

Forensic Medical Examination After Sexual Violence: Implications Based on Victims' Perceptions

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Abstract. *Background/Aim:* The objective of this study was to assess the perception of the forensic medical examination (FME) by victims of sexual violence. Based on patient-related outcomes gained in terms of personnel, chronological and spatial parameters, an additional aim was to derive improved examination procedures. *Patients and Methods:* A total of 49 sexually assaulted women were enrolled in this study. After standardized FME by a forensic doctor followed by a gynecologist, women were asked to complete a questionnaire addressing general perception, preferences regarding attending staff's sex, sequence and time frame of the examinations performed. The attending gynecologist also completed a questionnaire addressing demographic and medical parameters of the patient as well as assault-related information. *Results:* The examination setting in general was evaluated positively. Nevertheless, 52% of examined victims perceived the FME as an additional psychological burden. Overall, 85% of the affected women preferred a female forensic physician and 76% a female gynecologist to perform the examination. When women said they experienced a violation of their privacy during the

gynecological examination, a male was more often present (60% vs. 35%, $p=0.0866$). Regarding the sequence of the examination components, 65% of the victims preferred to start with their medical history followed by the forensic and then the gynecological examination. *Conclusion:* Forensic medical and gynecological examination after sexual assault is an essential procedure, yet it is a potentially further traumatizing experience for the victim. The identified patient preferences should be taken into account in order to diminish further trauma.

Sexual violence is one of the most traumatic experiences a woman can face during her lifetime. It poses serious short- and long-term consequences on both physical and mental integrity, including physical injury, unwanted pregnancy, sexually transmitted infections (STIs) and a higher risk for posttraumatic stress disorder, chronic pain, depression, drug, and alcohol abuse and even suicide (1-4). Even though violence against women has been present from time immemorial, only in the past decades has there been increasing awareness of this devastating human rights violation. This has resulted in intensified efforts to prevent and eliminate this widespread and persistent misery. In 2002, the World Health Organization classified violence against women as a leading worldwide public health problem and urged its member states to promote extensive research assessing the causes and consequences of violence against women, as well as the effectiveness of prevention and treatment programs (5). A survey by the European Union (EU) Agency for Fundamental Rights in 2014 showed that within the EU, 10% of women have experienced some form of sexual violence since the age of 15 years, and 5% have experienced rape. However, only 14% reported this incident to the police (6). In 2019, German police recorded 9,426 cases of rape and sexual assault (7). A recent study funded by EU grants analyzed the current situation regarding clinical forensic services for physically or sexually assaulted persons in the EU and revealed a wide range in terms of

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general availability, low-threshold access, availability of on-call service, special training of the examining person and standardization of the clinical forensic medical examination (FME) (8). In Germany as well, the acute medical care situation paints a heterogeneous picture as there is no nationwide standardized care pathway and regional differences in quality and access are evident. For example, only one-third of German university women's hospitals reported a permanent cooperation with the local institute of forensic medicine (9). According to the amendments to paragraph 27 and paragraph 132k of the German Social Code Book Five (SGB V), which came into force in March 2020, every victim of sexual violence is now entitled to receive confidential securing of evidence for which the costs are borne by public health insurance. As pursuant to paragraph 132k, a sufficient number of qualified institutions is demanded and a correlating expansion of care structures is necessary (10).

Various recommendations for the initial care of sexually assaulted victims exist, ranging from international (World Health Organization) and national guidelines (for example issued by the German Society for Gynecology and Obstetrics in 2009), to in-house protocols adapted for use at a particular clinic (11-13). The FME usually comprises a medical history, a thorough physical and genito-anal examination with subsequent documentation of the injuries, the collection of forensic specimens and provision of medical care such as assessment and management of pregnancy and STIs (11-14). However, there are components of the examination, such as toluidine blue staining or use of colposcopy, which depend on local protocols not routinely performed (15). Besides these medico-legal requirements, it is crucial to ensure optimal examination conditions also focusing on emotional needs in order to avoid additional traumatization. To our knowledge, research addressing the victim's individual perception of FME is scarce. Existing data were collected in care settings differing from ours, assessed different study populations or used other methodological designs such as semi-structured interviews (16-18). Most of the previous research focused on retrospective characterization of patient populations (19-22), perception of healthcare providers themselves of the examination process (23-25), or results and legal implications derived from the FME itself (26, 27). The purpose of this study was to assess the victim's individual perception of the examination setting when presenting to the hospital after sexual assault.

