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RESEARCH ARTICLE

REPRODUCTIVE AND SEXUAL HEALTH BEHAVIOUR OF SCHOOL GOING ADOLESCENTS IN
CHANDIGARH AND HIMACHAL PRADESH, INDIA

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ABSTRACT

Context: Adolescents and young youths are prone to suffer from reproductive and sexual health problems. Reproductive and sexual health needs of adolescents have so far been neglected.

Objectives: 1) To investigate reproductive and sexual health behavior of adolescent attending schools. 2) To explore perceived reproductive and sexual health needs of Adolescent students.

Methods: Cross-sectional survey among 247 adolescent students of four schools: two in Chandigarh and two in Himachal Pradesh selected by stratified multistage random sampling design. Information regarding socio-demographic characteristics and reproductive health issues was collected by interview method.

Results: About 51% respondents reported that they were physically attracted to opposite sex and 30.8% were having intimate friends. There were 120 (48.6%) respondents who desired open and frank discussion regarding sex. Discussions regarding sexual issues like sex related, material sexual abuse, teenage pregnancy and contraceptives, pre-marital sex etc. were also found quite prevalent among respondents at all study centers and friends came out to be the main source of information about sex related issues. Overall contraceptive practice was reported to be only 1.6% against 57.5% awareness of contraceptives. Awareness regarding HIV/AIDS was found to be 90.7%. The main source of knowledge regarding STI was teachers followed by friends. There were 130(52.6%) respondents having sex related worries and 120(48.6%) wanted frank discussion on sex related issues. A large proportion of respondents 185(74.9%) felt need of sex education and 149(60.3%) desired sex education to be imparted as school curriculum mainly from doctors.

Conclusions: Adolescents were found to be facing several reproductive and sexual health issues. Study concludes that reproductive and sexual health issues of adolescents need to be addressed properly their behavior is hazardous and there is felt need of sex education to be imparted at school levels by health staff. A holistic approach for creating awareness in a scientific manner which can cope with societal contexts should be adopted for improving their sexual and reproductive health.

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INTRODUCTION

The health condition of adolescents is a key determinant of India's overall health. Adolescents (10-19 years) in India represent almost one-third of the total country's population (WHO/UNFPA/UNICEF). There are about 1.2 billion adolescents, a fifth of the world's population, and their numbers are increasing. Four out of five live in developing countries, thus India has the honor of having the largest number of adolescents in entire world. Adolescence is a decisive period in human life due to multiple physiological and

psychological changes that take place. National Health Policy (1983) and National Population Policy (2000) recognized the importance of their Reproductive and sexual health and also recognized adolescents as vulnerable group that need to be served especially by providing reproductive health information and services. Adolescents and young youths are prone to suffer from reproductive and sexual health problems. Adolescent problems are increasing due to rapidly changing life style and increasing stressful conditions faced by them. A number of studies (Alexander et al., 1991; Biglan et al., 1990; Brown et al., 1990; Gorgen et al., 1998; DST, 2007; Kushwaha and Mittal, 2007 and Bhatia and Swami, 1999) address some important issues related with adolescent health. A study (Kumar et al., 2008) assessed the knowledge, beliefs and practices of adolescents about reproductive health in rural

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areas of district Sirmaur, Himachal Pradesh. Studies indicate that while adolescent's attitude towards premarital sex are becoming more liberal, their awareness of contraceptives remains poor (Verma, 1995 and Verma *et al.*, 1997). The adolescent's vulnerability to RTIs and STIs can be attributed to the early onset of sexual activity and failure to use barrier contraceptives. National Family Health Survey (NFHS-3) survey conducted by IIPS Mumbai, India reported prevalence of teenage pregnancy to be about 16%. The prevalence of RTIs has been observed to be as high as 70% among unmarried adolescent girls in Kolkata (Ram *et al.*, 2006). Studies conducted in different parts of the country shows that sexual behavior among unmarried adolescents is on the rise, especially in the urban areas where an estimated 20-25% of unmarried young males and 6-10% of unmarried young females have experienced premarital sex (Rakesh, 1992; Savara and Shridhar, 1993 and Rangaiyan, 1996). Status of reproductive and sexual behavior and unmet reproductive health needs among adolescents of Rajasthan has been discussed in a study (Nutan *et al.*, 2009).

