

Original Article

Adjustment to Pubertal Changes among Adolescent Girls

Ajanta Maharjan Singh^{1*}, Manisha Koirala²

Author's Affiliation

¹Lecturer, Maharajgunj Nursing Campus

²Staff Nurse, Tribhuvan University Teaching Hospital

Correspondence to:

Ajanta Maharjan Singh

Lecturer, Child Health Nursing Department

Maharajgunj Nursing Campus, Institute of Medicine

Tribhuvan University

Email: ajanta2034@gmail.com

ORCID ID: 0000-0003-0037-1904

ABSTRACT

Background and Objectives: Adolescence is the transitional stage of life from childhood to adulthood characterized by puberty. Dramatic physical, physiological, hormonal, and emotional changes occur, which are exciting as well as frightening at the same time. The objective of this study was to find out the adjustment of adolescent girls towards pubertal changes.

Materials and Methods: A descriptive cross-sectional study was conducted to find out the adjustment toward pubertal changes among adolescent girls studying in Grades 8, 9, and 10. A proportionate stratified random sampling technique was used to collect the samples, and a self-administered structured questionnaire was used. Descriptive statistics was used to analyze the data.

Results: All the respondents had experienced a rapid increase in height, weight, and development of breast bud, almost all (92.8%) had experienced pubic hair growth, the majority (85.6%) had experienced axillary hair growth, and three-fourths (76%) had experienced pimples on the face. Most (88.8%) of the respondents had received pre-information about pubertal changes. During menarche, more than two-thirds (68.0%) were restricted from worshipping, 20.8% were restricted from seeing or talking to male family members, 17.6% were restricted from cooking and doing household work, and 16.0% were kept in a separate room or neighbor's house. Nearly three-fourths (74.4%) of the respondents used sanitary pads during their menarche. Similarly, more than three-fourths (77.6%) of the respondents experienced problems during menarche, and the majority (80.4%) had lower abdominal pain. Regarding emotional changes, nearly two-thirds (63.2%) had frequent mood swings, and nearly half (45.6%) shared their feelings with family members and friends.

Conclusion: Almost all the respondents have adjusted well to the pubertal changes, but restriction during menarche is still prevalent which needs to be addressed for respectful care during menstruation.

Keywords: Adjustment, Adolescent girls, Pubertal changes

INTRODUCTION

Adolescence refers to the period of life between 10 to 19 years of age. It is the transitional phase of life from childhood to adulthood, the beginning of which is characterized by the onset of puberty [1]. The estimated total population of adolescents in the world is 1.2 billion, which is about 18% of the global population [2]. The Asian region comprises more than half of all the adolescents in the world [3]. Adolescents contribute about 24.18% of the total population in Nepal [4].

Adolescence is a critical period in the life span characterized by dramatic physical, intellectual, hormonal, and emotional changes. In this stage, a person experiences emotional independence and social responsibility whereas the pituitary gland starts secreting Follicular Stimulating Hormone and Luteinizing Hormone resulting in the release of sex hormones. All these changes lead to the development of breasts, the onset of menstruation, rapid increase in height and weight, broadening of hips, and hair growth in pubic and axillary areas [5].

Menstruation, a major pubertal change in adolescent girls, despite being a natural process, is perceived as stigma and taboo in Nepal. During this period, girls are considered impure, unclean, and untouchable, and are forced to stay out of their homes on menarche and on subsequent menses. They are prohibited from cooking food, doing household chores, and touching water resources. All these kinds of harmful religio-cultural practices impose feelings of shame, humiliation, and fear and are the major cause of school absenteeism too [6]. A descriptive

survey in India showed that the majority (74%) had experienced a high level of stress due to pubertal changes. The respondents had the highest mean percentage stress score (81.2%) in the area of body image changes [7].

Especially in developing countries like Nepal where discussion about sexuality with young children is almost absent, adolescents especially girls are not prepared mentally or psychologically to cope with these changes. Most of the adolescent girls remain silent without putting forth their queries or without seeking health care. As a result, these changes can be a traumatic experience, making them anxious and vulnerable to maladjustment in their life [8].

