



The Menstruation irregularities: Big Problem, Cross Survey On Consequences Among Young and Middle Age Females

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Abstract: *Menstrual cycle, defined as shedding of the uterine lining monthly often brings about a wide uncomfortable and sometimes inconvenient symptoms leading up your period. Menstruation disorders are the signals that contribute to abnormal menstrual cycle are heavy, light or completely absence of menstruation. This cycle continues from puberty to menopause. Eating disorder, certain disease, medications such as antipsychotic, anemia, PCOS and others factors could be responsible for causing irregular periods in women. About hundreds of women are included in this study and are classified into three groups of ages starts from 12-24, 24-34 above 34 ages of women were concerned in this study. The young age girls and the women of age above 34 are more susceptible to face these problems and are more prone to complexities that could worsen their future life. The study enrolled a higher proportion of younger females compared to middle-aged women (21%), with 37% being married. Early menarche (<12 years) was reported by 38% of participants, and although 49% experienced a normal number of cycles, irregular menstrual flow was common. Stress (40%), lack of exercise (38%), dietary restrictions (46%), and meal skipping (55%) were frequently reported. Additionally, 25% of women reported using medications, including steroids and herbal remedies. In this study, we concluded that the high-risk factors of menstrual cycle irregularities, lack of iron in the blood, family history of abnormal cycle, lack of physical exercise of overweight women, less of green vegetables in diet, family history with irregular periods, and PCOS also involve in obesity lead to the complication in the ovarian production of androgen that can developed abnormalities in the menstrual cycles of women.*

Keywords: Menarche, Hyperthyroidism, PCOS.

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Introduction

The transition from adolescence to womanhood is a unique period which signifies with start of menstrual bleeding which is a universal phenomenon found in all women at the age of puberty, there may be some health problem like headache, fainting, vomiting and also some menstrual problems like dysmenorrhea, menorrhagia, amenorrhea which comes with the menstruation cycle (Rafique, N. et al, 2018). The initial menstrual cycle is known as Menarch or Menarche, representing a phase that can be part of the intricate process of maturation (Critchley et al, 2020). The menstruation cycle can be used as vibrant sign to the exclusion of pathological condition (Direkvand-Moghadam et al, 2014).

In a normal girl with regular periods the lower level of FSH (Follicle Stimulating Hormone) and increase in the level of AMH (Anti Mullerian Hormones) observed which suggested PCOM (Polycystic ovarian morphology) presence during adolescence (Steward et al, 2020). The length of the menstrual cycle has been a reliable clinical indicator of reproductive health. More, its span also been determined as an indicator of health outcomes such as risk factors of CVS (Cardio Vascular Disease) and risk factors of breast cancer (Matteson, K. A., 2017). Most common menstruation disturbances are menorrhagia and oligomenorrhoea. Additionally, in sever hypothyroidism menstruation irregularities tends to be more frequent as compare to mild cases (Chen et al, 2017). A woman who suffered from psychotic disorder specially deal the management of hyperprolactinemia which may result in enhance their lives (Emera et al, 2012). Common cause of secondary amenorrhea is hyper prolactinoma (Emera et al, 2018). PCOS (Polycystic Ovary Syndrome) persists as a condition; there are no established diagnostic criteria for clinical diagnosis. Its clinical manifestation includes excess level of androgen, irregular periods and obesity. Development of resistance for insulin and LH level can be elevated in serum commonly in PCOS. Also, may increase risk of type II diabetes and cardiovascular events (Bahrami et al, 2018).

Few studies suggested either menstruation irregularities or adolescent hyper androgenesis are PCOS early signs. Acne, hirsutism and menstruation irregularities lead to the condition hyperandrogenemia (Song et al, 2022). Girls with PCOS can be treated well with auriculotherapy as compare to medication (Song et al, 2022) (Kwak et al, 2019). Secretion of luteinizing hormones LH is influenced during the follicular phase by dieting. Its concentration was significantly low during the follicular phase but not during the luteal phase, but the hormone which remain unaltered was follicle stimulating hormone (Wang et al, 2019). Oral contraceptive may be responsible for delay or rescheduling the menstruation cycle in healthy or physically active women (Nishikitani et al, 2017). During lactation progressively the prevalence of ovular cycles gets increase after the return of menstruation but does not come back to normal unless proper weaning has taken place (Bae, et al 2018). At laparoscopy, during the time of pre-menstruation about 90% of women with patent tubes found blood in peritoneal fluid. In all menstruating women the present observation showed that through the fallopian tubes in the peritoneal cavity retrograde menstruation is common physiological event (Zeru et al, 2021; Yücel et al, 2018). Furthermore, during menstruation, inadequate access to water facilities presents a significant challenge for young girls, especially those attending school, affecting their ability to uphold proper hygiene (Demeke et al, 2023). Night shifts have adversely affected women's reproductive health and menstruation. Specifically, that might impact fertility (Alhammadi et al, 2022). Numerous social factors,

biological elements, and service delivery systems addressing women's needs impact reproductive health (Rathod et al, 2023). Female gymnasts at the start of menstruation experienced heightened fatigue, and menstruation also impacts mood, with the most prevalent emotion being anger (Attia et al, 2023). Individuals with menstrual issues often experience anxiety and/or stress, emotional instability, and depression frequently (Wang et al, 2020). Yoga relaxation therapy can induce a state of relaxation, both subconscious and conscious, aiding in the alleviation of conflicts (Itriyeva, K., 2022).

