

Research Paper



## Cervical cancer to see the evaluation of the effectiveness of colposcopy in iraqi women

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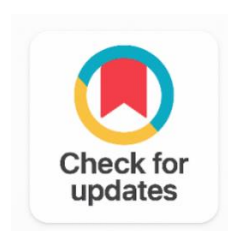
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### ABSTRACT

**Background:** One of the leading causes of female death in developing nations is cervical cancer, which accounts for one-fourth of all cases globally. **Objective:** This paper was focused to assess the outcomes of cervical cancer to see the evaluation of the effectiveness of colposcopy in Iraqi women. **Patients and Methods:** This paper was represented as a cross-sectional study to assess the outcomes of cervical cancer to see the evaluation of the effectiveness of colposcopy in Iraqi women where to include from 25<sup>th</sup> August 2021 to 16<sup>th</sup> July 2022 into, 50 patients for ages between 25-50 years. This paper was analysed and examine of clinical features for cervical cancer by the SPSS program. **Discussion:** The specificity of the Swede score was scoring with seven or above was 87% in the current investigation, while the sensitivity for high-grade lesions was 92%. The threshold was lowered to 5, which boosted the sensitivity reached 72.42% and the specificity to 82%. Using a threshold of 5 for the Swedish score, the accuracy of the value of positive prediction is 75.48%. The accuracy considerably increased to 93.28% if the cutoff for the Swede score was set at 7. The results were similar to those that Bowring et al., as well as Strander et al., had previously reported. **Conclusion:** This study shows the Swede score was good as screening modalities as performance assessed of patients who have lower abdominal pain and discharge per vaginam as well as dyspareunia, abnormal uterine bleeding which colposcopy conducted into pointing of suspicious cervix with the unhealthy case. In comparison between the Swede score >5 and >7, our study noticed Swede score have a sensitivity of 92%, Specificity of 87%, and Accuracy of 93.28% were more perfect in compare with >5.

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## 1. INTRODUCTION

One of the leading causes of female death in developing nations is cervical cancer, which accounts for one-fourth of all cases globally in India alone. As opposed to one for every 100 women of the industrialized world, it has been found that 1 in 53 Indian women suffer from a lifetime risk of having cervical cancer. The squamocolumnar junction is a representation of the transformation zone, and it is here where aberrant nuclear alterations take place, causing cellular malignancy. Since cervical cancer is virtually always associated with the human papillomavirus (HPV), it is believed that HPV is a key factor in the development of cervical cancer [1], [2].

According to histology, squamous cell carcinoma, which accounts for 70% of all cases, is the most prevalent kind of cervical cancer [3]. Even though cervical cancer endures a lengthy latent phase, it still has an elevated prevalence and incidence in resource-poor nations like India due to a poorly organized health system and a deficiency in screening programs that are capable of identifying premalignant as well as malignant lesions. Screening techniques include the Pap smear, HPV DNA test, visual examination with acetic acid (VIA), and Lugol's iodine (VILI) [4], [5].

Cytology-based screening programs are challenging to implement in low-resource settings because they depend on laboratories and expensive equipment as well as adequate assistance from trained technicians and professional employees to produce and analyze the slides. For cytology to be successful, it must be performed repeatedly throughout time. VIA has been used as an alternate screening tool to cervical cytology because to a lack of suitable cytology screening facilities and a high number of cervical cancer patients in poor nations.

It has the benefit of being reasonably priced and producing effects right away. The accuracy and dependability of VIA have, however, come under scrutiny recently. Colposcopy is still the de facto gold standard for screening, so to speak. The location, size, margins, vascularity, and extent of aberrant cervical lesions are considered during this straightforward, noninvasive OPD treatment [6], [7], [8], [9], [10], [11]. This paper was objectived to assess the outcomes of cervical cancer to see the evaluation of the effectiveness of colposcopy in Iraqi women.

## 2. METHODOLOGY

This paper was presented as a cross-sectional study to assess the outcomes of cervical cancer to see the evaluation of the effectiveness of colposcopy in Iraqi women where to include from 25<sup>th</sup> August 2021 to 16<sup>th</sup> July 2022, into 50 patients for ages between 25-50 years. This paper was analysed and examine of clinical features for cervical cancer by the SPSS program. This paper was contributed into Distributions of clinical features of cervical cancer patients based on ages within 25 to 50 years, where can be seen in Table 1, BMI into <27.55 and >27.55, which it was be found in Table 2, economic level have a Lower class where

can be cleared in Table 3, which are Middle class, and Upper class, parity which includes  $\geq P4$ , P1, P2, and P3, it can be shown in Table 4.