Patients and Methods

After approval by the Ethics Committee II of the Heidelberg University, Medical Faculty Mannheim (2015-623N-MA), 49 women were included in this prospective study between November 2016 and January 2020. After experiencing sexual assault, these women attended the Clinical Forensic Outpatient Clinic, a joint project of the Institute of Forensic and Traffic Medicine, Heidelberg University, and both the Department of Obstetrics and Gynecology,

University Medical Centre Mannheim, University Heidelberg (n=42) and the Department of Obstetrics and Gynecology, University Hospital Heidelberg (n=7). Participation in this investigation was voluntary, and informed consent was obtained from each woman upon recruitment. Exclusion criteria were defined as inadequate knowledge of the German language, incapability of informed consent and age <16 years.

FME was accomplished in a standardized manner starting with anamnesis, forensic and then gynecological examination. After FME, participants were asked to complete a questionnaire addressing the following parameters: number and sex of attending staff (gynecologist, forensic physician, police officer, nurse), preferred choice of staff sex and preferred sequence of examinations (anamnesis, forensic examination and gynecological examination), adequacy of examination timeframe and premises. Additionally, women were asked if they felt prepared for the FME beforehand and for their perception of additional emotional stress caused by the examination. Responses were reported on a five-point Likert scale ranging from "strongly agree" to "strongly disagree". Furthermore, the participants were asked about their motives presenting to the hospital in addition to the collection of medico-legal evidence and whether they were informed about STI screening and emergency contraception. The patient's questionnaire finally addressed women's intention of filing a complaint. The physician's questionnaire (filled out by the gynecologist) gathered information on victims' medical and obstetrical history, relationship status, contraceptive use, time since last consensual sexual intercourse and intoxication status. Furthermore, assault-related characteristics such as women's memory of the incident, familiarity with the perpetrator, presentation as a single- or multiple-incident victim, and classification of the incident as sexual assault/coercion (any sexual act against a person's will) or rape (involving penetration) were assessed. Analogously to the patient's questionnaire, the physician also reported the number and sex of attending staff.

All data were recorded in a Microsoft Excel spreadsheet. Statistical analysis was performed using SAS® software (release 9.4; SAS Institute Inc., Cary, NC, USA). Qualitative data are presented as absolute and relative frequencies. For quantitative normally distributed data, the arithmetic mean and standard deviation are given; non-normally distributed data are presented as the median and range. To compare non-parametric paired samples, the Wilcoxon signed-rank test was used. The mean values of two independent subgroups were compared by the Mann-Whitney *U*-test. To compare two groups regarding qualitative parameters, a chi-squared test or Fisher's exact test was applied, as appropriate. In general, a *p*-value less than 0.05 was considered statistically significant. Because of the rather small sample sizes, *p*-values between 0.05 and 0.10 have been regarded as slightly significant.

Results

Demographic, medical and obstetrical parameters. The age of the recruited women ranged from 16 to 95 years, with a mean of 31 years. Further demographic, medical and obstetrical characteristics are shown in Table I.

Assault-related characteristics. Assault-related characteristics are summarized in Table II. In 78% of the cases, hospital attendance took place after a first incident; in 61%, familiarity with the perpetrator was reported. A total of 15% of the women

Table I. Demographic, medical and obstetrical parameters of the included women.