Adolescent girls, especially early maturing ones, often find it difficult to adjust psychologically to the anatomical and physiological changes of puberty making them vulnerable to depressive problems; eating disorders; antisocial personality; experimental or regular tobacco, drug, and alcohol use; delinquency; hostile feelings and are more likely to attempt suicide [9]. So, the objective of this study was to find out the adjustment toward pubertal changes among adolescent girls.

MATERIALS AND METHODS

A descriptive cross-sectional design was used to find out the adjustment related to pubertal changes among adolescent girls at Shree Arunodaya Secondary School, located at Gokarneshwor, Kathmandu. The researcher visited the school met the principal and explained the purpose and procedure of the study on 2078/12/24 and data collection was

done on 2078/12/25. The female students studying in Grades 8, 9, and 10 were the study population. A proportionate stratified random sampling technique was used to collect the sample. The total sample size was 125. From each stratum, students were chosen by simple random sampling without replacement method by using a lottery. A self-administered semi-structured questionnaire was used to collect the data. Content adequacy of the instrument was ensured by an extensive review of the literature and consulting with subject experts. The study was conducted after getting permission from the school administration (Ref. No.2078/079/150). The researcher visited the school in a convenient time and explained the purpose of the study to the students. As all the parents gave assent for the study, written consent was then obtained from each respondent. A self-administered questionnaires was used to collect the data. Anonymity of the respondents was maintained. Respondents were assured that the information gathered will be used only for study purpose. Collected data were reviewed and coded; were entered in datasheet. It was then analyzed using Statistical Package for Social Science (SPSS) version 16 by using descriptive statistics. The study duration was of six months.

RESULTS

More than half of the respondents (53.6%) were in the age group of 15-19 years of age, the mean age being 15.6 ± 1.15 . Maximum (42.4%) respondents were from Grade 10. Similarly, more than two-thirds (68.8%) of the respondents belonged to Janajati ethnicity. Nearly half (48.8%) of them were Hindus as shown in Table 1.

Table 1: Socio-demographic Characteristics of the Respondents

Variables	n = 125	
	Number	Percentage
Age group		
11-14	58	46.4
15-19	67	53.6
Mean \pm SD: 15.6 \pm 1.15		
Grade		
Eight	34	27.2
Nine	40	32
Ten	51	40.8
Ethnicity		
Brahmin	6	4.8
Chhetri	15	12
Janajati	86	68.8
Dalit	18	14.4
Religion		
Hinduism	61	48.8
Buddhism	47	37.6
Christianity	12	9.6
Others#	5	4

#Kirat, Manaviya, Sachai

Table 2: Pubertal Changes Experienced by the Respondents (n = 125)

Variables	Number	Percentage
Physiological Changes*		
Rapid increase in height	125	100
Rapid increase in weight	125	100
Appearance of pubic hair	116	92.8
Appearance of axillary hair	107	85.6
Appearance of breast bud	125	100
Appearance of pimples on face	95	76
Onset of menarche	125	100
Emotional Changes*		
Liked to be attractive	37	29.6
Attracted towards boys	8	6.4
Insecure feeling towards bodily changes	45	36.0
Had frequent mood swings	79	63.2
Had frequent conflict with parents/siblings	37	29.6

*Multiple response

Table 3: Menarche Related Experience of the Respondents (n = 125)

Variables	Number	Percentage
Immediate feeling on menarche(multiple response)		
Felt happy	8	6.4
Felt scared	55	44.0
Cried	18	14.4
Felt shy	29	23.2
Felt normal	60	48.0
Thought as disease	2	1.6
Familial response during menarche(multiple response)		
Kept in a separate room or neighbor's house	20	16.0
Restricted from seeing or talking to male family members	26	20.8
Restricted from bathing	4	3.2
Restricted from worshipping	85	68.0
Taken as impure and untouchable	11	8.8
Restricted from cooking and doing household works	22	17.6
Restricted from going to school	13	10.4
Restricted from sleeping on bed	3	2.4
Treated as usual	71	56.8
Feeling towards the familial response during menarche		
Supported	19	15.2
Discriminated	6	4.8
Isolated	9	7.2
As usual	91	72.8
Menstrual product used during menstrual periods		
Cotton cloth	32	25.6
Sanitary pad	93	74.4

