

Puberty and Menstruation Health Education- Role of parents and Teachers: A systematic Review

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Abstract:

According to world health organization a person aged 10-19 years considered as adolescence, and transition period between the childhood and adulthood is called puberty, it is marked with the growth and development of child, during this period physical, psychological and biological developmental changes affect both genders differently. It represents a period of profound transition in terms of drives, motivation, emotion, psychology and social life. Present reviews try to find out the relationship between puberty and menstrual health in adolescents and the role of parents and teachers. A literature search using J-Gate, Google Scholar, review Science Direct, Research gate, Academia, a data base covering the period from 2000-2022 was conducted. The author reviewed studies with certain inclusion and exclusion criteria. Search terms were puberty, menstrual health and hygiene education and role of parents and teachers. After examining different types of empirical papers it was found that in most of the studies this variable (menstrual health education) has been ignored by the researchers working this area of research in India. Methodological and theoretical issues have been discussed.

Keywords: puberty, menstrual health education, psychological, physical, biological development.

Introduction

Puberty: The time of life when a child experiences physical and hormonal changes that marks a transition into adulthood. The child develops secondary sexual characteristics and becomes able to have children. Secondary sexual characteristics include growth of pubic, armpit and leg hair, breast enlargement and increased hip width in girls. In boys they include growth of pubic, face, chest and armpit hair, voice changes, penis and testicle growth and increased shoulder width (U.S. Department of Health and Human Services, National Cancer Institute of Health).

Pubertal status is important as it includes comparing external signs of physical development to see whether adolescents have reached adult like appearance and this in turn influences psychological adjustment of adolescents because these changes elicit different reaction from family, friends and within adolescents themselves. It brings hormonal changes that lead to affect mental and physical health (Kanwar, P. 2020, Pubrtal development and problem behavior in Indian adolescents).

Menstruation: Menstruation is a monthly bleeding called “period”, when body discards the monthly buildup of the lining of uterus. Menstrual blood and tissue flow from uterus through the small opening in cervix and pass out of body through vagina. During the monthly menstrual cycle, the uterus lining builds up to prepare for pregnancy. If pregnancy is negative very low levels of estrogen and progesterone hormone levels begin falling. A menstrual cycle begins with the first day of period or menstruation and start over again when the next period begins. Throughout a monthly menstrual cycle, body makes different amounts of chemical called hormones to prepare pregnancy. These changing hormones can cause menstrual symptoms. It changes as a woman gets older. A normal cycle lasts between 24 and 38 days (U.S. Department of Health & Human Services)

Method for Review -

Literature Search Procedure

Studies were identified through J-Gate, Research Gate, Google Scholar, Science Direct. It covers the period from 2010 to 2022. The review is conducted using the search term Puberty, Menstruation and role of parents and teachers.

Inclusion Criteria

Following are the inclusion criteria: (1) empirical studies from peer reviewed journals, (2) empirical studies in English language only, (3) quantitative research, (4) qualitative research, (5) critical review articles published in a peer reviewed journal.

Exclusion Criteria

Following are exclusion criteria: (1) Review before 2010 (2) Students from Primary school and University.

Methodology

The present review is based on the following six parameters. (1) Research Design: (2) Validity of Criterion variable: (3) Reliability coefficient of predictor variable: (4) Validity and

reliability coefficient of different predictor measures on own data: Statistical analysis: (6) Effect size.

Methodology of review studies

All studies are based on Correlation research design all the 100% (30) reviewed studies reported the validity coefficient of criterion measures on their own data in addition, 100% (30) reported the validity reliability coefficient of criterion measures on their own data. 100% (30) reviewed studies reported validity or reliability coefficient of different predictor measures on own data. Further, 100% (30) reviewed studies controlled confounding variables by statistical analysis. Moreover, 100% (30) reviewed studies reported effect size.

