



DIAGNOSTIC ACCURACY AND VALIDITY OF WAST-SHORT AND IPVPI TOOLS IN SCREENING FOR INTIMATE PARTNER VIOLENCE DURING PREGNANCY

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INTRODUCTION

Intimate Partner Violence (IPV) is a significant global health concern, leading to severe physical, psychological, and sexual harm.

Globally, approximately **one in four women** experience IPV, with **regional rates reaching up to 71%**.

During pregnancy, IPV is associated with adverse outcomes such as low birth weight and maternal depression.

Current Challenge:

Screening tools like the WHO's IPV questionnaire, WAST-Short, and IPVPI are designed to identify at-risk individuals.

However, **barriers such as stigma** and **inadequately trained staff** impede effective detection.

Shorter, indirect screening methods offer potential but require further validation, especially in pregnant populations.

OBJECTIVE

To compare the diagnostic accuracy of the WAST-Short tool against the IPVPI tool to determine the optimal screening method for detecting IPV during pregnancy.

Question	Answer	Score
1 How old are you?	☐ Under 25 years old	1
	☐ 25 years and over	0
2 Is this your first baby?	☐ Yes	0
	☐ No	1
3 Have you ever experienced artificial abortion before this pregnancy?	☐ No	0
	☐ Yes	1
4 How did you feel when you found out you were pregnant?	☐ Happy	0
	☐ Unexpected but happy	1
	☐ Unexpected and confused	2
	☐ Did not know what to do	2
	☐ No feelings	2
	☐ Other	2
5 Do you have someone to support you when you have problems during your pregnancy?	☐ Yes	0
	☐ No	2
6 Do you have problems or worries about your partner relationship during pregnancy?	☐ No	0
	☐ Yes	6
7 Do your partner or any family members you live with smoke in the same room as you during your pregnancy?	☐ No	0
	☐ Yes	1
8 How is the economic situation of your household?	☐ Stable	0
	☐ Able to manage	1
	☐ Difficult to manage	2
	☐ Unstable	2
	☐ Do not want to answer	2
Total score (≥ 2 indicates a high risk for any abuse from partner during pregnancy)		()

WAST - Short

- 1. In general how would you describe your relationship ...
☐ [a lot of tension] ☐ [some tension] ☐ [no tension]
- 2. Do you and your partner work out arguments with ...
☐ [great difficulty] ☐ [some difficulty] ☐ [no difficulty]

RESULTS

A total of 486 participants (mean age: 28±5.3 years) were included in the study.

•**Demographics:** 42% had education above matric, and 22% were primigravida.

•**IPV Prevalence by Tool:**

- IPVPI: 86.4% IPV-positive
- WAST-Short: 17.5% IPV-positive
- WHO Questionnaire (reference standard): 18.7% IPV-positive

SCORE	IPV STATUS	WHO SCORE		TOTAL
		POSITIVE	NEGATIVE	
IPVPI score	IPV Positive (> 2)	89	332	421
	IPV Negative (< 2)	2	63	65
WAST score	IPV Positive =2	35	50	85
	IPV Negative <2	56	345	401
	Total	91	395	486

Table: Cross tabulation of IPVPI and WAST score with WHO score

PARAMETERS	IPVPI	WAST SCORE
Sensitivity	97.80%	38.50%
Specificity	15.90%	87.30%
Positive Predictive Value (PPV)	21.10%	41.20%
Negative Predictive Value (NPV)	96.90%	86.00%

Table: Diagnostic Performance Comparison for IPVPI and WAST score

Diagnostic Performance Comparison:

•**IPVPI:**

- High sensitivity: 97.8%
- Low specificity: 15.9%
- Implication:* Leads to a high false-positive rate.

•**WAST-Short:**

- Lower sensitivity: 38.5%
- High specificity: 87.5%
- Implication:* More reliable for identifying true negatives.

