

## Post coital bleeding is a risk for cervical cell abnormality

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### ABSTRACT

Postcoital bleeding is a worrying, for both women and health care provider. This study aimed to evaluate the prevalence of abnormal cervical cytology among patient with PCB in the private outpatient care setting, and to identify risk-factors for cervical pathology among these patients. A cross sectional study of 90 patients presented to the privet clinic, during the period 1st feb-1st Des. 2019. Inclusion criteria include married women presented with post coital bleeding, non-pregnant,all patient undergo Pap Smear Cytology.

The commonest age presented with PCB was 40-44 years old 22(24.4%), followed by (45-49) years and (25-29) years 18(20%). Those aged  $\geq 40$  years 44(48.9%), and those aged  $\leq 34$  34(37.8%). The mean parity was  $4.7 \pm 2.8$ , hormonal contraception was commonly used by those with PCB followed by intra uterine contraceptive device (IUCD), 30(33.3%), 18(20) respectively. Most of the patient were House wives 78(86.7%), The physical examination show that most patient had cervical erosion 68(75.5%), followed by healthy cervix in 12(13.3%), while suspicious features was found among 6(6.7%), Moderate and sever dysplasia was found more among those aged  $\geq 40$  years 10(22.7%), while it was 4(8.7%) among those aged  $< 40$  years.

there is higher prevalence of High-grade squamous intraepithelial lesions among females with PCB, and non- significant difference among those aged less or more than 40 years. Therefore it's important to examine any patient complaining of PCB with PAP smear cytology and colposcopy examination

**Keywords:** postcoital bleeding, irregular vaginal bleeding, Pap smear.

## نزيف ما بعد الجماع هو خطر تشوه خلايا عنق الرحم

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### الملخص

يعد نزيف ما بعد الجماع مصدر قلق لكل من النساء ومقدمي الرعاية الصحية. هدفت هذه الدراسة إلى تقييم مدى انتشار خلل عنق الرحم غير الطبيعي بين المرضى الذين يعانون من ثنائي الفينيل متعدد الكلور في بيئة رعاية المرضى الخارجيين الخاصة ، وتحديد عوامل الخطر لأمراض عنق الرحم بين هؤلاء المرضى. دراسة مقطعية لـ 90 مريضاً قدمت للعيادة الخاصة خلال الفترة 1 فبراير - 1 ديسمبر 2019. تشمل معايير الإدماج النساء المتزوجات اللاتي تعرضن لنزيف ما بعد الجماع ، وغير الحوامل ، وجميع المريضات يخضعن لفحص عنق الرحم. كان العمر الأكثر شيوعاً للمصابين بنزيف ما بعد الجماع هو 44-40 سنة (24.4%) ، يليه (45-49) سنة و (25-29) سنة 18 (20%). أولئك الذين تقل أعمارهم عن 40 سنة 44 (48.9%) ، وأولئك الذين تقل أعمارهم عن 34 سنة (37.8%). كان متوسط الولادة 4.7 ± 2.8 ، وكانت موانع الحمل الهرمونية شائعة الاستخدام من قبل أولئك الذين لديهم نزيف ما بعد الجماع متبوعاً بجهاز منع الحمل داخل الرحم (IUCD) ، (33.3) 30% (، 18 (20) على التوالي. كانت معظم المريضات من ربات المنزل 78 (86.7%) ، وأظهر الفحص البدني أن معظم المريضات تعرضن لتآكل عنق الرحم 68 (75.5%) ، يليه عنق الرحم السليم في 12 (13.3%) ، في حين تم العثور على سمات مشبوهة بين 6 (6.7%). ، تم العثور على خلل التنسجي بدرجة معتدلة والشديده بين أولئك الذين تتراوح أعمارهم بين 40 سنة 10 (22.7%) ، بينما كان 4 (8.7%) بين أولئك الذين تقل أعمارهم عن 40 سنة. هناك انتشار أعلى للآفات الحرشفية داخل الظهارة عالية الدرجة بين الإناث المصابات بنزف ما بعد الجماع، وهناك فرق غير مهم بين أولئك الذين تقل أعمارهم عن 40 عاماً أو أكثر. لذلك من المهم فحص أي مريضه تشكو من نزف ما بعد الجماع باستخدام فحص الخلايا PAP وفحص التنظير المهبلية

