



CODEN [USA]: IAJPBB

ISSN : 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.7539118>Available online at: <http://www.iajps.com>

Research Article

DELAYED OR IRREGULAR MENSTRUATION-RELATED TO MEDICATION

Dr. Hussein Talal Sabban¹, Dr. Hoda Jehad Abousada², Dr. Mohammed Majed Abualshamat³, Dr. Razan Elgaili Hassan³, Dr. Alaa Abdullah Alrebh³, Dr. Aws Hisham Aldajani⁴, Dr. Sarah Ibrahim Almarwani⁴, Dr. Dalia Abdullah Binafif⁴, Dr. Sara Abdullah Maqboli⁴, Dr. Abeer Zaal Albalawi⁴, Dr. Budur Hani Alsayed⁴, Dr. Abdulaziz Mohammed Allugmani⁵, Dr. Maha Zaal Albalawi⁶ And Dr. Ayan Adel Alghamdi⁷

¹ Assistant Professor Of Obstetrics & Gynaecology At King Abdulaziz University Faculty Of Medicine, Rabigh, KSA, Dh.sabban@yahoo.com

² Obstetrics & Gynaecology, KAMC, Master SA, Jeddah , KSA., ³ Medical Service, MOH, KSA,

⁴ Medical Intern, MBBS, KSA., ⁵ Pharmacist, KSA., ⁶ Pharmacy intern, KSA., ⁷ Medical student, KSA

Article Received: September 2022**Accepted:** October 2022**Published:** October 2022**Abstract:**

Background: Irregular menstruation is an important indicator of current and potential health problems. The aim of this research was to understand the issues that are related to delay or irregularity of menstruation because of intake of various medicines and how it can be addressed.

Methods: A design that would be appropriate for executing the research work is descriptive design. This design was ideal because it was beneficial in understanding the issues that are prevalent with the delay or irregularity in the menstruation cycle. Therefore, the selected design in the undertaken research work would aid in assessing the information and data considered in detail and in addition to this, a cross-sectional study needed to assess the considered data in detail.

Results: Study included 811 women in which all of them responded to study survey questions. Most of study participants feel that medicines might hold the potential of affecting menstruation adversely (n= 583, 71.9%) while 66% of study participants considered taking medicines result in delayed or irregular menstruation (n= 535%). In addition, study participants thought that medicines are not the only reason for menstrual irregularity (n= 581, 71.6%). Two thirds of study participants would recommend others not to take medicines to have normal menstrual cycle (n= 558, 68.8%). Women in this study were asked about which medicine is the cause of delayed menstruation, most women reported hormonal tablets to be the cause (n= 516, 63.6%). Upon asking women included in the current study how painful it is to lead a life with a delayed or irregular menstruation cycle, they responded it is moderate painful (n= 355, 43.8%). They reported that reduction of hormonal tablets might be the best method (392, 48.3%).

Conclusion: According to the study results, participants believe that drugs may have the ability to negatively disrupt menstruation. In addition, the great majority of participants in the survey claimed that monthly irregularity is prevalent. Moreover, survey participants believed that medications are not the only cause of menstruation irregularity. Two-thirds of survey participants would advise others not to use menstrual cycle-regulating medications. The majority of women cited hormone pills as the culprit. It is somewhat uncomfortable to live with irregular or delayed menstruation. Participants felt that decreasing the dosage of hormonal pills might be the most effective strategy.

Corresponding author:**Dr. Hoda Jehad Abousada,***Obstetrics & Gynaecology, KAMC, Master SA, Jeddah , KSA.*

QR code



Please cite this article in press Hoda Jehad Abousada *et al*, *Delayed Or Irregular Menstruation-Related To Medication., Indo Am. J. P. Sci, 2022; 09(10).*

INTRODUCTION

Irregular menstruation may have a variety of adverse health effects and is an indication of women's health [1]. According to age, employment, and country of residence, the incidence of irregular menstruation ranges from 5% to 35.6% [1,2,3,4]. Specifically, the incidence of monthly irregularity among adult Korean women is 14.3%; although this number is not very high, it is growing by 0.4% year [5]. Hormonal imbalances and stress may cause irregular menstruation; these variables serve as both health indicators in women and as mediators of different health indicators. In addition to physiological reasons, mental health disorders such as depression are associated with irregular menstruation [6–8].

