ELSEVIER

European Journal of Obstetrics & Gynecology
and Reproductive Biology 77 (1998) 71–75

OBSTETRICS & GYNECOLOGY

Screening for psychologically traumatized rape victims

J.M. Darves-Bornoz[a,*], F. Pierre[b], J.P. Lépine[c], A. Degiovanni[a], P. Gaillard[a]

[a]*Clinique Psychiatrique Universitaire, CHU Tours, 37044 Tours Cedex 1, France*
[b]*Department of Obstetrics, CHU Tours, 37044 Tours Cedex 1, France*
[c]*Department of Psychiatry, CHU Fernand-Widal, Paris, France*

Received 9 August 1997; accepted 26 September 1997

Abstract

Objective: This study aimed to determine whether the General Health Questionnaire, a simple psychological screening instrument, could be useful to non-specialists in screening for psychologically traumatized rape victims. *Study design:* 285 rape victims (mean age 22.5, men 8%) attending consecutively a Consultation for Victims of Psychological Trauma at the University Hospital in Tours, France, were assessed through the Structured Interview for Post-Traumatic Stress Disorder (SI-PTSD), and the French 28-item version of the self-rated General Health Questionnaire (GHQ-28). *Results:* 70% had Post-Traumatic Stress Disorder (PTSD) and 72% a GHQ-28 overthreshold score. The principal component analysis of the GHQ-28 ratings yielded a 4-factor solution: social dysfunction, feeling of foreshortened future type of depression, somatoform complaints and hyperalertness anxiety. GHQ-28 reliability and validity in screening for PTSD were studied through computation of Cronbach's α coefficient (0.95), sensitivity (88%) and positive predictive value (86%). *Conclusion:* Using the GHQ-28 is valid and appropriate for practical use. © 1998 Elsevier Science Ireland Ltd.

Keywords: Post-Traumatic Stress Disorder; Rape; General Health Questionnaire; Validity; Principal component analysis

1. Introduction

In France receiving a rape victim in gynecological or general practice is a common occurrence. Indeed rape is frequent as Spira et al. reported in a National Health and Medical Research Institute (INSERM) survey: 7% of women under 35 had stated they had had 'sexual intercourse under pressure' [1]. The experience of rape is often as psychologically traumatizing as major traumas such as experiencing war, internment in concentration camp or being taken hostage [2]. The main disorders following rape are: firstly Post-Traumatic Stress Disorder (PTSD), but also Dissociative and Phobic Disorders and Borderline-like post-traumatic personality change [3]. A simple screening test for psychologically traumatized rape victims would allow non-psychotraumatologists to refer the cases toward appropriate psychiatric care. This study aimed to determine whether recourse to the General Health Questionnaire, a simple and well-known psychological screening instrument [4], could be useful for this purpose.

2. Subjects and methods

2.1. Subjects

The population studied were rape victims attending, within the University Hospital in Tours, France, the Consultation for Victims of Psychological Trauma (a unit of the Clinique Psychiatrique Universitaire) in collaboration with the Forensic Centre for Gynecological Assessment of Sexual Assault Victims. The victims were referred to the Consultation after lodging a complaint to the police or came on their own initiative. All admissions come from

*Corresponding author. Tel.: +33 247 660234.

PII S0301-2115(97)00244-3

the 'département' around Tours. The victims under study were aged 13 and over, and were consecutively admitted to the Consultation after having undergone sexual penetration following a violent assault, the use of force, or being taken unawares. During the period of inclusion, 285 subjects attended the Consultation.

2.2. The General Health Questionnaire and the structured interview for PTSD

Firstly, the patients were assessed by a self-rated questionnaire, a French version of the General Health Questionnaire in its 28-item version (GHQ-28). This instrument is a well-known questionnaire, especially in general practice, in screening for psychiatric disorders through non-specialized questions [5]. The higher the GHQ-28 score, the greater the probability that the subject suffers from a psychiatric disorder. Filling in the questionnaire is very simple and quick (5 min). Many reliability, factor-analytic and validity studies of the English version have been conducted [6].

