

Knowledge and Attitude Regarding Pubertal Changes among Secondary Level Students of Selected Schools of Dhulikhel Municipality

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ABSTRACT

Background

Adolescence is a transition phase of life during which a lot of pubertal changes occur. If not dealt properly, many mental and behavioral disturbances can result. Adolescents must have good knowledge and attitude regarding physical and psychosocial pubertal changes.

Objective

To assess the knowledge and attitude regarding pubertal changes among secondary level students of selected school of Dhulikhel Municipality.

Method

A quantitative, descriptive cross-sectional study was conducted among secondary level students of Dhulikhel Municipality. Study was conducted among students of grade 9 and 10 of four government and three private schools of municipality. After selection of seven schools, proportionate stratified random sampling technique was done followed by lottery method to select required number of students. Both descriptive statistics and inferential statistics were applied using Statistical Package for Social Science (SPSS) Version 25.0 for data analysis.

Result

The mean score of knowledge regarding pubertal changes was 26.2 ± 2.9 . Likewise, the mean attitude score regarding pubertal changes was 55.4 ± 1.2 . Knowledge regarding pubertal change was significantly higher among age group 15-17 years. Females had higher knowledge compared to males. Attitude related to pubertal change was significantly more in respondents who studied in government school.

Conclusion

Adolescents of Dhulikhel municipality schools had good knowledge and attitude about pubertal changes.

KEY WORDS

Attitude, Knowledge, Pubertal change

INTRODUCTION

Puberty is the period of becoming first capable of reproducing sexually that is brought on by the production of sex hormones and the maturing of the reproductive organs, development of secondary sexual characteristics which can start as early as of 8 years to as late as 13 years of age.¹

WHO defines adolescence as the transition period of lifespan characterized by onset of puberty between 10 and 19 years.² Changes that occur during pubertal phase are not only physical but are found to be psychological, social as well as emotional.³

According to Professor Sawyer and Patton (Murdoch children's Research Institute Melbourne and university of Melbourne) "Puberty is increasingly recognized as a significant physiological event that catapults adolescents into higher risk for range of health related behaviors like mental disorders and substance use." Even more than 50% of adolescent girls have mild to severe stress related to the pubertal changes.⁴ Lack of awareness on these changes can leads to unfavorable attitude towards their own body changes resulting in confusion in sexual identity, the choice of their occupation as well as their role that they play during whole adulthood stage. This study is conducted with the aim to assess and compare the knowledge and attitude regarding pubertal changes among secondary level students of selected school (private and government) of Dhulikhel Municipality, and to determine the association of knowledge and attitude regarding pubertal changes with selected socio demographic variables.

METHODS

A descriptive cross-sectional study design was conducted among secondary level students of Dhulikhel Municipality. Study was conducted among students of grade 9 and 10 of four government and three private schools of this municipality. Total duration of data collection was 5 weeks between December 2018 and January 2019. Sample size was calculated by $n = Z^2pq/d^2$ in 95% CI where allowable error was 10% and 62.6% prevalence. After selection of seven schools, proportionate stratified random sampling technique was done followed by lottery method to select required number of students.

The structured questionnaire was used as the research tool to gather information from the respondents. Study was conducted after ethical approval from institutional review committee of Kathmandu University School of medical Sciences. Permission was obtained from concerned authority of selected Secondary Schools. Assent was taken from the respondents under 18 years of age prior to data collection.

The collected data was checked for completeness, coded and entered in Microsoft Excel Sheet and was transferred

to SPSS Version 25 for further analysis. Descriptive statistics and inferential statistics (Mann Whitney U test, Kruskal Wallis H test) were applied to test the association between knowledge, attitude and selected variables. The statistical significance was defined as p value <0.05.

RESULTS

The mean age of the respondents was 15±1.06. Fifty one percent of respondents were male, and half of the respondents were from Grade 10. Nearly two third of respondents (66.1%) resided in nuclear family. Two third of the respondents (66.9%) had elder sibling among which 44.1% had sister.

Table 1. Socio Demographic Information of the Respondents (n=254)

Characteristics	Frequency (f)	Percentage (%)
Age Group		
12-14 years	52	20.5
15-17 years	202	79.5
Gender		
Female	124	48.8
Male	130	51.2
Grade		
Class 9	125	49.2
Class 10	129	50.8
Specify Sibling		
Sister	75	44.1
Brother	59	34.7
Both	36	21.2

Nearly three-fourth of respondents had obtained information regarding pubertal changes through teachers (74.0%), followed by textbooks 48.4%, friends 46.5%, parents 40.9% and health care providers 24.8%.

