

## Learning about facts of life: perspective from medical students on sources and preferences about puberty and sex education in Karachi

### Abstract

Puberty heralds the onset of adulthood, and is fraught with complex physiological and psychological changes and emotions. In this study, we looked at the sources of information about puberty and sex education among males and females, age at which they learned about them, and the opinions on the role of schools and parents in imparting this education among medical students. A cross-sectional pilot study, using convenience sampling was conducted among 153 medical students of the Hamdard College of Medicine and Dentistry (HCM&D) in Karachi. Regarding most common source of information about puberty; 23 (25.3%) males identified friends as the most important source of information. While 31 (50.0%) women identified their mothers as the most important source. Regarding most common source of information about reproductive systems and sex; 17 (27.4%) women identified school teachers as the most common source of information, while 26 (28.6%) men identified books and magazines.

**Keywords:** Sex Education, Medical Students, Pakistan.

### Introduction

Puberty is associated with physical changes in human body and heralds the onset of adulthood. This transition to adulthood requires information about one's own and opposite sex's bodies, and education about reproductive and sexual health to better cope with the onslaught of new emotions. Learning about sexual matters also entails being responsible in one's sexual behaviour and learning about practices that foster improved sexual health by making sexually healthy lifestyle choices. However, socio-cultural norms and mores dictate when, how, and from where and whom one acquires this information.

Findings from a recent nationally representative survey in England reported that for teenagers, school was the main and most common source of information on sex

education.<sup>1,2</sup> In Pakistan matters related to sex education have been sparsely studied. A 2010 cross-sectional study conducted in the urban and semi-urban areas of Sindh province, among 165 individuals of age 16-25 years and both genders; reported that 101 (67.3%) respondents said that trained health professionals should be teaching about sex education.<sup>3</sup> Another cross-sectional study conducted in 2002, in three areas of Karachi, among 106 females of age 10-19; reported that cable and internet were identified as the main sources of information about sexuality by the respondents.<sup>4</sup> While the primary source of information about menstruation was mothers; identified by 98% of the respondents.

It has been claimed that more liberal Pakistani media's attitude, might have helped improve sexual and reproductive health in the country.<sup>5</sup> In this pilot study, we looked at the sources of information about puberty and sex education among males and females, age at which they learned about them, and the opinions on the role of schools and parents in imparting this education among medical students.

### Methods and Results

A cross-sectional pilot study, using convenience sampling; based on pre-testing and self-administered questionnaire was conducted among the third and fourth year MBBS students of the Hamdard College of Medicine and Dentistry (HCM&D) in Karachi, from August and September, 2016. A one-page questionnaire was developed, inquiring about the most important, second most important, and the preferred sources of information about puberty, sexual and reproductive systems, and on how pregnancy occurs. Questions on sexual and reproductive systems, and knowledge on how pregnancy occurs were used as a way of inquiring about sex knowledge. All questions were phrased to avoid use of explicit language that might have offended some potential respondents. Only third and fourth year medical students were invited to participate, as they had successfully completed the physiology subject in their initial two years; thus obviating the need for any explicit explanation of what constitutes puberty, reproductive health systems, and pregnancy. Questions on age at

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**Table-1:** Characteristics and opinions of respondents on sex education, disaggregated by sex.

Characteristics and Opinions	Male (N = 91) Frequency (%)	Female (N = 62) Frequency (%)
<b>Enrolled in:</b>		
Third Year MBBS	35 (38.5)	29 (46.8)
Fourth Year MBBS	56 (61.5)	33 (53.2)
<b>Age (years) at having learned about puberty</b>		
Mean	14.7	13.8
Range	9 - 20	9 - 20
Standard Deviation	2.4	2.4
<b>Age (years) at having learned about sexual &amp; reproductive systems and on how pregnancy occurs</b>		
Mean	16.1	16.5
Range	9 - 22	10 - 22
Standard Deviation	2.4	2.4
<b>Puberty and sex education should be provided in schools or colleges</b>		
No	9 (9.9)	9 (14.5)
Yes	82 (90.1)	53 (85.5)
<b>Students should be taught about puberty in</b>		
Class 7 - 8	19 (23.2)	22 (41.5)
Class 9 - 10	30 (36.6)	18 (34.0)
Class 11 - 12	33 (40.2)	13 (24.5)
<b>Students should be taught about how pregnancy occurs in</b>		
Class 7 - 8	8 (9.8)	8 (15.1)
Class 9 - 10	22 (26.8)	17 (32.1)
Class 11 - 12	52 (63.4)	28 (52.8)
<b>Parents should talk to their children about how pregnancy occurs</b>		
Yes	45 (49.5)	39 (62.9)
No	46 (50.5)	23 (37.1)