In addition, a psychiatrist (JMDB) interviewed all the patients using a structured interview schedule: the Structured Interview for Post-Traumatic Stress Disorder [7,8] allowing PTSD to be diagnosed.

2.3. Procedure

After making a complete description of the study to the subjects, informed written consent was obtained. They were informed especially that no nominal information provided would be communicated to anyone, and that if any court case was pending, this investigation could not be used in evidence. Further, in order to avoid any suggestibility or denial phenomena with regard to the clinical entities to be submitted to them, we told the subjects that we had no preconceived ideas as to the results we would find, as this was an insufficiently known area. An ethical commission (CCPPRB) was consulted and approved this research.

2.4. Validation of the 28-item General Health Questionnaire (GHQ-28)

To assess construct validity of the French version of the questionnaire, the 28 items were subjected to an orthogonal factor analytic study. Correlation coefficients were computed and a principal component analysis was used to extract the initial factors. The predetermined criterion chosen for the number of factors to be extracted was the commonly used eigenvalue criterion: factors are retained if they have an eigenvalue ≥ 1. Following the initial extraction of factors, orthogonal rotation via the varimax procedure was used to achieve the simplest and most meaningful factor structure.

Reliability was assessed by internal consistency. The index used was Cronbach's α coefficient for all the items [9]. In order to fuel the discussion, Cronbach's α coefficients for each subscale determined by the factors of the principal component analysis were also calculated.

The GHQ-28 validity in the first-line screening for PTSD was studied through computation of the sensitivity and the positive predictive value.

The statistical analysis was carried out using the SPSS SYSTAT software (SPSS SYSTAT Base for Windows and TESTAT modules).

3. Results

3.1. Description of the sample

The mean age of the 285 subjects under study was 22.5 years (S.D. 8.5, range 13–50). Eight percent of them ($n=24$) were men. At the time of the investigation, 70% of the victims ($n=201$) suffered from Post-Traumatic Stress Disorder (PTSD). The mean score on the 28-item version of the General Health Questionnaire was 11.7 (S.D. 9.1, range 0–28). This GHQ-28 score was independent of age ($r=0.082$, $t=1.38$, df=283), and gender ($t=0.288$, df=284). Seventy-two percent of the sample ($n=206$) performed a GHQ-28 score equal to or higher than the threshold set at 4 as in most studies [10].

3.2. Factor analytic study of the GHQ-28 in rape victims

The principal component analysis of the GHQ-28 ratings yielded a 4-factor solution (Table 1) which explained 59% of the total variance. The first factor included eight items detecting a social dysfunction. The second factor comprised nine depressive items focused on suicidal ideation and hopelessness. The term of feeling of foreshortened future has been coined for this type of mood, quite characteristic of certain traumatized people. The third factor was related to six somatoform complaints. As for the fourth factor, it was composed of five anxiety-related items centered on the psychotraumatologists' notions of hyperalertness, hypervigilance or hyperarousal.

3.3. Reliability of the GHQ-28 in rape victims

Reliability of the GHQ-28 in rape victims was established by finding a high Cronbach α coefficient for all items ($\alpha=0.95$) in our sample. Table 2 shows also Cronbach's α coefficients for the four subscales deter-

Table 1
Principal component analysis[a] of the French version of the 28-item General Health Questionnaire in a rape victim population ($n=285$)

