

Awareness and Experiences of Female Pilgrims about Menstrual Suppression during Hajj 1437AH: A Cross-sectional Study

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Abstract:

We aimed to determine the awareness and use of medications to suppress menstruation along with their side effects and satisfaction level among the Hajj Pilgrims. We also studied women's attitudes and beliefs about menstrual suppression .

Material and Methods :

An observational cross-sectional survey was performed by using self-administered structured questionnaire during Pilgrimage (Hajj) period starting from 15th of Dhul-Qaidah till 30th of Dhul-Hijjah; 1437 in Makkah, Saudi Arabia. Women Hajj pilgrims (n=594) between menarche and menopause, were interviewed. Data was analyzed using SPSS version 16. Numeric data was presented as mean (Standard deviation "SD") while numbers along with percentages for categorical data were used .

The average age of the participants was 35.3 years (SD=8.4), with 413(69.5%) being multiparous, 556(93.6%) were aware of menstruation postponement by medications and 313(56%) got this information from their family doctors. However, 381(64%) used medications and 356(93.3%) successfully achieved menstrual suppression. Norethisterone was the most commonly used 301(79%) medications. However, 21% (80/381) complained of side effects, of which the most common one was irregular spotting 31.3% (25/80) followed by abdominal pain .

Satisfaction rate of medications users was 324(85%). Out of 381 women 87(22.8%) reported side effects after discontinuing the hormones, the most commonly experienced side effect was heavy prolonged bleeding 47(54%). Majority 472(79.5%) were happy with their monthly periods and 573(96.5%) didn't prefer to manipulate their periods by using hormones.

The awareness that hormones can be used to postpone menstruation was high. However, the information was deficient and usually obtained through their family doctors. The medication commonly used was Norethisterone. Overall satisfaction rate with medications' usage was high. Most women did not know what to do in case of unscheduled bleeding .

Key Words: Menstrual suppression, Norethisterone, Oral contraceptive pills.

Background and Introduction:

Menstrual suppression has been practiced by women since the 1960s, mainly for medical conditions associated with the heavy menstrual flow (1, 2).

A recent Canadian clinical practice guideline describes menstrual suppression in special circumstances. The aim is to decrease blood loss in women with heavy menstrual bleeding, especially in young girls with developmental disabilities and women undergoing cancer treatment with iatrogenic thrombocytopenia. (3)

Hormonal preparations have been used by women worldwide to postpone menstruation in order to accommodate important events like honeymoons or vacations. (4-6) The Canadian consensus guideline describes other indications for menstrual suppression including social choice, (7) which is the focus of our discussion.

The pilgrimage of Hajj is unparalleled as regards to a number of women using medication to postpone menstruation and provides us with a unique opportunity to study the subject of menstrual suppression in women of a diverse ethnic and educational background. Over two million people from all over the world gather in one place. (8) Pilgrims come from different countries and women makeup 45% of all pilgrims, with many being in the childbearing age group. The pilgrimage is during a fixed time of the year and pilgrims have a very tight itinerary and must return to their countries of origin on a specified date.

One of the rituals of Hajj, Tawaf-ul-Ziyarah, involving circumambulating around the Kaaba, can only be performed by a woman in a state of purification. If a woman cannot complete this rite, her Hajj is not complete. If a female pilgrim starts menstruating towards the end of her pilgrimage, then she needs to remain in Makkah, (or return to Makkah) when, or until her period is over and she can perform Tawaaf. This might mean splitting from their Hajj group, or delaying the return flight, which can cause a lot of inconveniences.

The second reason is that for most people, Hajj is a once in a lifetime event. During menstruation, a woman should not enter Masjid Al-Haram, and therefore cannot perform many of the extra rituals associated with Hajj. Women don't want to miss out on any of these extra spiritual benefits and so take medicines to suppress menstruation.

There are hygiene issues relating to safe and effective disposal of sanitary towels in a very crowded place. Many women choose to suppress menstruation to avoid this inconvenience during their stay in Makkah.

In this study, we aimed to determine the awareness and use of medications to suppress menstruation along with their side effects and satisfaction level among the Hajj Pilgrims. We also studied women's attitudes and beliefs about menstrual suppression.

Material and Methods:

An observational cross-sectional survey was performed by using self-administered structured questionnaire during Pilgrimage (Hajj) period starting from 15th of Dhul-Qadah till 30th of Dhul-Hijjah; 1437 corresponding to (18th of August till 1st of October; 2016) in Makkah, Saudi Arabia.