Table 2. Source of information regarding pubertal changes (n=254)

Source of Information*	Frequency (f)	Percentage (%)
Siblings	41	16.1
Friends	118	46.5
Parents	104	40.9
Teachers	188	74.0
Social media	62	24.4
Health care provider	63	24.8
Textbooks	123	48.4
Others	3	1.2

*Multiple response

The overall mean score of knowledge regarding pubertal changes among secondary level students of Dhulikhel

Table 3. Overall Knowledge and Attitude score of Respondents Regarding Pubertal Changes (n=254)

Characteristics	Possible Score	Mean±SD	Median(IQR)
Knowledge score			
Physical changes	0-27	19.1±2.4	19.0(21.0-17.0)
Psychosocial changes	0-8	7.1±1.2	8.0(8.0-6.0)
Total knowledge score	0-35	26.2±2.9	26.0(28.0-24.0)
Total Attitude score	0-85	55.4±1.2	55.0(60.0-51.0)

Municipality was 26.2±2.9. The scores for physical and psycho-social changes were found to be 19.1±2.4 and 7.1±1.2 respectively. The total attitude score was 55.4±1.2.

Table 4. Comparison of Knowledge and Attitude regarding pubertal changes Government and Private School (n=254)

Type of School	Knowledge on pubertal changes (Mean ± SD)	Attitude on pubertal changes (Mean ± SD)
Government	26.56±2.87	56.58±6.55
Private	25.79±2.89	54.27±6.00

Knowledge and attitude regarding pubertal changes was found to be more among student studying in government school than in private school.

Table 5 shows that there was significant association between knowledge of pubertal changes and age, gender and type of school.

Table 5. Association between Knowledge and Socio Demographic Variables (n=254)

Characteristics	Median (IQR)	p-value
Age group		
12-14 years	26.0 (28.0-24.0)	0.001 ^a
15-17 years	27.0 (29.0-26.0)	
Gender		
Male	26.0 (27.25-24.0)	< 0.001 ^a
Female	27.0 (29.0-25.0)	
Grade		
Grade 9	27.0 (29.0-25.0)	0.074 ^a
Grade 10	26.0 (28.0-24.0)	
Type of School		
Government	27.0 (29.0-25.0)	0.011 ^a
Private	26.0 (28.0-24.0)	
Type of Family		
Nuclear	27.0 (28.0-25.0)	
Joint	26.0 (28.0-24.0)	0.339 ^b
Extended	26.5 (30.8-23.0)	

Significant at p < 0.05

^a Mann-Whitney U test,

^b Kruskal-Wallis H test

Table 6 shows that there was significant association between attitude regarding pubertal changes and type of school. However, there was no association with other variables.

Table 6. Association between Attitude with Socio Demographic Variables (n=254)

Characteristics	Median (IQR)	p-value
Age group		
12-14 years	56.0 (62.0-51.0)	0.295 ^a
15-17 years	55.0 (59.3-50.8)	
Gender		
Male	54.0 (61.0-52.0)	0.055 ^a
Female	55.0 (59.0-50.0)	
Grade		
Grade 9	55.0 (61.0-51.0)	0.400 ^a
Grade 10	55.0 (60.0-50.0)	
Type of School		
Government	56.0 (61.0-52.0)	0.006 ^a
Private	54.0 (59.0-50.0)	
Type of Family		
Nuclear	55.0 (61.0-52.0)	
Joint	54.5 (59.0-49.8)	0.221 ^b
Extended	54.5 (60.5-51.5)	

Significant at p < 0.05

^a Mann-Whitney U test,

^b Kruskal-Wallis H test

DISCUSSION

The overall mean score of knowledge regarding pubertal changes among secondary level students of Dhulikhel Municipality was 26.2±2.9. The scores for physical and psycho-social changes were found to be 19.1±2.4 and 7.1±1.2 respectively. A study conducted in Darjeeling school of similar age group had found 58% as moderate knowledge, 41% had inadequate knowledge, and 1% had adequate knowledge regarding pubertal changes, with mean knowledge score of 11.17. This was low compared to the present study.⁵ Study conducted in other parts of India showed that mean knowledge score with standard deviation of pre adolescent girls was 14.23±3.82, mean percentage was 39.5, median was 14, with range of knowledge score between 07-21. For pre-adolescent boys, mean knowledge with standard deviation was 14.72±3.82, mean percentage was 40.8 median was 14.7, with range of knowledge score between 06-22.⁶ Knowledge regarding pubertal changes among school aged children varied, and low in most of the studies.