Percent of total variance explained	Factor 1 18%	Factor 2 16%	Factor 3 13%	Factor 4 12%
Social dysfunction				
· doing things well?	0.793			
· satisfied with task?	0.714			
· playing a useful part?	0.700			
· taking longer over things?	0.608			
· everything getting on top of you?	0.571			
· capable of making decisions?	0.548			
· enjoy normal day activities?	0.548			
· keep busy and occupied?	0.539			
Feeling of foreshortened future type of depression				
· the idea of taking your own life kept coming into your mind?		0.827		
· possibility that you might do away with yourself?		0.801		
· wishing you were dead and away from it all?		0.745		
· felt that life isn't worth living?		0.618		
· life entirely hopeless?		0.597		
· staying asleep?		0.504		
· couldn't do anything because nerves were too bad?		0.447		
· thinking of yourself as worthless?		0.413		
· lost sleep over worry?		0.400		
Somatoform complaints				
· getting any pains in your head?			0.796	
· tightness or pressure in head?			0.750	
· felt that you are ill?			0.613	
· hot or cold spells?			0.550	
· feeling well and in good health?			0.472	
· scared and panicky — no good reason?			0.422	
Hyperalertness anxiety				
· edgy and bad tempered?				0.761
· constantly under strain?				0.664
· feeling nervous and strung up all the time?				0.656
· run down and out of sorts?				0.445
· feeling in need of a good tonic?				0.439

[a]Table shows the main correlations between each factor and the answers to the questions.

mined by the four factors of the principal component analysis.

3.4. Validity of the GHQ-28 in screening for rape victim PTSD

The most characteristic psychiatric disorder occurring in the aftermath of rape is Post-Traumatic Stress Disorder (PTSD). We decided therefore to compare the presence of a PTSD diagnosis and an overthreshold GHQ-28 score in our subjects. Validity coefficients had to be worked out in order to appreciate the relevance of the GHQ-28 as a first screening test for rape victim PTSD before any further psychiatric investigation of the patients. These coefficients are the sensitivity, i.e. the proportion of PTSD identified by a GHQ-28 overthreshold score, which exceeded 88% ($n=177$), and the positive predictive value, i.e. the proportion of GHQ-28 overthreshold scorers who suffer from PTSD, which reached 86% ($n=177$).

Table 2
Cronbach's α coefficients of the French version of the 28-item General Health Questionnaire in a rape victim population ($n=285$)

	α
Total GHQ-28 scale	0.95
Social dysfunction subscale	0.88
Feeling of foreshortened future type of depression subscale	0.91
Somatoform complaints subscale	0.83
Hyperalertness anxiety subscale	0.83

Processing a principal component analysis on the items of the GHQ-28 together with the presence of PTSD, we found that the closest factor to PTSD ($r=0.551$), other factors being equal, was a 'Hyperalertness anxiety' factor (including the items: edgy and bad tempered, feeling nervous and strung up all the time, constantly under strain, could not do anything because nerves were too bad, run down and out of sorts, lost sleep over worry, and feeling in need of a good tonic). In our population the reliability of the subscale determined by this Hyperalertness anxiety

factor was found to be acceptable (Cronbach's α coefficient=0.88). This finding could refine the GHQ-28 score-based decision in referring subjects toward psychotraumatology care specialists.

4. Discussion

The methodological issue, whether the type of population chosen for our study may distort the features of our results or affect its generalization, has to be examined. Indeed, our study did not focus on the general population but victims of rape who consult at a Consultation for Victims of Psychological Trauma in collaboration with a Forensic Centre for Gynecological Assessment of Sexual Assault Victims. Our subjects are therefore seeking help or involved in litigation. However, first the official figures suggest that victims are far more likely to ask for care and to lodge a complaint than before. In addition, even though the question of the psychological state of those victims who did not come to the Consultation is difficult to settle categorically, another study suggested that there may be no significant difference of prevalence of disorders between rape victims who do not consult and those who do [11]. Secondly we actually found a higher prevalence of PTSD in rape victims (70%) than other centers for victims of psychological trauma [12], but unlike these centers we often see teenagers and victims of incestuous rape in our Consultation in Tours. This could go towards explaining the differences of prevalence observed. Indeed, a previous article showed that the incestuous nature of rape is a predictive factor of PTSD [13]. Furthermore the prevalence found in a reference study in the general population such as the Detroit study was identical to ours [2].

