Review report

Final title: Performance of two colposcopic indices for predicting premalignant cervical lesions

Title at submission: Comparison of two colposcopic indices for predicting premalignant lesions of the cervix

Reviewer B: Anonymous

Although similar studies were done by many researchers, the effort of this study in Bangladesh may be beneficial for final diagnosis and treatment. As the study was completed about four years back, it would be less attentive to the readers. Swede score and the Reid colposcopic index were compared for predicting premalignant lesions of the cervix. The better work is that all findings were confirmed by taking cervical biopsies and correlated with histopathlogy. In the introduction, cervical cancer data of Bangladesh should be placed.

Gist of the study may help decision making to treat the patient in single settings.

Correspondence

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1. Comment   **Are the methods described in sufficient detail so that the study could be reproduced?**

In the abstract section, Line 47, the word "married" should be placed before mentioning study population. Here it is mentioned that the women who had "abnormal primary screening test" were included but in the methodology section line 98, 99, women with persistent per vaginal discharge were also included. A huge number 69 patients (23%) were included with such symptom. On the other hand no patient was referred for post coital bleeding, it is unbelievable. This is contradictory with inclusion criteria.

Response   Corrections done as per recommendations.

2. Comment   **Are statistics used appropriately and described fully?**

Line 143, in the result section positive findings of 287 cases should described.

Line 145, "high grade CIN " should be classified as CIN2 or CIN3

Response   Corrections done as per recommendations

Reviewer H: Anonymous

The manuscript has been well written. Here comparison has been done regarding two procedures in detecting cervical lesion effectively. Sample size is adequate to compare the efficacy of two scoring system.

3. Comment   **Pertinence of the Discussion section whether it justify the main message of the manuscript without repeating the results.**

In some segments results have been repeated.

Response   Corrections done.

4. Comment   **Whether Strength(s) and Limitation(s) are well described.**

Not mentioned clearly.

Response   Strengths and limitations mentioned now (line 220-229)

Responsible editor: **Tahniya Haq**, ORCID: 0000-0002-0863-0619

5. Comment   Reviewer B has mentioned that similar studies have already been done and the data is 4 years old.

Response   Although the data was collected between 2020 and 2021 in this study, it remains highly relevant in the current context and there is a persistent gap in locally generated evidence comparing the two colposcopic scoring systems.

The response of this statement has been written from the line number of 100 to 111.

6. Comment   The author mentions that the Swede score is known to be a more recent and comprehensive system. It includes the same four parameters as the Reid score with the addition of lesion size as the fifth criterion. So my question is – are they comparable if there is overlap of criteria?

Response   Yes, the Reid Colposcopic Index and the Swede score are comparable in the context of diagnostic performance, as both scoring systems aim to predict high-grade cervical lesions (CIN2+) based on colposcopic assessment.

The response of this statement has been written from the line number of 132 to 139.

