Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/20023
DOI URL: http://dx.doi.org/10.21474/IJAR01/20023

RESEARCH ARTICLE

SYSTEMATIC REVIEW: EARLY MENARCHE IN GIRLS: A CONVERGENCE OF MODERN MEDICINE AND AYURVEDA

Dr Harjeet Kaur[1], Dr Smritika Taware[2]

1] PG scholar , Prasutitantra Department DY patil College Pimpri

2] Corresponding author- HOD Prasutitantra Department DY patil College Pimpri.

Manuscript Info

Manuscript History
Received: 07 October 2024
Final Accepted: 09 November 2024
Published: December 2024

Key words:-
Early Menarche, Menarche, Menstruation, Adolescence girls, Raja Pravartini Kala, Ayurveda

Abstract

Adolescents (10-19 years) constitute nearly 1/5th of total population of India. In girls it is a special period which signifies the transition from girlhood to womanhood and is marked with the onset of menarche. First menstrual bleeding – Menarche usually begins between the age of 9-15 years approximately 2 to $2^{1/2}$ years after the appearance of breast buds. Early menarche, defined as the onset of menstruation before the age of 10, has seen a rising prevalence in recent decades. This phenomenon has significant implications for physical, psychological, and reproductive health. There may be slight variation in individual cases because of age, that can be influenced by specific Ahara and Arogya. While modern medicine has extensively researched its correlates, potential consequences, and management strategies, the Ayurvedic perspective offers unique insights into the underlying etiologies and preventive approaches. This systematic review aims to synthesize current evidence on early menarche from both biomedical and Ayurvedic perspectives, identifying potential synergies and knowledge gaps.

Introduction:-

Menstruation is indicative of reproductive system maturation.The preparation of the future motherhood starts right from puberty. In girls it is a special period which signifies the transition from girlhood to womanhood. First menstrual bleeding– Menarche usually begins between the age of 9-15 years i.e. approximately 2 to 2 $^{1/2}$ years after the appearance of breast buds. Early menarche, defined as the onset of menstruation before the age of 10, has shown a secular trend towards earlier occurrence in recent decades. This phenomenon has significant implications for physical, psychological, and reproductive health.

The prevalence of early menarche varies considerably across different populations, influenced by factors such as genetics, socioeconomic status, nutrition, and environmental exposures. A consistent decline in the age of menarche has been observed in many countries over the past century. For instance, a study in the United States reported a decrease in the mean age of menarche from 14.7 years in the 1940s to 12.5 years in the 1990s [1].

Corresponding Author:- Dr. Smritika Taware
Address:- HOD Prasutitantra Department D.Y Patil College Pimpri.

The prevalence of early menarche differs across regions. Studies have shown higher rates in urban compared to rural areas, and in developed compared to developing countries [2]. Girls from lower socioeconomic backgrounds often experience earlier menarche, possibly due to factors such as nutrition, exposure to environmental toxins and psychosocial stress [3].

Puberty

Puberty is the stage of physical development when secondary sex characteristics develop for Sexual reproduction. Puberty involves a series of physical, psychosocial, emotional and social development [4].

The onset of puberty varies among individuals. Puberty usually occurs in girls between the ages of 10 to 16 years. Nutritional and other environmental influences may be responsible for this change. Body fat and body composition may play a role in regulating the onset of puberty.

Factors Influencing Early Menarche

Several factors have been associated with an earlier age at menarche:

Genetics:

A strong familial component exists, suggesting a genetic predisposition to early puberty [5].

Obesity:

Children who are significantly overweight have a higher risk of developing precocious puberty. Increased body fat percentage is linked to earlier menarche, likely due to elevated levels of leptin, a hormone involved in puberty initiation [6].

Environmental factors:

Local application of creams or ointments containing hormones triggers menarche. Exposure to endocrine-disrupting chemicals, such as those found in pesticides and plastics, has been implicated in the earlier onset of puberty [7].

Nutrition:

Adequate intake of essential nutrients, including calcium and vitamin D, is crucial for normal pubertal development. However, excessive caloric intake and specific dietary patterns may influence menarcheal timing [8].

Ayurvedic Perspective on Early Menarche

Ayurveda considers puberty as a critical phase of life, marked by the emergence of reproductive capabilities. ‘Twelve’ and fifty years is the age of menarche and menopause respectively. Commentator Arundatta opines that these are probable ages. There may be slight variation in individual cases and age of menopause may depends on age of menarche and many factors can affect the same. Acharya Kashyapa mentions the age as sixteen years and further explains that this age can be influenced by specific ‘Ahara’ (Specific diet) and ‘Arogya’ (Health – Lifestyle) [9].

The onset of menstruation, termed 'Raja Pravartini Kala', is influenced by factors like:

1. **Dosha Imbalance**: An aggravated Vata dosha is often implicated in early menarche.
2. **Dietary Factors**: Excessive intake of stimulating foods can hasten puberty.
3. **Lifestyle Factors**: Stress, lack of sleep, and sedentary lifestyle can contribute to early menarche.
4. **Mental and Emotional Factors**: Early maturation of the mind can influence physical development.

Management

Regular check-ups:

If a girl experiences early menarche, it's crucial to consult a pediatrician or adolescent gynecologist for a comprehensive evaluation.

Growth monitoring:

Regular height and weight measurements are essential to assess growth patterns.

Bone age assessment:

This helps determine if bone maturation is progressing at an accelerated rate.

Psychological support:
Addressing emotional and social challenges associated with early puberty is important.
Lifestyle modifications:
If obesity is a factor, encouraging healthy eating habits and physical activity can be beneficial.

