



THE EFFECT OF HEAVY MENSTRUAL BLEEDING ON WOMEN'S QUALITY OF LIFE: A CASE CONTROL STUDY

Obstetrics & Gynaecology

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ABSTRACT

Introduction: Heavy menstrual bleeding (HMB) is defined as excessive menstrual blood loss which interferes with a woman's physical, social, emotional and material quality of life. In India, 16% of the women aged between 15 and 44 are diagnosed with HMB. HMB has significant effects on personal, social, family, and work life of women and thereby reduces their quality of life

Aim And Methods: In this study, we aim to identify menstruation characteristics of the women and the effects of HMB on women's quality of life. The participants are 150 volunteer women who were not pregnant or had menopause at the time the study was conducted and who consulted to the Department of Gynecology and Obstetrics at a Rajarajeswari Medical College and Hospital, Bengaluru between November 2020 and January 2021. The patients who had HMB complaint were included in the case group ($n = 75$) while the relatives of the participants who did not have any specific health problems composed the control group ($n = 75$).

Results: Mean age of the participants in the case group was 45.5 year ($p < 0.05$). 23.9% women had HMB > 3 years, frequent cycles noted with average length of cycle being 22.79 days and 53.3% being diagnosed with myoma. We evaluated the participants' quality of life and found that HMB group members were affected more significantly in all subscales of the SF-36 scale (physical functioning, pain, general health, vitality, social role functioning, emotional role functioning, and mental health) when compared to the women in the control group and was found to be statistically significant with $p < 0.05$.

Conclusion: HMB has negative effects on women's quality of life. Therefore, quality of life of the women with HMB complaint should be investigated and effective approaches should be designed.

KEYWORDS

Heavy menstrual bleed(HMB), Quality of life.

INTRODUCTION:

Heavy menstrual bleeding (HMB) is defined as excessive menstrual blood loss which interferes with a woman's physical, social, emotional and/or material quality of life¹

HMB is one of the most common reasons for gynecological consultations in both primary and secondary care. About 1 in every 20 women aged between 30 and 49 years consult their GP each year because of heavy menstrual flow and comprise 12% of all referrals to gynecological services²

Menstruation at regular cycle but with excessive flow and may last for more than 8 days or can cause menstrual blood loss of more than 80mL in each cycle is called Heavy menstrual bleeding³

Heavy menstrual bleeding (HMB) is likely responsible for the high prevalence of iron deficiency anemia that affects 30% of women worldwide – an incidence that is much higher in low-income nations. Iron deficiency anemia can have profound effects on cognition, work productivity, and family and social life which may contribute to increase maternal mortality and impair neonatal development. Collectively, these circumstances that make AUB in the reproductive years an important and often overlooked and underappreciated health issue with insidious impact on world economy. As to our country, 16% of the women aged between 15 and 44 were diagnosed with HMB, and 25% of the women complained about long-frequent periods of bleeding or staining. Quality of life is one's perception of situations in life in relation to their aims, expectations, and standards within the framework of their cultural and value systems. HMB has significant effects on a woman's personal, social, work and family life and hence reduces their quality of life. In this study, the importance of patients' self-evaluation regarding their experience, blood loss, and its effects on their lives in diagnosing and planning treatment for women with abnormal uterine bleeding has been emphasized.

AIM:

In this study, we aim to identify menstruation characteristics of the women and the effects of HMB on women's quality of life.

METHODS

Design. We designed the study as a descriptive, case control study.

Participants. The participants are 150 volunteer women who were not

pregnant or had menopause at the time the study was conducted and who consulted to the Department of Gynecology and Obstetrics at a Rajarajeswari Medical College and Hospital, Bengaluru between November 2020 and January 2021. The patients who had HMB complaint were included in the case group ($n = 75$) while the relatives of the participants who did not have any specific health problems composed the control group ($n = 75$).

Instruments. We collected data via face-to-face interviews with a questionnaire form SF-36 Quality of Life Scale. The questionnaire form consisted of 30 questions which was regarding women's socio-demographical (age, education, occupation, and financial situation) features, obstetrics (pregnancy and number of birth) and menstruation characteristics, and gynecological and medical problems. The SF-36 questionnaire consists of 36 items which covers eight distinct health status concepts and one item measuring self reported health status: physical functioning, physical role functioning, pain, general health, vitality, social role functioning, mental health and emotional role functioning. The quality of life increases as the score of each aspect in the scale increase. We administered the questionnaires while the women were waiting for their clinic visit. The participants were informed about our aims in the study and their verbal consent was obtained prior to the questionnaire.

Data Analysis. The collected data were analysed with IBM SPSS statistics software 23.0 version. To describe about the data descriptive statistics frequency analysis, percentage analysis were used for categorical variables and the mean & S.D were used for continuous variables. To find the significant difference between the bivariate samples in Independent groups the Mann-Whitney U test was used. To find the significance in categorical data Chi-Square test was used similarly if the expected cell frequency is less than 5 in 2×2 tables then the Fisher's Exact was used. In all the above statistical tools the probability value is 0.05 is considered as significant level.