All the females of reproductive age group (11- 55years) who came to perform Hajj were considered as the study population. On the other hand, postmenopausal and pregnant women, as well as women who refused to take part in a survey, or had language barrier were excluded.

A structured questionnaire of 33 questions was prepared in English along with Urdu and Arabic translation. The questionnaire had two parts, the first part had 1-29 questions regarding demography, awareness and the use of medications to delay menstruation along with side effects of medication during and after usage, and overall satisfaction level. The second part had four questions (30-33) to assess attitude and beliefs regarding their monthly periods and willingness to manipulate menstruation by using medications. No identification data like, passport number, national identity card number, picture, or any Hajj mission registration number was collected, except study participants' names, phone numbers, and/or emails. This identification data has been kept confidential and accessible to only study collaborators for the purpose of follow-up to reach the study objectives. **(annex-1)**

Nonprobability convenience sampling method has been adopted because of its cost effective- ness, as well as limited time period available due to a busy schedule of study collaborators as well as women performing religious rituals. Moreover, the population of Makkah nearly doubles during the hajj days. This hinders the easy movement from one place to another. Data was collected from women in-person by approaching Hajj commission leaders'/group representatives, based upon their accessibility, and also by repeatedly visiting the Al-Haram mosque. A verbal informed consent was taken from women who took part in the study after they had been made aware of study rationale and objectives. Data about the complaints after discontinuing the medication was collected through given phone numbers and/or emails by study collaborators.

The outcome of the study was assessed by measuring the proportion of females who were aware that periods could be postponed by medication, and who used the medication during the above period. The percentage of females who experienced complaints while using drugs to postpone the periods, and after stopping the drugs, was measured.

A minimum sample (n) of about 385 females was estimated by the formula, i.e., $n \geq Z^2 [p (1-p) / e^2]$, by keeping the confidence interval of 95% ($Z=1.96$), margin of error of 5% ($e=0.05$) and percentage

of subjects using hormones to delay the periods was assumed as 50% ($p=0.5$). Five percent of 385 were added to determine sample size, i.e., 385 to accommodate any contingencies like non-response or observer bias or recall bias. So a minimum sample of 405 women was determined. Total of 625 women were interviewed by the study collaborators but 594 subjects were included in a study as the rest had deficiencies and lacked important data.

Statistical Analysis Plan:

Data was analyzed using SPSS version 16 (SPSS Inc., Chicago, IL, USA). Numeric data was presented as mean (SD), or as median and range according to the type of distribution of each variable. For categorical variables, numbers along with percentages were used.

Ethical Issues:

Ethical approval has been sought from Institutional Review Board, King Abdullah Medical City, Makkah, Saudi Arabia.

Results:

The average age of the participants ($n=594$) was 35.3 years ($SD=8.4$), with 413(69.5%) being multiparous. The majority of the participants were Pakistani 255(42.9%). Of the total, 202(34%) had attended university, 458(77.1%) were currently married, 41(6.9%) had irregular cycles, of which infrequent menstruation was common, some being aware that they had polycystic ovarian disease.

Table 1

Of the total, 33(5.6%) were using contraceptive measures, with 14/33(42.4%) using combined oral contraceptive pills. The majority of the women 556(93.6%) were aware of menstruation postponement by medications, 445(80%) were aware of the medications' name and 313(56%) got this information from their family doctors. Only 16(2.9%) got this information from the awareness programs conducted by their local authorities. Of the total, 237(39.9%) had used the medication in the past while 381(64%) women used medication to postpone menstruation during the study period. The mean period of use of hormonal medication was 20.7 days ($SD=6.9$) and a majority of the women 365/381(95.8%) were taking their medication on time. The most common reason for not taking medication on time was busy schedule 10/16(62.5%). **Table 1 & 2**

Norethisterone (Primolute N) was the most frequently used medication 301/381(79%) and 356(93.3%) successfully achieved menstrual suppression, however, 80/381(21%) complained of side effects, of which the commonest was irregular spotting 25/80(31.3%) followed by abdominal pain and a feeling of weight gain. Of the total women used medications, 87(22.8%) reported side effects after discontinuing the hormones, the most commonly experienced side effect was heavy prolonged

bleeding 47(54%). Out of 381 women, only 28(7.3%) wanted to discontinue the medication because of side effects and 298(78.2%) did not know what to do in case of breakthrough bleeding. 85%(324/381) women were satisfied and would use it again. **Table 3**

Of the total women surveyed, 472(79.5%) women were happy while 122 (20.5%) women were not happy with their monthly periods. Twenty-one (3.5%) women said that they preferred to manipulate their periods by using medication (hormones) and 10/21(47.6%) preferred yearly periods. Out of 573 women who preferred not to manipulate their period by hormones, 286 (49.9%) mentioned the reason that its deviation from normal phenomena, monthly periods are necessary and is a sign of good health. Of 573, 107(18.7%) did not want to manipulate their periods. However, they had not given this matter much thought and did not have any specific reason.