Methodology

This cross-sectional survey-based study was conducted to assess menstrual irregularities and their associated factors among women in Karachi, Pakistan. Participants were recruited using purposive sampling and categorized into three age groups: 12–24 years, 25–34 years, and above 34 years. Inclusion criteria comprised women aged 12 years and above, currently residing in Karachi, who reported irregular menstrual cycles and voluntarily provided informed consent. Exclusion criteria included women with regular menstrual cycles, those who were divorced or widowed, and individuals who declined to participate. Prior to enrollment, all participants were briefed about the objective and significance of the study. Those who agreed to participate were provided with a structured and pre-tested questionnaire. The survey form included sections on demographic and socioeconomic data, menstrual history, use of medications (including contraceptives), dietary patterns, existing medical conditions, and lifestyle factors. Out of 100 participants, 37 were married. Data were collected from various localities in Karachi. All responses were carefully recorded and entered into SPSS version 22.0. Descriptive statistics were used to summarize the data, while Chi-square tests were applied to examine associations between menstrual irregularities and potential contributing factors. A p-value <0.05 was considered statistically significant.

Results

Young girls were covered a large number of sample size whereas old females were only 21. Each marital status was focused in which 37 were married. Most of females were have their first period before 12 years, it is observed that females were repeated their cycle after 28 days with irregular pattern of bleeding. In that study most of the participants were suffered from irregular periods between the age of 23-27 unexpectedly. Stressed women were also measure concerns of our study consequences as many women felt stressed either mostly or some in their current life. Exercise played an important role in healthy cycle so their exercise practice was also recorded. All details are shown in table 1 and table 2.

Females might have adopted their cycle disturbance issues by their inheritance; study collected their family history of irregular periods. About Some symptoms were also questioned to participants such as acne and extra hairs (facial/breast etc.). In second group these two symptoms were found mostly compared to other two groups. Females around 20% were also faced PCOS and 13% were suffered from thyroid problem as these conditions were the important considerations in menstruation irregularities. Many girls during exams, with hectic job schedule did not focus their diets so they have started to skip one of the daily meals as well as 46% of females were on dieting. Use of contraceptive pills among married females were seen in 11 out of 37 participants and only 3 women were nursing mother.

Table :1 Associations of factors affecting regular menstruation in females of all age in Karachi

Parameters		Groups (N=100)			p-value
		12-24 years(n=40)	24-34 years(n=39)	Above 34 years (n=21)	
Marital status	Married	12(12.0%)	15(15.0%)	10(10.0%)	0.388
	Unmarried	28(28.0%)	24(24.0%)	11 (11.0%)	
Age at menarche	At 12 years	13(13.0%)	12(12.0%)	10(10.0%)	0.324
	After 12 years	8 (8.0%)	13 (13%)	6 (6.0%)	
	Before 12 years	19 (19.0%)	14(14.0%)	5 (5.0%)	
Menstrual cycle repetition	After 28 days	25 (25.0%)	15 (15.0%)	9 (9.0%)	0.197
	After 2-3 weeks	5 (5.0%)	5 (5.0%)	4 (4.0%)	
	After months	10 (10.0%)	19 (19.0%)	8(8.0%)	
Pattern of bleeding	heavy bleeding	17 (17.0%)	9 (9.0%)	13 (13.0%)	0.04
	low bleeding	17 (17.0%)	14 (14.0%)	8 (8.0%)	
	bleeding with clots	13 (13.0%)	6 (6.0%)	2 (2.0%)	
Age at initiation of irregular periods	12-17 years	10 (10.0%)	11 (11.0%)	5 (5.0%)	0.04
	18-22 years	15 (15.0%)	9 (9.0%)	3 (3.0%)	
	23-27years	14 (14.0%)	16 (16.0%)	7 (7.0%)	
	Above 27 years	1 (1.0%)	3 (3.0%)	6 (6.0%)	
How often stressed	Mostly	15(15.0%)	16 (16.0%)	9 (9.0%)	0.624
	Rarely	3 (3.0%)	6 (6.0%)	1(1.0%)	
	Sometime	22(22.0%)	17(17.0%)	11 (11.0%)	
Exercise	1-2 days/week	18 (18.0%)	14 (14.0%)	13(13.0%)	0.624
	3-4 days/week	8 (8.0%)	9 (9.0%)	0(0.0%)	
	None	14 (14.0%)	16 (16.0%)	8(8.0%)	

TABLE: 2 Consequences of irregular menstruation in females of all ages in Karachi

