ORIGINAL ARTICLE

Perception regarding pubertal changes among rural adolescent boys of Haryana: A school based study

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Abstract

Background: Adolescence is a transition phase through which a child matures into an adult. The physical changes in the human body are from infant to child to adolescence to adult to old age. All phases of life behave like a coin with both good and bad facets attached to each phase of life. **Aims & Objectives:** 1. To study perception and awareness regarding pubertal changes among school going adolescent boys. 2. To study the association between education and perceived pubertal problems among study subjects. **Material & Methods**: The study was conducted among male students of senior secondary schools of community development block Beri in one year. The study universe comprised of students in middle and late adolescence (aged 14-18 years) studying in 9th to 12th classes of the senior secondary schools in the area. A total of 1000 male students were selected from these schools which were more than the required sample size of 891. **Results**: The study found that 42.66% students and a half (50%) of students of class 9th & 10th and class 11th & 12th respectively considered that pubertal changes as a normal phenomenon. The majority of students admitted practicing masturbation and felt shy and guilty for practicing masturbation, also students felt fatigued after night emission. **Conclusions:** The study concludes that adolescent's sexuality which often causes controversy and concern among adults is least discussed with them during adolescence. The reasons for this may be many, including moral grounds or because of concomitant health risks and threats to wellbeing.

Keywords

Pubertal changes; Adolescent boys; Masturbation; Night Emission; Sexuality; Rural

Introduction

Adolescence is a transition phase through which a child matures into an adult. The term "Adolescence" is derived from a latin word "adolescere" meaning "to grow up", from childhood to adulthood (1). The physical changes in the human body are from infant to child to adolescence to adult to old age. All phases of life behave like a coin with both good and bad facets attached to each phase of life. Adolescent period lies between puberty and adulthood, and is mainly characterized by beginning and ending of the teenage stage. (2) The World Health Organization refers to "adolescence" as the period between 10-19 years. The government of India (GOI) in the National Youth Policy defines adolescence as 13-19 years.2 About 30% of India's population is in the adolescent age group of 10–19 years. It is estimated that there are almost 331 million adolescents in India. (3) Adolescents must achieve psychosocial tasks to transition to adulthood. During early adolescence (10-13 years), adolescents may feel self-conscious

about different physical changes that occur in their bodies. During middle adolescence (13-16 years), adolescents generally experiment with different identities, they try to establish greater independence from their families, and for guidance and support rely more on peers. Late adolescents (16-19 years) begin to feel comfortable with own body image and identity and work on establishing independence and intimate relationships as well as plan for the future occupation. (4) Pubertal changes are more evident in middle and late adolescence.

Elders in our society have many reservations for discussing reproductive health issues with teenagers at this stage of life (5). The notion behind such reservations is their concern towards adolescents to not to indulge them into sexual crimes. Due to such belief system among adults, teenagers get little or no information either from parents or from the school curriculum (6). As a result, adolescents never get any help from our education system in this regard and even health centers are no exception to this (7). So, Adolescents are left to the mercy of their peers or unauthorized books, magazines or media houses. Almost all adolescents travel the journey of this critical phase of life without any help or guidance, so they are at higher risk of getting infected by RTIs/STIs and if this is not managed adequately in due course of time, may lead to bigger sexual health problem later in their life (8). Ejaculation is believed to be an upsetting experience in adolescent's life. In Shipman study (9), only 15% understood the concept of ejaculation prior to its occurrence. Thus, lack of preparation may account in part for the negative experiences of many of Shipman's male subjects. Finally, the type of information conveyed about ejaculation and different informational sources might affect adolescent boys' emotional experience; just as such factors influence adolescents girls' perceptions of the menarcheal experience. (10,11) Young men and adolescents hide their reproductive or sexual health problems and take self-treatment or attend to unauthorized quacks for this (12).

Over 35 percent of all reported HIV infections in India occur among young people in the age group of 15-24 years, indicating that young people are too prone to this infection. The majority of young people are infected through unprotected sexual intercourse (13). In India majority of its people, including adolescents, lives in rural areas. Around two third of the Indian population resides in the rural area, and so is adolescents. In Indian society, especially in rural regions, reproductive and sexual health issues remain a secret motive and people feel uncomfortable discussing these matters in open.

