Awareness and Access to Reproductive Health Care among Adolescents

Abstract: *The study reveals that men are having more knowledge about contraception, sexually transmitted diseases and HIV/AIDS as compared to women. The main sources of knowledge are media and peer group. Unmarried women and men are having more knowledge than their married counterparts. However, there is not much difference among unmarried and married men. More than three forth of the adolescent women have gone for ANC. However, only 40 percent of the women had gone to institutional delivery and there exists regional differences in the percentage of women who had gone to institutional delivery. Southern and western region performs better in the case of ANC and institutional delivery. Nearly one forth of the adolescent women had experienced any type of complication during pregnancy and the percentage is relatively less in the case of delivery complication. The factor such as age, place of residence, caste, region and education of women, education of partner, parity and wealth index are found to have significant effect on different components of reproductive health.*

1. INTRODUCTION

The physical and emotional well-being of adolescents in the context of reproductive health includes their ability to remain free from too early or unwanted pregnancy, unsafe abortion, STDs including HIV/AIDS, and sexual violence and coercion. In recent decades it has gradually become clear that huge benefits are to be gained from investing in adolescents. Young people exist in greater numbers than ever before; they face unprecedented social change and are frequently at risk of adverse sexual and reproductive health outcomes. After the 1994 ICPD, where adolescent reproductive health was a key issue, recognition of the special needs of adolescents gathered pace. Adolescent programmes are, therefore, relatively new, and to date there has been little systematic evaluation of their effectiveness in developing countries (Senderowitz, 1995).

In developing countries, women and specially adolescents do not enjoy the reproductive rights as envisaged in the UN declaration. Most adolescent girls being illiterate are not aware of family planning methods and sexually transmitted diseases (STD) including HIV/AIDS. It is primitive to recognize that adolescent and sexuality are integrally associated. In countries like India, adolescent motherhood is closely associated with early marriage leading to early initiation of sexual activity. A number of studies have hinted at the possibility of poor reproductive health and higher incidence of secondary sterility due to early initiation of child bearing. Early marriage is associated with a number of health problems for the girl. Adolescent women are particularly vulnerable to early pregnancy, sexual abuse and child marriage etc (UNFPA, 2005). The maternal death is very high among adolescents. It has been found that maternal death among those below age 19 is higher than those above 19 years. This group often suffers from limited access to education, health services, and restrictive cultural and sexual norms. Adolescence (10-19) as a transitional period between childhood and adulthood is a relatively new concept in India. As a relationship between the physical, social and psychological changes that are specific to adolescents and their vulnerability to health problems, have remained largely unrecognized and unexplored. Thus while 10-19 age accounting a fifth of India's population. Their reproductive needs remain ill served (IIPS-1995).

Information on knowledge and prevalence of reproductive health problem for adolescent is very scarce in India. The relative lack of focus on this large segment of adolescent women has been justified on the ground that their needs are legitimately met in services available to adult women (Jejeebhoy, 2000).It

has been documented that number of infected person in India has been increasing faster over the years compared to that in African countries (Encyclopedia of HIV/AIDS, 2002).About half of the people infected with HIV virus are under age 25. WHO estimated, in less developed countries up to 60 percent of all new infections are among 15-24 year age group of population (WHO, 2004).Results from NFHS-3, indicate that 1.07 million HIV positive persons age 15-49 in India at mid point of survey in April, 2006. The female to male infection ratio of 0.61 is consistent with NACO's estimated 2005 female to male ratio of 0.62 for adults living with HIV (NACO, 2006).

People in every country of the world are affected by AIDS. HIV/AIDS is becoming more of a global crisis every day. The disease increasingly affects young people of the 5 million new infections in 2001, approximately half are among young people between age 15-24, Young women are especially vulnerable. In many countries, HIV rates are much higher among teen age girls than teen age boys. They are more susceptible of STD infection (UNICEF, 2002). In absence of appropriate and effective program for sexuality and gender education and appropriate reproductive health services, adolescents continue to remain at risk. Their vulnerability caused by their young age, their ignorance on matter related to sexuality and reproductive health, their lack of factual knowledge on contraception and their inability or unwillingness to use family planning and health services puts adolescents at a significant risk of experiencing negative consequences. The stakes are particularly high for adolescent girls who are at risk of getting pregnant at an early age and once pregnant, complication during pregnancy including unsafe abortion for maternal death, as well as for poor infant outcomes. Sexually active adolescent girls are also at a higher risk for reproductive track infection (RTI) including sexually transmitted infection (STIs), with the risk of later infertility or even death.

Women are generally under served in India, among them the most neglected are adolescent girls especially if they are unmarried they are more vulnerable, both biologically and socially. Adolescent fertility disturbingly high in India, occurring mainly within the context of marriage, Over half of ever married adolescents between 13-19 years are already mothers or pregnant with their first child, the situation is of particular concern in rural areas. The consequences in early child bearing are acute both for mother and for the infant, especially for many malnourished pregnant adolescents. In the absence of contraceptive methods, unmarried adolescent girls usually resort to unsafe abortions, after late in pregnancy. Despite their vulnerability, adolescent needs have been largely ignored.