In the progress of outcomes, this paper was progressing into findings of cervical biopsy, which include Bleeding PV, Intermenstrual bleeding, Postcoital bleeding, postmenstrual bleeding, Lower abdominal pain, and Vaginal discharge, where these outcomes were got on Figure 1. To further of outcomes, this paper was highlighted into Findings of cervical biopsy based on lesion size that divide with  $<5$  mm,  $>15$  mm, and  $5-15$  mm where these findings were got in Table 5. Moreover, this paper was progressed to analyse of swede scores into cervical biopsy patients that determine  $<5$  and  $\geq$  five, which can be seen in Table 6. In addition, this study was determined with Distributions of Swede score levels in correlation with cervical biopsy patients, which include  $< 5$ ,  $\geq 5$ ,  $< 7$ , and  $\geq$  seven. This outcome was found in Table 7. Finally, this study was accessed to outcome with Swede scores analysis based on sensitivity, specificity, and accuracy, where this finding was shown in Figure 2.

### 3. RESULTS AND DISCUSSION

**Table 1.** Distributions of Clinical Features of Cervical Cancer Patients Based on Age

N	V	50
	Mi	0
	M	38.0000
	Std	1.03016
	Me	38.0000
	Mo	26.00 <sup>a</sup>
	SD	7.28431
	Var	53.061
	Ra	24.00
	Min	26.00
	Max	50.00
	S	1900.00

**Table 2.** Distributions of Clinical Features of Cervical Cancer Patients Based on BMI

		Freq	P (%)	VP (%)	CP (%)
V	<27.55	15	30.0	30.0	30.0
	>27.55	35	70.0	70.0	100.0
	T	50	100.0	100.0	

**Table 3.** Distributions of Clinical Features of Cervical Cancer Patients Based on an Economic Level

		Freq	P (%)	VP (%)	CP (%)
V	Lower class	16	32.0	32.0	32.0
	Middle class	26	52.0	52.0	84.0
	Upper class	8	16.0	16.0	100.0
	T	50	100.0	100.0	

**Table 4.** Distributions of Clinical Features of Cervical Cancer Patients Based on Parity

		Freq	P (%)	VP (%)	CP (%)
V	$\geq P4$	11	22.0	22.0	22.0
	P1	8	16.0	16.0	38.0
	P2	12	24.0	24.0	62.0
	P3	19	38.0	38.0	100.0

	T	50	100.0	100.0	
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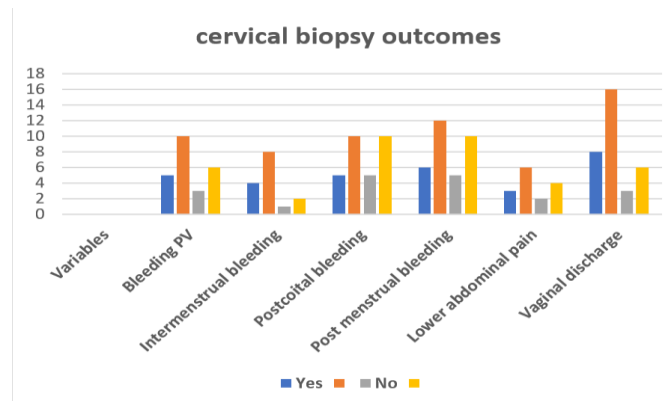


Figure 1. Findings of a Cervical Biopsy

Table 5. Findings of Cervical Biopsy Outcomes Based on Lesion Size

		Freq	P (%)	VP (%)	CP (%)
V	<5 mm	7	14.0	14.0	14.0
	>15 mm	17	34.0	34.0	48.0
	5-15 m	26	52.0	52.0	100.0
	T	50	100.0	100.0	

Table 6. Assessments of Swede Score into Cervical Biopsy Patients

Swede Score	Cervical Biopsy Patients, F	Cervical Biopsy Patients, Per (%)
<5	37	74%
≥5	13	26%

Table 7. Distributions of Swede Score Level in Correlation with Cervical Biopsy Patients

Swede Score Levels	Cervical Biopsy Patients, F	Percentage (%)
< 5	10	20%
≥ 5	40	80%
< 7	15	30%
≥ 7	35	70%