Aims & Objective

1. To study perception and awareness regarding pubertal changes among school going adolescent boys.
2. To study the association between education and perceived pubertal problems among study subjects.

Material & Methods

The study was undertaken in community development block Beri, which serves as the field practice area of Department of Community Medicine Pt. Bhagwat Dayal Sharma PGIMS, Rohtak. The study was conducted among rural male students studying in 9^{th} to 12^{th} classes (aged 14-18 years) of the senior secondary schools of community development block Beri in the year 2011. The students having 14-18 age groups were enrolled in the study as sexual changes are more evident in this age group and it leads to change in their behaviour. This block has 15 governments and 4 private senior secondary schools and study included all these schools. A total of 2998 adolescent boys were enrolled from these schools. The investigator himself contacted the principals and briefed them about the study objectives.

Sample size and sampling: The sample size was calculated by assuming the prevalence of pubertal problems as 31% 14 at 95% level of significance and an allowable error of 10% in the study. The sample size came out to be 891 and in this study 1000 male students were recruited. The subjects were selected by systematic random sampling from the selected schools proportionate to the strength of students in the schools. The study subjects were selected from each class by systematic random sampling. The study was an interview based cross-sectional descriptive type of epidemiological study. A semi-structured and pre-tested interview schedule in local, vernacular language was used for interviewing the study subjects. Each subject was interviewed separately and a separate room was made available by the principal of the school. The interview schedule contained information on general demographic characteristics, pubertal changes, sexuality, sex education and contraceptive usage. Ethical approval was taken from Pt. B D Sharma PGIMS, Rohtak. The study data was analyzed by applying percentages and proportions for different parameters.

Results

The table 1 shows that most of the students had adequate knowledge regarding the pubertal changes (Development of sex organs, Night emission, Rapid gain of weight & Height, Facial hair etc). The class wise knowledge ranged from 70.08% to 96.68%. There is not much difference between knowledge of students of class 9th, 10th, and students of class 11th, 12th. The students of the higher secondary classes have a higher knowledge than students of class 9th & 10th but the difference was statistically not significant (p value=0.4512)

Table 2 shows that 42.66% students of class 9th & 10th and 50% students of class 11th & 12th considered these pubertal changes as a normal phenomenon. Only 29.73% students of class 9th & 10th thought these changes as signs of the onset of maturity whereas in class 11th & 12th the figure was 71.37%. 36.29% students of class 9th & 10th and 24.07% students of class 11th & 12th considered these changes as unhealthy. Around 45% (mean value) students of class 9th & 10th and 39% (mean value) students of class 11th & 12th felt guilty and shy of these changes during puberty. The difference was found statistically highly significant (p value 0.000).

Table 3 shows that most of the students have heard about AIDS, 97.68% students of class 9th & 10th and 98.13% students of class 11th & 12th said they heard about it, whereas about STD, 45.37% students of class 9th & 10th and 60.78% students of class 11th & 12th said they had heard about it. Only 44.21% students of class 9th & 10th have heard about intercourse whereas 78.63 % students of class 11th & 12th have heard about it. Safe sex is not much known to them, 34.75% students of class 9th & 10th and 22.61% students of class 11th & 12th admitted having heard this coinage. Most of the students have heard about masturbation (74.90% students of class 9th & 10th and 90.04% students of class 11th & 12th) and night emission (68.53% students of class 9th & 10th and 93.36% students of class 11th & 12th). The difference found was statistically significant (p value 0.000).