The factor structure we found for the GHQ-28 was very close to that of the English studies of the instrument i.e. four factors: social dysfunction, depression, anxiety, somatic complaints [6]. The reliability of the French version of the total GHQ-28 in our population was found to be high. However when we assessed the subscales of the total GHQ-28 the situation appeared more contrasted. Indeed we must be cautious not to consider the factors found as proxy for disorders when Cronbach's coefficient of their associated subscale does not reach 0.85 [14], e.g. the somatoform complaints factor must not be considered as a somatization subscale.

The study of the validity of the GHQ-28 in screening for rape victim PTSD showed that this instrument is a good first-line instrument for this task. However, it must be also noted that 12% of PTSD was not detected. Undoubtedly these cases were not the strongest PTSD. However, their remaining undetected reflects the lack of items specifically designed for post-traumatic symptoms such as repetition of trauma (flashback, nightmare . . .) or psychogenic memory disorder which are the core symptoms of PTSD [15].

5. Conclusion

Victims of rape do not often talk spontaneously about their victimization and their distress. Using the GHQ-28 in screening for psychologically traumatized rape victims in order to refer them toward psychotraumatology care specialists is methodologically appropriate. Furthermore, since GHQ-28 is a simple and quick-to-rate clinical instrument in order to screen for psychiatric disorders, using this instrument is also appropriate from a practical point of view.

Acknowledgements

We would like to thank the clinical research board of directors at the University Hospital in Tours who helped to fund this research.

Appendix 1

French version of the General Health Questionnaire (GHQ-28)

Pendant ces dernières semaines:

- Vous êtes-vous senti(e) parfaitement bien et en bonne santé?
- Avez-vous éprouvé le besoin d'un bon remontant?
- Vous êtes-vous senti(e) à plat et pas dans votre assiette ('mal fichu(e)')?
- Avez-vous eu des douleurs à la tête?
- Avez-vous eu une sensation de compression ou de tension dans la tête?
- Avez-vous eu des bouffées de chaleur ou des frissons?
- Avez-vous beaucoup manqué de sommeil à cause de vos soucis?
- Avez-vous eu de la peine à rester endormi(e) une fois que vous aviez trouvé le sommeil?
- Vous êtes-vous senti(e) constamment tendu(e) ou 'stressé(e)'?
- Vous êtes-vous senti(e) irritable et de mauvaise humeur?
- Avez-vous été effrayé(e) ou pris(e) de panique sans raison valable?
- Vous êtes-vous senti(e) dépassé(e) par les événements?
- Vous êtes-vous senti(e) continuellement énervé(e) et tendu(e)?
- Etes-vous arrivé(e) à rester actif(ve) et occupé(e)?
- Avez-vous mis plus de temps à faire les choses habituelles?
- Avez-vous eu le sentiment que dans l'ensemble vous faisiez bien les choses?

- Avez-vous été satisfait(e) de la façon dont vous avez mené votre travail?
- Avez-vous eu le sentiment d'une manière générale d'avoir un rôle utile?
- Vous êtes-vous senti(e) capable de prendre des décisions?
- Avez-vous été capable de profiter de vos activités quotidiennes?
- Vous êtes-vous considéré(e) comme quelqu'un qui ne valait rien?
- Avez-vous eu le sentiment que la vie est totalement sans espoir?
- Avez-vous eu le sentiment que la vie ne vaut pas la peine d'être vécue?
- Avez-vous pensé à la possibilité de mettre fin à vos jours?
- Avez-vous pensé que parfois vous n'arriviez à rien parce que vos nerfs étaient à bout?
- Vous est-il arrivé de souhaiter être mort(e) et loin de tout ça?
- L'idée de vous supprimer réapparaissait-elle continuellement dans votre esprit?

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