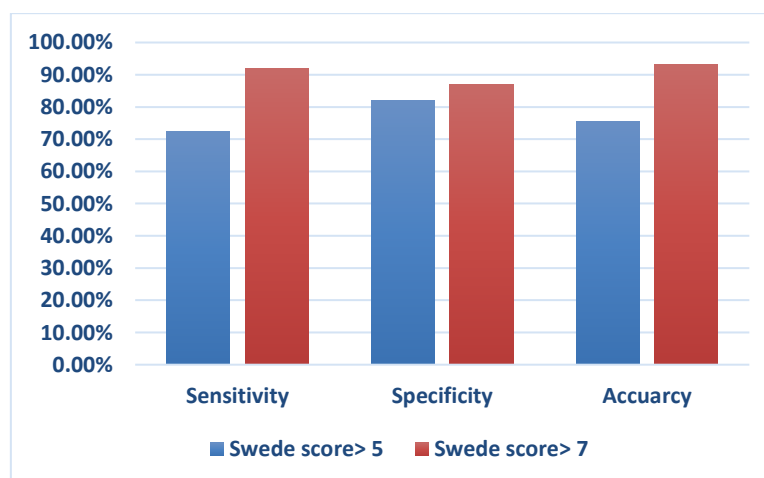


Figure 2. Swede Scores Analysis Based on Sensitivity, Specificity, and Accuracy

## Discussion

Despite having a lengthy precancerous stage, where cervical cancer remains one of the factors that has affect prevalent tumors among women in underdeveloped nations. This makes it a disorder that can be prevented because there is enough opportunity for screening and treatment. But because the health system lacks the resources and appropriate screening programs to find precancerous lesions, fatality rates are quite high, rendering carcinoma cervix the main cancer-related death of females. The Swede score had defined with used by Strander et al. as well as [12] to determine the severity associated with the cervical lesion. According to [13], the specificity of a Swede score with eight or higher was 90%, and no patients with a score of 5 had lesions of CIN 2 nor worse. Additionally, they discovered that 70% with large-sized lesions with two points had histological diagnoses of CIN 2 or worse. Eight participants with CIN 2 or greater had more than a two score for the size of the lesion in this investigation. According to research [14] a Swede score for eight or above resulted in a specificity for 95% of CIN 2 or worse and a sensitivity of 38%; decreasing the cutoff to 6 increased sensitivity into 65% but at the expense of specificity (82%). Patients with lower scores exhibited larger negative predictive values (NPPs), with a 90% NPP for scores of three or fewer. The specificity in Swede score at a score for seven or above was 87% in the current investigation, while the sensitivity for high-grade lesions was 92%. The threshold was lowered to 5, which boosted the sensitivity reached 72.42% and the specificity to 82%. Using a threshold of 5 for the Swedish score, the accuracy of the value of positive prediction is 75.48%. The accuracy considerably increased to 93.28% if the cutoff for the Swede score was set at 7. The results were similar to those that Bowring et al., as well as Strander et al., had previously reported.

## 4. CONCLUSION

This study shows the Swede score was good as screening modalities as performance assessed of patients who have lower abdominal pain and discharge per vaginam as well as dyspareunia, abnormal uterine bleeding which colposcopy conducted into pointing of suspicious cervix with the unhealthy case. The detection of cervical cancer was represented the greatest strategy for prevention. Because it is the most prevalent cancer that may be prevented due to its lengthy preinvasive stage (CIN), it is important to make an early diagnosis for CIN by multiple screening modalities in women. In comparison between the Swede score >5 and >7, our study noticed Swede score have a sensitivity of 92%, Specificity of 87%, and Accuracy of 93.28% were more perfect in compare with >5.

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## Authors Contributions Statement

Name of Authors	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Dr. Muna Kadhum Farhood Malla	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dr. Massar Raheem Abbas	✓		✓	✓				✓				✓		✓
Dr. Zena Hataf Salih	✓			✓	✓	✓			✓		✓		✓	✓

C : Conceptualization

M : Methodology

So : Software

I : Investigation

R : Resources

D : Data Curation

Vi : Visualization

Su : Supervision

P : Project administration

Va : Validation

O : Writing - Original Draft

Fu : Funding acquisition

Fo : Formal analysis

E : Writing - Review & Editing

### Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

### Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

### Ethical Approval

The study was conducted in compliance with the ethical principles outlined in the Declaration of Helsinki and approved by the relevant institutional authorities.

### Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.


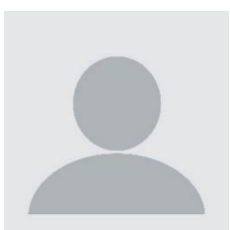
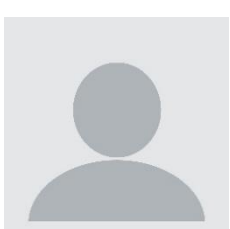
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