ORIGINAL ARTICLE

Percentage of Menorrhagia Leading to Iron Deficiency Anemia in Non Hormonal Intrauterine Device Users

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ABSTRACT

Background: Family planning is hailed as one of the great public health achievements of the last century.
Aim: To determine the percentage of menorrhagia leading to anemia in non hormonal IUDs users for birth control.
Study Design: Descriptive case series.
Methodology: Present study was carried out from January-July 2019 at the department of Obstetric & Gynaecology, Jinnah Hospital, Lahore following the approval by Hospital's Ethical Committee. All females (n=210) with reproductive age group fulfilling the inclusion criteria were enrolled. Blood was taken and added into a separate tube, for immediate hematological measurements of haemoglobin and serum ferritin level. Data was analyzed by SPSS, version 24. Parameters like age, PBAC score and menstrual bleeding days were presented as mean±SD. Chi Square test was applied to see the effect on the outcome and p value ≤ 0.05 was significant.
Results: In present study, mean±SD of age was 31.85±5.05 years. Frequency of menorrhagia was positive in just 41(19.52%) patients. Similarly, anemia was present in 57(27.15%) patients.
Conclusion: We concluded that the percentage of menorrhagia leading to anemia in non hormonal IUDs users was not very high. Due to high morbidity rate among young females, it is therefore suggested that prescribing iron supplements must be a routine during and after their IUD use in our clinical setups.
Keywords: Birth control, Non-Hormonal IUDs, Menorrhagia and Anemia.

INTRODUCTION

Family planning is hailed as one of the great public health achievements of the last century. In many countries, despite of modern contraception methods the burden of unintended pregnancy is still large as revealed by literature review[1]. Major family planning method involves use of contraceptives.

Contraceptive choices adopted by females usually depend on advice from healthcare providers, family or partners[2]. Modern (condoms, hormonal contraceptives, Intra Uterine Contraceptive Device (IUD), implants & surgeries) while traditional (withdrawal, breast feeding) methods can be adopted[3-5].

In Pakistan, 60% of women use at least one contraceptive method, and 7% of them are intra uterine contraceptive device[4]. Each method has advantages and disadvantages, and most are much more likely to fail, especially with inexperienced users, than methods unrelated to coitus (e.g., oral contraceptives, IUDs) condoms, which are most commonly used methods worldwide[6].

Use of IUD method is safe, rapidly reversible, inexpensive, long acting (upto 20 years) and non hormonal so unique and desirable for many users.[7] Despite the contraceptive protection achieved by copper medicated intrauterine devices, menorrhagia still remains the single most common cause for removal of an intrauterine device[8,9]

According to a postal survey involving 1513 women in the UK, in a 12-month period the incidence of menorrhagia was 25%[10]. Patients with heavy menstrual bleeding make 12% of gynaecological referrals. Hence, due to limited local data and increasing burden of menorrhagia because of IUD use among our females, we planned current project to determine the percentage of menorrhagia leading to anemia in non hormonal IUDs users for birth control.

The objective of the study was to determine the percentage of menorrhagia leading to anemia in non hormonal IUDs users for birth control.

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METHODS

It was a descriptive case series that was carried out from January-July 2019 at the department of Obstetrics & Gynaecology, Jinnah Hospital, Lahore following the approval by Hospital's Ethical Committee. All females (n=210) with reproductive age group fulfilling the inclusion criteria were enrolled. Blood was taken and added into a separate tube, for immediate hematological measurements of haemoglobin and serum ferritin level. Intrauterine device was placed in the patients and they were followed-up for 06 months of placement of IUD and in menstrual bleeding patterns with respect to number of menstrual bleeding days. PBAC score and hemoglobin and serum ferritin levels were recorded. Presence or absence of iron deficiency anemia was recorded, percentage of menorrhagia was recorded. Exclusion criteria involved patients who were unable to give informed consent with the history of surgeries and other medical issues like urinary tract infections.

Statistical analysis: Data was analyzed by SPSS, version 24. Parameters like age, PBAC score and menstrual bleeding days were presented as mean ± SD. Parameters like menorrhagia and anemia were presented as percentage. Effect modifiers like age and PBAC score (mild/moderate/severe) were controlled through stratifications. Chi Square test was applied to see the effect on the outcome and p value ≤ 0.05 was considered as significant.