Since the legal age for marriage is 18 years and two third of girls marry below the age of 18. Early sexual activity leads early pregnancy at a time when she is not biologically mature to rear the fetus. As such, a pregnant women in her teens, runs a high risk of abortion. The bulk of deliveries in India especially in rural areas, takes place at home, the risk to mother's life is high. This risk is compounded by early pregnancy, malnutrition and inadequate antenatal care (ANC).Nearly one lakh women die each year during child birth. A fifth of these pregnancies are unwanted. The high incidence of sexually transmitted diseases and HIV/AIDS reflects the practice of no safe sex. Sixty percent of girls drop out of school at the elementary level (UNFPA, 2007).Socioeconomic factors, cultural conditions and failure to guarantee safety of girls once they reach adolescence are impediments in their education. Adolescent pregnancy is an important factor influencing the health of women because of various biological factors involved in reproductive cycle of women. They may not be physically and mentally strong enough to face pregnancy or sexual relation in very young ages such as their teen ages. Other socioeconomic factors such as education, working status, place of residence, stander of living (SLI), parity etc. influence the reproductive health.

1.1 Review of Literature

In a study conducted in South India, explained that the improper and inadequate treatment seeking behavior of respondents can be explained by their lack of proper awareness about STDs. The level of awareness about STDs was observed to be very limited among adolescents (Santhya, 2002). Adolescent pregnancy and childbearing have significant effects on maternal and child health. Among adolescent women under age18, maternal mortality rate is three to four times higher than among older women. The risk of early childbearing to the health of mother and child is more pronounced among married adolescents. In many Asian countries sexual activity and childbearing begin with marriage and data on childbearing are typically gathered from married women (UNSAIDS, 2001).

Compared to pregnancy in later life, pregnancy during adolescence poses on even greater risk of reproductive health of women. It is also found that women who start childbearing at younger ages are more prone to have more children at younger age itself. This successive childbearing in the short span adversely affect the health of women. Information on prevalence of reproductive health is scarce in developing countries like India. A few community based studies conducted in India on the gynecological morbidity showed that there exist high prevalence of reproductive health problems (Bang and Bang, 1989; Bhatia and Cleland, 1995; IIPS 2000). These studies have examined the relationship between socio economic characteristics and prevalence of reproductive health problems.

Some of the earlier studies examined that the relationship between the current age of women and reproductive health problems, but the association between age at birth and prevalence of reproductive health problems remain neglected, which is an important component as for as the reproductive health problems are concerned. A study by Duncan *et al*., 1994 was conducted to see the relationship between adolescent pregnancy and prevalence of reproductive health problems in African city. The study found that prevalence of sexually transmitted diseases observed to high among teen ages as compared to women in the older ages group. Some of their earlier studies have concentrated on hospital records. It is found that there exist a high prevalence of reproductive, urinary tract infection and sexual health problem in India. The negative influence of age at first birth is possible because the age group 15-19 years is the age for girls to get matured physically. During these ages the body is going through a rapid physiological growth, emotional development and sexual maturation (Mehta *et.al*., 1999)

In India, empirical evidence illustrate that the integration of family planning program which eventually improves the health of mother and her child. ANC services a major component of maternal and child health program is said to have a salutary affect on family planning, especially among younger women Gender disparities at these are largely explained by poor reproductive health and high maternal mortality among adolescent females. 15 percent of all deaths to rural women aged 15-24 are attributed to complications of child birth and pregnancy, the second largest cause of death in this age following accidents and violence.(Jejeebhoy, 2000).

Knowledge of sex and reproductive is also limited among both educated and uneducated adolescents. Very few rural adolescent females could describe how body changes were related to sexual intercourse and reproduction (Vlassof, 1987).Sizable proportion of adolescent girls had incorrect knowledge or misconceptions about the fertile period, reproduction, sexually transmitted diseases, and HIV/AIDS. Age, education either of adolescents or their mothers, residence, and exposure to mass media were the significant predictors of adolescent girls' knowledge about reproductive health. Strong efforts are needed to improve awareness and to clarify misconceptions about reproductive health. Improved access to mass media and education could improve rural Bangladeshi adolescent girls' awareness about reproductive health (Uddin and Choudhury, 2008).