Variable		Value
Age, years (n=49)	Mean±SD	30.9±13.9
BMI, kg/m ² (n=46)	Mean±SD	22.6±5.4
Relationship status (n=45), n (%)	Married	7 (16%)
	Divorced	6 (13%)
	Widowed	1 (2%)
	Single	31 (69%)
	Median (range)	0.9 (0-6)
Gravidity (n=49)	0-Gravida	27 (55%)
	I-Gravida	12 (24%)
	II-Gravida	4 (8%)
	≥III-Gravida	6 (12%)
Parity (n=49)	Median (range)	0.6 (0-4)
	0-Para	36 (73%)
	I-Para	7 (14%)
	II-Para	3 (6%)
Previous procedures (n=43)*, n (%)	≥III-Para	3 (6%)
	Vaginal delivery	10 (23%)
	Cesarean section	4 (9%)
Chronic diseases (n=49)*, n (%)	Abortion	8 (19%)
	Neurological/psychiatric	13 (27%)
	Endocrinological	8 (16%)
	Gastrointestinal	8 (16%)
	Cardiovascular	5 (10%)
	Pulmonological	4 (8%)
Known mental illness (n=47), n (%)	None	25 (51%)
	No	29 (62%)
	Yes	18 (38%)
Median (range) time from last consensual sexual intercourse, months (n=38)	Premenopausal (n=35)	0.25 (0-5)
	Postmenopausal (n=3)	5 (0.06-360)
Use of contraceptives (n=49), n (%)	None	22 (45%)
	Contraceptive pill	13 (27%)
	Condom	8 (16%)
	Intrauterine device	2 (4%)
	Contraceptive injection	1 (2%)
	Sterilization	1 (2%)
	Contraceptive implant	1 (2%)
	Pregnant	1 (2%)

BMI: Body mass index. *Multiple answers possible.

had no memory of the incident, 21% had hardly any memory, 11% recalled the incident for the most part, and 53% stated full memory. In terms of intoxication, 57% of the victims stated they were not intoxicated, 32% stated they had consumed alcohol, whereas intoxication with cocaine (4%), marijuana (4%) and knockout drops (2%) occurred less frequently. The attending gynecologist categorized the incident as suspected rape in 73% of the cases, as suspected sexual assault/coercion in 16%, and in 10% of the cases, the incident was not further specified.

Women's perceptions of the examination setting and preferred sequence of examination components. The recruited women were asked to evaluate different aspects of the overall perception of the examination (see Table III). The vast majority of women rated the premises (regular gynecological

examination room of a university outpatient clinic) where the examination took place as adequate (60%) or mostly adequate (34%), only 6% were indifferent and no one perceived them as inadequate. Similarly, most women felt prepared (51%) or mostly prepared (38%) for the upcoming examination procedure, 4% were neutral and 6% did not or mostly not feel prepared. Overall, 57% of the victims felt their privacy was protected and 38% mostly protected, 2% were indifferent and 2% felt their privacy mostly not protected. Interestingly, the perception of the additional psychological burden caused by the examination was distributed more evenly: 18% stated they felt and 32% reported they rather felt an additional psychological burden, 23% were indifferent, 16% did not and 9% did rather not feel an additional psychological burden. Assessment of the preferred sequence of the examination

Table II. *Assault-related characteristics.*

Characteristic		Frequency
Presentation as a single- or multiple-incident victim (n=46)	Single	36 (78%)
	Multiple	10 (22%)
Familiarity with the perpetrator (n=46)	Yes	28 (61%)
	No	18 (39%)
Memory of assault (n=47)	None	7 (15%)
	Hardly any	10 (21%)
	For the most part	5 (11%)
	Full	25 (53%)
Intoxication (n=47)	None	27 (57%)
	Alcohol	15 (32%)
	Cocaine	2 (4%)
	Marijuana	2 (4%)
Type of incident (n=49)	Knockout drops	1 (2%)
	Suspected sexual assault/coercion	8 (16%)
	Suspected rape	36 (73%)
	Not specified	5 (10%)