All the respondents (100%) experienced rapid increase in height, rapid increase in weight, appearance of breast bud, and onset of menarche during puberty, more than three-fourth (76%) experienced pimples on face. Regarding emotional changes, nearly two-third (63.2%) of the respondents experienced frequent mood swings whereas only 6.4% were attracted towards boys as shown in table 2. Table 3 shows that nearly half (48.0%) of the respondents felt normal on menarche while 44.0% felt scared. More than two-third (68.0%) of the respondents were restricted from worshipping during menarche while more than half (56.8%) of the respondents reported of being treated as usual. Similarly, nearly three-fourth (72.8%) respondents felt usual towards the familial response during menarche while 4.8% felt

discriminated. Nearly three-fourth (74.4%) of the respondents used sanitary pad during their menarche while only about one-fourth (25.6%) used cotton cloth. Table 4 shows that more than three-fourth, i.e. 97 respondents experienced problems during puberty, out of which majority (80.4%) had lower abdominal pain. The respondents sought support mostly from their mother (74.2%), followed by sister (32.0%), friends (12.4%), health worker (5.2%), and others (5.2%).

Table 5 showed that most of the respondents (88.8%) received pre-information about pubertal changes. The most common source of information was mother (48.6%), followed by school textbook (47.7%), sister (31.5%), friends (20.7%), mass media (12.6%), health worker (12.6) and others (1.8%).

Table 4: Problems Faced and Sources of Support during Menarche of the Respondents (n = 97)

Variables	Number	Percentage
Problems faced		
Lower abdominal pain	78	80.4
Dizziness	8	8.2
Weakness	42	43.3
Headache	12	12.4
Body ache	46	47.4
Sources of support*		
Mother	72	74.2
Sister	31	32.0
Friends	12	12.4
Health worker	5	5.2
Father/Teacher/Youtube	5	5.2

*Multiple responses

Table 5: Respondent’s Sources of Information about Pubertal Changes (n = 125)

Variables	Number	Percentage
Pre-information received	111	88.8
Sources of information (n=111)*		
Mother	54	48.6
Sister	35	31.5
Friends	23	20.7
Mass media	14	12.6
School textbook	53	47.7
Health worker	14	12.6
Father/Teacher	2	1.8

*Multiple responses

Table 6 shows respondents’ ways of adjustment to pubertal changes. For rapid increase in height, more than half (51.2%) always took it as normal, more than three-fourth (76.8%) never did dieting to control the growth of height, and nearly half (42.2%) sometimes shared the discomfort with their mother or friends. For rapid increase in weight, more than half (52.0%) never skipped meals nor performed dieting, more than half (56.0%) never performed rigorous exercise to control weight gain, whereas nearly half (45.6%) sometimes shared the discomfort with their mother or friends. Similarly for the hair growth in axillary and pubic region, about one-third (33.6%) always wore long-sleeved clothes most (90.7%) of them never

used cosmetics to remove hair, more than three-fourth (78.1%) never trimmed or shaved hair. Regarding the appearance of breast bud, nearly half (47.2%) never wore tight clothes inside and loose clothes outside nearly three-fourth (72.8%) never adopted bent posture to make the enlarged breasts look smaller, more than one-third (35.2%) always changed the type of bra they used to wear before, nearly two-third (62.4%) always felt good about the change and took it positively, and more than one-third (38.4%) sometimes shared their discomfort with their mother and friends. For the appearance of pimples on face, about one-third (33.7%) never squeezed pimples, nearly half (43.1%) always washed face twice a day and

Table 6: Respondents' Adjustment towards Pubertal Changes (n=125)