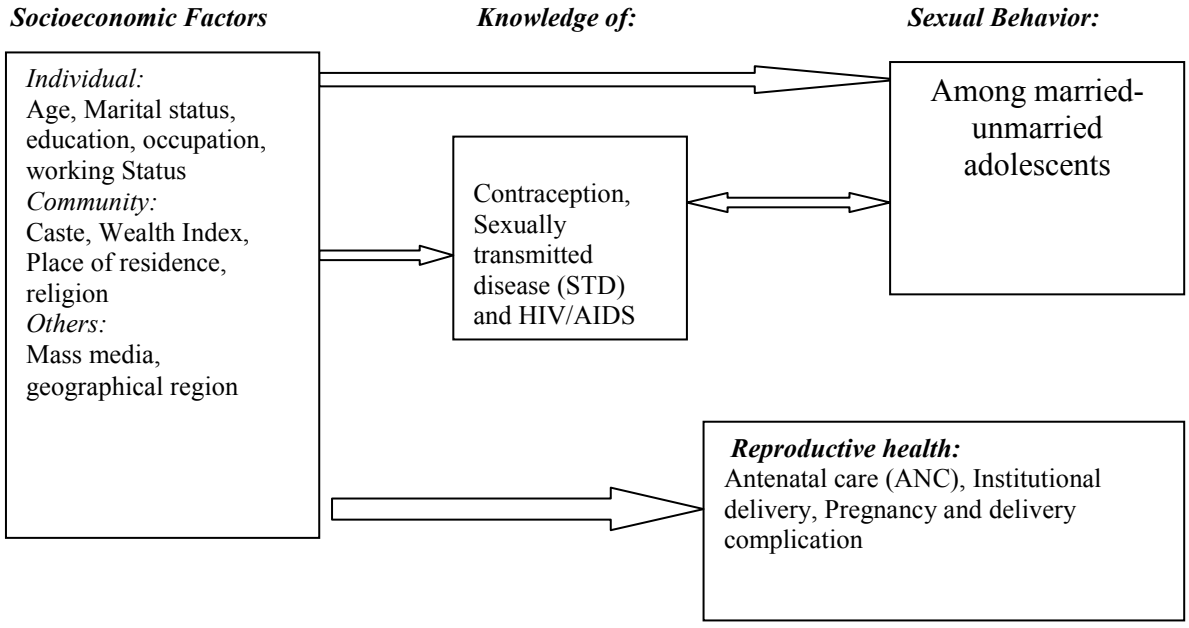
1.2 Need for the study

In India adolescent aged 15-24 represents almost a quarter of population. Most of the adolescents are not aware of family planning methods and sexually transmitted diseases (STD) including HIV/AIDS. Sometimes, early childbearing leads to pregnancy complication as well as delivery complication which affect their reproductive health. Thus, their sexual behavior, fertility and reproductive health may be different from that of other age group. Therefore, they should be considered as a distinct group with special need apart from those of children and adults (Jejeebhoy, 2000). Recently conducted NFHS (2005-06) survey gives ample information on sexual behavior and reproductive health of men and women in the adolescent age group. Adolescent health seeking behaviour and relative importance of various barriers to effective service delivery have not been effectively studied in India. So, an attempt has been made in this study to understand the knowledge of contraception, STD and reproductive health of adolescents.

1.3 Objectives

1. To analyze the level of knowledge for contraception and sexually transmitted disease including HIV/AIDS among adolescent men and women of aged 15-24.
2. To examine the sexual behavior of adolescents.
3. To understand ANC and delivery care, and obstetric morbidity among adolescent mothers having at least one child.

1.4 Conceptual Framework



2. DATA AND METHODOLOGY

2.1 Data

The data used in this study has been taken from NFHS -3, (2005-06) which was conducted in 29 states of India. In order to study the level of knowledge for sexually transmitted disease and contraception, information collected from both married and unmarried men and women of aged 15-24 is utilized and sample size for women is 47690 and for men is 25007.While to study the reproductive health of

adolescents, only those women who have given at least one live birth in the five year preceding the survey are considered.

2.2 Methods used:

Study mainly employs percentage distribution and bi-variate cross tabulation to explain the knowledge of STD, contraception and different components of reproductive health by background characteristics. Chi-square test is applied to examine the association between these variables. Logistic regression analysis is carried out to understand the significant effect of selected background characteristics on knowledge of STD including HIV/AIDS and components of reproductive health.

Equation for logistic regression:

$$ln\ (p/1-p) = \beta_o + \beta_1 * x_1 + \beta_2 * x_2 + \ldots\ldots$$

Where

p	: is probability of occurrence of event
$p/1-p$	**:** odds ratio which provides probability of occurrence of event
$x_1, x_2\ldots\ldots$	**:** are predictors
β_o	**:** intercept where there is no effect of any independent variables
$\beta_1, \beta_2\ldots\ldots..$	**:** Coefficients

Variables selected:

Response variables: *(Categorical scale: Dichotomous)*	**Predictor variables:** *(Categorical scale)*
• knowledge of contraception, knowledge of HIV/AID, knowledge of STD	age of women, women's education, marital status, caste, religion, wealth index, place of residence, geographical region, mass media exposure etc.
• ANC visit, institutional delivery, Pregnancy complication (yes=1 no=0)	age of women, women's education, marital status, religion, wealth index, place of residence, region, parity, working status of mother, education of father etc.

Indices used:
Mass Media exposure: This includes TV/Newspaper/Radio *(No exposure/ any exposure/full exposure)*
Full ANC: At least 3 ANC visit + 2 TT injection + 90 IFA tablets

3. RESULTS AND FINDINGS

3.1 Level of knowledge about contraception and STD among adolescents

Table 2 shows the comparative knowledge of contraception, sexually transmitted disease and HIV/AIDS among women and men. It is observed that knowledge of STD, HIV/AIDS among men are having more as compare to women(approx 20 percent more) of same age group while as for contraception almost same level can be seen (more than 95 percent) for both age group by different socioeconomic characteristics. A huge gap can be seen between knowledge level of men and women by marital status. Among men there is somewhat more percent among unmarried (approx 90 percent) than married

(approx 80 percent) while in case of women this difference is more. It is interesting to see that the percentage of never married have more knowledge than married. Rural women have less knowledge compared to rural men whereas urban men and women do not show much difference. As we look at rural and urban women there is more difference while among rural and urban men there is small difference.