Discussion:

Our study had higher number (n=594) of participants from 15 nationalities as compared to Nigerian (n=116) and Iranian (n=400) studies which included only their respective nationality. (9,10) Our study depicted higher level of awareness (93.6%) about menstruation postponement by medications than that of Nigerian study (70.7%). (9) Moreover, Andrist LC et al; reported that 78% women in a random survey, had never heard about menstrual suppression by oral contraceptives. (6) The higher awareness level of the use of medication to postpone menstruation in female pilgrims was due to the need of purity required for entering Masjid Al-Haram (the holy mosque) to perform one of the rituals of Hajj, Tawaf-ul-Ziyarah.

We found lower uptake of medication (64%) than awareness (93.6%). This difference was mostly related to the perception of delaying menstruation as something ‘unnatural’ and as Hajj is a religious journey, many women were unsure about its religious permissibility, and tended to be safe by avoiding using it. Another reason was that their expected days of menstruation was not in specific days of Hajj, i.e., 8th-13th Dhul-Hijjah and also there was a fear of breakthrough bleeding, either from personal experience, or the experience of friends and family.

The commonest medication used was combined oral contraceptive pills (COCs) 47.7% in Nigerian pilgrim, birth control pills 98.7% in Iranian pilgrim while Norethisterone (79%) was in the current study. The achievement of menstrual suppression was highest, i.e., 93.3% in the current study compared to Iranian study (74.4%). This may be due to Norethisterone (a synthetic Progesterone), the commonly used medication in our observation. Dandehbor *et al*; also suggested using progestin-only pills for effective suppression of menstruation. (10) Among the users of medications, 21% complained medicinal side effects. This rate was lower than that of reported by Dandehbor et al, (41%). However, the commonest side effect of medication in all studies was irregular spotting and breakthrough

bleeding (BTB). Ghorashi *et al*; in 2000, Durosinlorun *et al*; in 2007 and Dandehbor *et al*; in 2012 reported spotting in Hajj pilgrims 13.6%, 10-30%, and 26%, respectively. (9-11)

In the current study, only 6.7% reported spotting. The high occurrence of these side effects in the other studies compared to present study can be attributed to a variable estrogenic component in contraceptive pills as opposed to our study where 84.3% of subjects used only progesterone. (9-11) Most of the women were unaware of what to do if they had BTB. In the current study, 22.8% reported side effects after discontinuing the hormones, the most commonly experienced side effect was heavy prolonged bleeding. However, we did not find any other study addressing this issue.

Menstruation is a natural phenomenon in women that can have a significant impact on their quality of life. It can range from a simple inconvenience, interference with daily activities, right up to a major health hazard. Our study showed that 79.5% women were happy with their monthly menstruation contrary to Andrist *et al*; survey, where 59% women were not interested in monthly menstruation with one third, do not want to have a period. (6) Rutter *et al*; reported that 46% female patients and 55% young female doctors preferred to bleed at three months or greater interval. (12) However, we found only 3.5% of women preferred to manipulate their periods by hormones with almost half of them preferred yearly bleed.

Most women in other studies felt that menstruation was a nuisance and they would be happy to either not have menstruation at all or have it once in six months or one year. Majority of our participants thought that periods were part of being a woman, and even if it was disruptive to their daily activities, they accepted it as God's will. They were willing to use medication for short periods to accommodate events like Hajj but generally hesitant to use it on a regular basis. This difference in attitude about menstrual suppression could be attributed to religious beliefs, as the women who came for Hajj believed in divine decree, which made them content with their physiological state.

Conclusions:

The awareness that hormones can be used to postpone menstruation was high. However, the information was patchy and was usually obtained through their family doctors and not so much from awareness programs. Most women did not know what to do in case of unscheduled bleeding. Norethisterone was commonly used medication. Overall satisfaction rate with medication's usage was high. Women were willing to use medication for short periods to accommodate events like Hajj, Umrah but generally hesitant to use it on a regular basis.