The research [9] indicates that women have started to join the workforce at a later age due to their higher educational attainment. In addition, they enter their first marriage and have their first kid at ages 30 and 31.5, respectively. Various menstruation issues, including as amenorrhea, menstrual discomfort, and irregular uterine flow, are more prevalent among women in their 20s and 30s, and their occurrence continues to rise beyond the age of 30 [10]. Women with menstrual difficulties, such as monthly irregularity, menorrhagia, amenorrhea, dysmenorrhea, and premenstrual symptoms, report considerably worse health [2,11]. Moreover, the menstrual cycle is an indication of women's overall health [1,12]. The state of a woman's reproductive health may impact the health of her kids after delivery [1,12]. As an atypical menstruation cycle is connected with health-related worry and discontent [13], menstrual issues are seen as key health indicators among working women. In addition, irregular menstruation hinders productivity [2].

Menstrual cycle abnormalities come from hormonal imbalances caused by environmental stress, such as changes in energy balance (excessive physical activity, inadequate caloric intake), exposure to toxins (found in polluted air and cigarette smoke), and

psychological stress [8,12]. Menstrual irregularity, defined as an irregular menstrual cycle, is a type of abnormal menstruation caused by a variety of factors, including the presence of a disease (e.g., endometriosis, type 2 diabetes mellitus, etc.), medication use (e.g., antidepressants, antiandrogens, etc.), underweight or obesity, smoking habit, and reproductive factors (age at menarche, parity, etc.) [14–19]. Early detection and treatment of menstrual abnormalities might lower the incidence of infertility and the complications of major disorders including congenital heart disease and osteoporosis [10,17–20]. However, South Korean women have unfavorable opinions about seeing a gynecologist and do not view menstruation irregularity as a significant health concern [20]. Moreover, many women anticipate that their symptoms will diminish with time and are often apathetic about obtaining therapy [20]. It is acknowledged that socioeconomic disparity is a significant factor of adult health and health behavior [21,22]. Socioeconomic status might influence the onset of chronic illnesses such as diabetes, obesity, and hypertension, as well as health behaviors such as smoking, dietary habits, and physical activity [21,23–25]. As a measure of female health, it is vital to comprehend the link between socioeconomic level and menstrual irregularity.

Numerous medications have a detrimental effect on the menstrual cycle, delaying the onset of the monthly cycle and producing irregularity in the cycle [26]. The irregular or delayed nature of the menstrual cycle impacts the body's hormonal balance and a woman's ability to conceive. The aim of this research was to understand the issues that are related to delay or irregularity of menstruation because of intake of various medicines and how it can be addressed.

METHODS:

Study design

A design that would be appropriate for executing the research work is descriptive design. This design was ideal because it was beneficial in understanding the issues that are prevalent with the delay or irregularity in the menstruation cycle. Therefore, the selected design in the undertaken research work would aid in assessing the information and data considered in detail and in addition to this, a cross-sectional study needed to assess the considered data in detail [27].

Study approach

The two approaches that are widely used in the research area are inductive and deductive. Out of these two approaches, the inductive approach was implemented in the execution of this research work [27]. This is because it relies on the development of new theories and this is what is needed in the undertaken research work as it included considering the perception of various women.

Study population

The population of the study comprised of women residing in the UK region whose age ranged from 30-40 years. Those females were taken into consideration who reported the issue of delay or irregularity in their cycle of menstruation and intakes medicines that are considered to alter the menstruation cycle in the body.