Similarly caste wise disadvantaged groups like SC and ST women have less knowledge than that of OBC and others category but not much differentiation is coming out for men and always having more knowledge than women. Religion and wealth index wise variation can be seen that women of disadvantaged group having less knowledge than advantaged but among men difference is small. Region wise, not much variation can be seen for knowledge among men but in case of women belonging to central region (UP, Chhattisgarh, MP) and East region (Orissa, WB, Bihar, Jharkhand, Orissa, WB) the knowledge is very low (50 to 60 percent) followed by Northeast (AP and all seven northeastern states) and North (Delhi, Haryana, HP, J&K, Raj, UT, Punjab).

Table 3 represents source of knowledge of contraception and STD including HIV/AIDS among men and women by their marital status. It is clear from table that knowledge of any method as well as for modern method of contraception has not been varying much between men and women and it is more or less same whereas for traditional method very few are having knowledge among married and unmarried. If we are considering media exposure for knowledge of contraception, it had played a great role and 50 percent women and men are having knowledge from any source but women are quite more than men had not got any media exposure. Almost all unmarried women are not using contraception currently (99.9 percent) while there are some men (3 percent) currently using. Among married women users are only 27 percent in which almost all users are of modern method (IUD, pill, condom) and sterilized women are in same proportion (10 percent) and rest are traditional users and other methods. We can see from the same table that among married (42 percent), unmarried men (48 percent) and women source of knowledge for HIV/AIDS are mainly from friend/relative/husband/school then mass media played major role while other source like health worker/adult education/news paper have got less impact.

3.2 Antenatal Care (ANC)

Table 4 demonstrates that around 81 percent of the adolescent women have received any ANC, 68 percent has taken Iron Folic Acid Tablets and 88 percent have taken Tetanus injection. The percentage of women who had gone for institutional delivery was only 40 percent. Around one fourth of the women had suffered from any of the pregnancy complications and around 15 percent had experienced delivery complications.

With regard to age, among women in the age group 15-19, 78 percent have received any ANC and the corresponding percent for women in the age group 20-24 was 82 percent. There are not much age-wise differentials in the percentage of women who have received Iron Folic Acid tablets and Tetanus injection. But, the percent of women who have gone for institutional delivery is relatively higher among 20-24 age group. In case of pregnancy complications it is found that the percentage is more among women aged 20-24 while in the case of delivery complication the percent are more among 15-19 aged women. The percentage of women who have received any ANC, taken IFA tablets, taken TT are more among urban women in comparison with rural women. The percentage of urban women who had gone for institutional delivery is almost twice as that of rural women. Women who had experienced any pregnancy complications are relatively higher in the urban areas whereas those who had experienced delivery complications are higher in the rural areas.

It is evident from the table that women who have received any ANC, taken IFA tablets, taken TT, increases with education. Compare to illiterate women, the percentage of women who had gone for institutional delivery is almost three times higher among women with secondary education and more. Similar patter is found in the case of partner's education also. There is not much variation according to working status in the percentage of women who had received ANC, taken IFA and TT. The percentage of women who had gone for institutional delivery was relatively higher among non-working women (42.60%) in comparison with working women (33.30%). However, the percent of women who had experienced any pregnancy or delivery complication was slightly higher among non-working women. It can be seen that as parity increases proportion of mother going for ANC visit has decreased, as first birth is generally preferred for ANC visit. For first parity ANC visit is highest (86 percent) while lowest for higher parity (66 percent). Similar pattern is found for IFA tablet consumption, TT and institutional delivery. While pregnancy complication is more for first and second order births than that of higher order births, delivery complication is found to be more for higher order births.

The percentage of women who had ANC, taken IFA , TT and gone for institutional delivery are significantly lower among SC/ST women in comparison to others. Less number of Muslim women has received ANC, taken IFA and TT as compared to Hindu and others. Whereas pregnancy complication is highest among other religion, delivery complication is highest among Muslim. The proportion of women, who have received any ANC and taken IFA tablets, is lowest in eastern region. Overall southern region are having in advantage than others in the case of ANC, taken IFA, TT and institutional delivery. But prevalence of pregnancy complication is found to be highest in southern region (30 percent) and minimum in central. Fewer women among poorest wealth quintile had gone for ANC (67%), taken IFA (55%) and TT (77%) and very few have gone for institutional delivery (17.5%).Whereas pregnancy complication is found more among women in richer wealth quintile, delivery complication is more among women in poorer wealth quintile.

3.3 Regional variation

It is clear from Table 5 that about one third of women in eastern region had not gone for any ANC and the proportion is highest among all the regions. Among women who had gone for any ANC, major source of ANC visit is found to be either government or private hospitals in all the regions. The percentage was found to be highest in the northeastern region and lowest in the southern region. In South as well as in northeast region 50 percent ANC are taking place in private hospital. Except in western and southern region, majority of women belong to other regions have gone to government hospitals for ANC. The place of delivery is found to be more at home for women in the entire region except in southern region. The percentage of women who had delivered at home is highest in central region (78%) lowest in southern region (29%).

