

Pregnancy Among Unmarried Adolescents and Young Adults

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Abstract

Objective(s) To determine the risk factors for pregnancy among unmarried adolescents and young adults.

Method(s) Case–control study was done over a period of 2 years. Data collected from 181 unmarried abortion seekers and 181 unmarried non-pregnant controls (≤ 24 years) attending three Medical Colleges of Kerala.

Results Logistic regression analysis showed a strong association between unmarried adolescent pregnancy and lack of parental supervision and control (OR 8.74, $P = 0.000$), poor intra-family relationship (OR 7.01, $P = 0.000$), family problem (OR 4.41, $P = 0.000$), lack of knowledge on sexual and reproductive health (OR 4.95, $P = 0.0003$), and non-engagement of adolescent in any productive activity (OR 4.41, $P = 0.0373$).

Conclusion(s) Lack of parental control, family problem, poor intra-family relationship, lack of knowledge on sexual and reproductive health, and lack of engaging in any productive activity were found to be significant predictors for unmarried adolescent pregnancy.

Keywords Unmarried adolescent pregnancy · Parental control

Introduction

Unmarried adolescent pregnancy is a major health and social problem in many developed as well as developing countries with unique medical and psychosocial consequences for the patient and society. Despite a high female literacy rate in Kerala, observational studies suggest that many unmarried adolescents seek abortion; majority of them report in the second trimester and few go for unsafe abortions leading to complications like septic abortion, future infertility, and even maternal death. As pregnancy among unmarried is a highly sensitive issue, a large proportion of these abortions go unreported resulting in paucity of data on this. Results of few studies available cannot be implied to Indian scenario due to cultural difference as premarital pregnancy is considered a taboo here. In Kerala, no analytic study is available exclusively on unmarried adolescent pregnancy and their risk factors. It is in this background, this study was undertaken to identify the factors leading to pregnancy among unmarried adolescents and young adults of Kerala.

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Subjects and Methods

The study was designed as a case–control study.

Sample size: With the smallest acceptable Odds ratio as 2, alpha error 5 %, beta error 10 %, with single control per case, 181 cases and 181 controls were recruited for the study. Consecutive sampling technique was adopted in the selection of cases and controls.

Cases: Unmarried adolescents and young adults (≤ 24 years), attending family welfare clinic of the three major government postgraduate teaching hospitals of Kerala, i.e., Medical College Thiruvananthapuram, Kottayam and Kozhikode, seeking abortion services were the cases.

Controls: Unmarried non-pregnant adolescents within the same age range, receiving services at the same study hospitals were the controls. Those who failed to give consent and who did not co-operate were excluded from the study.

Data collection: Data were collected from October 2004 to July 2006 using a pre-piloted structured interviewer administered, closed ended questionnaire, and information was elicited on sociodemographic characteristics, family-related factors, and individual factors. Owing to the sensitive nature of the research, for deriving community relevant variables to be included in the study, focus group discussions were also conducted among doctors, nurses, teachers, and mothers of unmarried girls ≤ 24 years.

Ethical issues: The study was started after obtaining Ethical clearance from the Institutional Review Board. Informed consent was sought from respondents; for minors, parent's consent was taken.

Data analysis: The data were analyzed by means of SPSS software (version 11) and Epi info 3.3 versions.

Bivariate and multivariate analyses were performed and the risk factors for unmarried adolescent pregnancy determined.

Subgroup analysis: Stratified by age (≤ 19 and >19) were also done. Test of association was by Chi-square. Odds ratio and 95 % confidence interval computed as the estimate of relative risk.

Results of Bivariate Analysis

Distribution of abortion seekers according to age is shown in the Pie Chart (Fig. 1). Unmarried girls ranging from age 13 to 24 reported for pregnancy termination. Out of the total 181 abortion seekers, 20 cases (11.1 %) were below the age of 16; 70 cases (38.6 %) were between 17 and 19 years; and rest of them, i.e. 91 cases were (50.3 %) >19 years.