Study sample

The method of sampling that was used while proceeding with the research work is a stratified random technique of sampling.

Study tool

In order to execute the research work, the data was gathered through the conduction of a survey and therefore this tool of studying was implemented [27]. The survey was helpful in assessing the perspectives of the women in detail and considering gathering first-hand data which is the need of cross-sectional study.

Data collection

The data was collected through the conduction of a survey and it also included multiple-choice questionnaires, and this assisted in acquiring more perception about the issues that took place due to intake of various medicines resulting in delay or irregular menstruation [27].

Data analysis

In connection with the undertaken research work, the analysis of data that was adhered to the quantitative analysis. This is because the undertaken research work walked in the direction of a cross-sectional study [27].

Ethical Consideration

In order to maintain the aspect of ethical consideration, the matter of privacy of both gathered data and the people associated with the working of the research work including both researchers and the participants of the survey.

RESULTS:

Study included 811 women in which all of them responded to study survey questions. Women's responses are provided in table 1. It is noticed from the table that most of study participants feel that medicines might hold the potential of affecting menstruation adversely (n= 583, 71.9%) while 66% of study participants considered taking medicines result in delayed or irregular menstruation (n= 535%). Furthermore, vast majority of study participants reported that menstrual irregularity is common. In addition, study participants thought that medicines are not the only reason for menstrual irregularity (n= 581, 71.6%). Two thirds of study participants would recommend others not to take medicines to have normal menstrual cycle (n= 558, 68.8%). Menstrual irregularity also affects the women well-being as reported by 632 women (77.9%). Responses to the rest of questions are presented in table 1.

Table 1: Participants' responses to survey items

Item	Yes	No	Neutral
1) Do you feel that medicines hold the potential of affecting menstruation adversely?	583 71.9%	88 10.8%	140 17.3%
2) Do you consider that taking medicines result in delayed or irregular menstruation?	535 66%	116 14.3%	160 19.7%
3) Is delay or irregularity in menstruation common?	635 78.3%	86 10.6%	90 11.1%
6) Do consumption of a high amount of antibiotics leads to irregular or delayed menstruation?	376 46.4%	128 15.8%	307 37.9%
8) Do you consider that avoiding hormonal and thyroid medications will help in diminishing delayed periods?	418 51.5%	68 8.4%	325 40.1%
9) Do you consider that consuming fewer contraceptive pills will help in normalizing the irregularity of menstruation?	378 46.6%	235 29%	198 24.4%
10) Do you feel that it is easy to reduce the rate of consumption of medicines these days to stop delay or irregularity of menstruation?	392 48.3%	155 19.1%	264 32.6%
11) Do you think that medications are the only reason for delayed or irregular menstruation?	117 14.4%	581 71.6%	113 13.9%
12) Would you recommend other people not take too many medications to have a normal menstruation cycle?	558 68.8%	100 12.3%	153 18.9%
13) Do you know consider that delayed or irregular menstruation due to medication affects the wellbeing of the female body?	632 77.9%	57 7%	122 15.1%
14) Do you feel that there are other ways to fight the issue of delayed or irregular menstruation other than working on the aspect of medication?	584 72%	93 11.5%	134 16.5%

Women in this study were asked about which medicine is the cause of delayed menstruation, most women reported hormonal tablets to be the cause (n= 516, 63.6%). Other used medicines are shown in figure 1.