Most of the delivery cases are assisted by traditional birth attendant/Dai in all regions and the percentage was highest (75 percent) in central region. On the other hand, most of the delivery cases in southern region was assisted by trained personnel (70 percent) .Most of the women in all region have taken more than two TT injections (more than 70%). While more than half of the women in southern region have received IFA tablets for more than ninety days, the corresponding percentage is much less in other regions. With regard to full ANC, the percentage is found highest in southern region (37%) and least in Central region (7%). Proportion of women experienced vaginal problem during delivery is found highest in eastern region (18%) and highest percentage is found for having high fever during delivery in eastern as well as in Central region. Percentage of women experienced any pregnancy complications like vaginal bleeding, convulsions, prolonged labour is found to be highest in Southern region. The

Percentage of women had ever aborted pregnancy is found almost same in the entire region but slightly higher in central, eastern and northeastern region compared to other regions.

3.4 Multivariate Analysis for ANC and Institutional Delivery

The odds ratio showing the variations in different components of reproductive health are presented in Table 6 reveals that women in the older age group and who belong to urban areas are significantly more likely to go for ANC visit. An increase in women's education as well as partner's education increases the odds of going for ANC. An increase in parity decreases the chance of going for ANC visit. Women who are SC, ST are significantly less likely to go for ANC in comparison to women who belong to other caste groups. With regard to region, it is found that as compared to northern region, women in eastern and northeastern region are less likely to go for ANC whereas women in western and southern region are significantly more likely to go for any ANC. The chance of going for any ANC increases with the increase in wealth quintiles.

Table further shows that those women in the age group 20-24 and who belong to urban areas are significantly more likely to go for institutional delivery. The chance for going for institutional delivery increases with women's education as well as partner's education. Working women and those who have higher order births are less likely to for institutional delivery. Women belong to other religion are significantly less likely to for institutional delivery as compared to Hindus. Compared to other caste group women belong to SC, ST caste are significantly less likely to for institutional delivery. In comparison to northern region, the chances of women going for institutional delivery is significantly less in central and northeastern region and higher in eastern, western and southern region. The likelihood of going for institutional delivery increases with an increase in wealth quintile.

In the case of pregnancy complications, the factors such as age, education of women, working status, partner's education, parity, religion, region and wealth index are found to have significant effect. It is evident from the table that those women who are older, working and highly educated and whose partner is highly educated are significantly more likely to experience pregnancy complication. Women with higher order births and belonging to Muslim and others religion are less likely to have pregnancy complication. Whereas women in central region are having less chance to have pregnancy complication, and more in eastern and southern region. In richer wealth quintile, there is more chance to have pregnancy complication as compared to poorer women.

4. SUMMARY AND CONCLUSIONS

This paper attempts to understand the knowledge of contraception and STD and reproductive health adolescents. The study reveals that men are having more knowledge about contraception, sexually transmitted diseases and HIV/AIDS as compared to women. The main sources of knowledge are media and peer group. Unmarried women and men are having more knowledge than their married counterparts. This may be because unmarried are relatively more educated and have more exposure. However, there are not much differences found among unmarried and married men.

More than three forth of the adolescent women have gone for ANC. However, only 40 percent of the women had gone to institutional delivery and there exists regional differences in the percentage of women who had gone to institutional delivery. Southern and western region performs better in the case of ANC and institutional delivery. Nearly one forth of the adolescent women had experienced any type of complication during pregnancy and the percentage is relatively less in the case of delivery complication. The factor such as age, place of residence, caste, region and education of women,

education of partner, parity and wealth index are found to have significant effect on different components of reproductive health.

The present study concludes that knowledge about contraceptives and different aspects of reproductive health are considerably less among women in comparison with men. Therefore, gender-specific policies should be undertaken to improve the level of knowledge of adolescent women. In addition, programmes should be implemented to increase the institutional delivery.

References

Bang R.A. and A. T. Bang,M., M. Baitule, Y. Choudhary, 1989, "High prevalence of Gynecological disease in rural Indian women", *Lancet*, 8629 (14 January):85-89.

Bhatia, J.C.and J.Cleland, 1995, "Self reported system of Gynecological Morbidity and their treatment in South India", *Studies in Family Planning.*

Bienniel Report, Department of Reproductive Health (2004-05, 2002-03): *"Sexual and Reproductive Health laying the foundation for a monjust world through research and action",* World Health Organization.

Duncan, M.E., A. Mahari and Young. H.,1994. "Adolescent Pregnancy and Reproductive and Sexual Health Problem in India", *Journal of Medicine.*

International Institute for Population Sciences (IIPS*)* and ORC Macro. 1995. *National Family Health Survey: India*, 1992-93: Mumbai, IIPS.

International Institute for Population Sciences (IIPS*)* and ORC Macro. 2007. *National Family Health Survey: India*, 2005-06: Mumbai, IIPS.

Jejeebhoy, Shireen J., 2000. "Adolescent Sexual and Reproductive Behaviour: A Review of the Evidence from India" in R. Ramasubban and Jejeebhoy (eds.), *Women's Reproductive Health in India*, Rawat Publication, Jaipur and New delhi.

Jejeebhoy, Shireen J.Shah, Iqbal and Thapa, Syam, 2003. *Sex without Consent, Young People in Developing Countrie,*. Population Council, New Delhi.

Kavitha N.,2003, "Adolescent Pregnancy and Reproductive and Sexual Health Problem in India", see Prakasham and Raju, p.57-78.