There is an "unmet need" for reproductive and sexual healthcare of adolescents. Status of reproductive and sexual behavior and unmet reproductive health needs among adolescents of Rajasthan has been discussed in a study (Nutan *et al.*, 2009). Kushwaha and Mittal (2007) studied the knowledge and attitude of adolescents but their study was confined to out-of school adolescents attending some training program. Other studies (Nair *et al.*, 2007; Singh, 2006 and Puri and Kapoor, 2006) available on related topics have their own limitations.

Health needs of adolescents have so far been neglected in spite of forming the most dynamic, creative, productive and enthusiastic sub-group by them as there is relatively less morbidity and mortality in this age group. The main barrier for the adolescents is the unavailability of reproductive health (RH) services (Suneth *et al.*, 2008). The adolescent poses a distinct array of reproductive and sexual health challenges. These challenges include the consequences of early marriage, unwanted pregnancy, unsafe abortions, high-risk behavior, lack of awareness about contraception unwanted pregnancy and reproductive health issues, reproductive tract infections (RTIs) and sexually transmitted infections (STIs) including HIV/AIDS and non-consensual sex.

Reproductive Health services under the public sector are more oriented towards adult married women. Adolescent sexual and reproductive health education is still a neglected issue in many countries (Santelli *et al.*, 2003). Among college students in Mumbai Some 47% of male participants and 13% of female respondents had had any sexual experience with a member of opposite sex; 26% and 3%, respectively, had had intercourse (Leena Abrahm and Anil Kumar, 1999). Aggarwal *et al* (2000) studied the knowledge, attitude and sexual behavior of adolescents of medical college students in India. According to the National Family Health Survey (NFHS-3) findings, only 14.1% (14.7% urban versus 13.9% rural) of unmarried sexually active adolescent's females used a contraceptive. In a study, only four in ten students from Delhi University reported occasional condom use during sexual intercourse (Sachdev,

1998). The literatures shows that adolescents often lack basic RH information, knowledge, experience, and are less comfortable accessing reproductive and sexual health services than adults. These problems have not yet received proper attention in our country. Also, true prevalence rates of these problems in the target group are not available. Therefore present study was conducted with the objectives:

Objectives

- To investigate reproductive and sexual health behavior of adolescent attending schools.
- To explore perceived reproductive and sexual health needs of Adolescent students.

METHODS

For the purpose of studying reproductive and sexual behavior problems of adolescent students, four schools: two in Chandigarh and two in Himachal Pradesh (Districts Mandi and Hamirpur), India were randomly selected by stratified multistage random sampling design. A Cross-sectional survey among adolescent students of selected schools was conducted during November 2012 to February 2013. Sample size was decided on the basis of feasibility keeping in view the time constraints of the survey. Only those respondents whose parents gave consent and they were also willing to take part in the study were included. Prior permission from Principals of selected schools was also taken. Survey included qualitative as well as quantitative aspects in reproductive and sexual health related domains of adolescents. Information collected from adolescents from schools by personal interview method included socio-demographic characteristics (age, gender, literacy status of respondents as well as of parents, religion, type of family, family environment, occupation of parents, socio-economic status etc.). Other variables included peer behavior, sexual aspects, reproductive health awareness etc. Data were analyzed by simple describing percentages using SPSS-16 software. Interviews were conducted in privacy ensuring confidentiality with prior consents.

RESULTS

Survey was conducted among 247 adolescent students: 136(55.1%) males and 111(44.9%) females from four coeducational institutions located in Chandigarh and Himachal Pradesh, India. Two schools from each region were selected. There were 153 students from Chandigarh and 94 students from Himachal Pradesh. All respondents were. There were 136 (55.1%) males and 111(44.95) females. Socio-demographic characteristics of selected respondents are shown in Table 1. Respondents represented different economic classes mostly Hindus and there were 81(32.8 %) of Hindi medium and 166(67.2%) from English medium schools. Information regarding reproductive health issues is shown in Table 2. Awareness regarding legal age at marriage was high and comparatively more regarding legal age of marriage for girls. About 51% respondents reported that they were physically attracted to opposite sex and 30.8% were having intimate friends, more so for respondents of Chandigarh. There were 171(69.2%) respondents who reported to have exposure to sex related material.