Table No. 1 Reviewed Studies

S.No.	Title	Source	Author/Authors	Research Design	Statistical Analysis	Sample Size	Results
1.	Role of Mother in Informing Girls about Puberty: A Meta Analysis Study	Nurs Midwifery Stud.2016, 5(1); e30360. Published Online2016.	Sooki, Zahra et al.	Cross sectional	Meta analysis	46	Mother was current source of information about the process of puberty, menarche and menstruation.
2.	Teachers' perspective on Implementation of Menstrual Hygiene Management and Puberty Education in a Pilot Study I Bangladeshi schools.	Glob Health Action, 2021; 14(1); 1955492. Published online 2021.	Mahfuz, MehjabinTishan et al.	Correlation	Multi module pilot study	20	Teachers acknowledged the importance of school based puberty and menstruation education to improve students' perception and preparedness.
3.	Parents or School Health Trainers which of them is Appropriate for Menstrual Health Education?	International Journal of Preventive Medicine, PubMed. 2012, 3(9);622-7	Djalalinia, Shirin et al.	Correlation	ANOVA	1823	Significant difference between The adolescents trained by the school health trainers and by parents groups.
4.	Intervention to improve Menstrual Health Among Adolescent Girls Based on the Theory of Planned Behavior in Iran: A Cluster randomized Controlled Trial	Journal of Preventive Medicine and Public Health,2022 ;55:5 95-603, p ISSN 1975-8375, eISSN 2233-4521.	Darabi, Fatemeh and Yaseri, Mehdi	Quasi experimental	SPSS v-23	578	Theory of planned behavior was significantly higher in the intervention group than in the control group.
5.	Tanzania: Role of Parents & Guardians in Menstrual Health Education	Gender Links for Equality and Justice, 2018. Pricilla Maposa on zimmanager@genderlinks.org.za/+263772735722	Leonard, Jeneth	Correlation	-	52	Encourage parents and guardian to embrace their role in passing down menstrual health education to their children.
6.	Mapping the Knowledge and Understanding of Menarche, Menstrual Hygiene and Menstrual Health among Adolescents Girls in Low and Middle	Reproductive Health,2017 ,14:30. Doi: 10.1186/s12978-017-0293-6	Chandra-Mouli, Venkatraman and Patel, Sheila Vipul	Correlation	Descriptive Analysis	249	Age and education had significant influence on slum area, older girls more knowledgeable than younger.

	Income Countries						
7.	Menstrual Characteristics: A Study of the Adolescents of Rural and Urban West Bengal, India	Annals of Human Biology, 2010; 37(5): 668-681.	Ray, Subha et al.	Correlation	-	715	Significant association between some of the socio-economic variables and various menstrual characteristics among study participant
8.	A Study on Menstruation of Indian Adolescent Girls in an Urban Area of South India	J Family Med Prim Care. 2018 Jul-Aug; 7(4): 698-702.	Omidwar, Shabnam et al.	Correlation	SPSS-16	727	Found higher percentage of experiencing dysmenorrhea, back pain and fatigue. No difference was observed between early and late adolescents.
9.	Menstrual Hygiene Practices and Associated Factors Among Indian Adolescent Girls: A Meta-Analysis	Reprod health. 2022; 19;148. Published online	Majeed, Jaseela et al.	Correlation	Meta-analysis	84	Significant relationship between increase in sanitary pad usage and menstrual hygiene practices.
10.	Menstrual Morbidities, Menstrual Hygiene, Cultural Practices during Menstruation and Wash Practices at Schools in Adolescents Girls of North Karnataka, India: A Cross-Sectional Prospective Study	Obstetrics and Gynecology International V. 2020. Article ID 6238193	Yaliwal, Rajasri et al.	Correlation	SPSS V.23.0	1016	Significant relationship between menstrual morbidities, hygiene and cultural practices and school absenteeism
11.	Understanding Puberty and Its Measurement Ideas for Research in a New Generation	Journal of Research on Adolescence ; 2019. 29(1), 82-95	Mendle, Jane et al.	Correlation	-	-	New generation differ from past cohorts in the timing of pubertal onset.
12.	The Role of Puberty in Adolescent Development	Research Gate, conference paper, 2020.	Krasniqi, Elona and Cakirpaloglu, Panajotis	Correlation	-	-	Puberty adolescence encompasses a wider aspect of changes in cognitive, socio emotional, identity formation sphere in interaction with context.
13.	Puberty: Its Role in Adolescent Maturation	W.T. Donohue et al. (eds.) Handbook of adolescent Health Psychology. 10.1007/978-4614-6633-8_18,	Fuqua, J.S. and Rogol, Alan D	Correlation	-	-	Puberty is a critical time in the life of a child to adolescence and young adulthood. Many psychological, physical changes occur.