Sociodemographic Characteristics

As shown in Table 1, majority of cases and controls were Hindus, hailing from nuclear families and also from rural

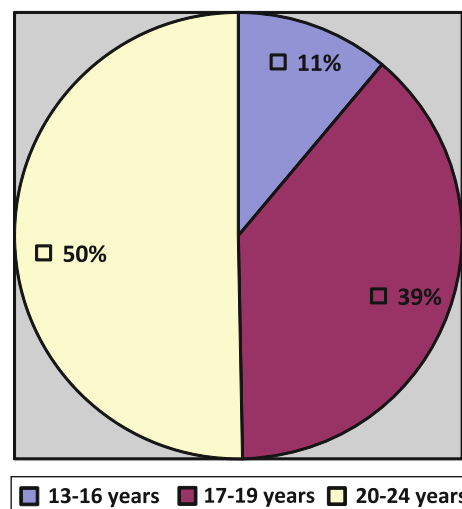


Fig. 1 Distribution of abortion seekers according to age

areas. No significant difference was observed between the study and control group with respect to religion, family type, and residence. However, the bivariate analysis showed significant association between unmarried pregnancy and low socio-economic status.

Those with low socio-economic status were found to be having 4 times higher risk for unmarried pregnancy (OR 4.35; CI 2.75–6.89; $P = 0.000$).

Family-Related Factors

The three main variables studied under family-related factors were family problem, parental control, and intra-family relationship.

Family Problem

It is evident from Table 1 that 64.6 % of the cases hailed from problem families when compared to 14.4 % of the controls. In the present study, family problem was due to any of the following reasons: broken family (parents dead, divorced, or separated)/children from polygamous families (father having more than one wife at the same time)/parents with marital disharmony/problematic stepfather relations/extreme poverty/mentally challenged parents/very old and debilitated parents/single parent without family support, etc. The study pointed out that the chances for unmarried pregnancy was nearly 11 times more among adolescents from problem families (OR 10.9; CI 6.51–18.24; $P = 0.000$).

Parental Control

Majority of cases (75.7 %) had lack of appropriate parental supervision and control; it is found that those with no

Table 1 Sociodemographic, family-related, and individual factors

Variable	Case no. 181 (%)	Control no. 181 (%)	Odds ratio	CI	P value
<i>Sociodemographic factors</i>					
<i>Religion</i>					
Hindu	117 (64.6)	118 (65.2)	0.98	0.72–1.33	1.000
<i>Residence</i>					
Rural	168 (89.5)	162 (92.8)	1.50	0.09–2.54	0.362
<i>Socio-economic status</i>					
Low	141 (77.9)	81 (44.8)	4.35	2.75–6.89	0.000
<i>Family related factors</i>					
Family type nuclear	167 (92.3)	159 (87.8)	1.65	0.98–2.67	0.229
Family members ≤ 4	43 (23.8)	45 (24.9)	1.47	1.10–1.98	0.079
Problem family	117 (64.6)	26 (14.4)	10.9	6.51–18.24	0.000
Lack of parental control	137 (75.7)	33 (18.2)	13.97	8.40–23.2	0.000
Poor intra-family relationship	134 (74)	28 (15.5)	15.58	9.44–26.26	0.000
<i>Individual factors</i>					
Education ≤ 10	141 (77.9)	86 (47.5)	3.89	2.48–6.15	0.000
Occupation (lack of productive activity)	80 (44.2)	52 (28.7)	1.97	1.27–3.04	0.002
Poor sexual and reproductive health knowledge	112 (61.9)	33 (18.2)	7.28	4.49–11.79	0.000

control or strict control by parents had 14 times higher risk for unwanted pregnancy and this was found to be statistically significant (OR 13.97; CI 8.40–23.2; $P = 0.000$).

Intra-family Relationship

Association between intra-family relationship and adolescent pregnancy indicated that 74 % of the cases had poor intra-family relationship compared to 15.5 % of controls and showed nearly 15 times higher risk for unwed pregnancy (OR 15.58; CI 9.44–26.26; $P = 0.000$).

Individual Factors

The important variables studied were education, occupation, and knowledge about sexual and reproductive health.

Educational Level

More than three-fourth of the cases had studied only up to 10th standard or less (Table 1), and those girls with less number of school years were 4 times more likely to have an unwanted pregnancy (OR 3.89; CI 2.48–6.15; $P = 0.000$).