Table 1. Socio-Demographic Characteristics of Respondents

Characteristic	Total	%
Age in years		
13-14	14	5.7
14-17	184	74.5
18-19	49	19.8
Gender		
Male	136	55.1
Female	111	44.9
Religion		
Hindu	217	87.9
Muslim	9	3.6
Sikh	19	7.7
Others	2	0.8
Type of Family		
Joint	90	36.4
Nuclear	149	60.3
Extended	8	3.2
Educational status of Father		
Illiterate/Just-literate	11	4.5
Primary	28	11.3
Middle	41	16.6
High School	82	33.2
Intermediate	23	9.3
Graduate	38	15.4
Post Graduate and others	24	9.7
Educational Status of Mother		
Illiterate/Just-literate	58	23.5
Primary	32	13.0
Middle	51	20.6
High School	56	22.7
Intermediate	12	4.9
Graduate	26	10.5
Post Graduate and others	12	4.8
Occupation of Father		
Service	103	41.7
Business	63	25.5
Labourer	29	11.7
Skilled worker	21	8.5
Unemployed		
Occupation of Mother		
Housewife	215	87.1
Working	32	12.9
Medium of Education		
Hindi	81	32.8
English	166	67.2
Type of school		
Government	203	82.2
Private	44	17.8
Overall	247	100.0

There were 120 (48.6%) respondents who desired open and frank discussion regarding sex and this prevalence was found to be maximum among respondents at study center II and lowest at study center IV. The reported prevalence of sexual intercourse was only 1.6% (4.1% at study center I and 2.5% at study center II and zero prevalence at study center III and IV). Discussions regarding sexual issues like sex related, material sexual abuse, teenage pregnancy and contraceptives, pre-marital sex etc. were also found quite prevalent among respondents at all study centers and friends came out to be the main source of information about sex related issues. Regarding contraceptive behavior of respondents presented in this table, overall 47 (57.5%) respondents were aware of contraceptives. Contraceptive awareness level was the highest (94.0%) at study center IV. However, the reported overall contraceptive use was only 1.6% among all respondents. Awareness regarding emergency contraception was found to be quite high (46.6%). Maximum awareness for spacing methods was 50.2% of condoms and 34.4% of copper-T.

Awareness regarding HIV/AIDS was found to be 90.7% whereas; awareness about other sexually transmits disease found very low. Awareness regarding modes of transmission of HIV/AIDS was not found to be satisfactory. The main source of knowledge regarding STI was teachers followed by friends. There were 130(52.6%) respondents having sex related worries and 120(48.6%) wanted frank discussion on sex related issues. A large proportion of respondents 185(74.9%) felt need of sex education and 149(60.3%) desired sex education to be imparted as school curriculum mainly from doctors. Teachers were the least preferred source of imparting sex education.

DISCUSSION

Young people want to try new things, including sexual activities, often feeling invulnerable to negative consequences. About 51% respondents reported in the present study that they were physically attracted to opposite sex and about 31% were having intimate friends and about 53% respondents having sex related worries. Seventy two percent girls and 56% boys reported reproductive health problems during survey in an earlier study (Joshi *et al.*, 2006).