14.	The Role of Puberty in The Developing Adolescent Brain	Hum Brain Mapp.2010 Published online, Jun; 31(6): 926-933.	Blakemore, Sarah-Jayne et al.	Correlation	-	26	Strong but not unitary correlation with pubertal stage.
15.	Barriers to Puberty Talk between Mothers and Daughters: A Qualitative Study	Published online 2020. ISSN 0100-7203.	Mirzaee, Firoozeh et al.	Correlation	Content analysis NVivo 11 software.	10	Lack of mother's awareness regarding the school role, the busy schedule of the mother, and adaption of alternatives to mother's talk with girls.
16.	Menstrual Hygiene, Management, and Waste Disposal; Practices and Challenges Faced by Girls/Women of Developing Countries	Journal of Environment and Public Health. Article ID 1730964, v.2018.	Kaur, Rajanbir, Kaur, Kanwaljit and Kaur, Rajinder	Correlation	-	-	Menstruation hygiene should be promoted by implementing a course and training to impart knowledge about menstruation and hygiene management among students.
17.	Menstrual Hygiene Management Among Adolescent School Girls in Low and Middle Income Countries: Research Priorities	Global Health Action, 2016. ISSN 1654-9716.	Phillips-Howard, Penelope A et al.	Correlation	-	-	Study showed the current knowledge gaps about MHM in school-aged girls'.
18.	Menstrual Hygiene Among Adolescent Girls- A Study from Urban Slum Area	J Family Med Prim Care. 2018 Nov-Dec; 7(6): 1439-1445.	Deshpande, T.anvi Nitin et al.	Correlation	Microsoft Excel 2007	100	Study reported that Menstrual hygiene was unsatisfactory among adolescent girls.
19.	Study of Menstrual Hygiene Practices Among Adolescent Girls in a Tribal Area of Central India	Cureus, a part of Springer Nature, 2022.	Borkar, Sonali K et al.	Correlation	Microsoft Excel(Redmond Wasgington)	290	Study observed the Tribal adolescent girls still don't exercise proper hygiene throughout their periods.
20.	A Study of Menstrual Hygiene and Related Personal Hygiene Practices Among Adolescent Girls in Rural Puducherry.	International Journal of Community Medicine and Public Health 4(7);2348.	Hema Priya, S. et al.	correlation	SPSS V-16.0	502	Due to ignorance and not felt necessary majority of the houses didn't have separate sanitary latrine facility.
.21	Knowledge on Menstruation and Practice of Menstruation Hygiene Management Among School Adolescent Girls in Central Ethiopia: A Cross Sectional Study	Journal-Risk Management and Healthcare Policy-volume .14. 911-923	Bulto, G. A.	Correlation	SPSSv-23	403	Knowledge about menstruation were significantly associated with adequate Menstruation Hygiene Management.
22.	Association between Menstrual Hygiene	Journals/Adolescents/vo	Ahmed, Md. Sabbir et al.	Correlation	Rao-Scott Chi-	499	Significance relationships

	Management and School Performance among the School Going Girls in Rural Bangladesh	lume1/issue .2021. 3/10.3390/a dolescents1 030025			square test		between achieve good academic performance among those who practiced average and good MHM after adjusting age, education, household wealth status and respondent's knowledge of menstruation.
23	Increasing Menstrual Hygiene Awareness to Reduce School Dropout among Adolescent Girls in Madagascar	J- PAL. 2022	Macours, Karen and Vera, Julieta	Correlation	-	2380	-
24.	Period Lesson Plan: Guide to Menstruation for Teachers	Unicef for Every Child, South Asia, 2019	Suriyaarachchi, Rashni	-	-	-	A step y step guide to teaching girls in the class as an important lesson.
25.	Teachers Roles in Creating Awareness Regarding Menstruation and Menstrual Waste Management .	The independent 2021	Syed, Ashikujaman	-	-	-	Most of the cases teachers attitude is not good and supportive towards menstrual girls in school
26.	Education and Provision for Adequate Menstrual Hygiene Management at School can Prevent Adverse Health Consequences	World Health Organization, Europe 2022	-	-	-	-	Poor menstrual hygiene can lead to urinary or reproductive tract infections and affect the well being of student
27.	Menstrual Health Education Resource .	Iris International. 2013, Info@irise.org. uk.	Wilson Smith, Emily et al.	-	-	-	The class should be reassured that everything discussed in the lesson confidential.
28.	Knowledge And Practice of Menstrual Hygiene Among Adolescent Girls in Secondary School of Herat, Aghanistan.	Razi International medical journal. volume -2 issue1	Odey goodness Ogeyi et. al 2022	-	SPSS	768	Teacher were first source of information on menstruation & menstrual hygiene
29	Educational Needs of Adolescent Regarding normal Puberty and Menstrual Patterns	Journal of clinical research in pediatric endocrinology. 2015, 7 (4) : 312-322	Isguven, pinar and et al	-	-	922	School girls showed in sufficient knowledge about normal puberty & menstrual hygiene
30.	How Parents can Play an Important Role in Preparing Daughters for Puberty.	parents circle. Pareting /Raising. A confident child	Bala Sundaram, Aparna Samuel	-	-	-	It is important to support & guide girl child to be blossoms & confident,