Table III. *Women's perceptions of the examination setting.*

Evaluated aspect	Response	Frequency
Adequacy of premises (n=47)	No	0 (0%)
	Mostly no	0 (0%)
	Neutral	3 (6%)
	Mostly yes	16 (34%)
Feeling prepared for the examination procedure (n=47)	Yes	28 (60%)
	No	2 (4%)
	Mostly no	1 (2%)
	Neutral	2 (4%)
Perception of duration of doctor-patient conversation (n=45)	Mostly yes	18 (38%)
	Yes	24 (51%)
	Too long	4 (9%)
	Adequate	41 (91%)
Privacy was protected (n=47)	Too short	0 (0%)
	Median duration (range) (n=22), min	30 (2-120)
	No	0 (0%)
	Mostly no	1 (2%)
Examination was an additional psychological burden (n=43)	Neutral	1 (2%)
	Mostly yes	18 (38%)
	Yes	27 (57%)
	No	7 (16%)
	Mostly no	4 (9%)
	Neutral	10 (23%)
	Mostly yes	14 (33%)
	Yes	8 (19%)

components revealed that a clear majority of the women (65%) favored FME to start with their medical history followed by forensic and then gynecological examinations. The preferences for other sequences are itemized in Table IV.

Medical and legal management. Women's answers regarding infectious disease screening and emergency contraception are

given in Table V. When asked about feeling sufficiently informed about the next steps after clinic attendance, the vast majority of the women agreed (67%) or mostly agreed (28%); only 4% felt neutral and none of the women disagreed. Regarding filing a complaint, 51% of the women stated that they had filed a complaint to the police, 21% reported that they had not and 28% said they might do so in the future.

Table IV. Preferred sequence of the examination components (n=40).

Sequence	Component	Frequency
1	Taking medical history	26 (65%)
2	Forensic examination	
3	Gynecological examination	
1	Taking medical history	5 (12.5%)
2	Gynecological examination	
3	Forensic examination	
1	Forensic examination	4 (10%)
2	Taking medical history	
3	Gynecological examination	
1	Forensic examination	2 (5%)
2	Gynecological examination	
3	Taking medical history	
1	Gynecological examination	2 (5%)
2	Forensic examination	
3	Taking medical history	
1	Gynecological examination	1 (2.5%)
2	Taking medical history	
3	Forensic examination	

Perception and preference of sex and number of attending staff.

The recruited women were asked about their preference regarding the sex of the attending staff (Table VI). Regardless of the occupational group, there was a clear trend towards a general preference for female personnel. This tendency was most pronounced concerning the forensic physician, since 85% of the women preferred or mostly preferred a female examiner; 76% of the women preferred or mostly preferred a female gynecologist. A more even distribution of preference was revealed concerning the sex of the criminal police officer as only 63% of the women preferred a female officer and 30% did not have a preference.

Both the attending gynecologist and the victim were asked to report the number and sex of attending staff depending on the occupational group, both during the forensic and the gynecological examinations. None of the differences between the victim's and physician's assessment were statistically significant or clinically relevant (see Figure 1).

Analysis of the influence of number and sex of staff on women's perception of protection of privacy and of the additional psychological burden caused by the examination tended to show a more negative perception when more males were present. When women felt they experienced a violation of their privacy during the gynecological examination, more often a male was present (60% *vs.* 35%). Similarly, on average more males were present during both examinations for women who experienced a violation of their privacy (1.3 *vs.* 0.6). Both these differences failed to reach significance ($p=0.0866$ and $p=0.0641$, respectively). Regarding the additional psychological burden, it was shown that when women perceived the examination as burdensome, more

males were present in both examinations (mean of 1.0 *vs.* 0.5; $p=0.0731$). Men were more frequently present when the examination was considered as an additional psychological burden (67% *vs.* 38%; $p=0.0638$); male gynecologists were particularly perceived as an additional psychological burden in the gynecological examination (71% *vs.* 42%, $p=0.0673$).