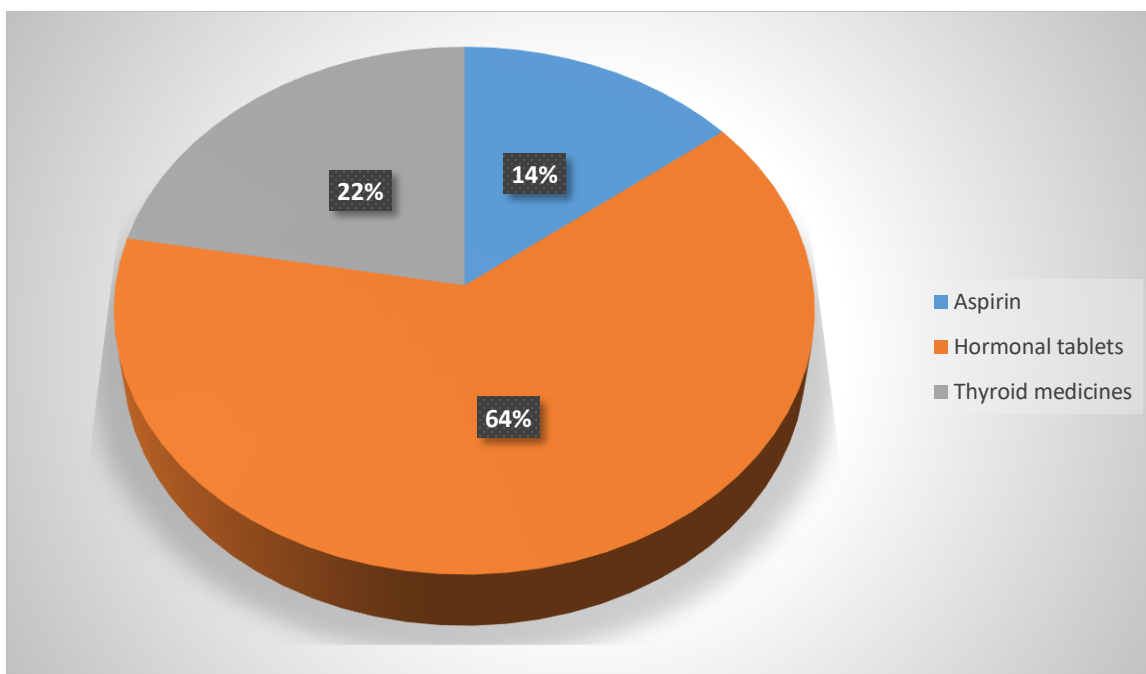


Figure 1: Medicines responsible for menstrual irregularity

Upon asking women included in the current study how painful it is to lead a life with a delayed or irregular menstruation cycle, they responded it is moderate painful (n= 355, 43.8%) (Figure 2).