Talking about sex is still a taboo in Nepal. This might be the reason that girls can't talk about sex and its related matter to seniors. If they talk, person will be considered as vulgar or very impolite to the seniors. In Nepalese

culture, females are not allowed to talk openly about sex and pregnancy. Practice of sex education is poor in Nepal. Parents have less knowledge on need of sex education for their children. In addition, seniors don't give sex education to juniors as they also don't have adequate knowledge. A research conducted in western part of Nepal revealed the same: according to the study, parents or guardians least actively participated in teaching sex education. Parents rarely discussed sexual health issues with their teenage children in family environment due to strong traditional norms and beliefs regarding sex and sexuality.⁷ Parents were found less aware of their children's education.⁸

In this study, nearly three by fourth of respondents had obtained information regarding pubertal changes through teachers; while research done on similar topic in Nepal and India had showed that most of the respondents had obtained information regarding pubertal changes through friends followed by magazines.^{9,10} Study done in Saudi mentioned that mothers constituted the main source of information for the girl students.¹¹ And another study conducted at Eastern part of Nepal mentioned that majority had their mothers as source of information followed by sisters and friends.¹² On the contrary, boys had their sources of information from friends, internet and magazines.¹³

According to the present study, 21.3% of respondents could give correct answer regarding concept of puberty. This was different from the finding of similar kind of research that was done in Nepal where 80% of respondents knew about puberty.¹⁰ Present study showed that 35.4% of respondents knew about menstruation which was similar with the study done in Nepal.¹² In contrast, in another two studies done in Nepal and India, the percentage of knowledge on menstruation were shown 80% and 14.2% respectively.^{10,14}

The present study showed that 85.4% of respondents knew that attraction towards opposite sex is normal psychosocial change. The finding was similar with the study that was done by Panthee B in Nepal.¹⁰ In contrast, study done in India showed only 30%.¹⁵

There was significant association between the knowledge regarding pubertal changes and age of the respondents ($p=0.001$). This result was supported by the studies done in Nepal, India and Saudi.^{10,11,15} In present study, significant association between knowledge regarding pubertal changes and gender was observed ($p < 0.001$). This result was supported by the study done in India.¹⁶ In one study, boys had more knowledge than the girls, as boys used more internet and magazine to get knowledge and to solve their problems related to pubertal changes.¹³

The study revealed that there was no association between knowledge and grade of the participants. Similar finding was found in a study done in India.⁵ However, the studies done in Nepal, India and Saudi revealed that there was

significant association between knowledge and education level of the respondents.^{9,10,11} The difference might be due to addition of reproductive health in the education curriculum of both grade 9 and 10.

Present study showed that there was significant association between type of school and knowledge regarding pubertal changes ($p = 0.011$). Government school students had more knowledge compared to the private schools. Various kind of program and project like Secondary Education Development Project, run by government schools to make adolescent known about the biological changes that occur in puberty might be responsible for this difference.¹⁷ A study done in Saudi by Alosaimi showed significant association between knowledge and type of school of respondents more in private school.¹¹

There was no significant association between the attitude regarding pubertal changes and age of the respondents. This finding was similar to the studies done in Nepal and Saudi.^{10,11} But contradictory to this result, study done in Riyadh revealed that there was significant association.¹⁸ There was no significant association between grade of the respondents and their attitude regarding pubertal changes. This finding was supported by the research that was done by Anand in India.⁹ However, similar studies that were conducted in Nepal and Saudi revealed that there was significant association between attitude of respondent towards pubertal changes and grade of respondents.^{10,18} The difference in present and past studies might be due to presence of reproductive health section in the recent school curriculum. Hence, students from both grade had to study it.

Association between attitude related to pubertal changes and type of school in which the respondents studied was observed ($p = 0.006$). This finding was contradictory to the finding of the similar study done by Alosaimi in Saudi.¹¹ The reason of this difference might be due to organization of various awareness campaign by the government that focused to increase knowledge and attitude of adolescent towards puberty and its changes.¹⁷

Respondents having elderly sibling had significantly better attitude towards pubertal changes ($p=0.025$). This finding was supported by similar kind of study done in Nepal.¹⁰ It might be because respondents could share their problem related to puberty with their sibling.

CONCLUSION

The knowledge regarding pubertal changes among secondary level students of Dhulikhel Municipality was high. Positive association was found between pubertal knowledge and age, gender, type of school. Attitude towards pubertal changes was found associated with presence of siblings and type of school.

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