**Table-2:** Knowledge sources and preferences sources of knowledge about puberty and pregnancy, disaggregated by sex.

Questions	Male (N = 91) Frequency (%)			Female (N = 62) Frequency (%)		
<b>Learning about puberty</b>						
<b>Source of information</b>	I*	II**	Preferred	I*	II**	Preferred
School Teacher	14 (15.4)	14 (15.4)	9 (9.9)	7 (11.3)	8 (12.9)	3 (4.8)
Mother	6 (6.6)	3 (3.3)	3 (3.3)	31 (50.0)	10 (16.1)	14 (22.6)
Father	13 (14.3)	5 (5.5)	7 (7.7)	0 (0)	3 (4.8)	1 (1.6)
Brother	3 (3.3)	3 (3.3)	3 (3.3)	1 (1.6)	0 (0)	1 (1.6)
Sister	4 (4.4)	2 (2.2)	0 (0)	5 (8.1)	6 (9.7)	7 (11.3)
Other Family Members	3 (3.3)	4 (4.4)	0 (0)	1 (1.6)	0 (0)	0 (0)
Friends	23 (25.3)	17 (18.7)	21 (23.1)	6 (9.7)	14 (22.6)	5 (8.1)
Doctors	3 (3.3)	6 (6.6)	13 (14.3)	2 (3.2)	5 (8.1)	10 (16.1)
Books/Magazines	9 (9.9)	12 (13.2)	12 (13.2)	3 (4.8)	7 (11.3)	8 (12.9)
Films/Videos	1 (1.1)	13 (14.3)	3 (3.3)	1 (1.6)	1 (1.6)	0 (0)
Internet	11 (12.1)	12 (13.2)	20 (22.0)	5 (8.1)	8 (12.9)	13 (21.0)
Other Sources	1 (1.1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>Learning about sexual &amp; reproductive systems, and how pregnancy occurs</b>						
<b>Source of information</b>	I*	II**	Preferred	I*	II**	Preferred
School Teacher	23 (25.3)	17 (18.7)	14 (15.4)	17 (27.4)	7 (11.3)	9 (14.5)
Mother	2 (2.2)	1 (1.1)	0 (0)	8 (12.9)	6 (9.7)	16 (25.8)
Father	4 (4.4)	2 (2.2)	4 (4.4)	0 (0)	2 (3.2)	0 (0)
Brother	0 (0)	2 (2.2)	4 (4.4)	1 (1.6)	0 (0)	0 (0)
Sister	1 (1.1)	2 (2.2)	1 (1.1)	1 (1.6)	3 (4.8)	2 (3.2)

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Other Family Members	1 (1.1)	1 (1.1)	0 (0)	2 (3.2)	0 (0)	0 (0)
Friends	15 (16.5)	26 (28.6)	16 (17.6)	6 (9.7)	8 (12.9)	2 (3.2)
Doctors	11 (12.1)	7 (7.7)	12 (13.2)	6 (9.7)	9 (14.5)	10 (16.1)
Books/Magazines	26 (28.6)	7 (7.7)	11 (12.1)	10 (16.1)	11 (17.7)	5 (8.1)
Films/Videos	2 (2.2)	5 (5.5)	4 (4.4)	2 (3.2)	4 (6.5)	1 (1.6)
Internet	6 (6.6)	21 (23.1)	24 (26.4)	9 (14.5)	12 (19.4)	17 (27.4)
Other Sources	0 (0)	0 (0)	1 (1.1)	0 (0)	0 (0)	0 (0)

I\*Most important source of information

II\*\*Second most important source of information.

which knowledge about these matters was acquired and opinions about academic class in which this education should be imparted were also added. In the end a question was asked about opinion on whether parents should talk to their children about how pregnancy occurs. Questions on sources of knowledge were adopted from "illustrative questionnaire for interview-surveys with young people" available at the World Health Organization's website.<sup>6</sup> Training was given to four male and female medical students for data collection, who approached both male and female medical students on medical college premises. After explaining the objectives of the study and obtaining verbal informed consent, they handed-out the questionnaire and collected the filled ones. Ethical approval for the study was obtained from the Hamdard College of Medicine and Dentistry. Data were analyzed using open-source statistical software package R 3.3.1, for frequencies and percentages, disaggregated by sex.