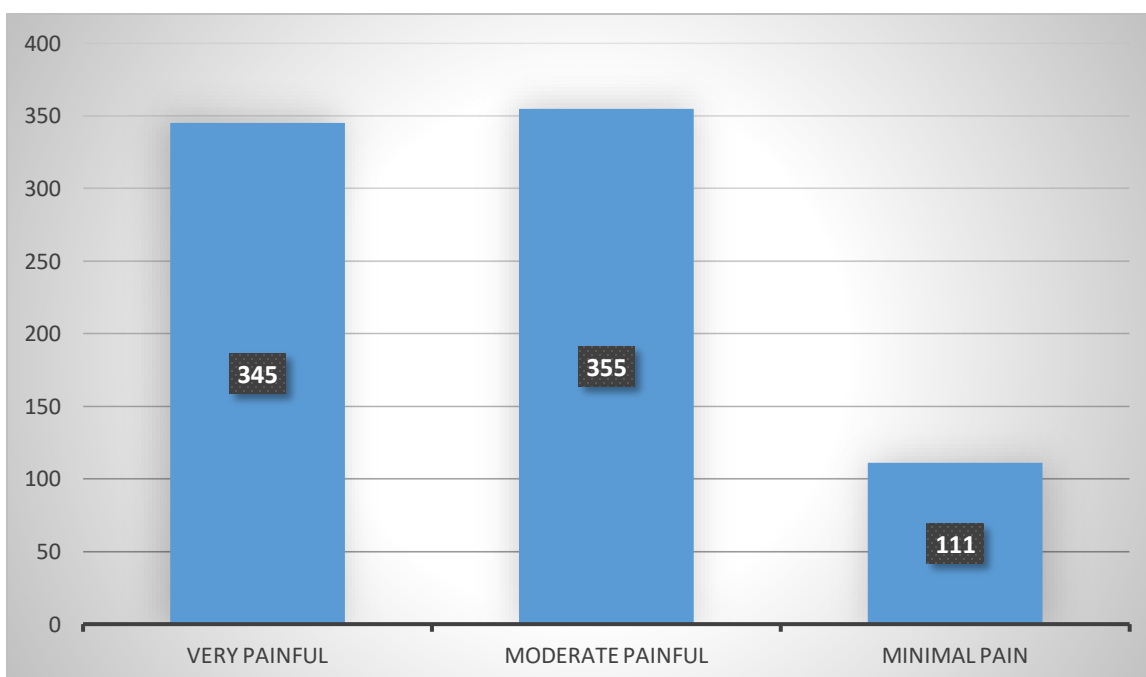


Figure 2: degree of pain to lead a life with menstrual irregularity

Women were asked about the method to face delayed menstruation or menstrual irregularity. They reported that reduction of hormonal tablets might be the best method (392, 48.3%). Other plans are presented in figure 3.

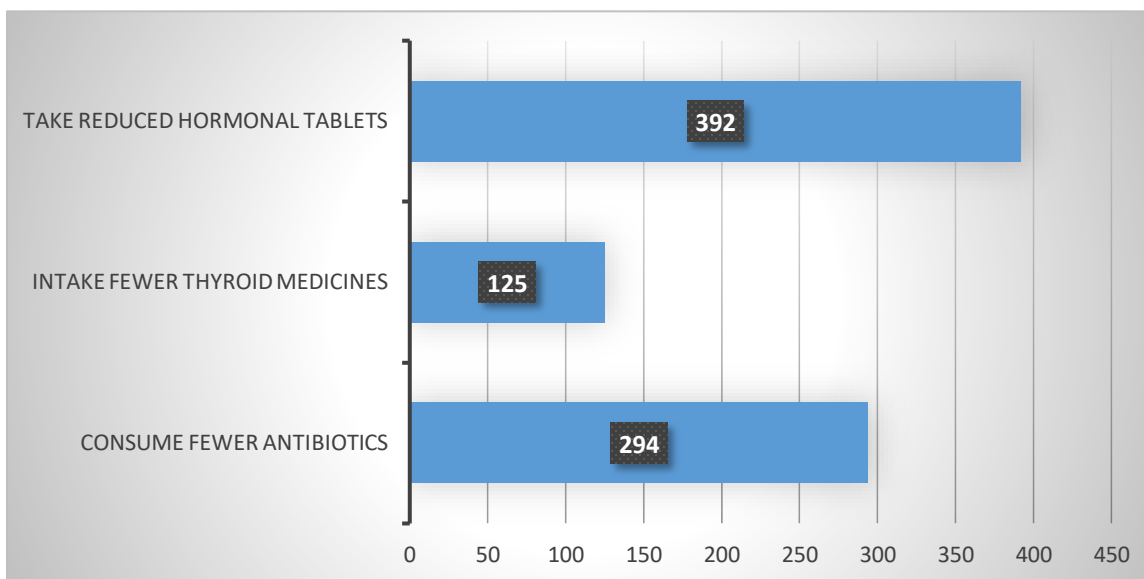


Figure 3: Plans to fight menstrual irregularity

DISCUSSION:

Current research showed that participants feel that medicines might hold the potential of affecting menstruation adversely. Furthermore, vast majority of study participants reported that menstrual irregularity is common. In addition, study participants thought that medicines are not the only reason for menstrual irregularity. Two thirds of study participants would recommend others not to take medicines to have normal menstrual cycle. Most women reported hormonal tablets to be the cause. It is moderate painful to lead a life with delayed or irregular menstruation. Participants reported that reduction of hormonal tablets might be the best method.