Recommendations:

1. We would like to see the Ministry overseeing Hajj matters, make recommendations and information leaflets available to individual Hajj groups. Just like education about religious rituals is very important, standardized information about health related matters including medications for postponement of menstruation should be made available. A sample leaflet should be translated in different languages to ensure uniform distribution of information.
2. All countries have an awareness program prior to Hajj. It would be helpful if there could be standardized information available to all pilgrims. This should include the religious permissibility of using medication to postpone menstruation, after making sure the pilgrims have had a health check to make sure there is no contraindication to using hormones. Information about the use of common medications like COCs and Norethisterone should be provided to the pilgrims, emphasizing when to start, ensure regular use and what to do in case BTB occurs.

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Table 1; Demographic data along with detail of awareness about delaying periods

Variables		<i>n</i> (%)	Awareness level <i>n</i> (%)
Age of subjects		35.3(8.4)	556(93.6)
Nationality	Pakistan	255(42.9)	252(98.8)
	India	165(27.8)	148(89.7)
	Filipine	52(8.8)	48(92.3)
	Saudi Arabia	54(9.1)	48(88.9)
	Egypt	16(2.7)	16(100)
	Other (<2%)	52(8.8)	44(84.6)
Educational Level	Cannot read/write	17(2.9)	8(47.1)
	Just read and write	39(6.6)	34(87.2)
	School	94(15.8)	88(93.6)
	College	242(40.7)	231(95.5)
	University	202(34)	195(96.5)
Marital status	Widow	7(1.2)	7(100)
	Divorced	9(1.5)	8(88.9)
	Married	458(77.1)	434(94.8)

	Never married	120(20.2)	107(89.2)
Parity level	Nulliparous	52(8.8)	49(94.2)
	Multipara	413(69.5)	392(94.9)
	Grand multipara	9(1.5)	8(88.9)
	Never married	120(20.2)	107(89.2)
Residential place	Saudi Arabia	268(45.1)	244(91)
	Not in Saudi Arabia	326(54.9)	312(95.7)

Table 2; Details of medications awareness and usage to delay periods

Variables		n (%)
Source of awareness (n=556)	Doctors	313(56.3)
	Friends	142(25.5)
	Relatives	39(7)
	Awareness Programme	16(2.9)
	Media	7(1.3)
	Multiple Sources	39(3.1)
Awareness about Medications' name (yes=445)	Primolute N	350(78.7)
	Yasmin	33(7.4)
	Duphaston	14(3.1)
	Provera	8(1.8)
	Multiple*	14(3.1)
	Other**	26(5.8)
Detail of medication	Past history of medications used	237/594 (39.9)
	Currently using medications	381/594(64)

ons usage to delay periods	Duration of medications usage in current period [†]	20.7/381(6.9)
	Taking medications on time	365/381(95.8)
	Awareness of what to do in case of breakthrough bleeding	83/381(21.8)

*Know more than one drug name

**Diane 35, Orgametril, Ometril, Climen, Microcept, Microgynon, Nuvaring

[†]Mean (Standard deviation)

Table 3; Types of medications used to delay periods and their complications

Variables		During usage (n=80)	After usage (n=87)
Complications by medicines	Primolute N (n=301)	63(20.9)	75(24.9)
	Yasmin (n=25)	10(40)	6(24)
	Others (n=34) *	6(17.6)	5(14.7)
	Yasmin + Primolute N (n=1)	1(100)	1(100)
	Provera (n=7)	0	0
	Duphastone (n=13)	0	0
Types of the complications during medications usage (n=80)	Irregular bleeding & spotting	25(31.3)	-
	Abdominal/pelvic pain	13(16.3)	-
	Feeling of weight gain	6(7.5)	-
	Pain in breast	4(5)	-
	Headache	3(3.8)	-
	Mood changes	1(1.3)	-
	Others**	11(13.8)	-
	Multiple complaints ^{††}	17(21.3)	-
Types of the complications after stopping	Heavy bleeding	-	47(54)
	Bleeding stayed longer than normal	-	10(11.5)

medications (n=87)	Abdominal/pelvic pain	-	3(3.4)
	Bleeding with flooding and passage of clots	-	3(3.4)
	Others [†]	-	12(13.8)
	Multiple complaints ^{††}	-	12(13.8)

*Diane 35, Orgametril, Ometril, Climen, Microcept, Microgynon, Nuvaring

**Nausea, Vomiting, leg cramps

[†]Dark colored blood, Anemia, blood transfusion, leg cramps

^{††}experienced more than one complaint