**الكلمات الدالة:** نزيف ما بعد الجماع ، نزيف مهبلية غير منتظم ، مسحة عنق الرحم.

## Introduction

Postcoital bleeding is bleeding or spotting unrelated to menstrual cycle and its related to sexual intercourse. The prevalence ranges from 0.7- 9.0% with annual cumulative incidence 6% among menstruating women [1]. For premenopausal women who are naturally menstruating, spontaneous resolution has been documented in 51% at two years with no further signs of recurrence [2]. About 30% of patients with post-coital bleeding also experience abnormal uterine bleeding and 15% have dyspareunia [3,4]. Postcoital bleeding mainly results from surface lesions of the cervix, it may be caused by: cervical polyps, cervicitis, ectropion, cervical intra-epithelial lesion (CIN), or carcinoma [5]. The prevalence of cervical cancer in women with postcoital bleeding is 3.0 to 5.5% and prevalence of CIN is 6.8% to 17.8% [4, 6, 7], abnormal epithelial cytology among post coital bleeding women 86% in a study done in Iraq[8] positive HPV found among 16.5% of Iraqi female[9], abnormal intraepithelial cytology found among 23% of cervical clinic attendance in Baghdad[10] .

There is currently no assent regarding when PCB requires further investigation and when women can precede with routine gynecological follow-up. One of the main reasons for the lack of assent is the rarity of data involving the prevalence of PCB in the population and the incidence of cervical cancer among these patients [11]. Other reasons include variations in study design, statistical analysis, and study location [12,7]. Therefore, management of PCB varies among countries.[13]

The objectives of the current study was to evaluate the prevalence of abnormal cervical cytology among patient with PCB in the private outpatient care setting, and to identify risk-factors for cervical pathology among these patients.

## Patients & Methods

Cross sectional study of 90 patient presented to the privet clinic, during the period 1st feb-1st Des. 2019. Inclusion criteria include married women presented with post coital bleeding, non-pregnant, age  $\geq 21$  years, or married for at least 3 years, presented with signs and symptoms of PCB .

Exclusion criteria: women with active vaginal bleeding, hysterectomy, and women with frank growth and/or who had never been sexually active or had undergone prior treatment for CIN or cancer cervix, or had unsatisfactory Pap smear were excluded from the study. Pap smear was done for all the patient .Information regarding age, job parity, marital

status symptoms and patient complain and clinical examination of the patient was obtained via a structured questionnaire .Cytological study done by cytopathology specialist. Conventional pap smear were used. Cytology was reported using Bethesda system .

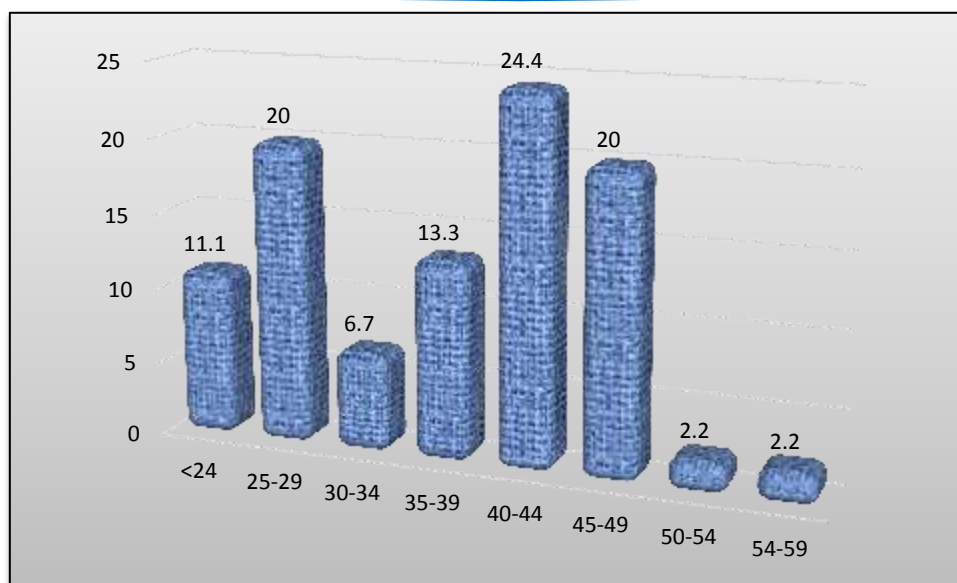
a single combined smear, was done for each patient by sampling the End cervix, first to obtain the cell sample. Ectocervix scraped with the spatula and materials rapidly was spread on the upper end of the slide. Spreading the End cervical material through the Ectocervical material to the end of the slide. This procedure Performed quickly to prevent drying artifacts. Fixation of the slide done using spray fix by thoroughly soaking the cellular sample while holding the spray fixative container about 15-20 inches from the slide. Then allowing spray fixative to evaporate.