Literature research found that 14.2% of women aged 19-54 had menstrual irregularity [28]. Prevalence estimates for irregular menstruation range from 5% to 35.6% among studies [1,2,3,4], although this wide range is likely due to differences in age, employment, and country of residence. The age range of the individuals and the definition of menstrual irregularity employed by the researchers are two possible explanations for this discrepancy. Participants may also feel uncomfortable bringing up menstrual irregularity in a face-to-face interview [20].

Among South Korean women of reproductive age, it was found that the frequency of irregular menstruation

varied significantly by marital status, body mass index, smoking history, stress levels, age of menarche, and number of children [28]. These results are in line with prior research showing that the incidence of irregular menstruation varies significantly depending

on factors such as marital status [1,13], weight, body mass index, and smoking [3,7,13,16], stress [6], and the presence or absence of children [13,14]. High waist circumference and body mass index (BMI) women have raised insulin and testosterone levels, as well as a free androgen index, and a lower amount of sex hormone-binding globulin, all of which contribute to monthly irregularity [3,16]. Furthermore, women who smoke are more likely to have early menopause, menstrual discomfort, amenorrhea, and irregular menstruation [7,11]. Corticotrophin is released in response to stress, and this activation of the neurological system might cause menstruation issues [4,6,8]. It is important for future research to focus on the unique factors that influence stress and hormone production, since problems in these areas might also cause irregular menstruation. Research findings [28], when added to those of other researchers, imply that women's health benefits from higher levels of education may extend beyond reductions in obesity, smoking, and stress. Due to the intricate relationship between health and socioeconomic status, tailor-made

reproductive health education programs that take into account specific demographic and health factors are required.

In industrialized nations, there seems to be a negative correlation between income and weight problems [23,24]. In instance, studies have shown a negative correlation between years of schooling and weight [23,29,30]. Therefore, being overweight may have a role in causing menstrual irregularity among women of lower socioeconomic position.

Having a higher degree of education and higher income is associated with a lower risk of mortality, better self-reported health, a higher quality of life in terms of both physical and mental health [22,25,29]. Although there are many other aspects of social and economic life that contribute to one's socioeconomic position, the most common ones that have been taken into account in research focusing on health inequalities have been one's level of education and income [31]. Mental and social resources (such as social support or a feeling of control) are bolstered by education, which is associated with improved health over time [31]. Therefore, having a higher education is connected with having greater access to knowledge, utilizing that information, building relationships, having better quality medical care, having better housing and working situations, and having better overall living conditions [2,13,32].

It has also been shown that there are distinct differences in the traits or categories assigned to various occupations based on the degree of education one has [28]. Risk factors for gynecologic discomfort include high levels of occupational strain, tiredness, and stress connected to working circumstances [2,8,12]. Moreover, the middle-school educated and below have a greater frequency of sleep difficulties than do permanent workers [33]. The endocrine system and menstruation might be influenced by sleep disturbances and stress [34]. Increased physical fatigue, sleep difficulties, and stress may all contribute to irregular menstruation [2,6,8,31], which is why having a lower education level increases the likelihood of temporary employment. Previous research has shown that stress may exist regardless of educational attainment or family wealth, and that hormonal imbalances brought on by stress can cause irregular menstruation [8,12].

If a family has a high disposable income, the woman is more likely to have a management or specialized job [9]. Stress in the workplace has been linked to

insomnia among professionals and managers [33,35]. A number of factors may contribute to women feeling overburdened on a daily basis, including physical and mental weariness, changes in lifestyle (such as shifts in meal times and work hours), stress, and nutritional changes [33,35]. Inadequate sleep, which may be a precursor to sleep problems [12,33], is also negatively impacted by mental illness or unstable daily routines. A lack of sleep produces biorhythm disturbance, which may disrupt menstruation [33,34]. Sleep directly impacts ovarian and pituitary gland hormones. Although it is difficult to compare the prevalence of irregular menstruation and household income directly due to a lack of longitudinal data, our research found that women from higher income homes were more likely to have menstrual irregularities [28]. We need further research on the correlation between menstrual irregularity and financial hardship in the home.