Productive Engagement

Adolescents and young adults not engaging in any productive activity were more in the cases (44.2 %) than in the control groups (28.7 %). They showed 2 times higher risk for unwanted pregnancy (OR 1.97; CI 1.27–3.04; $P = 0.002$).

Sexual and Reproductive Health Knowledge

This variable included knowledge about menstruation, conception, sexually transmitted infections, contraception, and safe sex. It was found that lack of knowledge on sexual and reproductive health had a significant association with unmarried pregnancy. The poor knowledge about sexual and reproductive health (61.9 %) was higher than that of controls (18.2 %). This difference was found to be statistically significant (OR 7.28, CI 4.49–11.79; $P = 0.000$).

Multivariate Analysis

Logistic regression was used to find out the independent association between unmarried teenage pregnancy and the study variables. The model was constructed based on $P < 0.25$ in the bivariate analysis and clinically important variables.

Results of Logistic Regression Analysis

In the final model, children hailing from family problems, lack of appropriate parental supervision and control, poor intra-family relationship, lack of engaging in any productive activity, and lack of knowledge about sexual and reproductive health were found to be significant independent risk factors for unmarried adolescent pregnancy (Table 2).

Subgroup analysis (Tables 3, 4) showed strength of association of all the above risk factors to unmarried pregnancy more among the ≤ 19 -year age group, compared to > 19 .

Table 2 Results of logistic regression analysis

Variables	OR	95 % CI		P value
		Lower	Upper	
Lack of engaging in any productive activity	4.22	1.089	16.40	0.0373
Poor intra-family relationship	7.01	3.47	14.17	0.0000
Family problem	4.41	2.16	9.00	0.0000
Lack of sexual and reproductive health knowledge	4.95	2.08	11.8	0.0003
Lack of parental control	8.74	4.22	18.08	0.0000

Table 3 Results of logistic regression analysis ≤ 19 years

Variables	Odds ratio	95 % CI	P value
Poor intra-family relationship	11.35	3.12–41.20	0.0002
Lack of engaging in productive activity	4.22	1.08–16.40	0.0373
Family problem	8.49	2.50–28.75	0.0006
Parental control	12.75	3.69–43.98	0.0001
Lack of sexual and reproductive health	6.48	1.91–23.28	0.0027

Table 4 Results of logistic regression analysis > 19 years

Variables	Odds ratio	95 % CI	P value
Poor intra-family relationship	6.37	2.49–16.24	0.0001
Family problem	2.88	1.09–7.59	0.0322
Lack of sexual and reproductive health	6.23	1.66–22.02	0.0065
Parental control	8.01	3.05–21.01	0.0000

Discussion

Comparison of observations with other studies: Even though very few studies are available in the literature to know about the risk factors for pregnancy among unmarried adolescents and young adults, these studies and their findings are not really comparable as they were poorly designed and no acceptable sampling techniques were employed.

Association of lack of participation in any productive activity and teenage pregnancy had been observed by different authors.

In the present study, 44.5 % of the cases were not engaged in any productive or academic activities (OR 4.22, $P = 0.0373$) and they engage in risky behavior at a very young age. The observations made in this study is consistent with the reports observed by Kasen et al. [1] and Kirby

[2], who have conducted studies on the influence of school dropout and school disengagement on the risk of adolescent pregnancy.

Family problem as an immediate determinant of adolescent sexual activity has been pointed out by various studies [3–6]. The present study also supports this and revealed that more pregnant adolescents hailed from family problems when compared with non-pregnant controls ($P = 0.000$). It is also found that these children having family problems lacked love and encouragement by the family and they felt insecure at home. They received less support for their problems in or outside the family and had lesser life satisfaction and happiness in general.

Parents play a significant role in the sexual development and behaviors of their children. Parent–child closeness or connectedness, parental control, and parent–child communication have all been implicated in adolescent sexual behavior. Parental monitoring and supervision are important ways for keeping adolescents from risky situations and activities while the teen develops responsible decision-making skills. Association of lack of appropriate parental supervision and control and adolescent sexual activity has been shown in different studies [7–9].