Nearly half of the students considered night emission as an onset of maturity. Around 19-21% students found it exciting. The majority of students felt shy (64.89% students of class 9th & 10th and 57.25% students of higher secondary classes) and guilty (70.74% students of class 9th & 10th and 57.49% students of higher secondary classes) of night emission. Many of students felt fatigued after night emission. The difference found was statistically not significant (p value=0.2089). (Table 4)

Discussion

Promoting sex education in adolescents is one of the most difficult ventures in public health. There are very few studies which are highlighting adolescent's perception regarding pubertal changes. Investigator faced resistance from teachers of all the schools enrolled in the study to not to ask such questions from adolescents. Most of the schools have failed to provide knowledge regarding sex education especially pubertal changes in boys & girls and contraceptive usage. Sex education is need of the hour considering the rise in teenage pregnancies and abortions which are even common in rural areas too. The study found out that most of the students had adequate knowledge regarding few of the pubertal changes (Rapid gain of weight & Height, Facial hair etc) (Table 1) but relatively low knowledge about the development of sex organs and night emission. Although these terms were explained to them in their local and vernacular language and but students of lower classes may still have felt shy to discuss such changes. Statistically, class wise, there was not much difference in knowledge about the pubertal changes. However, knowledge regarding these issues in other studies (15,16) pointed out to be low, this might be due to the difference in cultural, regional and environmental background. A study by Ali M, et al (17) also showed that there were knowledge gaps and misconceptions among adolescents regarding pubertal changes.

About perception, the present study demonstrated that nearly half of students of class 9th& 10th and 11^{th} & 12^{th} considered the pubertal changes as a normal phenomenon. Only 29.73% students of class 9th& 10th thought these changes as signs of the onset of maturity whereas in class 11^{th}& 12^{th} the figure was 71.37%. Around 45% (mean value) students of class 9^{th}& 10^{th} and 39% (mean value) students of class 11^{th}& 12^{th} felt guilty and were shy of these changes during puberty. Surprisingly one-third students of class 9^{th}& 10^{th} and one-fourth students of class 11^{th}& 12^{th} considered that the pubertal changes as unhealthy signs. Gupta et al also agreed with our findings (18). Even though the knowledge regarding pubertal changes seems to be high but a closer look at findings of what they felt

about these changes reveals the true picture. They didn't consider these pubertal changes as normal but rather consider these as unhealthy or felt guilty for these changes. At most of the places, sex education was not imparted to students, which is also suggestive from the present study. The development of better reproductive health awareness among adolescents will remain incomplete if information about basic reproductive biology is not imparted to them. In India, the knowledge of sexual and reproductive health issues among adolescents will always remain inadequate if basic human reproductive biology is not taught in schools or colleges. Attitude of teacher to not to discuss such issues in schools further worsen the situation. (19, 20).

In the present study, most of the students had heard about AIDS. Similar observation was also reported by other studies of India (21,22) the reason may be that intensive IEC campaign was carried out in schools by health workers or IEC by media. The present study also found that few students had heard of STD and safe sex. A study by Adjahoto EO (23) also quoted the same figure. Most of the students had heard about masturbation and night emission (Table 3). Knowledge regarding STD and safe sex was not adequate, as it may not have been imparted through teachers or parents. At most of the places, sex education was not imparted whereas masturbation and night emission were known to them through their peers.

Almost half of the students considered night emission as the onset of maturity in this study. Around 20% students found it exciting. Nearly two third students considered night emission as unhealthy, felt shy and guilty of night emission. Around 50% to 60% students felt fatigued after night emission. S S Khushwah and Anuj Mittal (24) reported similar observations. Awasthi, Nichter & Pande (25); Patil, Chaturvedi & Malkar (26) reported that adolescent boys considered excessive masturbation and nocturnal emission as ill effects on their health. This reflects the status of sex education among adolescent students. At most of the schools, investigator faced one common question from the students i.e. How to treat night emission? Most of them wanted to take some medicine to stop night emission. Quacks in villages and small towns take advantage of this misconception; they advertise that they have treatment for swapandosh (night emission). Most of the adolescents get caught in their net, thinking otherwise they will have a problem in their sex life later on. Sex education is a must, keeping in view the adversity of the present scenario

Conclusion

The study concludes that adolescent's sexuality which often causes controversy and concern among adults is least discussed with them during their adolescence.