Statements	n = 125			
	Always N (%)	Often N (%)	Sometime N (%)	Never N (%)
Physiological changes				
Rapid increase in height				
Was happy and took it as normal.	64(51.2)	11(8.8)	33(26.4)	17(13.6)
Did dieting to control the growth of height.	2(1.6)	2(1.6)	25(20.0)	96(76.8)
Shared the discomfort with mother / friends.	25(20.0)	16(12.8)	53(42.4)	31(24.8)
Rapid increase in weight				
Skipped meals or performed dieting.	12(9.6)	8(6.4)	40(32.0)	65(52.0)
Performed rigorous exercise to control weight gain.	10(8.0%)	6(4.8%)	39(31.2%)	70(56.0)
Wore loose clothes to look thinner.	18(14.4)	3(2.4)	32(25.6)	72(57.6)
Shared the discomfort with mother / friends.	23(18.4)	14(11.2)	57(45.6)	31(24.8)
Hair growth in axillary and pubic region				
Wore long-sleeved clothes.	40(33.6)	8(6.7)	31(26.0)	40(33.6)
Used cosmetics to remove hair.	4(3.4)	1(0.8)	6(5.0)	108(90.7)
Trimmed or shaved hair.	3(2.5)	1(0.8)	22(18.5)	93(78.1)
Shared the discomfort with mother / friends.	25(21.0)	7(5.9)	50(42.0)	37(31.0)
Appearance of breast bud				
Wore tight clothes to look smaller.	33(26.4)	11(8.8)	22(17.6)	59(47.2)
Adopted bent posture to look smaller.	9(7.2)	2(1.6)	23(18.4)	91(72.8)
Changed the type of inner clothes.	44(35.2)	18(14.4)	25(20.0)	38(30.4)
Felt good about the change and accepted it positively.	78(62.4)	14(11.2)	14(11.2)	19(15.2)
Shared the discomfort with mother / friends.	29(23.2)	14(11.2)	48(38.4)	34(37.2)
Appearance of pimples on face				
Squeezed pimples.	20(21.0)	15(15.8)	28(29.5)	32(33.7)
Washed face and maintained skin hygiene.	41(43.1)	9(9.5)	26(27.4)	19(20)
Adopted habits of increased water consumption.	47(49.5)	12(12.6)	19(20)	17(17.9)
Used cosmetics to hide pimples.	8(8.4)	4(4.2)	12(12.6)	71(74.7)
Visited doctor for treatment.	8(8.4)	1(1.05)	4(4.2)	82(86.3)
Became less confident about my body image.	6(6.3)	5(5.3)	7(7.4)	77(81.0)
Onset of menstruation				
Shared it with family member/ followed instructions.	80(64.0)	14(11.2)	24(19.2)	7(5.6)
Was scared, so didn't share with anyone.	10(8.0)	8(6.4)	16(12.8)	91(72.8)
Did not go to school.	21(16.8)	3(2.4)	16(12.8)	85(68.0)
Discussed queries to menstrual hygiene with seniors.	47(37.6)	20(16.0)	31(24.8)	27(21.6)
Emotional changes				
Kept feelings to myself, didn't share.	19(15.2)	8(6.4)	34(27.2)	64(51.2)
Used social medias; mobile television for distraction.	32(25.6)	11(8.8)	32(25.6)	50(40.0)
Smoked, drank alcohol or abused drugs.	1(0.8)	-	4(3.2)	120(96.0)
Shared my feelings with family members or friends.	57(45.6)	13(10.4)	38(30.4)	17(13.6)

maintained skin hygiene, nearly half(49.5%) always adopted healthy dietary habits with

increased water intake, nearly three-fourth (74.7%) never used cosmetics to hide the

pimples, majority (86.3%) never visited doctor for treatment, and majority (81.0%) never became less confident about their image nor reduced the frequency of going out. Regarding menarche, nearly two-third (64.0%) always shared it with their family members and followed their instructions, nearly three-fourth (72.8%) were never scared, more than two-third (68.0%) never stopped from going to school, and more than one-third (37.6%) always discussed their queries regarding menstruation and use of menstrual hygiene products with their family members or seniors. Regarding emotional changes that occurred during puberty, more than half (51.2%) never kept their feelings to themselves only, more than one-third (40.0%) never used social medias like mobile phones or television for distraction, almost all (96.0%) never smoked, drank alcohol nor abused drugs, and nearly half (45.6%) always shared their feelings with their family members and friends. Regarding the adjustment status of adolescent girls to pubertal changes, almost all (98.4%) adjusted well to the pubertal changes.