RESULTS:

We found no significant differences between women in control and case groups in terms of education, occupation, financial situation, general health problems, and using drugs. We found that there was a significant difference in average age of the participants in the case group as 45.5 year while that in the control group as 25 years ($p < 0.05$). The majority of the women in both groups received education for 8-10 years, and they were housewives. In addition, 69.3% study

population belonged to Lower socioeconomic status of which 64% had HMB. 30.7% of study population belonged to Upper socioeconomic status of which 36% had HMB .

DURATION OF HEAVY MENSTRUAL BLEEDING

We found the duration of HMB complaints as follows: 18.8% (n = 26) of the women in the case group for three months or less, 20.3% (n = 28) for 4–7months, 8% (n = 11) for 8–11 months, 14.5% (n = 20) for 1-2 years, 14.5%(n=20) for 2-3 years, and 23.9% (n= 33) had been suffering from HMB for more than three years. Of these women, 34.8% (n= 48) had treatment, and a great majority was given medication (n=43).

Duration of HMB



Image1: Pie Chart Showing Duration Of HMB

Diagnosis Of HMB

We found the diagnosis for the women in the case group as myoma for 53.3%, adenomyosis 18.7%, polyp for 13.3%, endometriosis for 3.3% and genital tract infection for 1.3% Women in the case and control groups indicated that they did not know of any specific illness which causes the bleeding problem.

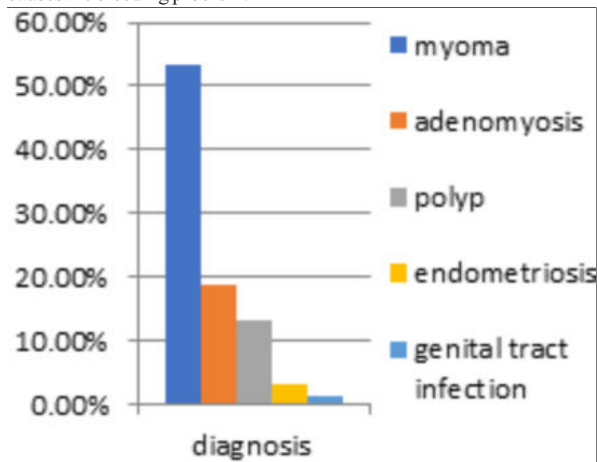


Image 2 : Chart Showing Diagnosis Of HMB

COMPARISON BETWEEN CASES AND CONTROLS ON AVERAGE LENGTH OF MENTRUAL CYCLE AND AVERAGE NUMBER OF PADS USED

The average length of menstrual cycle was 22.79 days in case group and 28.13 +/- 5.80 days in control group . Hence frequent menstrual cycles was found in case group. Women in the case group reported to have used 6.75 +/- 2.10 pads during HMB in comparison to 2.89 +/-

1.01 pads in control group . We found a significant difference between case and control groups in terms of the average number of pads used during one cycle.

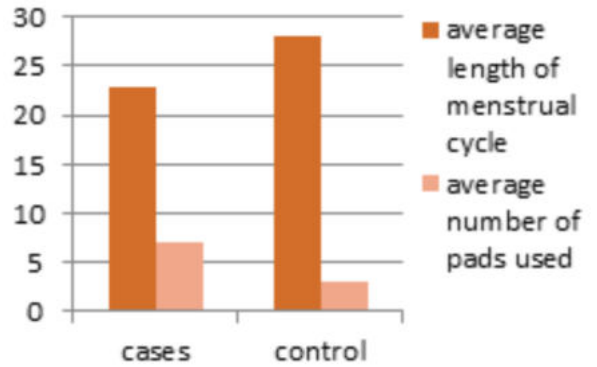


Image 3 – Graph Showing Average Length Of Menstrual Cycles In Both Groups

Of the women in the case group, 6.7% (n = 5) stated that the menstrual bleeding was mild , 30.7%(n= 23) while 62.7% (n= 47) described the bleeding as severe. Among those who complained about HMB, 46.7% pointed that they used hygienic products that are more protective than regular sanitary pads. Women also stated that their clothes, bed linens, and furniture got dirty parallel to the severity of the bleeding.

DYSMENORRHEA IN CASE GROUP

We found that there was an increase in the pain together with the increase in HMB ie., 34.7% (n= 26) had mild dysmenorrhea, 50.7% (n=38) had moderate dysmenorrhea and 14.7% (n=11) had severe dysmenorrhea .

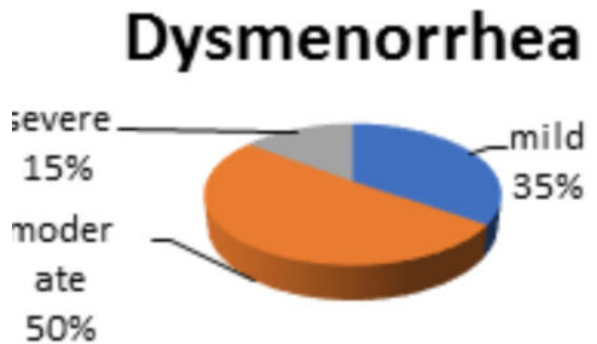


Image 4: dysmenorrhea In Case Group

Demographic And Menstruation Characteristics Of The Participants

The comparison of the participants in terms of their menstruation characteristics demonstrates that there are statistically significant differences between the case group and control group (n < 0.05).

