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Prevalence of abnormal Pap smear in women attending gynecological clinic in Al-Kadhimya hospital in 2022-2023

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Abstract
Background: The prevalence of abnormal Pap smear results in women is a critical public health issue that directly relates to the early detection and potential prevention of cervical cancer. The Pap smear, also known as the Pap test, is a screening procedure for cervical cancer. The aim of study is to show the Prevalence of abnormal Pap smear in women attending Gynecological clinic in Al- Kadhimya hospital in 2022-2023.
Method: Cross sectional study of 202 females attending Gynecological clinic in Al-Kadhimya hospital from period January 2022 to January 2023. All females have record data as following; Age groups (years), Mode of delivery, Contraception mode, heard cancer, know symptoms, doing pap smear, Have wart, Menopause, Gravida, Para, Abortion. And also all females record their symptoms and finally histopathological diagnosis (ASCUS, LSIL, NILM).
Results: In this study, significant associations were found between dysplasia and factors such as Pap smear history, with a higher percentage of patients with ASCUS not having done pap smear previously. Additionally, a significant association was observed between dysplasia and a history of wart, particularly among patients with ASCUS and LSIL. However, there were no significant associations between dysplasia and age groups, gravidity, parity, abortion, mode of delivery, contraception methods, knowledge of symptoms, and menopause status.
Conclusion: This study highlights the importance of regular cervical screening and HPV awareness for early detection of cervical dysplasia. While certain factors like reproductive history and contraception usage weren't significantly associated with dysplasia, comprehensive health education and accessible gynecological care remain essential for women's health. Public health initiatives should focus on increasing awareness, education, and access to cervical screening programs to prevent cervical abnormalities effectively.

Keywords: Prevalence, Pap smear, gynecological clinic, Al- Kadhimya hospital, 2022-2023

Introduction
The prevalence of abnormal Pap smear results in women is a critical public health issue that directly relates to the early detection and potential prevention of cervical cancer. The Pap smear, also known as the Pap test, is a screening procedure for cervical cancer. It tests for the presence of precancerous or cancerous cells on the cervix, the opening of the uterus. Understanding the prevalence of abnormal Pap smears is crucial in developing effective public health strategies to reduce the incidence and mortality rates of cervical cancer [1, 2]. Globally, cervical cancer is the fourth most common cancer in women, and the development of the Pap smear test by Dr. George Papanicolaou in the 1940s was a significant milestone in the fight against this disease. This test has dramatically reduced the number of cervical cancer cases and deaths where it is regularly used, due to its effectiveness in detecting changes in cervical cells at an early and treatable stage [3, 4]. An abnormal Pap smear result does not necessarily indicate cancer; it can detect changes in cervical cells that, if not monitored or treated, could become cancerous over time. These changes are usually caused by the Human Papillomavirus (HPV), a common sexually transmitted infection. Factors such as the age of the woman, her sexual and reproductive history, the presence of HPV, and other health issues can influence the likelihood of an abnormal Pap smear [5, 6]. The prevalence of abnormal Pap smear results varies across different regions and populations, influenced by factors such as access to healthcare, public awareness of cervical cancer screening, and the prevalence of HPV in the population. In developed countries, where regular screening is more common, the incidence of cervical cancer and the prevalence of abnormal Pap smears

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have decreased significantly. However, in developing countries, limited access to screening and healthcare resources often results in higher rates of abnormal Pap smears and cervical cancer [7, 8]. Understanding the prevalence of abnormal Pap smears also involves considering demographic factors such as age, socioeconomic status, and race/ethnicity. Younger women may have a higher incidence of transient HPV infections, which can lead to temporary abnormal Pap results. Socioeconomic factors influence access to healthcare and screening, leading to disparities in the prevalence of abnormal Pap smears. Additionally, ethnic and racial disparities in cervical cancer incidence and mortality rates can reflect differences in screening rates and healthcare access [9, 10]. Public health initiatives focusing on increasing awareness of cervical cancer screening, along with vaccination against HPV, play a vital role in reducing the prevalence of abnormal Pap smears. Education about the importance of regular cervical screening and follow-up on abnormal results is crucial in these efforts [11]. Moreover, the development of HPV testing and the HPV vaccine has significantly impacted the landscape of cervical cancer prevention. The HPV test, which can be done in conjunction with or as a follow-up to a Pap smear, checks for the virus that can cause these cell changes. The vaccine, recommended for preteens, can prevent the majority of cervical cancers [12]. ASCUS (Atypical Squamous Cells of Undetermined Significance) suggests unusual cells whose significance is unclear, often requiring further testing like an HPV test to check for high-risk HPV types. LSIL (Low-Grade Squamous Intraepithelial Lesion) indicates mildly abnormal cells, usually associated with HPV infections. While LSIL often resolves on its own, especially in younger women, it can progress to more severe abnormalities, necessitating closer monitoring or further tests such as a colposcopy. NILM (Negative for Intraepithelial Lesion or Malignancy) is a normal result, showing no precancerous or cancerous cells, indicating a low risk of cervical cancer at screening time. Regular Pap smears are essential for ongoing monitoring, as they help detect cervical changes early and effectively, facilitating timely intervention and treatment [5]. The aim of study is to show the Prevalence of abnormal Pap smear in women attending Gynecological clinic in Al- Kadhimya hospital in 2022-2023.