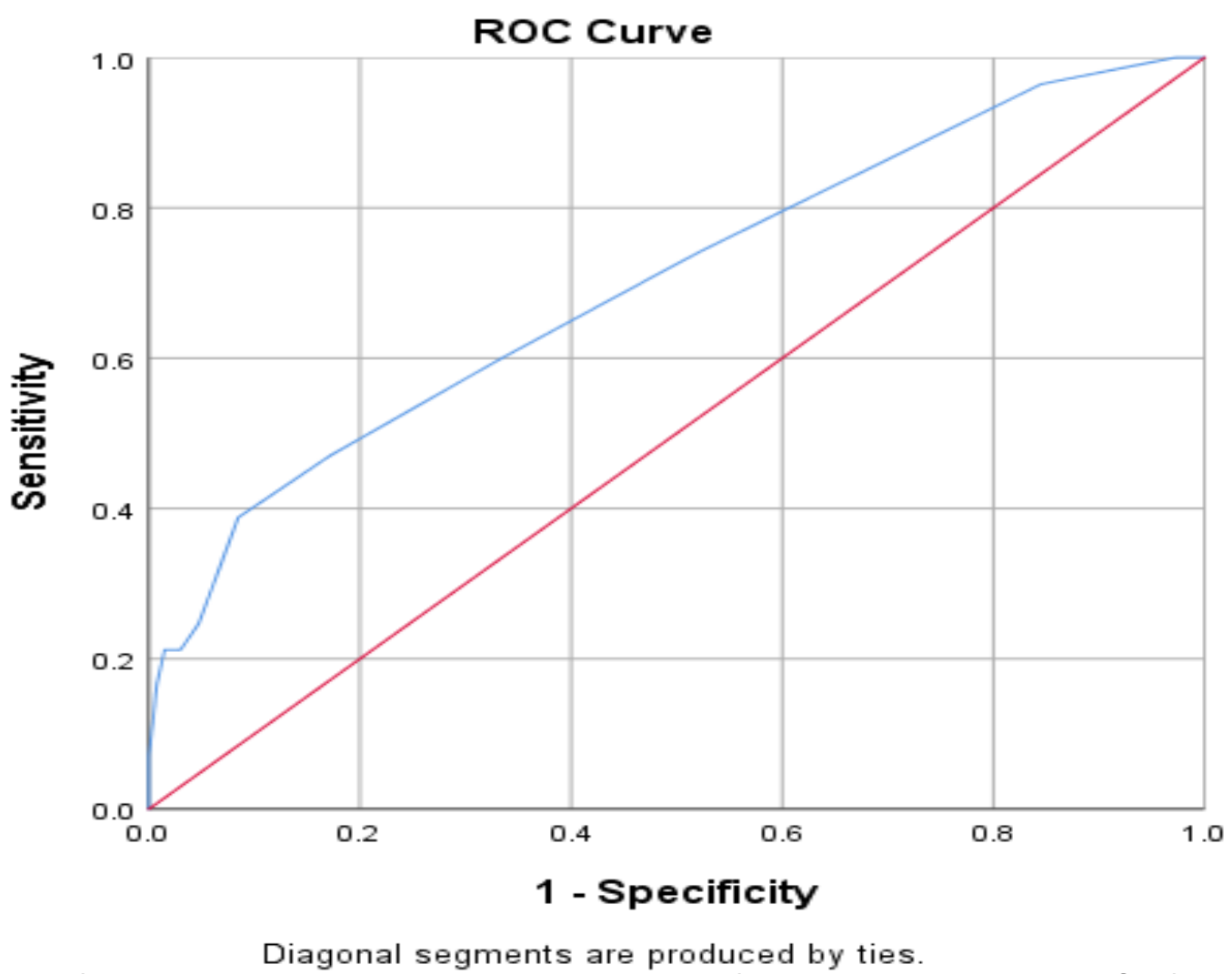


Figure: The ROC curve assesses the accuracy of the IPVPI tool in screening for IPV

METHODOLOGY

•**Study Design:** Prospective, cross-sectional study.

•**Setting:** Conducted at Pakistan Institute of Medical Sciences (PIMS) and Shifa College of Medicine's Maternal and Child Health Dispensary, **Islamabad, Pakistan**.

•**Participants:**

- N = 486 pregnant women.
- Age: 18-40 years.
- Trimester: First trimester.

•**Data Collection:**

•Duration: Six months.

•Method: In-person surveys conducted by trained staff during prenatal appointments.

•Data Collected: Demographic information and IPV screening data.

•**Screening Tools:**

1.**WHO Questionnaire:** Assessed physical, emotional, and sexual violence (12 items).

2.**IPVPI (Indirect Screening):** Utilized **eight indirect questions** to evaluate IPV risk factors. (Reported sensitivity: 79.5%). **Cut-off score of ≥ 2 .**

3.**WAST-Short (2-item scale):** Applied a **cut-off score of 2** to indicate IPV presence based on relational items.

CONCLUSION

The combination of WAST-Short and IPVPI holds promise for a more effective and comprehensive IPV screening strategy in antenatal care.

•**Optimizing IPVPI:** Increasing the IPVPI cut-off score to 2.50 significantly improves its accuracy by reducing false positives while largely preserving its high sensitivity.

•**Integrated Approach:** Utilizing both tools can overcome individual limitations, ensuring a broader detection spectrum and supporting more informed clinical decision-making.

•**Future Research:** Further studies are crucial to refine the effectiveness of these tools for routine implementation in clinical practice.