Statistical analysis and data management: The Statistical Package for Social Sciences (SPSS, version 18) was used for data entry and analysis. Chi ( $\chi^2$ ) square test, and t- test was used to compare means and proportions of different factors among different groups of study sample. Statistically significant relations regarded if P value of  $\leq 0.05$ . Bar charts and tables used to present the data.

## Results

The commonest age presented with PCB was 40-44 years old 22(24.4%), followed by (45-49) years and (25-29) years 18(20%). Those aged  $\geq 40$  years 44(48.9%), and those aged  $\leq 34$  34(37.8%) as shown in figure 1 and table 2.

The mean parity was  $4.7 \pm 2.8$ , hormonal contraception was commonly used by those with PCB followed by intra uterine contraceptive device (IUCD), 30(33.3%), 18(20) respectively. Most of the patient were House wives 78(86.7%), as shown in table 1.



**Figure 1 Age distribution of patients with PCB**

**Table 1 the general characteristics of patient with PCB**

		Frequency	Percent
Age	≤34	34	37.8
	35-39	12	13.3
	≥40	44	48.9
Parity		4.7±2.8	
contraception	Non	42	46.7
	Hormonal	30	33.3
	IUCD	18	20
Job	House wife	78	86.7
	employer	12	13.3
	Total	90	100

The physical examination show that most patient had cervical erosion 68(75.5%), followed by healthy cervix in 12(13.3%), while suspicious features was found among 6(6.7%), as shown in table 2.

**Table 2 Physical examination features**

	Frequency	Percent
Healthy	12	13.3
Erosion	68	75.6
suspicious features	6	6.7
polyp	4	4.4
Total	90	100

CIN2, and CIN3 was found among 10(11.1%), and 4(4.4%) respectively, as shown in table 3

**Table 3 the cytology result of patient with PCB**

Pap Cytology results	Frequency	Percent
NILM	4	4.4
ASCUS	42	46.7
CIN1	30	33.3
CIN2	10	11.1
CIN3	4	4.4
Total	90	100

Moderate and sever dysplasia was found more among those aged  $\geq 40$  years 10(22.7%), while it was 4(8.7%) among those aged  $< 40$  years, this relation was statistically not significant, as shown in table 4.

**Table 4 the association of cytology results of patient with PCB according to age**

Age	$\leq$ CIN1	$\geq$ CIN2	Total
<40 Years	42	4	46
	91.30%	8.70%	100.00%
$\geq 40$ Years	34	10	44
	77.30%	22.70%	100.00%
Total	76	14	90
	84.40%	15.60%	100.00%

P value =0.066 not significant

## Discussion

Abnormal vaginal bleeding caused by variety of gynecological causes, is a common presentation seen by health care provider, it cause adversity for both women and clinician, as this is an indication of possible underlying tumor. [1]

In this study we tried to answer the question of is patient with PCB need to direct referral for colposcopy clinic. From the 90 patient we studies non had invasive cervical cancer. This finding go in agreement with previous studies done by Abu J.et al [14] And Selo-Ojeme et al.[4], both studied women with PCB and found non of them had invasive cervical cancer. Cohen O et al found that 0.5% of women with PCB had invasive cervical cancer [15] the difference is not so high and the cause may be is that the later study done on 411 patient

treated in specialized center for colposcopy. Another studies found higher percentages of invasive cancer among PCB, such as Liu HL et al in Taiwan, 2.3% of patients with PCB had cervical cancer[16], and by Rosenthal AN et al in UK [6], who found that 4% of women with PCB had invasive cervical cancer. The prevalence of invasive cervical cancer in the studies done in Tian and UK may be related to cultural differences and differences in HIV and HPV prevalence. Some studies found higher prevalence of PCB among women with HIV (5-32% ) [17-19].