Discussion

The mean age of the study population was 31 years. This is well in accordance with the results of other investigations defining young age as a risk factor for becoming a victim of sexual violence (19-21). Some of these studies reported a slightly younger mean age, which might be due to their retrospective design including patients irrespective of age, whereas in our study age <16 years was an exclusion criterion. Notably, the oldest woman included was 95 years. This finding underlines the observation that sexual violence is not a phenomenon confined to young people. Sexual abuse of the elderly is even expected to increase due to demographic change and has been described as more violent, resulting in more severe injuries (28, 29).

It is widely accepted that alcohol and drug abuse are risk factors for sexual abuse (30). Studies addressing the frequency of alcohol intake prior to an assault vary in their results. However, to a large extent, they report higher percentages of women being under the influence of alcohol than in our study population (19-21, 26, 31). In our study, the estimation of alcohol intake was based on self-reporting and, if available, information provided by the criminal police but not generally assessed *via* a breath or blood test. Therefore, non-disclosure regarding alcohol consumption, especially regarding small amounts causing no physical impairment, might have been possible. Notably, there is a correlation between being assaulted by a stranger and higher levels of alcohol consumption during the time of the incident (26, 32). As in our study a relatively high percentage of women reported familiarity with the perpetrator, the generally low level of observed alcohol intake would be in line with these publications. Moreover, women who consumed alcohol on the day of the incident are less likely to report their assault to the police (20). Therefore in our study the comparatively low percentage of women who reported alcohol intake can also be explained by the fact that the vast majority of women presented at our hospital shortly after they had reported to the police.

The seemingly high rate of total and partial amnesia in our study is in accordance with the results of other studies (21, 32, 33). Since the involvement of 'date rape' drugs were only reported by a very small minority, the amnesia might have been due to a combination of alcohol intake on the day of the incident along with psychological reactions. The high percentage of amnesia is a disquieting finding as according

Table V. *Medical and legal management of victims.*

Evaluated aspect	Response	Frequency
Informed about option of infectious disease screening (n=43)	No	4 (9%)
	Yes	39 (91%)
	Made use of it?	
Informed about option of emergency contraception (n=45)	Yes	23 (53%)
	No	16 (37%)
	No	13 (29%)
	Yes	32 (71%)
	Made use of it?	
Felt sufficiently informed about next steps after clinic attendance (n=46)	Yes	15 (33%)
	No	17 (38%)
	No	0 (0%)
	Mostly no	0 (0%)
	Neutral	2 (4%)
Filed a complaint to the police (n=47)	Mostly yes	13 (28%)
	Yes	31 (67%)
	No	10 (21%)
	Yes	24 (51%)
	Possibly in the future	13 (28%)

Table VI. *Women's preferences for sex of staff.*

	Response	Frequency
Would you prefer the gynecological examination to be performed by a female? (n=44)	No	1 (2%)
	Mostly no	2 (4%)
	Neutral	8 (18%)
	Mostly yes	8 (18%)
	Yes	26 (58%)
Would you prefer the forensic medical examination to be performed by a female? (n=47)	No	0 (0%)
	Mostly no	0 (0%)
	Neutral	7 (15%)
	Mostly yes	14 (30%)
	Yes	26 (55%)
Would you prefer the attending criminal police officer to be female? (n=44)	No	1 (2%)
	Mostly no	2 (5%)
	Neutral	13 (30%)
	Mostly yes	9 (20%)
	Yes	19 (43%)

to the literature, victims may question the credibility of their own experiences due to impaired consciousness, reducing the likelihood of reporting the incident to the police (34) with a hence negative impact on a successful legal outcome (27).

