

## Original Article

# Knowledge Assessment of Government Medical Officers Dealing with Cases of Sexual Violence Against Females in relation to Medical Examination of Survivor and Accused in Bhavnagar District of Gujarat : A Cross-sectional Study

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### Abstract

**Background :** Healthcare professionals play a crucial role in the adjudication of sexual violence cases, which requires a sensitive and informed approach. Despite their importance, studies have shown that health services often lack a gender-sensitive approach in documenting testimony, conducting physical examinations and collecting evidence for medico-legal purposes.

**Materials and Methods :** A cross-sectional study was conducted among Medical Officers in the Bhavnagar district to assess their knowledge regarding the medical examination of survivors and accused individuals in cases of sexual violence against females. A pre-formed, pre-tested and validated questionnaire with a maximum score of 25 was administered via Google Forms. The study included 43 participants with varying levels of experience in handling such cases.

**Results :** The results showed that participants with different levels of experience scored between 13-20 out of 25. Specifically, 18 participants with 0-5 years of experience, 8 participants with 6-10 years of experience and 17 participants with over 11 years of experience demonstrated a need for improved knowledge and skills in this area.

**Conclusion :** The findings of this study highlight the need for regular training programs to enhance the practical efficacy of Medical Officers in conducting medical examinations of survivors and accused individuals in cases of sexual violence. The results can inform policy decisions and guide the development of targeted training initiatives to improve the response of healthcare professionals to sexual violence cases.

**Key words :** Government Medical Officers, Knowledge Assessment, Sexual Violence, Medical Examination, Survivor, Victim, Accused.

Women experiencing physical violence are more likely to seek medical attention at healthcare centers than any other institution, presenting an opportunity for healthcare providers to mitigate the effects of sexual violence<sup>1</sup>. The role of healthcare providers is crucial in responding to survivors of sexual violence with empathy and humanity while adhering to technical and legal procedures<sup>2,3</sup>.

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### Editor's Comment :

- Incorporating the new details on Gujarat's first study, knowledge gaps in legal documentation and consent, experience impacts, and calls for systemic reform.
- This pioneering Gujarat study reveals Medical Officers' strong clinical knowledge but critical gaps in legal documentation, consent, and sample collection.
- Experience alone doesn't guarantee knowledge — tertiary exposure and training do.

### Importance of Healthcare Provider Response :

The Criminal Law (Amendment) Act, 2013,<sup>4</sup> emphasizes the importance of prioritizing survivors' health and ensuring adequate care during judicial proceedings. Effective response to sexual violence requires training for all stakeholders, including Medical professionals, Law enforcement and the Judiciary<sup>5</sup>.

### Medical Assessment in Sexual Assault Cases :

The collection and evaluation of forensic evidence, along with genital examination, are critical components of medical assessment in reported sexual assault cases. Healthcare providers require extensive knowledge to document history and conduct medico-legal examinations to verify the commission of a crime and identify factors that may mimic sexual assault<sup>6</sup>.

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### Objective of the Study :

This study aims to highlight the essential medico-legal aspects of sexual violence against females, equipping healthcare professionals with the knowledge and skills necessary to effectively manage cases of sexual offenses during their medical careers.

## MATERIALS AND METHODS

### Study Design and Setting :

A cross-sectional study was conducted at the Department of Forensic Medicine and Toxicology, Government Medical College Bhavnagar, over a period of four consecutive months (ie, from 6<sup>th</sup> April, 2023 to 5<sup>th</sup> August, 2023).

### Study Participants and Ethics :

The study was conducted among Government Medical Officers dealing with medical examinations of survivors and accused individuals in cases of sexual violence against females in Government Hospitals of Bhavnagar district. The study received approval from the Institutional Ethics Committee. A pre-formed and pre-tested validated questionnaire was utilized as the study tool. The questionnaire consisted of 25 structured, validated “yes” or “no” items designed to assess knowledge regarding the medical examination of survivors and accused individuals in cases of sexual violence against females. The questionnaire covered various aspects, including history taking, consent, medical examination, sample collection and opinion formation. A pilot study was conducted on 15 Medical Officers who were not part of the original study to validate the questionnaire.

### Data Collection :

The final questionnaire was shared with participants via a WhatsApp group in the form of a Google Form. Medical Officers who did not submit completely filled questionnaires were excluded from the study. A cross sectional study was conducted by the Department of Forensic Medicine and Toxicology at Government Medical College Bhavnagar for a period of 4 consecutive months.