Table 2. Reproductive Health Related Behavior of Adolescents

Reproductive Health Issue	Chandigarh		Himachal Pradesh		Overall Total (N=247)
	Study Centre -I (N=74)	Study Centre-II (N=79)	Study Centre-III (N=44)	Study Centre-IV (N=50)	
Legal age of marriage					
For Boys	58(78.4)	69(87.3)	42(95.5)	50(100.0)	219(88.7)
For Girls	73(98.6)	73(92.4)	42(95.5)	50(100.0)	238 (96.4)
Physically attracted to opposite sex					
Never	18(24.3)	19(24.1)	11(25.0)	27(54.0)	75(30.4)
Sometimes	33(44.6)	42(53.2)	14(31.8)	16(32.0)	105(42.5)
Often	8(10.8)	7(8.9)	0	6(12.0)	21(8.5)
Not sure	15(20.3)	4(5.1)	18(40.9)		37(15.6)
Have intimate friends	42(56.8)	17(21.5)	7(15.9)	10(20.0)	76(30.8)
Want open and frank discussion	32(43.2)	47(59.5)	22(50.0)	19(38.0)	120(48.6)
Discussion with somebody regarding					
Exposure to sex related material	61(82.4)	55(69.6)	40(90.9)	15(30.0)	171(69.2)
Sexual intercourse	22(29.7)	58(73.4)	39(88.6)	20(40.0)	139(56.3)
Sexual abuse	62(83.8)	60(75.9)	40(90.9)	45(90.0)	207(83.8)
Teenage pregnancy	37(50.0)	50(63.3)	22(50.0)	45(90.0)	154(62.3)
Contraceptives	15(20.3)	54(68.4)	27(61.4)	16(32.0)	112(45.3)
Emergency contraceptives	18(24.3)	34(43.0)	30(68.2)	22(44.0)	104(42.1)
Premarital sex	32(43.2)	39(49.4)	18(40.9)	23(46.0)	112(45.3)
Nightfall wet drop	13(17.6)	18(22.8)	1(2.3)	14(28.0)	46(18.6)
Sexual offences	0	7 (8.9)	0	0	7(2.8)