Mamdani, Masuma.2005*, "*Adolescent Reproductive Health: The Experience of Community Based Program in India".In Saroj Pachauri and Sangeeta Subramanian (eds.), *Implementing a Reproductive Health Agenda in India*: *The Beginning*, pp.253-302. New Delhi: The Population Council.

Mehta, Suman; Grenen, Riet and Rouque, Francisco. Nov 1999.*Adolescents in Changing Times: Issues and Perspectives for Adolescent Reproductive Health in the ESCAP Region*, UN, Economic and Social Commission for Asia and the Pacific, Population Program, ICPD+5.

National AIDS Control Organization (NACO), 2006, The annual report.

National Research Council: Contraception and Reproduction: Health Consequences for Women and Children in the Developing World, National Academy Press, Washington D.C., 1989.

Pathak, K.B.; Ram, F., 1993. "Adolescent Motherhood: Problem and Consequences", *The Journal of Family Welfare,* Vol.39.

Santhya, K.G., 2002."Pattern of Treatment seeking behavior for reproductive illness in Rural Tamil Nadu", paper presented in workshop, Pune.

Senderowitz, J. 1995. *Thematic Evaluation: Reproductive Health/Family Planning IEC and Services for Adolescents (Case Study: Jamaica and Antigua)*. New York: UNFPA.

Uddin, Jashim. and Mannan Choudhury, A. 2008. "Reproductive Health Awareness among Adolescent Girls in Rural Bangladesh" *Asia Pacific Journal of Public Health,* pp.117-128

Vlassoff, Carole.1978. "Educating female adolescents: Possibilities and limitations for social change and population changing in rural India", *Demography India*, 7(1-2): 175-93.

World Health Organization, 2004, *A Reproductive Approach, Reproductive Health,* Chetna Women's Health and Development Resource Centre Chaitanya.

Table 1: Percentage distribution of adolescents (aged 15-24) with characteristics

Background variables	*Women*	*Total*	*Men*	*Total*
Age				
15-19	52.1	**24811**	52.0	**13008**
20-24	47.9	**22779**	48.0	**11989**
Marital status				
never married	49.6	**23588**	82.9	**20721**
ever married	50.4	**24003**	17.1	**4276**
Place of residence				
rural	68.6	**32660**	62.3	**15561**
urban	31.4	**14931**	37.7	**9435**
Occupation				
not working	66.1	**31451**	33.8	**8445**
Agriculture & domestic work	20.1	**6583**	45.6	**14410**
non agriculture	13.8	**9551**	20.4	**5102**
Education				
No education	26.3	**12524**	9.8	**2440**
Primary	14.5	**6898**	13.4	**19198**
Secondary& higher	59.2	**28166**	76.8	**24988**
Caste				
SC	19.3	**9171**	19.6	**49**
ST	8.4	**4014**	7.8	**1960**
OBC	39.8	**18921**	39.1	**9773**
others	32.5	**15486**	33.4	**8361**
Religion				
Hindu	79.2	**37705**	81.0	**20239**
Muslim	15.4	**7307**	13.6	**3398**
others	5.4	**2578**	5.4	**1360**
Region/state				
North	13.2	**6304**	15.5	**3865**
Central	25.1	**11924**	25.6	**6395**
East	23.4	**11155**	19.5	**4880**
Northeast	4.0	**1884**	3.9	**987**
West	14.3	**6829**	16.5	**4118**
South	20.0	**9494**	19.0	**4751**
Wealth index				
Poorest	17.2	**8175**	13.8	**3460**
Poorer	19.5	**9284**	18.3	**4577**
Middle	21.3	**10131**	21.6	**55**
High	21.5	**10241**	23.2	**59**
Highest	20.5	**9759**	23.0	**5743**

Table 2: Percentage of adolescent women and men having knowledge of contraception, STD and HIV/AIDS, NFHS-3.