Out of the total 200 medical students approached, 153(76.5%) completed the questionnaire; 91 (59.5%) male and 62 (40.5%) female. Table-1 provides the characteristics and opinions of respondents on sex education, disaggregated by sex. Compared to men, women on average reportedly learned about puberty at younger age. However, men learned about sexual and reproductive systems and on how pregnancy occurs i.e. sex at slightly younger age, compared to women. Cumulatively, 135 (88.2%) respondents replied affirmatively to the question on whether education on puberty and sex should be provided in school or college. Out of these 135 respondents, 46 (34.1%) and 80 (59.3%) opined that education about puberty and sex should be provided in classes 11 or 12, respectively. But cumulatively, 84 (54.9%) were of the opinion that parents should talk to their children about sex.

Table-2 reports on the respondent's knowledge sources and preferences about sources of knowledge on puberty and pregnancy, disaggregated by sex. Regarding most common source of information about puberty; 23 (25.3%) males identified friends as the most important source of information. Among females, 31 (50.0%) identified their

mothers as the most important source. Friends were also identified as the second most important source of information about puberty among both sexes; by 17 (18.7%) males and 14 (22.6%) females. For the question on what would have been a preferred source of information about puberty; 21 (23.1%) men identified friends as the most common source, while 14 (22.6%) females identified their mothers as the most common source.

Regarding most common source of information about reproductive systems and sex; 17 (27.4%) women identified school teachers as the most common source of information, while 26 (28.6%) men identified books and magazines. As for the second most important source of information; 12 (19.4%) women identified internet, and 26 (28.6%) men identified friends. For the question on what would have been a preferred source of information about puberty; internet was identified as the most common source by both men and women, with 24 (26.4%) men and 17 (27.4%) women.

## Discussion

This is probably the first study in Pakistan on the sources of information about puberty and sex among males and females, age at which they learned about them, and the opinions on the role of schools and parents in imparting this education among medical students. The main strength of this study is the use of third and fourth year medical students; who are well versed in human physiology and thus obviate the need for subjective interpretation of what reproductive and sex education entails. On the other hand, these students do not represent the general student or young adult population — either in the city of Karachi or the country — as medical students tend to be more competitive and focused on their career goals. Overwhelming number of respondents 135 (88.2%), were of the opinion that education on puberty and sex should be provided in either schools or colleges. Thus pointing towards an under met need for systematic provision of such education at a younger age, and in a venue that has been used extensively for imparting this education in other countries as well.<sup>1,7</sup> Parents, are important and more reliable sources of

information about sexual matters for their own children as reported in our study.

Mothers, reportedly, tended to play more active roles, especially for their daughters. As 31 (50.0%) and 10 (16.1%) of females identified their mothers as the most important and second most important source on puberty education, respectively. For males, mothers also played a role in imparting education about puberty, as 6 (6.6%) and 3 (3.3%) of men identifying their mothers as the most important and second most important source on puberty education, respectively. None of the females' respondents identified their fathers as the main source of information on puberty education, while only 3 (4.8%) females identified fathers as the second most important source of puberty education. Only 13 (14.3%) men identified their fathers as the most important source of puberty education, and 5 (5.5%) identified them as the second most important source of such education. However, both fathers and mothers shrank from their role when it came to sex education; as even fewer of male and female respondents identified them as either the most important or second most important source of education.

Perhaps this awkwardness about discussing sexual matters between parents and children was reflected by the fact that the most commonly identified preferred source of sex education by both men and women was internet, i.e. 24 (26.4%) and 17 (27.4%), respectively. On the other hand, young people's ease of use and comfort level with internet was the rationale behind identifying this method of education on such an intimate subject.

Results from this pilot study need to be interpreted with caveat. The small sample size, convenience sampling, and selection of respondents from only one medical college,

merely explore the subject matter. However, our results do underline the need for bigger and representative studies to better understand the unmet or inadequately met need for reliable, comprehensive, age-appropriate education on puberty and sexual matters to adolescents. Furthermore, we highlight the need for exploring the role of health promotional campaigns directed towards parents to be more proactive in their parenting and child rearing practices.

**Disclaimer:** None to declare.

**Conflict of Interest:** None to declare.

**Funding Disclosure:** None to declare.

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