Table 1 : Demographic And Menstruation Characteristics Of Participants

	Cases		Controls		p
	n	%	n	%	
Age	47	31.3	31	41.3	0.0005
Socioeconomic status	104	69.3	48	64	Not significant
Education(HSC)	50	33.3	28	37.3	Not significant
Family history of menorrhagia	21	28%	22	29.3%	Not significant
Severity of menstrual bleed					0.00001
mild	5	6.7	41	54.6	
moderate	23	30.7	24	34.2	
severe	47	62.7	10	13.3	

Dysmenorrhea					0.00001
Mild	26	34.7	48	64	
Moderate	38	50.7	21	28	
Severe	11	14.7	6	8	
Average length	22.79days		28.13 +/- 5.80 days		0.0005
Number of pads used	6.75 +/- 2.10		2.89 +/- 1.01		0.0005

Impact Of HMB On Quality Of Life

We evaluated the participants' quality of life and found that case group was affected more significantly in all subscales of the SF-36 scale (physical functioning, physical role functioning, pain, general health, vitality, social role functioning, emotional role functioning, and mental health) when compared to the women in the control group. More women in the heavy menstrual flow group identified their menstrual cycle as being an inconvenience and disruption to their lives compared to those women with perceived normal menstrual flow. In the HMB group, 83% of women stated that HMB impacted their daily activities. Further questioning showed that the impact of heavy menstrual bleeding stretched across multiple aspects of women's lives including social life, relationships and work.

Table 2: Findings About SF 36 Quality Of Life Scale.

Dimensions of quality of life	Case (n = 75)	Control (n = 75)	P value
Physical functioning	26.39	28.54	0.00001
Social functioning	9.26	8.68	0.00001
Mental health	17.21 +/- 4.14	21.30	0.00001
General health	15.35	18.58	0.00001
physical	1.72	2.92	0.00001
emotional	1.49	2.06	0.00001
Energy/Fatigue	12.99	16.82	0.00001
Pain	6.25	8.27	0.00001

DISCUSSION

HMB is considered to be one of the most significant causes of ill health in women. Majority of the women in the case group (52.9%) reported to have had HMB for more than a year. Studies show that although HMB rarely threatens life, it has negative effects on women's personal, family, social, and work life and it decreases quality of life. HMB effects all eight sub- dimensions of SF-36 Quality of Life Scale which includes functioning, pain, general health, vitality, social role functioning, mental health and emotional role functioning. The diagnosis of HMB extended to multiple aspects of the women's lives including social life, relationships and work with a significantly greater proportion of women reporting negative effects in these domains in the HMB group. So patient centric understanding of the complaint may lead to better understanding of patient's illness and can contribute to improved patient satisfaction with the result of treatment. This study shows that HMB was related to increased limitation in physical activities and also mental health was significantly affected (p value <0.00001) which was similar to the study by Andrea S Lukes et al.,⁷ who conducted a randomized controlled trial in 2012 on daily menstrual blood loss and quality of life in women with heavy menstrual bleeding and found that HMB limited physical activities significantly.

Mean age in case group is 45.5 years and was statistically significant (p <0.0005). This is similar to the study by Chengyi Ding et al.,⁸ 2019 on heavy menstrual bleeding and they found that HMB was highly prevalent among women between 35- 50 years. Trine S Karlsson et al.,⁹ conducted cross sectional descriptive survey about heavy menstrual bleeding and found that of women 40-45 years old, 32% experience heavy menstrual bleeding. These women had significantly worse health related quality of life compared with women with normal menstruation pattern, which is similar to present study, where we found that 52.3% cases had severe menstrual blood loss and affected their health related quality of life (p value <0.00001).

15% cases had severe dysmenorrhea and profoundly affected their routine day to day activities. severe menstrual pain with HMB has a much more profound effect on all aspects of women's QoL than HMB alone; it accounts for more days in bed and for loss of productivity. This was similar to the study by Edith Weisberg et al.,¹⁰ 2016 on effect of perceptions of menstrual blood loss and menstrual pain on women's quality of life.

In our study we found that the average length of menstrual cycle was 22.79 days in case group. Similar results found in a study by Sule

Gokyildiz et al.,¹¹ on effects of HMB on women's quality of life and found that most women had frequent cycles with average length of menstrual cycle being 20.5 days which affected their quality of life.

CONCLUSION

HMB has negative effects on women's quality of life. Team of health should have thorough knowledge of HMB pathophysiology and women with HMB should be evaluated individually. Integrated holistic care should be provided by health professionals taking into account the physical, social and emotional experiences. The care of the woman with HMB starts with assessment phase and continues with management of the treatment and follow-up care. A detailed obstetric and gynecologic history should be obtained which should include the comparison of normal menstrual cycle and the current one in terms of the amount, duration and severity of bleeding and its effects on women's life so that appropriate health enterprises could be planned.

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