## RESULTS

A total of 43 participants completed the test, with a maximum score of 25. The scoring system awarded 1 point for correct answers and 0 points for incorrect answers. The knowledge level was categorized based on the percentage of correct answers.

### Classification of Knowledge Level :

- Poor : 0-50%
- Intermediate/Adequate : 51-70%
- Good/High : 71-100%

### Participant Performance :

Participants with varying levels of experience scored between 13-20 out of 25.

### Specifically :

- 18 participants with 0-5 years of experience.
- 8 participants with 6-10 years of experience.
- 17 participants with over 11 years of experience.

### Knowledge Assessment :

The questionnaire assessed knowledge in five areas:

- (1) History Taking (6 marks).
- (2) Consent (4 marks).
- (3) Medical Examination (8 marks).
- (4) Sample Collection (5 marks).
- (5) Opinion (2 marks).

### Performance Metrics :

The results of Table 1 indicate varying levels of knowledge among participants, with the highest correct response rate observed in Medical Examination (79.94%) and the lowest in Opinion (63.95%).

### Correlation between Years of Experience and Knowledge Level :

The Spearman Rank Correlation analysis showed a p-value of 0.4301, indicating no significant correlation between years of experience and knowledge level. The Spearman r-value was 0.1267, with a 95% confidence interval of -0.1975 to 0.4258, further supporting the lack of correlation.

## DISCUSSION

This study is the first of its kind conducted in Gujarat, India. The findings indicate that participants demonstrated adequate knowledge in clinical aspects, particularly in

Table 1 — Frequency distribution of knowledge among 43 participants

	History Taking Marks	Consent	Medical Examination	Sample Collection	Opinion
Total Marks in Each Section	6	4	8	5	2
Maximum Marks					
Obtained In Section	6	4	8	5	2
Minimum Marks					
Obtained In Section	0	1	3	0	0
No of Participants with Maximum Marks	3	7	8	6	16
No of Participants with Minimum Marks	1	3	1	1	4
Total Answers	258	172	344	215	86
Total Correct Answers	186	118	275	141	55
Correct Responses (%)	72.09	68.60	79.94	65.58	63.95

medical examination and opinion formation, but showed gaps in legal documentation. Tables 2, 3 & 4 shows younger participants (25-30 years) excelled in theoretical aspects of opinion formation, while senior participants (51-55 years) performed better in practical aspects of medical examination.

**Impact of Experience :**

The study reveals that knowledge levels do not necessarily correlate with years of experience. Doctors working in Tertiary Care Centers affiliated with Medical Colleges scored higher, likely due to increased exposure to sexual offense cases and regular training.

**Areas for Improvement :**

The study highlights significant gaps in knowledge related to consent and sample collection. Regular Training Programs should focus on these areas to improve the quality of care provided to survivors of sexual violence.

Table 2 — Distribution of Participants by Age and Score

Age group (in years)	Score	
	11 to 15	16 to 20
25-30	4	8
31-35	5	5
36-40	0	2
41-45	1	4
46-50	0	5
51-55	2	6
56-60	0	1

Table 3 — Maximum and Minimum Scores by Age Group

Age group (in years)	Maximum	Minimum
25-30	Opinion	Consent
31-35	Opinion	Sample Collection
36-40	Medical Examination	Sample Collection
41-45	History Taking	Consent
46-50	History Taking	Consent
51-55	Medical Examination	Consent
56-60	Medical Examination	Sample Collection

Table 4 — Distribution of Participants by Years of Experience and Score

Experience in dealing with sexual offence cases (in years)	SCORE	
	11 to 15	16 to 20
< 5	7	11
06 – 10	3	5
11 - 15	0	6
16 - 20	0	4
21 - 25	0	7

**Need for Systemic Change :**

The persistence of outdated practices, such as the two-finger test, despite being banned, underscores the need for systemic reforms. Guidelines and protocols for medico-legal care, such as those issued by the Ministry of Health & Family Welfare in 2014, emphasize the importance of prioritizing counseling and respecting survivors’ privacy and physical integrity.

**CONCLUSION**

The study’s findings emphasize the need for targeted training programs and systemic reforms to ensure that medical professionals provide high-quality care to survivors of sexual violence. The study’s questionnaire can serve as a valuable tool for Medical Officers to focus on critical medico-legal aspects of sexual violence against females, enhancing their competence in managing such cases and contributing to the administration of justice. The findings can inform policy decisions, supporting the implementation of regular training programs to improve the practical skills of medical professionals in conducting medical examinations of survivors and accused individuals in cases of sexual violence.

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**Conflict of Interest :** No conflicts of interest to declare.

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