RESULTS

General parameters (age & PBAC score) for all enrolled patients were presented as frequency and percentage with their respective means **±** SD in table-1. Results for parameters like menorrhagia and anemia among enrolled patients was shown as frequency and percentage in table-2. Results for the stratification of anemia with respect to age among 210 enrolled patients was shown in table-3

Results for the stratification of anemia with respect to age among 210 enrolled patients was shown in table-4

Table-1: General Characteristics Of All Enrolled Patients (n=210)

Variables	Groups	Frequency	%age
Age (years)	18-30	87	41.43
	31-40	123	58.57
Mean±SD (years)	31.85±5.05		
PBAC Score	<50	169	80.48
	50-99	35	16.67
	≥100	6	2.85
Mean ± SD	37.67±22.06		

Table-2: Menorrhagia and anemia as frequency among enrolled patients

Variables	Groups	Frequency	%age
Menorrhagia	Yes	41	19.52
	No	169	80.48
Anemia	Yes	57	27.14
	No	153	72.86
Total		210	100

Table-3: Stratification of anemia with respect to age (n=57)

Age (years)	Anemia (n=57)		p-value
	Yes	No	
18-30	22(10.48%)	65(30.95%)	0.610
31-40	35(16.67%)	88(41.90%)	
Total	57(27.15%)	153(72.85%)	

*By applying Chi-Square test; p value > 0.05 = insignificant

Table-4: Stratification of Anemia with respect to PBAC Score

PBAC Score	Anemia (n=57)		P value
	Yes	No	
<50	20(9.5%)	149(70-95%)	0.610
<50	37(17.62%)	4 (1.90%)	
Total	57(27.15%)	153(72.85%)	

*By applying Chi-Square test ; p value > 0.05 = insignificant

DISCUSSION

Through this study, an attempt was made to study determine the percentage of menorrhagia leading to anemia in IUD's users in our local population so that the management of menorrhagia and iron deficiency anemia can be made better. Secondly, an attempt to control IUD's use which is safe and inexpensive method and developing a more acceptable attitude towards minor side effect of this method.

Our results showed that 87(41.43%) were between 18-30 years and 123(58.57%) were between 31-40 years of age, mean±sd was calculated as 31.85±5.05 years, frequency of menorrhagia (as per operational definition)was recorded in 41(19.52%) while 169(80.48%) had no findings of menorrhagia, while frequency of anemia was recorded in 57(27.15%) while 153(72.86%) were not recorded as anemic. Our findings were in line with survey held in UK (1513 women), 12-month study, that reported the incidence of menorrhagia was 25%[10].

Similarly, the findings of the current study with regards to frequency of anemia were in agreement with a study that showed prevalence of iron deficiency anemia (serum ferritin <15ng/ml) was 33.3% in their study.[11] Paradoxically, one previous study by Jaff MS et al, reported that 60% of non-hormonal IUD users have iron deficiency anemia.[6] Another study, where pre-insertion levels of haemoglobin are similar to the levels at one year follow up[9] is also in contrast with the current study.

Previous studies showed that almost 80% of IUD users complained of other disturbances. According to Family Health International (FHI) report, the copper-containing IUD increases the duration and amount of menstrual flow, by about 50 % among females in developing countries[12] which was in agreement with the findings of current study that recorded in 19.52% patients as only menorrhagia.

Limitations: The current study had a number of limitations like financial constrains and less resources. No genetic workup was done.

CONCLUSION

The percentage of menorrhagia leading to anemia in non hormonal IUDs users was not very high. Due to high morbidity rate among young females, it is therefore suggested that prescribing iron supplements must be a routine during and after their IUD use in our clinical setups.

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REFERENCES

1. Amy O. Tsui, McDonald-Mosley R, Burke AE. Family Planning and the Burden of Unintended Pregnancies. Epidemiol Rev 2010;32(1):152-74.
2. Cibula D.Women's contraceptive practices and sexual behaviour in Europe. Eur J Contracept Reprod Health Care 2008;13:362-75.
3. Qazi HA, Hashmi A, Raza SA, Soomro JA, Ghauri A. Contraceptive Methods and Factors Associated with Modern Contraceptive In Use. J Fam Reprod Health 2010;4:41-6.
4. Shah NA, Nisar N, Qadri MH. Awareness and pattern of utilizing family planning services among women attending Urban Health Care Center Azizabad Sukkur. Pak J Med Sci 2008;24(4):550-5.
5. Patrick F. Thonneau MD, Thierry E, Almont MD. Contraceptive efficacy of intrauterine devices. Am J Obstet Gynecol 2008;198(4):485.
6. Jaff MS. Body Iron Status In Women Using Contraceptives. ZJMS 2005;9(2):1-6.
7. Lowe RF, Prata N. Hemoglobin and serum ferritin levels in women using copper-releasing or levonorgestrel-releasing intrauterine devices: a systematic review. contraception.2012;9(2):25.
8. David Hubacher, Pai-Lien Chen, and Sola Park. Side effects from the copper IUD: do they decrease over time? Contraception. 2009;79(5):356-362.
9. Rana M, Saxena P, Firdous N. Comparison of levonorgestrel and copperreleasing intrauterine contraceptive device on body iron stores and menstrual bleeding patterns: experience on Indian women. European Review for Medical and Pharmacological Sciences. 2012;16:230-234.
10. Pynaert Ilse, De Bacquer Dirk, Matthys Christophe. Determinants of ferritin and soluble transferrin receptors as iron status parameters in young adult women. Public Health Nutrition:2008;12(10),1775-82.
11. Thonneau PF, Almont T, Almont TE. Contraceptive efficacy of intrauterine devices. Am J Obstet Gynecol 2008;198:248.
12. Centers for Disease Control and Prevention (CDC). U S. Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Recomm Rep 2010;59:1