7.	**Comment**	Since the cut off of the Reid score (8) with similar components is higher than the Swede score (5), isn't it expected that its sensitivity will be lower and specificity higher?
	Response	Thank you for this thoughtful comment. The explanation of this comment has been added if line number 140 and 142. So, while your assumption is generally true, the design differences and addition of lesion size in the Swede score help explain why it still had better sensitivity despite overlapping features with the Reid score.
7.	**Comment**	Result should focus on comparison between the 2 scoring systems. I asked for a comparison of AUC. Not just AUCs of both.
	Response	Thank you for your valuable comment. We have done it accordingly and discussed it in line no 173-188.
8.	**Comment**	Overall, there are some discrepancies, redundancy and improvement needed in the results sectio
	Response	Thank you so much for your comment. We have reviewed the results with some modifications as per your valuable suggestions and we have corrected the discrepancies and redundancy. Table 5, Table 6 and Table 7 have been deleted and figure 1 and figure 2 have been modified accordingly as stated in line number 346 and 348.
9.	**Comment**	Please mention the advantages and disadvantages of the two scoring systems, so the difference between the two become clear.
	Response	The Reid Colposcopic Index (RCI) is widely used due to its simplicity, ease of learning, and applicability in routine clinical settings, especially in low- resource environments. It relies on four criteria—acetowhite Ness, lesion margins, vascular pattern, and iodine staining—which are relatively easy to assess. However, its limitations include a lack of lesion size consideration and higher interobserver variability, which can affect diagnostic consistency and accuracy. In contrast, the Swede scoreincorporates lesion size in addition to the four RCI criteria, offering a more comprehensive assessment and improving sensitivity and specificity for detecting CIN2+ lesions. It is particularly valuable for & quota; see and treat" strategies due to its higher predictive accuracy at a cutoff of 8. Nevertheless, the Swede score's increased complexity may limit its utility in primary care settings or among less experienced practitioners, especially in resource-limited regions. Overall, while RCI is more user-friendly and practical for screening, the Swede score offers greater diagnostic precision, especially when lesion size is clinically relevant. (line 89-93)
10.	**Comment**	Please mention why the two indices were compared.
	Response	The Reid Colposcopic Index (RCI) and the Swede score are two widely used scoring systems in colposcopic evaluation of cervical lesions. However, each index has distinct features and diagnostic implications. The RCI is well-established and simple to use but does not account for lesion size, which can be an important predictor of disease severity. The Swede score, developed more recently, includes lesion size and offers improved diagnostic precision, especially in high-grade lesions and "see and treat" scenarios. Despite their widespread use, limited data exist comparing their performance in low-resource settings such as Bangladesh. Therefore, this study aimed to compare the diagnostic accuracy, sensitivity, specificity, and practical applicability of the Reid and Swede indices in predicting CIN2+ lesions, to identify the most suitable scoring method for local clinical practice and cervical cancer prevention strategies. (line 94-98)
11.	**Comment**	The methodology needs to include an interpretation of the tests used to classify patients with CIN. How was the scoring done?
	Response	In this study, two colposcopic scoring systems—the Reid Colposcopic Index (RCI) and the Swede score—were applied to classify patients suspected of having cervical intraepithelial neoplasia (CIN). For the RCI, four features were evaluated: acetowhite appearance, margin and surface contour of the lesion, vascular pattern, and iodine staining. Each feature was assigned a score of 0, 1, or 2, yielding a total possible scorem ranging from 0 to 8. A score of ≥5 was considered indicative of a high-grade lesion (CIN2+). The Swede score, a more recent and comprehensive system, incorporated the same four parameters as the RCI, with the addition of lesion size as the fifth criterion. Each parameter was scored from 0 to 2, allowing a maximum score of 10. A Swede score ≥5 was used as a threshold for suspecting CIN2+ lesions, while a score ≥8 was considered suitable for immediate "see and treat" interventions. All colposcopic evaluations were conducted prior to biopsy, and scoring was performed independently to maintain objectivity. The histopathological findings from cervical biopsies served as the gold standard for final diagnosis and were used to validate the accuracy of each scoring system. (line 110-117)
12.	**Comment**	Since the main objective is comparison of the two scoring systems, using only correlation is not sufficient. The agreement between the two scores with Kohen's kappa needs to be assessed. This could be shown in a table for clarification instead of describing it in the text (lines 142-149). You can also try Bland-Altman plot. Furthermore, you can also determine and compare the area under the curve (AUC) between the two tests. Figures of ROC curves would also improve the results.

Response		Thank you for your valuable suggestions. We already included these in the study.
13. **Comment**		How was the sample size calculated?
Response		The sample size was calculated based on an expected sensitivity of 90% for the colposcopic scoring systems in detecting CIN2+ lesions, with an absolute precision of 5% and a 95% confidence interval. Using the standard formula for sample size estimation in diagnostic test studies, the minimum required sample size was calculated to be 270 participants. To account for potential dropouts or non-evaluable cases, the final sample size was increased to 300 women. This provided sufficient power to detect meaningful differences in the diagnostic performance of the Reid Colposcopic Index and the Swede score. (line 114- 116)
14. **Comment**		There is repetition between information in the text and tables.
Response		Thank you for your valuable recommendations. Corrections were done as per recommendations.
15. **Comment**		It is preferred not to repeat the result in the discussion. Please mention the main findings in the first paragraph. Discuss the importance of your finding. Strengths and limitations should be included in the discussion.
Response		Thank you for your valuable recommendations. Corrections were done as per recommendations.
16. **Comment**		Conclusion needs to be a one-liner stating the main outcome
Response		Thank you for your valuable recommendations. Corrections were done as per recommendations.