Regarding familiarity with the perpetrator, previous studies report known perpetrators in 44% to 61% of cases – the latter equaling the result of our study (19-21, 31). However, those studies undertook a more detailed differentiation concerning the relationship to the perpetrator and, for example, distinguished them as strangers, loose contacts, acquaintances and partners/former partners. Due to the lack of such classification in our study, the assignment

as to whether the perpetrator was familiar or not was up to the woman and the physician's interpretation and therefore to some extent was arbitrary. The comparably high percentage of multiple-incident victims in our study can be explained by the high percentage of known perpetrators because having a close relationship or living in the same household with a perpetrator increases the likelihood of repeated assaults (21).

In our study, half of the surveyed women stated that they had filed a complaint to the police. This is well in line with the data published by La Harpe *et al.* (35). As one-fifth of our study population reported they did not file a complaint

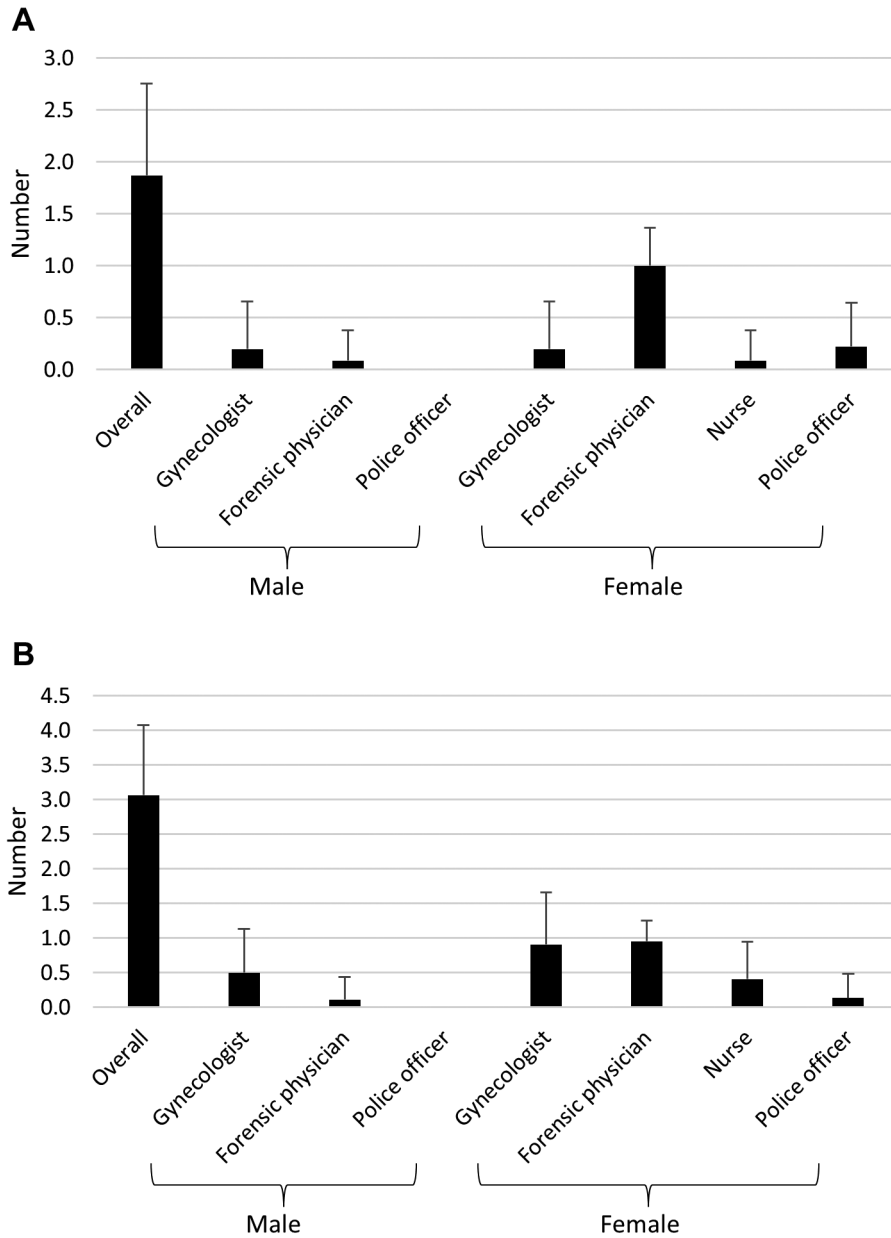


Figure 1. Assessment of number and sex of staff attending during the forensic (A) and gynecological (B) examinations according to the physician. Data are presented as the mean with standard deviation).