Method
Cross sectional study of 202 females attending Gynecological clinic in Al- Kadhimya hospital from period January 2022 to January 2023. All females have record data as following; Age groups (years), Mode of delivery, Contraception mode, heard cancer, know symptoms, doing pap smear, Have wart, Menopause, Gravida, Para, Abortion. And also all females record their symptoms and finally histopathological diagnosis (ASCUS, LSIL, NILM).

Statistical analysis done by SPSS 22, frequency and percentage used for categorical data. Chi-square used for assessed association between categorical variables, P-value less or equal to 0.05 is consider significant.

Results
In table 1, 62 (30.7%) of patients at age group (30-39) and (40-49) years old. 152 (75.2%) of females have normal vaginal delivery, 95 (47%) of patients have no used contraception method, and 44 (21.8%) of them used coitus interrupts. 107 (53%) of patients heard by cancer, but 106 (52.5%) of females not know about symptoms. 201 (99.5%) of females do pap smear, just 27 (13.4%) have wart, 159 (78.7%) of them menopause, 132 (65.3%), 97 (48.0%) of females have gravid and para more than 3, while 111 (55.0%) of them have no abortion.

Table 1: Distribution of patients according to study variables

Variables		Frequency	Percentage
Age groups (years)	20-29	37	18.3
	30-39	62	30.7
	40-49	62	30.7
	50-59	27	13.4
	60 more	14	6.9
Mode of delivery	C\S	50	24.8
	NVD	152	75.2
	Coitus interrupts	44	21.8
	Condom	5	2.5
Contraception mode	Implanon	1	0.5
	IUCD	20	9.9
	Mirena	3	1.5
	No	95	47.0
	OCP	34	16.8
Heard cancer	No	95	47.0
	Yes	107	53.0
Know symptoms	No	106	52.5
	Yes	96	47.5
Doing pap smear	No	1	0.5
	Yes	201	99.5
Have wart	No	175	86.6
	Yes	27	13.4
Menopause	No	159	78.7
	Yes	43	21.3
Gravida	0	8	4.0
	1-3	62	30.7
	>3	132	65.3
Para	0	11	5.4
	1-3	94	46.5
	>3	97	48.0
Abortion	0	111	55.0
	1-3	84	41.6
	>3	7	3.5

As in fig 1, 68 (33.66%) of females have LGT infection, 62 (30.69%) of them have vaginal bleeding, 45 (22.28%) of females have vaginal discharge.
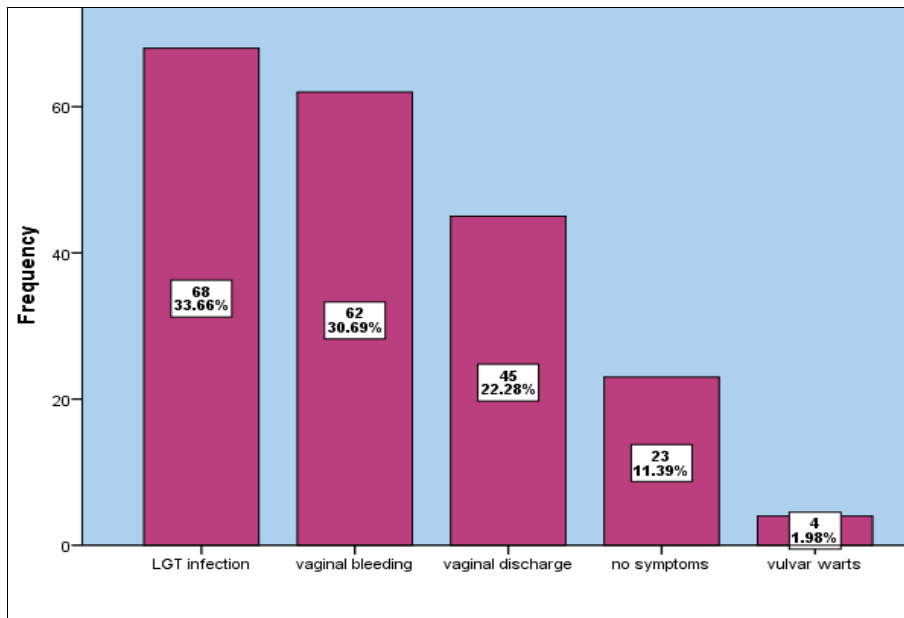
Fig 1: Distribution of patients according to symptoms