Recommendation

Sex education is the key to adolescent's sexual health problems. At the same time, strict policies and legislation need to be implemented, so as to prevent the exposure to unauthorized and unscientific pornographic material which can promote sexual crimes, eve teasing & rape and may turn innocent adolescents into antisocial elements.

Authors Contribution

All the authors had made substantial contributions to conception, design, data collection, analysis and interpretation of data; drafting the article, revising it critically for important intellectual content; and final approval of the version to be published.

References

1. Kar SK, Choudhury A, Singh AP. Understanding normal development of adolescent sexuality: A bumpy ride. J Hum Reprod Sci. 2015 Apr-Jun;8(2):70-4. doi: 10.4103/0974-1208.158594. Review. PubMed PMID: 26157296; PubMed Central PMCID: PMC4477452.[PubMed]
2. UNFPA. Adolescents in India – A profile. New Delhi: UNFPA; 2000.
3. Nath A, Garg S. Adolescent friendly health services in India: A need of the hour. Indian J Med Sci. 2008 Nov;62(11):465-72. PubMed PMID: 19265240.[PubMed].
4. Coupey SM, Cohen MI. Special considerations for the health care of adolescents with chronic illnesses. Pediatr Clin North Am. 1984 Feb;31(1):211-9. PubMed PMID: 6701025.[PubMed].
5. Fox LS. Adolescent male reproductive responsibility. Soc Work Educ. 1983 Fall;6(1):32-43. PubMed PMID: 12339621.[PubMed].
6. Hoang, D.H. What do pupils and students know about contraceptive methods? SUC KHOE SINH SAN. 2001;2:23, 25.
7. Khan MA, Rahman M, Khanam PA, Barkat-e-Khuda, Kane TT, Ashraf A. Awareness of sexually transmitted disease among women and service providers in rural Bangladesh. Int J STD AIDS. 1997 Nov;8(11):688-96. PubMed PMID: 9363543.[PubMed].
8. Mustafa MA, Mumford SD. Male attitudes towards family planning in Khartoum, Sudan. J Biosoc Sci. 1984 Oct;16(4):437-49. PubMed PMID: 6490682.[PubMed]

9. Shipman, G. The psychodynamics of sex education. In Muuss, R. E. (ed.), Adolescent Behavior and Society: A Book of Readings. Random House, New York, 1971. p. 326-39.
10. Ruble DN, Brooks-Gunn J. The experience of menarche. Child Dev. 1982 Dec;53(6):1557-66. PubMed PMID: 7172781.[PubMed]
11. Whisnant L, Zegans L. A study of attitudes toward menarche in white middle-class American adolescent girls. Am J Psychiatry. 1975 Aug;132(8):809-14. PubMed PMID: 1147064.[PubMed]
12. Piaget J, Inhelder B. The Psychology of the Child. New York, NY: Basic Books Inc; 1969. P.1557-9.
13. Tobias BB, Ricer RE. Counseling adolescents about sexuality. Prim Care. 1998 Mar;25(1):49-70. Review. PubMed PMID: 9469916.[PubMed]
14. Joshi BN, Chauhan SL, Donde UM, Tryambake VH, Gaikwad NS, Bhadoria V. Reproductive health problems and help seeking behavior among adolescents in urban India. Indian J Pediatr. 2006 Jun;73(6):509-13. PubMed PMID: 16816513.[PubMed]
15. Neinstein LS. Adolescent Health Care: A Practical Guide. 3rd ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 1996. P.234-5.
16. Patil S Sharmila,Chaturvedi R, Malkar M. Sexuality and sexual behaviour in male adolescent school students. BHJ [Serial online] 2002 Oct [cited 2009 May 27]. Available from: http://www.bhj.org/journal/
17. Ali M, Bhatti MA, Ushijima H. Reproductive health needs of adolescent males in rural Pakistan: an exploratory study. Tohoku J Exp Med. 2004 Sep;204(1):17-25. PubMed PMID: 15329459.[PubMed]
18. Gupta S D. A study of reproductive health awareness and behavior amongst adolescents: Multicentric study. New Delhi: ICMR; 1988
19. Bott S, Jejeebhoy S, Shah I, Puri C. Towards Adulthood: Exploring the sexual and reproductive health of adolescents in South Asia. Geneva: WHO.2003.
20. McCauley A, Salter C. Meeting the Needs of Young Adults. Population Reports, 1995; 28(3).[cited 2010 Nov 19]. Available from: http://www.jhuccp.org/pr/j41edsum.shtml.
21. Kapamadzija A, Bjelica A, Segedi D. [Sex knowledge and behavior in male high school students]. Med Pregl. 2000 Nov-Dec;53(11-12):595-9. Croatian. PubMed PMID: 11320746.[PubMed]
22. Bhasin S,Pandit K, Kannan AT, Dubey KK. Impact of IEC intervention on knowledge regarding AIDS amongst senior secondary school children in East Delhi. Indian J Community Med. 1999;24(4):167-71.
23. Adjahoto EO, Hodonou KA, de Souza AD, Tété VK, Baeta S. [Teenage knowledge about sex]. Sante. 2000 May-Jun;10(3):195-9. French. PubMed PMID: 11022151.[PubMed]
24. Khushwah SS, Mittal A. Perception and practices with regard to reproductive health among out of school adolescents. Indian J Community Med. 2007;32(2):141- 3.
25. Awasthi S, Nichter M, Pande VK. Developing an interactive STD-prevention program for youth: lessons from a north Indian slum. Stud Fam Plann. 2000 Jun;31(2):138-50. PubMed PMID: 10907279.[PubMed]
26. Patil S Sharmila, Chaturvedi R, Malkar M. Sexuality and sexual behaviour in male adolescent school students. BHJ [Serial online] 2002 Oct [cited 2012 May 27]. Available from: http://www.bhj.org/journal/