CONCLUSION:

Current research showed that participants feel that medicines might hold the potential of affecting menstruation adversely. Furthermore, vast majority of study participants reported that menstrual irregularity is common. In addition, study participants thought that medicines are not the only reason for menstrual irregularity. Two thirds of study participants would recommend others not to take medicines to have normal menstrual cycle. Most women reported hormonal tablets to be the cause. It is moderate painful to lead a life with delayed or irregular menstruation. Participants reported that reduction of hormonal tablets might be the best method.

REFERENCES:

1. Toffol E, Koponen P, Luoto R, Partonen T. Pubertal timing, menstrual irregularity, and mental health: results of a population-based study. *Arch Womens Ment Health*. 2014;17: 127–135.
2. Nohara M, Momoeda M, Kubota T, Nakabayashi M. Menstrual cycle and menstrual pain problems and related risk factors among Japanese female workers. *Ind Health*. 2011;49: 228–234.
3. Zhou M, Wege N, Gu H, Shang L, Li J, Siegrist J. Work and family stress is associated with menstrual disorders but not with fibrocystic changes: Cross-sectional findings in Chinese working women. *J Occup Health*. 2010;52: 361–366.
4. Sakai H, Ohashi K. Association of menstrual phase with smoking behavior, mood and menstrual phase-associated symptoms among young Japanese women smokers. *BMC Womens Health*. 2013;13: 10.