and one-quarter said they only might do so, it is important to understand this subgroup. It is known that several factors contribute to this reluctant behavior, including presentation to the hospital more than a week after the incident, a shared home with the perpetrator, consumption of alcohol, amnesia and a lack of knowledge of the victim as to whether there was penetration (35).

The assessment and management of pregnancy and STIs are relevant aspects of post-assault care. This comprises performing

a pregnancy test to exclude a pre-rape pregnancy and counselling for emergency contraception. Additionally, it is important to provide information regarding frequently contracted STIs and to encourage the victim to undergo screening, as well as to offer prophylactic treatment in high-risk cases (11, 13). In our study, almost one-third of the women stated they were not informed about the option of using emergency contraception. This is a remarkable finding because at the same time, 45% of the women in our study population

declared they did not use any contraception. It was not assessed whether those predominantly not informed ensured that they used a safe method of birth control and therefore might not be considered at risk for an unintended pregnancy. However, due to inherent contraceptive failure rates, every victim should be informed about the use of emergency contraception. In our study, almost all women were informed about the option of STI screening, yet only half of them stated they would make use of it. It is important to keep in mind that for a significant proportion of victims, the primary motive for presenting at a hospital is the fear of STIs or a pregnancy. Understandably, this fear and the resulting desire to receive testing and treatment are greater if the perpetrator is a stranger (17, 36). This circumstance may explain why more than a third of the women refused to undergo testing, as the percentage of familiar perpetrators in our study was comparably high.

As the quality of the immediate care after a sexual assault can affect physical and emotional recovery from the incident, it is important to optimize the examination conditions as much as possible (13). Conversely, if victims fail to receive empathetic and supportive care, the examination can be perceived as re-traumatization and re-victimization and can even be experienced as a ‘second rape’, reinforcing feelings of powerlessness, shame and guilt (4, 17, 37). Even though the examination conditions (represented by the protection of privacy, the adequacy of premises and the feeling of preparedness for the examination) in our study were evaluated as positive by the majority of the women, the examination was still considered to be an additional psychological burden by more than half of the victims. Similar observations were made in a study by DuMont *et al.*, in which despite a general satisfaction with the staff interaction and the way the examination was performed, many women felt distressed during the examination (17). Consistent with this, Lovett *et al.* reported that even though most women felt treated with kindness and respect, many stated they felt “upset”, “afraid”, “ashamed” and “shocked” before the forensic examination (38). Reducing the potential trauma caused by an examination can be achieved through precise explanation of the examination process, giving the victim the feeling of having control over the process and protection of privacy (11, 38). As the association between the physical injury found during the examination and the legal resolution of a sexual assault case is not as clear as one might expect (27, 39), it is important to provide honest information about the value of the examination so that victims can make an informed decision whether to undergo the examination or not. Taking into account that the examination was considered to be an additional psychological burden and that 40% of the women in our study reported a pre-existing mental illness, low-threshold referrals for professional psychological counseling and support to prevent the onset or worsening of mental health conditions are recommended, as well as the implementation of a staff training for greater sensitivity and improved communication (40, 41). Moreover,

exploring the specific reasons why women experienced an additional burden during the examination and analyzing the sources of stress and discomfort is a worthwhile focus for further research efforts.