Tables

TABLE 1 KNOWLEDGE REGARDING CHANGES DURING PUBERTY

Changes during puberty*	9th & 10th Class (n=518)	Percentages	11th & 12th Class (n=482)	Percentages
Rapid gain of weight & Height	423	81.66	387	80.29
Changes in build	435	83.98	435	90.25
Facial hair	426	82.24	466	96.68
Change in voice	417	80.50	448	92.95
Development of sex organs	363	70.08	403	83.61
Night emission	371	71.62	394	81.74
Pubic hair	435	83.98	437	90.66
Can't say	8	1.54	3	0.62
**Multiple responses, p value = 0.4512*				

TABLE 2 PERCEPTION REGARDING PUBERTAL CHANGES

Pubertal changes *	9th & 10th class (n=518)	Percentages	11th & 12th class (n=482)	Percentages
Normal phenomenon	221	42.66	241	50.00
Onset of maturity	154	29.73	344	71.37
Unhealthy	188	36.29	116	24.07
Shy	246	47.49	206	42.74
Guilty	229	44.21	178	36.93
Nothing	20	3.86	7	1.45
**subjects had multiple responses, p value =0.000*				

TABLE 3 EVER HEARD ABOUT DIFFERENT ASPECTS OF SEXUALITY

Different aspects*	9th & 10th class (n=518)	Percentages	11th & 12th class (n=482)	Percentages
Puberty	387	74.71	394	81.74
STD	235	45.37	293	60.78
AIDS	506	97.68	473	98.13
Intercourse	229	44.21	379	78.63
Safe Sex	180	34.75	109	22.61
Masturbation	388	74.90	434	90.04
Night emission	355	68.53	450	93.36
**subjects had multiple responses, p value = 0.000*				

TABLE 4 PERCEPTION REGARDING NIGHT EMISSION

Feeling regarding night emission*	9th & 10th Class (n=393)	Percentages	11th & 12th Class (n=414)	Percentages
Onset of maturity	187	47.58	203	49.03
Exciting	84	21.37	79	19.08
Unhealthy	241	61.32	184	44.44
Shy	255	64.89	237	57.25
Guilty	278	70.74	238	57.49
Fatigue	237	60.31	223	53.86
Nothing	11	2.80	16	3.86
**Multiple responses, p =0.2089*				