Ayurveda View
Ayurveda emphasizes the importance of Prakriti (body constitution), Dosha balance (Vata, Pitta, Kapha), and lifestyle factors in overall health, including reproductive health.

Diet and Lifestyle:
Balanced Diet:
A diet rich in fresh fruits, vegetables, whole grains, and legumes can support overall health and hormonal balance.

Avoid Stimulants:
Reduce consumption of caffeine, tea, and spicy foods, as they can aggravate Pitta dosha, which may be implicated in early puberty.

Regular Exercise:
Gentle exercises like yoga, walking, and swimming can help regulate hormones and reduce stress.

Adequate Sleep:
Ensure sufficient sleep for optimal hormonal function and overall well-being.

Stress Management:
Practices like meditation, deep breathing, and pranayama can help manage stress, which can influence hormonal levels.

Herbal Remedies:
General Herbs: Some herbs traditionally used to support reproductive health include:
1. Ashwagandha (Withania somnifera): Adaptogen, helps balance hormones.
2. Shatavari (Asparagus racemosus): Supports reproductive system health.
3. Yashtimadhu (Glycyrrhiza glabra): Helps balance hormones and reduce inflammation.

Panchakarma:
Panchakarma therapies, such as Abhyanga (oil massage), Shirodhara (continuous oil pouring on the forehead), and Basti (herbal enema), can be beneficial in balancing doshas and supporting overall health.

Emotional Well-being: Address the emotional and psychological aspects of early menarche with empathy and understanding.

Implications Of Early Menarche
Early menarche has been associated with several health risks, including:
Increased risk of certain cancers:
Breast, endometrial, and ovarian cancers have been linked to early menarche [10].

Metabolic disorders:
Early puberty has been associated with an increased risk of obesity, type 2 diabetes, and cardiovascular disease [11].

Mental health issues:
Girls who experience early menarche may be at higher risk for depression, anxiety, and low self-esteem [12].

Reproductive health outcomes:
Early menarche can influence fertility, pregnancy outcomes, and the risk of sexually transmitted infections [13].

Conclusion:-

The epidemiology of early menarche is complex and influenced by a combination of genetic, environmental, and socioeconomic factors. Understanding the factors contributing to early menarche is crucial for developing effective prevention and intervention strategies.

References:-

1.Sarah E. Anderson MS AND Aviva Must PhD; Interpreting the Continued Decline in the Average Age at Menarche: Results from Two Nationally Representative Surveys of U.S. Girls Studied 10 Years Aparthttps://www.sciencedirect.com/science/article/abs/pii/S0022347605006827#preview-section-references
2. Mills, C A Human Biology; Geographic and Time Variations in Body Growth and Age at Menarche.https://www.proquest.com/openview/7e33d0f5556a80924611ca48c79a4d12/1?pq-origsite=gscholar&cbl=1818403
3. Braithwaite, D., Moore, D.H., Lustig, R.H. et al. Socioeconomic status in relation to early menarche among black and white girls. Cancer Causes Control 20, 713–720 (2009). https://doi.org/10.1007/s10552-008-9284-9
4. Suraj Gupte, The Short Text Book of Pediatrics, 12th Ed, Jaypee The Health Sciences Publisher
5. Volodymyr Dvornyk, Waqar-ul-Haq; Human Reproduction Update, Volume 18, Issue 2, March/April 2012, Pages 198–210, https://doi.org/10.1093/humupd/dmr050
6. Bralić, Irena, Tahirović, Husref, Matanić, Dubravka, Vrdoljak, Ozren, Stojanović-Špehar, Stanislava, Kovačić, Vedran and Blažeković-Milaković, Sanja. "Association of early menarche age and overweight/obesity" Journal of Pediatric Endocrinology and Metabolism, vol. 25, no. 1-2, 2012, pp. 57-62. https://doi.org/10.1515/jpem-2011-0277
7. Allison, C.M., Hyde, J.S. Early Menarche: Confluence of Biological and Contextual Factors. Sex Roles 68, 55–64 (2013). https://doi.org/10.1007/s11199-011-9993-5
8. Nguyen, N.T.K.; Fan, H.-Y.; Tsai, M.-C.; Tung, T.-H.; Huynh, Q.T.V.; Huang, S.-Y.; Chen, Y.C. Nutrient Intake through Childhood and Early Menarche Onset in Girls: Systematic Review and Meta-Analysis. Nutrients 2020, 12, 2544. https://doi.org/10.3390/nu12092544
9. Kasyapasamhita- Kashyap samhita Nepal. In: Ayurvedalankar Shrisatyapal Bhishagachary. Varanasi: Chaukhambha Sanskrit Sansthan; 1998.
10.DAN APTER, REIJO VIHKO, Early Menarche, a Risk Factor for Breast Cancer, Indicates Early Onset of Ovulatory Cycles, The Journal of Clinical Endocrinology & Metabolism, Volume 57, Issue 1, 1 July 1983, Pages 82–86, https://doi.org/10.1210/jcem-57-1-82
11. Youngyo Kim, and Youjin Je; Early Menarche and Risk of Metabolic Syndrome: A Systematic Review and Meta-Analysis;Journal of Women's Health https://doi.org/10.1089/jwh.2018.6998
12. Lars Lien, Ole Rikard Haavet, Florence Dalgard; Do mental health and behavioural problems of early menarche persist into late adolescence? A three year follow-up study among adolescent girls in Oslo, Norway;https://doi.org/10.1016/j.socscimed.2010.05.003
13. Mobolaji Ibitoye ,Cecilia Choi,Hina Tai,Grace Lee,Marni Sommer;Early menarche: A systematic review of its effect on sexual and reproductive health in low- and middle-income countries; https://doi.org/10.1371/journal.pone.0178884.