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Source of sexual awareness					
Friend	51 (83.6)	37 (67.2)	9 (22.5)	15 (100.0)	112 (65.4)
Family member specify	0 (0)	2 (3.63)	0 (0)	0 (0)	2 (1.1)
Magazine/News paper	1 (1.6)	10 (18.18)	2 (5.0)	0 (0)	13 (7.6)
Teacher	8 (13.1)	5 (9.09)	27 (67.5)	1 (6.66)	41 (23.9)
Mass Media/Internet	0 (0)	3 (5.45)	1 (2.5)	0 (0)	4 (2.33)
Others	0 (0)	1 (1.81)	0	0	1 (0.58)
Source of information about pre-marital sex					
Friend	29 (90.6)	4 (10.2)	3 (16.6)	22 (95.6)	85 (75.8)
Family member specify	0 (0)	1 (2.5)	5 (27.7)	0 (0)	6 (5.3)
Magazine/News paper	2 (6.2)	5 (12.8)	0 (0)	1 (4.3)	8 (7.1)
Teacher	0 (0)	0 (0)	5 (27.7)	2 (8.6)	7 (6.2)
Mass Media/Internet	1 (3.1)	4 (10.2)	8 (44.4)	0 (0)	13 (11.6)
Others	0 (0)	1 (2.5)	1 (5.55)	0 (0)	2 (1.7)
Have knowledge about contraceptive	32(43.2)	46(58.2)	22(50.0)	47(94.0)	147(59.5)
Awareness of contraceptive methods					
Condom	23(31.1)	45(57.0)	21(47.7)	35(70.0)	124(50.2)
Oral contraceptive	15(20.3)	25(31.6)	11(25.0)	30(60.0)	81(32.8)
Pills	16(21.7)	18(22.8)	11(25.0)	22(44.0)	65(26.7)
Copper-T	6 (8.1)	27(34.2)	14(31.8)	38(76.0)	85(34.4)
Tubectomy / Vasectomy	10 (13.5)	21(26.6)	10(22.7)	10(20.0)	51(20.6)
Emergency contraceptives	24 (32.4)	39(49.4)	16(36.4)	36(72.0)	115(46.6)
Any other	2 (2.7)	0	0	0	2(0.8)
Ever use of contraceptive	3 (4.1)	2 (2.5)	0	0	4(1.6)
Awareness of STI					
HIV /AIDS	70 (94.6)	66 (83.5)	41(93.2)	47(94.0)	224(90.7)
Gonorrhea	1 (1.4)	9 (11.4)	2(4.5)	9(18.0)	21(8.5)
Syphilis	3 (4.1)	10 (12.7)	1(2.3)	1(2.0)	15(6.1)
Leucorrhoea	1 (1.4)	4 (5.1)	0	9(18.0)	14(5.7)
Knowledge regarding HIV/AIDS be prevention					
Use of condom	66 (89.2)	61 (77.2)	30(68.2)	49(98.0)	206(83.4)
Use of sterilized syringe & needles	13 (17.6)	27(34.2)	17(38.6)	45(90.0)	102(41.3)
Screening of blood for AIDS	10 (13.5)	22(27.8)	8(18.2)	42(84.0)	82(33.2)
Any other	1 (1.4)	6(7.6)	0	0	7(2.8)
Aware of STI	61 (82.4)	62(78.5)	41(93.2)	42(84.0)	206(83.4)
Aware of HIV/AIDS	70 (94.6)	66(83.5)	41(93.2)	47(94.0)	224(90.7)
Knowledge regarding mode of spread of HIV/AIDS					
Sexual Intercourse	35(47.3)	45(57.0)	20(45.5)	34(68.0)	134(54.3)
Unclean medical equipments	4(5.4)	12(15.2)	10(22.7)	41(82.0)	67(27.1)
Sharing needles	16(21.6)	33(41.8)	17(38.6)	35(70.0)	101(40.9)
Blood transfusion	43(58.1)	43(54.4)	20(45.5)	45(90.0)	151(61.1)
Mother to child during childhood pregnancy	6(8.1)	33(41.8)	11(25.0)	48(96.0)	98(39.7)
Mother to child through breast feeding	1(1.4)	16(20.3)	6(13.6)	38(76.0)	61(24.7)
Sharing clothes	3(4.1)	7(8.9)	9(20.5)	0	19(7.7)
Others	2(2.7)	1(1.3)	0	0	3(1.2)
Source of knowledge regarding STI					
Teachers	29(39.2)	31(39.2)	22(50.0)	30(60.0)	112(45.3)
Mass media	20(27.0)	28(35.4)	9(20.5)	18(36.0)	76(30.8)
Friends	23(31.1)	42(53.2)	10(22.7)	20(40.0)	95(38.5)
Internet	28(37.8)	31(39.2)	10(22.7)	10(20.0)	79(32.0)
School curriculum	18(24.3)	10(12.7)	1(2.3)	5(10.0)	34(30.8)
Relatives/family members	0	5(6.3)	1(2.3)	26(52.0)	32(13.0)
Others	1(1.4)	2(2.5)	1(2.3)	1(2.0)	5(2.0)
Methods of prevention of STI's					
Avoid sex/abstinence	11 (14.9)	27(34.2)	3(6.8)	36(72.0)	77(31.2)
Stay faithful to one partner	17 (23.0)	18(22.8)	5(11.4)	25(50.0)	65(26.3)
Encourage partner to stay faithful	3 (4.1)	17(21.5)	3(6.8)	14(28.0)	37(50.0)
Use condoms	44 (59.5)	45(57.0)	24(54.5)	16(32.0)	129(50.2)
Avoid commercial sex workers	5 (6.8)	12(15.2)	8(18.2)	4(8.0)	29(11.7)
Need of sex education					
Have sex related worries	41(51.4)	51(64.6)	24(54.5)	14(28.0)	130(52.6)
Want frank discussion on sex related issues	32(43.2)	47(59.5)	22(50.0)	19(38.0)	120(48.6)
Felt need of sex education to be imparted to adolescents	69(93.2)	62(78.5)	28(63.6)	26(52.0)	185(74.9)
Desire sex education to be imparted in school	18(24.3)	9(11.4)	2(4.5)	10(20.0)	149(60.3)
Preferred source of sex education					
Parents	1(1.4)	11(13.9)	1(2.3)	14(28.0)	27(10.9)
Friends	18(24.3)	31(39.2)	7(15.9)	9(18.0)	65(20.3)
Teachers	18(24.3)	14(17.7)	7(15.9)	4(8.0)	43(17.4)
Doctors	35(47.3)	16(20.3)	21(47.7)	18(36.0)	90(36.4)
Health staff	1(1.4)	3(3.8)	8(18.7)	4(8.0)	60(6.5)
Any other	1(1.4)	0	0	0	1(0.4)
Desired place to impart sexual education					
Schools	38(51.4)	43(54.4)	28(63.6)	40(80.0)	149(60.3)
Mass media	21(28.4)	20(25.3)	7(15.9)		48(19.4)
News	10(13.4)	5(6.3)	6(13.6)	6(12.0)	27(10.9)
Any other	5(6.8)	7(8.9)	3(6.8)	3(6.0)	18(7.3)