Background Characteristics		*Women*				*Men*			
		Knowledge of STD	Knowledge of HIV/AIDS	Knowledge of contraception *(Any method)*	Total	Knowledge of STD	Knowledge of HIV/AIDS	Knowledge of contraception *(Any method)*	Total
Age	**15-19**	67.4	64.2	94.0	**24811**	86.7	86.3	96.0	**13008**
	20-24	70.9	66.4	98.2	**22779**	90.2	90.2	98.6	**11989**
Marital status	**Never married**	76.9	75.3	93.5	**23588**	89.5	89.2	96.9	**20721**
	Ever married	61.4	55.4	98.6	**24003**	82.6	81.5	98.9	**4276**
Education	**No education**	34.4	25.5	94.7	**12524**	56.8	55.7	93.3	**2440**
	Primary	55.3	50.1	94.8	**6898**	75.0	73.8	95.5	**3351**
	Secondary+	87.9	86.7	96.9	**18166**	94.7	94.4	98.1	**19198**
Place of residence	**Rural**	60.8	55.7	95.4	**32660**	84.2	83.6	96.6	**15561**
	Urban	87.2	86.2	97.3	**14931**	95.2	95.0	98.4	**9436**
Caste	**SC**	65.4	61.1	96.1	**9170**	86.8	86.4	97.6	**4904**
	ST	51.3	45.3	92.6	**4013**	75.0	73.6	94.5	**1960**
	OBC	67.7	63.0	96.6	**18920**	88.8	88.3	97.7	**9773**
	Others	77.7	75.7	96.2	**15485**	91.8	91.6	97.2	**8361**
Religion	**Hindu**	69.2	65.3	96.5	**37705**	88.5	88.1	97.6	**20239**
	Muslim	64.0	59.4	94.4	**7308**	86.6	86.1	96.3	**3397**
	Others	82.3	81.1	93.1	**2578**	90.0	89.6	94.6	**1361**
Region/state	**North**	68.9	65.8	94.6	**6304**	88.6	88.2	96.9	**3865**
	Central	59.3	54.3	97.7	**11924**	85.1	84.4	98.3	**6395**
	East	60.1	53.1	96.6	**11155**	83.1	83.1	97.2	**4880**
	Northeast	69.7	68.7	93.5	**1884**	82.6	82.4	92.3	**987**
	West	78.8	75.9	96.7	**6829**	92.6	91.9	97.3	**4119**
	South	85.2	84.6	94.2	**9495**	95.1	94.8	97.2	**4751**
Wealth index	**Poorest**	37.5	29.1	93.8	**8174**	66.1	65.0	94.3	**3460**
	Poorer	51.8	45.7	95.4	**9284**	82.1	81.3	96.7	**4577**
	Middle	70.1	66.6	95.6	**10131**	90.8	90.4	97.3	**5407**
	Richer	84.0	82.4	97.0	**10241**	94.7	94.5	98.1	**5809**
	Richest	95.4	94.8	97.8	**9759**	97.9	97.8	98.7	**5743**
	Total	69.1	65.4	96.0	**47690**	88.3	88.0	97.3	**25007**

Table 3: Source of knowledge about contraception and STD HIV/AIDS among adolescents, NFHS-3

	Women			*Men*		
	Unmarried	**Married**	**Total**	**Unmarried**	**Married**	**Total**
Knowledge of contraception						
Any method	93.45	98.55	**45700**	96.9	98.9	**681**
Traditional method	0.06	0.15	**52**	0.04	0.01	**12**
Modern method	93.39	98.4	**45648**	96.9	98.8	**14304**
Media exposure for contraception (radio/TV/Newspaper/Magazines)						
No exposure	30.72	44.4	**17899**	17.5	24.7	**4682**
Any exposure	51.2	46.44	**23218**	49.2	51.4	**12402**
All exposure	18.08	9.16	**6461**	33.3	23.9	**7912**
Knowledge of STD	76.93	61.43	**32891**	84.5	82.6	**22082**
Knowledge of HIV/AIDS	75.47	55.48	**31120**	89.3	81.6	**22005**
source of knowledge for HIV/AIDS						
Any	75.3	55.4	**31060**	89.2	81.5	**21968**
Radio/TV/cinema	23.69	20.93	**10611**	11.9	13.8	**3061**
Print media	9.34	5.15	**3441**	11	7.7	**2608**
Health worker/adult education/ Community meeting	7.13	5.57	**3018**	14.5	15.3	**3667**
Friends/relatives/husband/school	33.72	22.99	**13473**	48.1	42.2	**11754**
Others	1.44	0.74	**517**	3.7	2.5	**868**
Total	**23588**	**24003**	**47590**	**20721**	**4276**	**24997**

Table 4: Ante Natal Care among adolescent women by socioeconomic characteristics, NFHS-3

Characteristics	*ANC visit*	*taken IFA*	*taken TT*	*institutional delivery*	*pregnancy complication*	*delivery complication*
Age						
15-19	77.81	65.75	87.43	36.62	19.73	18.59
20-24	81.89	68.04	87.48	41.05	24.41	14.36
POR						
Rural	77.9	65.1	85.7	33.2	21.4	16.0
Urban	91.7	75.9	93.1	64.9	29.6	11.9
Education of woman						
No education	68.1	52.8	77.9	22.3	15.8	15.1
Primary	84.3	72.3	90	37.5	22.5	15.8
Secondary& higher	93.2	80.9	96.3	62.6	29.8	14.6
Current working status of mother						
Not working	81.6	67.6	88.6	42.6	24.2	22
Working	79.7	67.7	83.9	33.3	21.6	21.8
Education of partner						
No education	68.4	54.8	77.7	22.8	15.8	15.4
Primary	79.8	66.7	86.9	34.3	21.8	15.1
Secondary& higher	86.9	73.5	91.9	50.2	26.6	14.7
Birth order						
1	85.8	73.0	90.7	50.4	26.0	22.0
2	82.6	67.2	88	33.6	23.3	20.6
2+	66.3	54.6	78	21.1	16.3	24.1
Caste						
SC	77.9	66.6	83.2	32.5	20.4	14.7*
ST	78.6	63.8	87.6	40.1	23.7	15.3*
others	81.1	74.3	92	49.9	26.5	15.0*
Religion						
Hindu	81.1*	68.2	87.6*	40.6	23.4	14.7*
Muslim	80.4*	64.4	87.1*	36.8	22.5	16.3*
others	84*	69.2	87.5*	48.7	31.7	15.5*
Region/state						
North	84.3	65.1	85.1	39.8	25	13.1
Central	77.2	60.7	80	22.2	14	15.7
East	69.3	59.9	89.7	31.2	26.5	19.9
Northeast	78	64.1	80.2	26.1	20.8	16.9
West	91.3	81.5	92.5	60.2	24.4	9.5
South	96.1	81.3	93.8	71.1	30.5	11.6
Wealth index						
Poorest	67.2	54.9	77.1	17.5	15.7	17.8
Poorer	75.6	61.5	84.1	29	19.6	15.1
Middle	84.2	70.6	89.8	42.2	21.7	14.0
Richer	90.8	76.5	94.6	59.1	27.7	14.3
Richest	97.2	83.7	98	79.2	36.7	11.8
Total	**81.1**	**67.6**	**87.5**	**40.4**	**23.6**	**15.0**

* Insignificant association between attributes (Chi-square test) at 5% level of significance

Table 5: Regional variations in components of reproductive health care among adolescent women, NFHS-3.