As shown in fig 2, 159 (78.71%) of females have NILM while 25 (12.38%) of them have ASCUS.
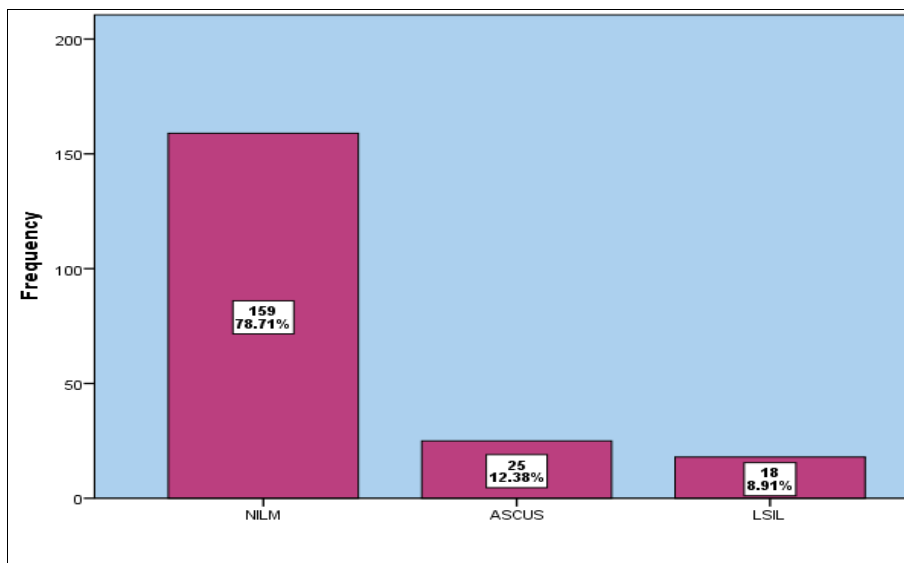

Fig 2: Distribution of patients according to results

In table 2; there is not significant association between dysplasia and [Age groups (years), Gravida, Para, Abortion].

Table 2: Association between dysplasia and study variables

Variables		Result			P-value
		ASCUS	LSIL	NILM	
Age groups (years)	20-29	6 (16.2%)	4 (10.8%)	27 (73%)	0.4
	30-39	8 (12.9%)	9 (14.5%)	45 (72.6%)	
	40-49	7 (11.3%)	2 (3.2%)	53 (85.5%)	
	50-59	4 (14.8%)	2 (7.4%)	21 (77.8%)	
	60≤	0 (0%)	1 (7.1%)	13 (92.9%)	
Gravida	0	0 (0%)	1 (12.5%)	7 (87.5%)	
	1-3	11 (17.7%)	6 (9.7%)	45 (72.6%)	0.5
	>3	14 (10.6%)	11 (8.3%)	107 (81.1%)	
Para	0	0 (0%)	1 (9.1%)	10 (90.9%)	
	1-3	16 (17%)	9 (9.6%)	69 (73.4%)	0.3
	>3	9 (9.3%)	8 (8.2%)	80 (82.5%)	
Abortion	0	14 (12.6%)	8 (7.2%)	89 (80.2%)	
	1-3	10 (11.9%)	9 (10.7%)	65 (77.4%)	0.9
	>3	1 (14.3%)	1 (14.3%)	5 (71.4%)	

P-value ≤ 0.05 (significant).

In table 3; there is not significant association between dysplasia and [Mode of Delivery, Contraception methods].

Table 3: Association between dysplasia and study variables

Variables		Result			P-value
		ASCUS	LSIL	NILM	
Mode of Delivery	C\S	10 (20%)	6 (12%)	34 (68%)	0.09
	NVD	15 (9.9%)	12 (7.9%)	125 (82.2%)	
	Coitus interrupts	10 (22.7%)	2 (4.6%)	32 (72.7%)	
Contra.	Condom	0 (0%)	0 (0%)	5 (100%)	0.08
	Implanon	0 (0%)	0 (0%)	1 (100%)	
	IUCD	3 (15%)	1 (5%)	16 (80%)	
	Mirena	1 (33.3%)	1 (33.3%)	1 (33.4%)	
	No	7 (7.4%)	7 (7.4%)	81 (85.2%)	
	OCP	4 (11.8%)	7 (20.6%)	23 (67.6%)	

P-value ≤ 0.05 (significant).

As in table 4; there is significant association between dysplasia and doing pap smear, 79.1% of patients with NILM do pap smear previously and 100% of females with ASCUS didn't do pap smear previously. Also there is significant association between dysplasia and history of wart (44.5%) of females with ASCUS and (40.7%) of females with LSIL have history of wart previously. there is no significant association between dysplasia and [Knowledge of symptoms, symptoms and Menopause].