Table 7: Respondents' Adjustment Status towards Pubertal Changes (n = 125)

Adjustment Status	Number	Percentage
Well-adjusted (≥ 60)	123	98.4
Unadjusted (< 60)	2	1.6

Inter-Quartile Range (IQR) = 30 – 90

DISCUSSION

The present study found that all the respondents had experienced breast bud development, 92.8% had experienced appearance of pubic hair, and 76% had experienced pimples on face. Similar finding in a study which 94% of girls experienced pubic hair appearance [10]. But it differs with

the findings in which only 94% of the girls had experienced breast budding and 61% of the girls had experienced pimples on face. Present study showed most of the respondents (88.8%) had received pre-information about the pubertal changes while 11.2% were unknown about the pubertal changes. This finding is similar to the study in which 83% of the respondents had received pre-information about pubertal changes and 17% of them had not received any information about pubertal changes [9].

Present study showed that respondents' source of information about the pubertal changes was mother (48.6%), followed by school textbook (47.7%), sister (31.5%), friends (20.7%), mass media (12.6%), health worker (12.6%) and others (1.8%), similar study showed source of information about pubertal changes as teachers (74%) followed by school textbooks (48.4%), friends (46.5%), parents (40.9%) and health care workers (24.8%) [11]. The present study showed that nearly half (48.0%) of the respondents felt normal during menarche, 44.0% felt scared, 23.2% felt shy, 14.4% cried and only 6.4% felt happy. A similar study found more than half (54.4%) felt scared, 33.3% felt normal, 3.1% cried, 6.1% were confused and 1.5% were stressed [5].

The present study found that during menarche, more than half (56.8%) reported being treated as usual. More than two-thirds (68.0%) of the respondents were restricted from worshipping, 17.6% were restricted from cooking and doing household work, 16.0% were kept in separate rooms, 10.4% were restricted from going to school and 8.8% were taken as the impure and untouchable, similar study showed they were

restricted from going to temple, 50% were restricted from doing kitchen and household practices, 10% were kept isolated referring as untouchable and 20% missed their school [12]. In another study, the majority (84.2%) faced food restrictions and almost all (94.2%) faced restrictions in household activities[6]. This study found that during menstrual period, nearly three-fourths (74.4%) of the respondents used sanitary pads whereas one-fifth (25.6%) used cotton clothes. A similar study showed more than two-thirds (70.1%) of the respondents did not use sanitary pads during menstruation [6].

Present study showed that more than three-fourth (77.6%) of the respondents faced some type of physical problems, out of which majority (80.4%) experienced lower abdominal pain, 47.4% body ache, 43.3% weakness and 12.4% headache experienced by the respondents. Similar study found that 74.3% of the respondents faced the problems, among them 67.2% experienced lower abdominal pain, 13% body ache, 21.7% experienced weakness and half (50%) experienced headache [13]. Similarly, nearly three-fourth (74.2%) got help from mother while only 5.2% got help from health workers, another study found that 45.2% of the respondents who consulted for the problems sought help from the doctor while 35.5 % sought help from their mother [13].

Present study showed that almost all (98.4%) adjusted well to the pubertal changes, which differs from the study which showed 50.2% had adjusted well to the pubertal changes using positive coping strategies[9] and from the study in which 52.4% had adaptive coping pattern [14]. This study was limited to adolescents' girls of only

one school of Kathmandu, the selection of site was purposive and result are based on the responses of the respondents where the chance of recall bias is possible so cannot be generalized.

CONCLUSION

All the respondents have experienced a rapid increase in height and weight and development of breast bud, and the respondents have adjusted well to the pubertal changes, but restriction during menarche is still prevalent which needs to be addressed for respectful care during menstruation. Future studies for identifying pubertal changes can be conducted in a more realistic manner by using Tanner staging and physical examination for more scientific findings.

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Author's Contribution

Concept, design, manuscript writing- AMS; data acquisition, and analysis, literature review, MK. Both the authors approved the final version of manuscript.

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