The present study is in agreement with this and confirmed that either lack of parental control or strict control by parents is a highly significant risk factor for adolescent pregnancy (OR 8.7, $P = 0.000$). Another important observation made out from the study is that a few percentages of the cases (18.2 %) were not staying with their biological parents. They were residing in the hostels (for academic purposes/jobs in faraway places), staying with relatives, or working as housemaids, all of which resulted in lack of appropriate parental supervision and control.

The current study showed that poor intra-family relationship is associated with unwed adolescent pregnancy. Several mechanisms may underlie the associations between family relationships and adolescent sexual activity. A supportive relationship between the parent and adolescent is important for enhancing communication and supervision [10].

A study by Guijarro et al. [11] on family risk factors associated with adolescent pregnancy has shown that mother–child communication about sex contributed to decreased likelihood of sexual risk. Family connectedness may be a protective factor related to sexual risk-taking, even among high-risk youth [12].

The present study also backs up the above observations and showed that almost three-fourth of the pregnant adolescents reported poor intra-family relationship compared to controls and this finding was found to be statistically significant (OR 7.01, $P = 0.000$). These pregnant adolescents with poor intra-family relationships were not in the habit of openly communicating or discussing their problems with parents or other members of the family, and their

parents in turn never discussed family life issues with them. Non-pregnant adolescents showed better parent-daughter communication, higher levels of cohesion, connectedness, and higher future expectations.

The study also showed a close link between lack of knowledge on sexual and reproductive health and adolescent pregnancy. Overall knowledge about human sexuality, reproduction, and contraception was poor among the abortion seekers compared to controls (OR 4.95, $P = 0.0003$). Majority of the girls did not have clear information on the consequence of sexual relationship (pregnancy, sexually transmitted diseases including HIV, and psychosocial effects).

The observations made in this study supports the findings of Dr Anuragini Sharma and Joseph GA who have conducted cross sectional studies on Sexual Knowledge and Practices of school and college students in India [13, 14].

The present study also revealed that ignorance, myths, and misconceptions concerning sexual matters were prevailing more among the pregnant adolescents. Around One-third of the abortion seekers (62 %) were unaware that it is possible for a girl to get pregnant the first time she has sex and about half of them (50.3 %) believed that sexual activity after marriage only would result in pregnancy. Another observation was that 54 % of the cases did not suspect pregnancy for them as they had irregular menstrual cycles. Hence, there was delay in seeking abortion services as evidenced by the fact that out of the total 181 pregnant adolescents, only 36.5 % reported in the first trimester, more than half (56.4 %) reported in the second trimester, and the rest (7.2 %) progressed to third trimester. Delay in seeking abortion services was largely the result of unawareness of their pregnancy, fear of revealing the matter to family members, and due to social stigma.

Contraceptive knowledge was found to be low. The reasons for non-use of contraceptives were the unplanned nature of the sexual act and no prior discussion between the partners regarding contraception.

Even though “low level of education of subjects” and “poor socio-economic status of parents” were found as significantly associated with unmarried adolescent pregnancy in bivariate analysis, they were not found to be statistically significant in multivariate analysis.

The major policy implication of this study is the finding that girls with teenage pregnancy had 5 times less knowledge about sexual and reproductive health, highlighting the importance of introducing Adolescent health/Family life education in schools.

Limitations of the Study

1. As the study was conducted in Government hospitals, there may be a possibility of exclusion of women from high socio-economic status.

2. “Peer group influence” was not studied as a risk factor as both cases and controls viewed their friends as being “good” and there was no independent way to find out if their influence was actually compounding the problem.
3. Even though “childhood sexual abuse” was included as a study variable, only very few subjects gave a positive history, hence was not considered for analysis.

Conclusion

This study suggests that family-related matters, namely family problem, poor intra-family relationship, and lack of appropriate parental supervision and control have independent association with unmarried adolescent pregnancy. The study also points out that lack of engaging in any productive activity and lack of knowledge about sexual and reproductive health have significant roles leading to unmarried pregnancy.

The number of adolescent pregnancies can be reduced by introducing Adolescent Health Education programs through educational institutions and for out of school adolescents through Anganwadis under ICDS scheme and Non-Governmental Organizations.

Family counseling centers should also be organized at Taluk and District hospitals under National Rural Health Mission to guide parents in improving intra-family relationship, appropriate parental supervision in managing adolescents, and to give correct information on sexual and reproductive health issues.

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