Parameters	Groups (N=150)			p-Value	
	12-24 years(n=40)	24-34years (n=39)	Above 34 years (n=21)		
Family history	Yes	15(15.0%)	14(14.0%)	8 (8.0%)	0.982
	No	25 (25.0%)	25(25.0%)	13 (16.7%)	
Acne n (%)	Yes	9 (9.0%)	11 (11.0%)	1(1.0%)	0.001
	No	31(31.0%)	28(28.0%)	20(20.0%)	
Extra hairs (facial/breast etc.) n (%)	Yes	10(10.0%)	15(15.0%)	2(2.0%)	0.002
	No	30(30.0%)	24(24.0%)	19 (19.0%)	
PCOS n (%)	Yes	6 (6.0%)	10(10.0%)	4 (4.0%)	0.493
	No	34(34.0%)	19 (19.0%)	17(17.0%)	
Dieting n (%)	Yes	19 (19.0%)	20(20.0%)	7 (7.0%)	0.40
	No	21(21.0%)	19 (19.0%)	14(14.0%)	
Thyroid problem n (%)	Yes	2(2.0%)	7 (7.0%)	4 (4.0%)	0.151
	No	38(38.0%)	32(32.0%)	17(17.0%)	
Skipping meals n (%)	Yes	26(26.0%)	16(16.0%)	13(13.0%)	0.78
	No	14(14.0%)	23(23.0%)	8(8.0%)	
Taking medicine/herbal/steroidal	Yes	10(10.0%)	11 (11.0%)	4 (4.0%)	0.737
	No	30(30.0%)	28(28.0%)	17(17.0%)	

Discussion

From this study this is clear now as females play very important role in the world females are responsible for the reproduction of young one and reproduction is possible when some changes occur in girls they moderate from girlhood to womanhood after the menstruation flow female life has become more complicated nowadays and it is full of problem they were facing lots of problems which affected their health as well, they are living stressed full and depressive lives which altered their mood. Females who had irregular menstruation they mostly found in aggressive behavior.

The responsible factors for these irregularities most of the females were not serious about this concerned. They left their problem untreated and did not give any special importance. It is a survey-based study so random population were selected and grouped. It is observed that most of our young female were further prone for irregular periods as compare to older ones. It could be due to many young girls involved in other task rather than focusing their healthy lifestyle, as regular periods need care free life. One of the

studies were also observed that young girls are facing problem (Wang et al, 2020). It is also observed that at the time of menarche most of female were younger than 12 years. Climate of Karachi could affect the female's health and puberty time of children and may leading to the problem of their future irregular cycles (Canelón, S. P., & Boland, M. R., 2020). Although females followed 28 days' cycle phenomena but suffered from problem of menstrual flow. Many factors could be responsible for this condition such as anemia due to iron deficiency, blood loss during birth, minor surgery or it could be sign of abnormal uterine bleeding as well as obese women have abnormal flow of menses. These conditions should be examined soon to prevent future damage to our body found in a study (Critchley et al, 2020). After a particular time of their initiation of first periods, many of our participants were faced irregularities between the age of 23-27 unexpectedly. This could have happened it is observed that females involved themselves in unusual activities like dieting, lack of exercise, obesity, examination and jobs are the consequences of this condition. They got more stress during exam and job-related tough task made them suffered from anxiety and stress (Tafasa et al, 2022). Similar study also suggested that altering routine patterns such as eating junk food and decreasing physical activities are openly distressing the menstrual cycle of females (Shan, J. et al, 2022). PCOS was also a less common factor found in women but some of the symptoms were prominent in that study. PCOS can make women infertile if they left untreated. The menstrual cycle configuration also reflects the endogenous endocrine health environment, and irregular menstrual cycles may be a marker of chronic conditions such as diabetes, and polycystic ovary syndrome (PCOS) (Naz, et al, 2020). Female who consumed different drugs like contraceptive pills cause alteration in the physiology of menstruation and are also they are responsible for delaying or early occurrence of periods there too much use should be avoided (Teal, S., & Edelman, A., 2021). Females take drugs for any particular infection were also susceptible to face irregularities in the sequence of cycle. Some imbalances of hormones responsible for improper flow (Havnes et al, 2021). Like thyroid hormone found to be affected in menstruation hypo/hyperthyroidism. Females with these problems are more prone to these disturbances as strong relationship are there between thyroid hormones and menstrual cycles (Yatish, et al, 2022).

Conclusion

The study revealed that women with irregular menstrual cycles experienced multiple contributing factors, yet these were often not addressed with appropriate seriousness. A sedentary lifestyle and lack of physical activity, particularly among overweight women, were identified as common behaviors. Many participants prioritized academic or professional commitments over health, while stress, depression, and poor dietary habits further exacerbated menstrual disturbances. Hormonal imbalances involving thyroid hormones, insulin, and estrogen were strongly associated with cycle irregularity. Elevated stress was also shown to disrupt the hypothalamic-pituitary-ovarian (HPO) axis, impairing the secretion of estrogen and progesterone and contributing to irregular or absent menses. Although polycystic ovary syndrome (PCOS) and thyroid dysfunction were noted, only a limited number of women presented with such conditions. Some participants exhibited isolated symptoms—such as hirsutism without acne or acne without obesity—leaving PCOS diagnosis inconclusive. Additionally, a positive family history of menstrual irregularities was linked to higher prevalence among the participants.

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