Moderate and sever Cervical dysplasia was 14(14.5%) [CIN2 (11.1%), and CIN3(4.4%)], this finding supported by Gulumser C et al (2015) [20] found that 13.1% of the PCB patient had CIN2/3. And Abu J et al [14] (10.5%), they found that if women with PCB have previous abnormal cervical cytology had more than double risk of CIN than those with a negative smear (odds of 0.47 and 0.19, respectively, with a relative risk (RR) of 2.37. This may be explained by the fact that bleeding or spotting occurs from the fragile mucosal layer of the cervix with CIN2/3.

Studies in Iraq found that 32.4% of women with PCB had abnormal Pap smear cytology without definite illustration of the type or grade of Pap smear abnormality[21], the High-grade squamous intraepithelial lesions was 1.5% among total population not only PCB [10] Gulumser C et al (2015) I Turkey [20] found that 13.1% of the PCB women had CIN2/3, but he related this increase to the Smoking, HPV (+), previous history of abnormal cytology, [OR 1.6 , 4, 5.7 respectively] indicating that these factors are important if combined with PCB presentation [20]. Other studies found lower percentage of CIN2/3 among PCB : Cohen O et al 1% [15]. Shapley M et al 3.5% of the patient were CIN 2/3. [2]



The large difference in prevalence is due to cultural and variations in study design and methodology, but the important factor is study location. Studies performed in developed countries have a lower prevalence of cervical cancer and CIN due to access to screening programs [6, 7, 22].

This study was supportive of much greater risk of cervical dysplasia than in the general population.

In this study we analyzed the age distribution of moderate and sever dysplasia and found that even the association was not significant but the moderate and sever dysplasia was found more among those aged  $\geq 40$  years (22.7%), while it was (8.7%) among those aged  $< 40$  years. This supported by previous studies in Iraq on general population that found increasing age is predisposing factor for abnormal cytology. Abdul Hasan M Y et al in study done 2019 in Iraq on general population found that (39.3%) of those aged more than 40 years had abnormal cytology at different stages, while only (25.1%) of those aged  $< 40$  years had abnormal cytology.[ 21]

Another study done by Al Niyazee A.A [10] found that the mean age of those with High-grade squamous intraepithelial lesions (HISL) include cell changes having higher likelihood of progressing to cancer, including presence of moderate to severe dysplasia, carcinoma in situ (CIS), CIN 2 and CIN 3, or changes suspicious for invasive cancer, was  $44.9 \pm 12.95$ , while those with LSIL (Low-grade squamous intraepithelial lesions): cells show definite minor changes unlikely to progress into cancer, including human papilloma virus (HPV) infection, mild dysplasia, and cervical intraepithelial neoplasia (CIN 1), was  $38.4 \pm 11.3$  years. Abu J.,et al [14] found that postcoital bleeding remains a cardinal warning sign of lower genital tract cancer, but it could be occure in the absence of cytological abnormality.

National Health Service Cervical Screening Program of the UK, recommended referral of women aged > 40 years presented with PCB to colposcopy clinic [23]. Some studies like Khattab et al. (2005) [24], and F. Alfaily & A. A. A. Ewies (2010) [5] found that there is no significant difference among women aged < 35 and > 35 years regarding invasive cervical cancer and CIN among women presented with PCB. Therefore it's important to refer any women with persistent PCB for further investigation regardless of her age.

### **Conclusion and recommendations:**

This study results indicate higher prevalence of HISL among females with PCB, and non-significant difference among those aged less or more than 40 years. We recommend referral of any patient with persistent PCB for PAP smear cytology and colposcopy examination.

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