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# General practitioners' knowledge of psychotraumatism in Burkina Faso in a context of security challenges

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**Abstract**

Post-traumatic stress disorders are psychiatric disorders that arise after a traumatic event. They result in moral suffering and physical complications that profoundly alter personal, social and professional life. Our main objective was to study general practitioners (GP)' knowledge of psychotraumatism. This was a descriptive, cross-sectional study whose data collection took place from January 15 to September 15, 2023 in Burkina Faso. GP practicing in Burkina Faso were included. The minimum number of subjects to be included was 422. A Google Form ® questionnaire was administered to participants. Our study sample comprised 427 GP, 67% of whom were men (284/427). The mean age of the doctors was 32.4 ± 3.5 years. Doctors were married in 49% of cases (208/427) and single in 41% (174/427). Average professional experience was 3.8 ± 2.6 years. The largest number of GP (120) came from the Centre region. A minority of GP practiced in rural areas (7%). The majority of GP (63%) thought they had already dealt with a case of psychotraumatism. Our sample had received training in psychotraumatism during their medical studies in 26.9% of cases, and 17.8% had received continuing education. Considering the grading of GP' knowledge of psychotraumatism, 182 had an average score of 10 or above, i.e. 43% of our sample. Our study did not reveal any factors associated with better knowledge of psychotraumatism. A study on a larger population including nurses could enable us to better assess the level of knowledge in psychotraumatism.

**Keywords** Psychotraumatism, General practitioner, Knowledge, Security and Burkina Faso

## Background

Psychotraumatism can be defined as all the immediate, post-immediate and then chronic psychological disorders that develop in a person after a traumatic event that has threatened their physical and/or psychological integrity [1]. Since the dawn of mankind, traumatic events such as disasters and wars have been known to modify human behavior and functioning. What's interesting is that, despite the passage of time, reactions to traumatic events are not very different from one era to the next. Trauma can affect any individual at any location and at any time over a lifespan. The disruption of macrobarriers and microbarriers induces instant activation

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of innate immunity. The subsequent complex response, designed to limit further damage and induce healing, also represents a major driver of complications and fatal outcome after injury [2]. What's more, the psychopathology following such events is virtually the same and, since 1980, can be described as post-traumatic syndrome [3]. The basic elements of post-traumatic syndrome disorder are the appearance of intrusive memories, avoidance/numbing behavior, increased arousal, and - since 1994 - impaired occupational and/or social functioning that develops after one or more exceptionally traumatic exposures [4]. Studies carried out in Iraq have found a predominance of PTSD among Kurdish Anfal survivors and the Yaziki people [5, 6]. In Rwanda, PTSD among the mothers' groups and their offspring have been found important, specifically in the offspring of genocide survivors [7]. Burkina-Faso is one of many countries in the West African sub-region affected by terrorism, which has led to the displacement of many more people [8]. It is clear that non-specialized health workers such as GP are able to diagnose, even if only on a syndromic level, and apply treatment algorithms for some common mental disorders such as psychotraumatism [9]. Hence our research, which aims to study the knowledge of general practitioners in Burkina Faso about psychotraumatism.

## Methods

This was a descriptive cross-sectional study, with data collection taking place from January 15 to September 15, 2023 in all 13 regions of Burkina Faso. It covered general practitioners practicing in Burkina Faso who had given their consent to participate in the study. The minimum number of subjects to be included was 422. The method of calculation was developed by Sawadogo et al. [10]. The inclusion criteria were to be a GP practicing in Burkina Faso and to give informed consent. Our study did not include specialist doctors or doctors undergoing specialization. Data collection was based on an online questionnaire.

### Questionnaire

The questionnaire is based on the World Health Organization guide on "Assessment and management of conditions specifically related to stress: mhGAP Intervention Guide Module" [11] and the study by Sawadogo et al. [10]. This is a 32-item self-questionnaire: the first 10 items concern socio-demographic characteristics and general information on psychotraumatism. The next 21 items relate to questions on knowledge of psychotraumatism. They were scored according to the methodology used by Sawadogo et al. [10]. The last item corresponds to the average knowledge score. For the 21 items, three types of response were possible: "true", "false" and "don't know". We awarded 1 point for each correct answer, -1 for each wrong answer and 0 if the participant ticked "don't know". On an initial total score of 21 points, we reduced it to 20 points by calculating proportionality. After correcting the questionnaires and summing up the points, we considered as insufficient scores (insufficient knowledge) those that were less than half the total score, i.e. 10/20, and as good scores (good knowledge) those that were greater than or equal to 10/20. For practical reasons of cost and time, we chose to use a digital platform. The questionnaire in its original format was written on the Google Form® platform. We carried out a pre-test and then validated the questionnaire.

