17.9 |
| 19 | 28.1 | 2.1 | 79.0 | 18.9 |
| **Religion** | *** | | *** | |
| Hindu | 30.2 | 2.6 | 81.7 | 15.7 |
| Muslim | 44.0 | 5.2 | 83.1 | 11.7 |
| Christian | 31.2 | 0.7 | 75.2 | 24.1 |
| Sikh | 17.6 | 0.7 | 85.4 | 13.9 |
| Buddhist | 41.7 | 1.2 | 76.6 | 22.2 |
| Others | 26.4 | 0.4 | 72.7 | 26.9 |
| **Caste** | *** | | *** | |
| ST | 33.1 | 1.2 | 77.1 | 21.7 |
| SC | 30.7 | 2.8 | 83.0 | 14.2 |
| OBC | 31.8 | 2.8 | 82.4 | 14.8 |
| No caste | 29.3 | 2.7 | 81.2 | 16.0 |
| **Level of Schooling** | *** | | *** | |
| No education | 42.7 | 6.3 | 88.0 | 5.7 |
| 1-5 years of schooling | 40.7 | 4.2 | 87.2 | 8.6 |
| 6-10 years of schooling | 32.5 | 2.5 | 81.7 | 15.8 |
| 11-12 years of schooling | 23.0 | 1.5 | 77.2 | 21.3 |
| Degree/Diploma holder | 20.8 | 1.2 | 74.4 | 24.4 |
| **Agri. Land in acre** | *** | | *** | |
| No land | 31.6 | 2.2 | 81.6 | 16.2 |
| less than 1.5 acres | 33.4 | 2.9 | 82.3 | 14.9 |
| 1.5 - 5 acres | 30.0 | 2.3 | 79.8 | 17.9 |

| | | | | |
|---|---|---|---|---|
| 5.01- 10 | 28.6 | 2.1 | 79.7 | 18.2 |
| 10.1 - 15 | 27.0 | 2.1 | 79.3 | 18.6 |
| Above 15 acres | 25.9 | 3.0 | 78.0 | 19.0 |
| **Type of house** | *** | **NS** | | |
| Kachha | 33.3 | 2.6 | 80.6 | 16.8 |
| Semi-pucca | 32.9 | 2.6 | 81.4 | 16.0 |
| Pucca | 27.1 | 2.2 | 81.0 | 16.8 |
| **Wealth index** | *** | *** | | |
| Poorest | 36.1 | 4.0 | 85.1 | 11.0 |
| Poorer | 35.8 | 3.2 | 82.5 | 14.4 |
| Middle | 34.7 | 2.5 | 82.1 | 15.4 |
| Richer | 30.1 | 2.2 | 80.1 | 17.7 |
| Richest | 22.1 | 1.6 | 78.4 | 20.0 |
| **Total** | **31.4 (20012)** | **(2.5) 1296** | **(81.1) 42744** | **(16.5) 8694** |

***refers to significant at 1% level (chi-square results – Misconception and transmission mode of HIV/AIDS and SED characteristics)

The details of adolescent girls who said that HIV/AIDS could be avoided by various ways have been presented in Table 10. Among rural adolescents who mentioned ways to avoid HIV/AIDS, a high proportion of rural adolescents said that 'avoid risks of getting infected through blood' (58.9 percent) and next 48 percent stated that 'sex with only one partner/avoid homosexual'. Other ways to prevent HIV/ AIDS mentioned by adolescents were to 'Use only new/sterilized needle' (43.2 percent), 'using a condom correctly during each sexual intercourse' (31.6percent), 'abstains from sex' (21.7 percent) and pregnancy should be avoided if the couple was infected by HIV/AIDS (17.5 percent).

**Table 10 Percentage of rural adolescent girls ages 15-19 years who have heard about HIV/AIDS, percentage who reported HIV/AIDS can be prevented in specific ways, India**

| Specific ways of preventing HIV/AIDS | Number of Adolescents | Percentage of Adolescents |
|---|---|---|
| Use tested blood | 29160 | 58.9 |
| Limit sex with one partner/faithful | 24011 | 48.5 |
| Use only new/sterilized needle | 21406 | 43.2 |
| Using condoms correctly | 15651 | 31.6 |
| Avoid sex with persons having many partners | 11611 | 23.4 |
| Abstain from sex | 10758 | 21.7 |
| Avoid sex with sex workers | 9840 | 19.9 |
| Avoid share lazer blade | 9088 | 18.3 |

| | | |
|---|---|---|
| Avoid pregnancy when have HIV/AIDS | 8665 | 17.5 |
| Limit number of sexual partner | 7130 | 14.4 |
| Avoid sex with persons inject drugs | 5686 | 11.5 |
| Avoid IV drip | 5423 | 10.9 |
| Avoid sex with homosexuals | 2652 | 5.4 |

## CONCLUSION

Global surveillance and research has identified adolescents, particularly girls as an emerging vulnerable group. Sex education and STI education aimed at adolescents is a crucial weapon in the STIs/HIV-prevention armory and the school is an important means of reaching them. A number of studies, including the current study identified lacunae in the RTI/STI/HIV/AIDS knowledge and reflected low levels of misconception and mode of transmission of HIV/AIDS among adolescent girls. It is important to educate adolescents about safe sex so that they can safeguard themselves from STI/RTI/HIV/AIDS. It is also essential to provide information about signs and symptoms of RTI/STI which will alert them to seek timely medical attention as needed. In summary, it may be said that despite all opposition there is an immense need for implementation of appropriate gender-based, culturally sensitive family life education curriculum in schools to cope up with the increasing vulnerability of young adults, especially girls, towards RTI/STI/HIV/AIDS in India.

## REFERENCES


Agampodi SB, and TC Agampodi, (2008). Adolescents perception of reproductive health care services in Sri Lanka. *BMC Health Services Research*. May 3;8:98.

Alexandra McManus and Lipi Dhar, (2008), Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education: (A cross sectional survey of urban adolescent school girls in South Delhi, India, *BMC Women's Health*. 2008; 8: 12.

Aparajita Chowdhury, David K. Carson and Cecyle K. Carson, (2006). Family life education in India: Perspectives, Challenges, and Applications, Rawat Publication, New Delhi.

District Level Household and Facility Survey 200708, Ministry of Health and Family Welfare, Government of India

Esman, A. (1990). *Adolescence and Culture*, New York: Colombia University Press.

Goyal R. Socio-psychological Constructs of Premarital Sex Behavior among Adolescent Girls in India. Jaipur: Indian Institute of Health Management Research, India.2005.

SPSS (Inc) Statistical package for Social Sciences(SPSS) Version 12.0. John Wiley & Sons Australia Ltd. Sydney.

Steinberg, L and SB. Silverberg, (1986), *The Vicissitudes of autonomy in early adolescence, Child Development*, 57, 841-851.