Table No. 2 Methodological Assessment of Reviewed Studies

Studies		Years	Parameters					
S. No.	Authors		Research Design	Validity of Criterion Variable	Reliability Coefficient of Predictor Variable	Validity and Reliability Coefficient of Different Predictor Measure on Own Data	Statistical Analysis	Effect Size
1.	Sooki, Zahra et al.	2016	1	1	1	1	1	1
2.	Mahfuz, Mehjabin Tishan et al.	2021	0	1	1	1	0	1
3.	Djalalinia, Shirin et al.	2012	0	1	1	1	1	1
4.	Darabi, Fatemeh and Yaseri, Mehdi	2022	1	1	1	1	1	1
5.	Leonard, Jeneth	2018	0	1	1	1	1	1
6.	Chandra Mouli, venkatraman and Patel Sheila Vipul	2017	0	1	1	1	1	1
7.	Ray, Subha et al.	2010	0	1	1	1	1	1
8.	Omiddwar, Shabnam et al.	2018	0	1	1	1	1	1
9.	Majeed, Jaseela et al.	2022	0	1	1	1	1	1
10.	Yaliwal, Rajasri et al.	2020	0	1	1	1	1	1
11.	Mendle, Jene et al.	2019	0	1	1	1	1	1
12.	Krasniqi, Elona and Cakirppaloglu, Panajotis	2020	0	1	1	1	1	1
13.	Fugua, J. S. and Rogol, Alan D.	2018	0	1	1	1	1	1
14.	Blakemore, Sarah-Jayne et al.	2010	0	1	1	1	1	1
15.	Mirzaee, Firoozeh et al.	2020	0	1	1	1	1	1
16.	Kaur, Rajanbir, Kaur, Kanwaljit and Kaur, Rajinder	2018	0	1	1	1	1	1
17.	Philips-Howard, Penelope A et al.	2016	0	1	1	1	1	1
18.	Deshpande, Tanvi Nitin et al.	2019	0	1	1	1	1	1
19.	Borkar, Sonali K et al.	2022	0	1	1	1	1	1
20.	Hema priya, S. et al.	2017	0	1	1	1	1	1
21.	Bulto, G.A.	2020	0	1	1	1	1	1
22.	Ahmed, Md. Sabbir et al.	2021	0	1	1	1	1	1
23.	Macours, Karen and Vera, Julieta	2022	0	1	1	1	1	1
24.	Suriyaarachchi, Rashni	2019	0	1	1	1	-	-
25.	Syed Ashikujaman	2021	0	1	1	1	1	1
26.	World Health organization Europe	2022	0	1	1	1	1	1
27.	Wilson Smith Emily et al.	2013	0	1	1	1	1	1
28.	Odey Goodness et al.	2022	0	1	1	1	1	1
29.	Isguven Pinar and et al.	2015	0	1	1	1		1
30.	Balasundaram, Aparna Samuel	-	0`	1	1	1		1

Discussion

The result revealed that the role of parents and teachers are significant predictor of physical and mental health of secondary school students. The role of parents and teachers are positively related to variables like mother's information, teacher's acknowledgement, student's perception and preparedness, practices of bath, use of sanitary pads, school responsibility and

family authority. The research studies employed simple random technique, while some other studies employed stratified area and incidental cum random sampling techniques. Most studies used various statistical analysis techniques like meta analysis, t-Test, qualitative, explorative method for thematic analysis, SPSS, chi square, descriptive analysis, standard deviation, Hierarchical linear modeling, multiple regression. Reviewed studies employed both longitudinal and cross sectional research design, that are provide evidences regarding the degree of relationship among factors and the degree of relationship among factors and causal relationship among factors. Several reviewed studies controlled confounding variables by different statistical analysis. Reviewed studies reported effect size.

Conclusion: This review paper gives vivid view on various psychological and social factors that link the relation between puberty and role of parents and teachers. Parents have enough knowledge. Some social psychological factors includes like social taboos, social ban, embarrassment and negative attitudes of specially mother discussing menstruation health and hygiene. The findings of the studies on puberty and menstruation a role of parents and teachers show significant relationship with parent-child and teacher-student relationship with lack of knowledge, social ban, social taboos, negative attitudes of family members. Finally, this paper also considers the importance of the relationship between people, social norms and values of human society. Such area which is need to search and find out the better academic outcome of students.

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