When the women were asked about their preferred sequence of the examination components, there was a clear majority favoring medical history first, then performing the clinical forensic examination and concluding by performing the gynecological examination. According to the literature, active listening, not blaming the women for what has happened and affirming the women’s strength for having endured the assault should be employed to build trust and confidence in the beginning during the patient–doctor conversation (40). After having obtained informed consent for the upcoming examination procedure and collection of forensic specimens, a head-to-toe physical examination to document any injuries present is conducted. By finishing with the gynecological examination, the most challenging and potentially onerous part is placed at the end of the examination process. In this way, the women have had time to accommodate to the examination setting, settle down and build confidence with the examining physician.

Chowdhury-Hawkins *et al.* found that 76.8% of the victims attending sexual assault referral centers in the UK preferred the staff to be female (16). Our data are well in accordance with these results as in our collective, a similar number of women generally preferred female staff. Notably, almost half of the women (43.6%) in the UK study stated they would not have had an examination if they had to see a male forensic physician (gynecologists were not part of the survey) (16). Overall, 54.3% of the women in the investigation by Chowdhury-Hawkins *et al.* stated they felt strongly about the issue of staff sex (16). Likewise, 55% of the women in our investigation explicitly preferred a female forensic physician and 58% a female gynecologist. As might be expected, the preference for a female criminal police officer, who is usually not present in the examination room, was not as clear. Notably, due to the strong preference for female staff in general, there is a female-only recruitment policy at some of the UK sexual assault referral centers. In cases in which this policy cannot be realized, an appropriate training of all staff addressing established standards, i.e. showing a professional attitude towards sexual assault issues and treating victims with dignity, sensitivity and without prejudice should be emphasized (16, 18). Chowdhury-Hawkins *et al.* argue that the women with a lack of sex preference (comparable with the respondents in our study answering with “neutral”) might want to undertake the examination as quickly as possible due to the previous emotional trauma so that they would tolerate whatever is involved to achieve that. Such tolerance has to be rated differently from a genuine lack of preference (16). Moreover, in our study it was shown that when women said they experienced a violation of their privacy or an additional psychological burden during the examination, male

personnel were present more frequently and the average number of males was higher. If possible, the examination should therefore be performed by a female doctor. In cases where there is only a male doctor on duty, even greater emphasis should be placed on empathic and sensitive interaction and the presence of a female chaperone as a third party is advisable (11).

Our study has several limitations which should be noted. Firstly, the number of women included is limited and participants were recruited at only two nearby hospitals. Therefore, the findings of this study only depict the experiences of a certain population of sexually assaulted women and generalizability might be reduced. Furthermore, the vast majority of the women in our study presented at the hospital after they had reported to the police, therefore the results might be biased due to the over-representation of this subgroup. Another matter to be taken into account is that data collection was based on the women's statements during the post-assault period and might therefore be affected by acute trauma, emotional stress or intoxication.

However, this study explored a research area that has gained little attention so far as it focuses on the perceptions of those directly affected by a sexual assault. As our insights regarding women's perceptions and experiences grow, translation of this newly gained knowledge into specific steps to improve and optimize the examination setting is essential.

Conclusion

Performing a FME after a sexual assault is an essential procedure, yet it might pose the risk of further traumatization of the victim. As the FME was considered to be an additional psychological burden, different measures such as the protection of privacy, empathic and sensitive interaction and, if possible, treatment by female staff should be applied to alleviate victim stress.

Conflicts of Interest

The Authors have no conflicts of interest to declare that are relevant to the content of this article.

Authors' Contributions

Project development: Sebastian Berlit, Saskia Spaich, Benjamin Tuschy and Marc Sütterlin. Material preparation: Laura Berger. Data collection: Laura Berger, Stefan Stefanovic and Kathrin Yen. Data analysis: Christel Weiß. Article writing: Laura Berger. Article editing: Benjamin Tuschy, Stefan Stefanovic, Kathrin Yen, Christel Weiß, Marc Sütterlin, Saskia Spaich and Sebastian Berlit. Supervision: Saskia Spaich and Sebastian Berlit.

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