5. Jung EK, Kim SW, Ock SM, Song CH. Prevalence and related factors of irregular menstrual cycles in Korean women: the 5th Korean National Health and Nutrition Examination Survey (KNHANES-V, 2010–2012). *J Psychosom Obstet Gynaecol*. 2017;4:1–7
6. Yamamoto K, Okazaki A, Sakamoto Y, Funatsu M. The relationship between premenstrual symptoms, menstrual pain, irregular menstrual cycles, and psychosocial stress among Japanese college students. *J Physiol Anthropol*. 2009;28: 129–136.
7. Lawson CC, Johnson CY, Chavarro JE, Lividoti Hibert EN, Whelan EA, Rocheleau CM, et al. Work schedule and physically demanding work in relation to menstrual function: the Nurses' Health Study 3. *Scand J Work Environ Health*. 2015;41: 194–203.
8. Figà-Talamanca I. Occupational risk factors and reproductive health of women. *Occup Med (Lond)*. 2006;56: 521–531.
9. Korea Statistics. Employment Trends 2014. Cited 29 October 2022.
10. National Health Insurance Corporation. Analysis of health insurance data for Amenorrhea and oligomenorrhea (N91). <http://www.nhis.or.kr/bbs7/boards/B0039/12481>. Cited 29 October 2022.
11. Unsal A, Ayranci U, Tozun M, Arslan G, Calik E. Prevalence of dysmenorrhea and its effect on quality of life among a group of female university students. *Ups J Med Sci*. 2010;115: 138–145.
12. Attarchi M, Darkhi H, Khodarahmian M, Dolati M, Kashanian M, Ghaffari M, et al. Characteristics of menstrual cycle in shift workers. *Glob J Health Sci*. 2013;5: 163–172.
13. Nishikitani M, Nakao M, Tsurugano S, Inoure M, Yano E. Relationship between menstruation status and work conditions in Japan. *Biopsychosoc Med*. 2017;11: 26.
14. Part J, Suh S, Kim K, Kim H. Female workers' attitudes toward menstruation, premenstrual discomfort and coping method. *J Korean Soc Matern Child Health*. 2012;16: 100–112
15. Suh DH. Pharmacologic treatment of acne. *J Korean Med Assoc*. 2010;53: 623–629.
16. Wei SY, Schmidt MD, Dwyer T, Norman RJ, Venn AJ. Obesity and menstrual irregularity: associations with SHBG, testosterone, and insulin. *Obesity*. 2009;17: 1070–1076.
17. Kaplan JR, Manuck SB. Ovarian dysfunction, stress, and disease: a primate continuum. *ILAR J*. 2004;45: 89–115.
18. Klemetti R, Raitanen J, Sihvo S, Saarni S, Koponen P. Infertility, mental disorders and well-being—a nationwide survey. *Acta Obstet Gynecol Scand*. 2010;89: 677–682.
19. Rowland AS, Baird DD, Long S, Wegienka G, Harlow SD, Alavanja M, et al. Influence of medical conditions and lifestyle factors on the menstrual cycle. *Epidemiology*. 2002;13: 668–674.
20. Kim TH, Park HS, Lee HH, Chung SH. Premenstrual syndrome and dysmenorrhea in the career women at Bucheon City. *Korean J Obstet Gynecol*. 2011;54: 523–528.
21. Sohn SY. A study on health status and health related quality of life by job characteristics in Korean adult women. *Korean J Occup Health Nurs*. 2009;18: 33–43.
22. Dowd JB, Zajacova A. Does the predictive power of self-rated health for subsequent mortality risk vary by socioeconomic status in the US? *Int J Epidemiol*. 2007;36: 1214–1221.
23. Kim MY, Oh JK, Lim MK, Yun EH, Kang YH. The association of socioeconomic and psychosocial factors with obesity in a rural community. *Korean J Obes*. 2012;21: 18–28.
24. Langhammer A, Krokstad S, Romundstad P, Heggland J, Holmen J. The HUNT study: participation is associated with survival and depends on socioeconomic status, diseases and symptoms. *BMC Med Res Methodol*. 2012;12: 143.
25. Leng B, Jin Y, Li G, Chen L, Jin N. Socioeconomic status and hypertension: a meta-analysis. *J Hypertens*. 2015;33: 221–229.
26. Maciocia G. *Diagnosis in Chinese Medicine-E-Book: A Comprehensive Guide*. Elsevier Health Sciences; 2018 Mar 22.
27. Spector PE. Do not cross me: Optimizing the use of cross-sectional designs. *Journal of Business and Psychology*. 2019 Apr;34(2):125–37.
28. Kwak Y, Kim Y, Baek KA. Prevalence of irregular menstruation according to socioeconomic status: A population-based nationwide cross-sectional study. *PloS one*. 2019 Mar 19;14(3):e0214071.
29. Laaksonen M, Talala K, Martelin T, Rahkonen O, Roos E, Helakorpi S, et al. Health behaviours as explanations for educational level differences in cardiovascular and all-cause mortality: a follow-up of 60000 men and women over 23 years. *Eur J Public Health*. 2008;18: 38–43.
30. McLaren L. Socioeconomic status and obesity. *Epidemiol Rev*. 2007;29: 29–48.

31. Lee M. Health inequalities among Korean adults: socioeconomic status and residential area differences. *Korean J Sociol.* 2005;39: 183–209.
32. Kim Y-S, Lim E-M. A preliminary survey of factors affect menstrual cycle length and regularity. *The Journal of Oriental Obstetrics & Gynecology.* 2011;24: 73–84.
33. Kim C, Ko J. Effect of the health behaviors on subjective sleep problems in an employees. *J Korea Contents Assoc.* 2015;15: 337–345.
34. Mahoney MM. Shift work, jet lag, and female reproduction. *Int J Endocrinol.* 2010; 2010: 1–9.
35. 32. Jacobs MB, Boynton-Jarrett RD, Harville EW. Adverse childhood event experiences, fertility difficulties and menstrual cycle characteristics. *J Psychosom Obstet Gynaecol.* 2015;36: 46–57.