	North	*Central*	*East*	*Northeast*	*West*	*South*
No ANC visit	15.7	22.8	30.7	22	8.7	3.9
Source ANC visit						
ANC at home	33.4	24.1	13.3	18.9	8.8	14.3
ANC at Govt. hospital	57.4	60.8	54.4	64.9	49.4	42.2
ANC at Pvt. hospital	28.6	28.4	49.2	27.9	53.8	54.3
Place of delivery						
At home	60.2	77.8	68.8	73.8	39.8	28.9
Govt. sector	21.7	10.8	17.9	20.2	23.5	36.7
Private sector & other	18.2	17.9	13.3	6	36.7	34.3
delivery assisted by						
Doctor	10.5	6.1	8.4	12.1	32.1	31
Nurse/other health personnel	28.8	18.1	21	17	19.8	38.5
Dai/TBA/relatives/other	60.3	75.5	69.4	69.2	47.5	28.8
Received TT	**85.1**	**80**	**89.7**	**80.2**	**92.5**	**93.8**
<=2	8.5	9.8	5.5	40.6	8.3	5.2
>2	76.6	70.3	84.2	69.6	84.2	88.6
Received IFA	**65.1**	**60.7**	**59.9**	**64.1**	**81.5**	**81.3**
<90 days	61.8	73.3	63.7	96.6	57.1	47.4
90+ days	31.1	17.7	32	24.8	37.9	51.9
Full ANC	**15.1**	**6.8**	**14.1**	**10.3**	**23.9**	**37.1**
Delivery complication						
Vaginal problem	14.1	11.4	18	15.1	7.5	11.6
High fever	8.7	18	18.2	14.4	9.3	6.9
Pregnancy complication						
Vaginal bleeding	17.5	9.2	14.7	15.5	15.6	22.1
Convulsions	15.9	8	14.9	16	15.5	20.4
Prolonged labour	16.6	12	22.2	17.5	20.5	24.4
Had ever abortion	13.3	15.4	15.4	15.3	11.8	10.1

Table 6: Odds Ratio for different factors of Reproductive Health, NFHS-3.

Characteristics	*I*			*II*	
	ANC Visit	**Institutional Delivery**	**Pregnancy Complication**	**Institutional Delivery**	**Pregnancy Complication**
Age 15-19@					
20-24	**1.29***	**1.15***	**1.23***	**1.29***	**1.23***
POR Rural					
Urban@	**1.32***	**1.73***	1.09	**1.60***	1.09
Education of woman					
No education@					
Primary*	**1.99***	**1.46***	**1.30***	**1.34***	**1.31***
Secondary& higher	**2.91***	**2.11***	**1.44***	**1.78***	**1.44***
Working status of mother					
Not working@					
Working	1.09	**0.91***	**1.12***	**0.86***	1.1
Education of partner					
No education@					
Primary	**1.40***	**1.27***	**1.30***	**1.27***	1.29*
Secondary& higher	**1.34***	**1.43***	**1.34***	**1.39***	1.33
Birth order					
1@					
2	**0.82***	**0.48***	0.91	**0.44***	**0.90***
2+	**0.44***	**0.40***	**0.72***	**0.36***	**0.71***
Caste					
Others@					
SC	**0.68***	**0.72***	0.94	**0.82***	0.97
ST	**0.52***	**0.79***	1.04	**0.89***	1.04
Religion					
Hindu@					
Muslim	1.24	0.97	**0.75****	0.88	1.2
Others	1.27	**0.77***	**0.70****	**0.92****	0.96
Region/state					
North@					
Central	0.91	**0.64***	**0.62***	**0.69***	**0.61***
East	**0.52***	**1.19***	**1.45***	**1.33***	**1.35***
Northeast	**0.57***	**0.68***	0.89	**0.72***	**0.90***
West	**1.45***	**2.16***	0.91	**2.41***	**0.90***
South	**4.77***	**5.23***	**1.44***	**5.27***	**1.39***
Wealth index					
Poorest@					
Poorer	1.07	**1.39***	1.13	**1.40***	**1.16***
Middle	**1.20***	**1.64***	1.1	**1.72***	**1.18***
Richer	**1.55***	**2.48***	**1.39***	**2.77***	**1.53***
Richest	**3.36***	**5.11***	**1.95***	**5.94***	**2.20***
Taken TT(No@)					
Yes	**na**	**na**	**na**	**1.74***	1.24**
Visited ANC(No@)					
Yes	**na**	**na**	**na**	**2.61***	##

@reference category *p<0.05, **p<0.1 na: not applicable ## co-linearity