Table 4: Association between dysplasia and study variables

Variables		Result			P-value
		ASCUS	LSIL	NILM	
Knowledge of symptoms	No	11 (10.4%)	9 (8.5%)	86 (81.1%)	
	Yes	14 (14.5%)	9 (9.5%)	73 (76%)	0.6
Do pap smear	No	1 (100%)	0 (0%)	0 (0%)	
	Yes	24 (11.9%)	18 (9%)	159 (79.1%)	0.029
Symptoms	LGT infection	8 (11.8%)	3 (4.4%)	57 (83.8%)	
	No symptoms	3 (13%)	2 (8.7%)	18 (78.3%)	
	Vaginal bleeding	9 (14.5%)	8 (12.9%)	45 (72.6%)	
	Vaginal discharge	4 (8.9%)	4 (8.9%)	37 (82.2%)	0.6
	Vulvar warts	1 (25%)	1 (25%)	2 (50%)	
History of Warts	No	13 (7.4%)	7 (4%)	155 (88.6%)	
	Yes	12 (44.5%)	11 (40.7%)	4 (14.8%)	0.0001
Menopause	No	21 (13.2%)	16 (10.1%)	122 (76.7%)	
	Yes	4 (9.3%)	2 (4.7%)	37 (86%)	0.4

P-value ≤ 0.05 (significant).

Discussion
Age and Cervical Health
The study's data indicate that a significant proportion of the patients fall within the 30-39 and 40-49 age groups. This finding is particularly relevant, considering these age ranges are pivotal for cervical cancer screening. The lack of a significant association between age and cervical dysplasia in this study is intriguing, as age is often considered a factor in cervical health. This could suggest that other factors may play a more prominent role in the development of cervical abnormalities in this specific population [13, 14].

Reproductive Factors and Cervical Dysplasia
The study notes no significant association between dysplasia and reproductive history (Gravida, Para, Abortion) or the mode of delivery. This is an interesting observation, diverging from some previous studies which have indicated potential links between reproductive history and cervical health outcomes. For instance, Bhuvanendran Pillai *et al*. (2022) found that multiparty was a risk factor for cervical cancer, which contrasts with the current study's findings where gravidity and parity showed no significant association with dysplasia [15].

Contraception use
The data shows a significant portion of the study population either did not use any contraception or used less reliable methods. The lack of a significant association between contraception methods and dysplasia in this study could reflect the multifaceted nature of risk factors for cervical dysplasia. This is in line with the findings by Chan CK *et al*. (2019), which suggested that while some contraceptive methods might influence the risk of HPV infection, their direct relationship with cervical dysplasia remains unclear [16].

Awareness of Cancer Symptoms
The study reveals a notable gap in awareness regarding cancer symptoms, with over half of the participants lacking this knowledge. This highlights a critical area for public health intervention, as awareness and education are key in early cancer detection and prevention. According to Coronado Interis E, *et al*. (2015), increased awareness is strongly correlated with higher screening rates and early diagnosis of cervical abnormalities [17].

Pap smear testing and HPV
The high rate of Pap smear testing in the study (99.5%) is

commendable, yet the presence of warts in a significant portion of the participants suggests a potential prevalence of HPV infections. The strong association between dysplasia and a history of warts aligns with the established link between HPV and cervical abnormalities, as noted by Patel *et al*. (2021) [18]. Furthermore, the higher prevalence of NILM among those who had undergone Pap smears previously, and the complete absence of previous Pap smears among those with ASCUS, emphasizes the importance of regular screening in the early detection and management of cervical abnormalities [19].

Menopausal status
The study's finding that menopausal status is not significantly associated with dysplasia adds to the growing body of evidence suggesting the complex interaction of hormonal changes and cervical cell pathology. This is supported by the research of Thompson *et al*. (2022), which did not find a direct correlation between menopausal status and the incidence of cervical dysplasia [20].

Conclusion
In conclusion, the study underscores the complexity of factors influencing cervical health, particularly cervical dysplasia. Regular cervical screening and HPV awareness are crucial for early detection and management of cervical abnormalities. The role of reproductive history, contraception usage, and menopausal status in cervical health, although not significantly associated with dysplasia in this study, highlights the multifaceted nature of cervical cancer risk factors. The findings emphasize the need for comprehensive health education and accessible gynecological care to improve women's health outcomes. It is recommended to enhance public health initiatives focusing on increasing awareness and education about cervical cancer symptoms, screening, and HPV. Additionally, improving access to regular and comprehensive cervical screening programs across diverse populations is crucial for early detection and prevention of cervical abnormalities.

Conflict of Interest
Not available

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Not available

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