In the present study, Overall 57.5% respondents were aware of contraceptives. Awareness regarding emergency contraception was found to be quite high 46.6%. Awareness regarding HIV/AIDS was found to be 90.7%. In this study about 19% discussed problems of nightfall and this problem was also among major reproductive health problems to be discussed by boys of Himachal Pradesh (Kumar *et al.*, 2008). Only a small proportion (1.6%) of respondents in our study reported use of contraception unlike 6% boys who reported use of a contraceptive method indicating existence of pre-marital sexual activity in an earlier study (Kumar *et al.*, 2008). In a study (Aggarwal *et al.*, 2000), knowledge regarding sexual intercourse, masturbation, contraception, and sexually transmitted diseases was satisfactory among 70%, 74.8%, and 92.6% of the respondents respectively. Discussions regarding sexual issues like sex related, material sexual abuse, teenage pregnancy and contraceptives, pre-marital sex etc. were also found quite prevalent. About 49% respondents wanted frank discussion on sex related issues.

Friends came out to be the main source of information about sex related issues in our study. In an earlier study (Aggarwal *et al.*, 2000), on the knowledge, attitude and sexual behavior of adolescents of medical college students in India also, common source of knowledge about sex were found to be friends. In a study conducted among adolescent girls, almost half of the subject had no knowledge on sexuality and almost another half did not want to share their knowledge on sexuality (Nesrin *et al.*, 2011). A large proportion of respondents in the present study felt need of sex education be imparted as school curriculum mainly from doctors. Teachers were the least preferred source of imparting sex education. This could be attributed to parents and teachers who are frequently unwilling or unable to provide age-appropriate RH information and students are not comfortable with them in discussing their reproductive health related issues. This is often due to discomfort of teachers and parents about the subject or the false belief that providing the information will encourage sexual activity. These findings agree with an earlier study, wherein eighty-five percent strongly favored introduction of sex education at school level (Aggarwal *et al.*, 2000). However, only one fifth could communicate with teachers, parents, and persons of the other gender about sex (Aggarwal *et al.*, 2000).

Findings of our study strongly advocate need of Adolescent Reproductive and Sexual Health (ARSH) education. Adolescent sexual and reproductive health education is still a neglected issue in many countries (Santelli *et al.*, 2003). Earlier reports also indicate that demand for sexual and reproductive health services by adolescents is increasing in developing countries (Hughes and McCauley, 1998; Cleland *et al.*, 2012 and Blanc *et al.*, 2009). In many places, this need is a result of a longer period of non-marital sexual activity, related to earlier menarche, later marriage, and greater economic opportunities for women, increased urbanization and liberalizing attitudes influenced considerably by modern mass communications. For many adolescents who need sexual and reproductive health services, such as appropriate information, contraception and treatment for sexually transmitted infections, these are either not available or are provided in a way that

makes adolescents feel unwelcome and embarrassed. Optimal sexual and reproductive health education was recommended to apply a peer-based approach in reproductive health and sex education to the adolescents (Hobcraft and Baker, 2006 and Valvano, 2009). Need of developing strategies should be considered regarding developmental needs of age of the adolescents and their social context (Brieger *et al.*, 2001 and Magnani *et al.*, 2002). Present study provides evidence that addressing the needs of adolescents is a challenge that goes well beyond the role of health services alone.

Conclusions and Suggestions

Adolescents were found to be facing several reproductive and sexual health issues. They were prone to various reproductive health problems like sexual exposures, high risk sex behavior/ indulging in unprotected sexual activities, misconceptions regarding sexual activities, lack of knowledge regarding contraception etc. Study concludes that reproductive and sexual health issues of adolescents need to be addressed properly their behavior is hazardous and there is felt need of sex education to be imparted at school levels by health staff. Addressing these may provide health benefits in terms of delaying age at marriage, reducing incidence of teenage pregnancy, and reduction of unsafe sexual behavior etc. Addressing the needs of adolescents is a challenge that goes well beyond the role of health services alone. A holistic approach for creating awareness in a scientific manner which can cope with societal contexts should be adopted for improving their sexual and reproductive health. Adolescent friendly health initiatives (AFHI) like "mentoring" may be attempted for this purpose.

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