### Data capture and analysis

Data entry and analysis were performed on a laptop using Excel and R software, followed by graphical representations using Microsoft Excel. A descriptive analysis was performed to present the socio-demographic characteristics of our study population. Logistic regression was used to identify factors associated with satisfactory knowledge of post-traumatic syndrome disorder (PTSD).

### Ethical aspects

A favorable opinion from the Secretary General of the Ministry of Health was given to carry out the study. Data were collected anonymously and will only be used for the purposes of the study. Informed consent was required from GP to complete the questionnaire.

## Results

### Socio-demographic characteristics

According to the Ministry of Health's 2021 statistical yearbook, the total number of practicing GP is 1224 (27). The response rate was 35% ($n = 430$). We excluded 3 questionnaires whose responses were not sufficiently complete. Our study sample comprised 427 general practitioners, 67% of whom were men (284/427). The mean age of the doctors was $32.4 \pm 3.5$ years. Doctors were married in 49% of cases (208/427) and single in 41% (174/427). Average professional experience was $3.8 \pm 2.6$ years. The largest number of GP (120) came from the Centre region. A minority of GP practiced in rural areas (7%). The distribution of GP by region is shown in the Fig. 1 below.

### Data on knowledge of psychotraumatism

The results show that 210 GP (63%) believe they have already dealt with a case of psychotraumatism. Detailed results on knowledge of psychotraumatism can be found in the Table 1 below. Considering the scoring of GP' knowledge of psychotraumatism, 182 had an average score of 10 or above, i.e. 43% of our sample. Table 2 assesses GP' knowledge of psychotraumatism through 21 questions.

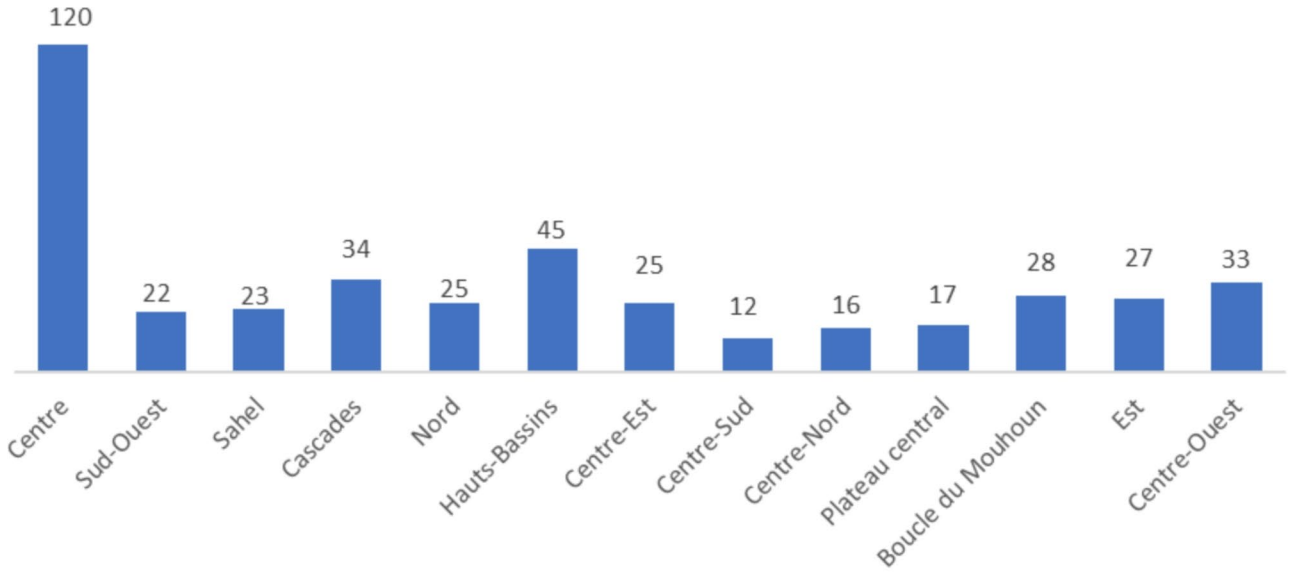


**Fig. 1** Distribution of general practitioners by region

**Table 1** Questions on training, psychotraumatism management and psychiatric internship

| Variable | Proportion of "Yes" responses (%) |
|---|---|
| Do you think you've ever dealt with a case of psychotraumatism? | 63 |
| Have you ever received training in psychotraumatism after defending your medical thesis? | 18 |
| Did you receive any training in psychotraumatism during your medical studies? | 27 |
| Have you ever done a psychiatric internship during your medical studies? | 49 |

### Factors associated with good knowledge of psychotraumatism

Table 3 shows the factors associated with good knowledge of psychotraumatism. At the 5% threshold, no significance was noted.

## Discussion

We collected data over a period of nine months from GP using an online questionnaire. We were able to use 427 questionnaires. During the course of our study, we encountered difficulties such as the poor quality of the internet connection network in certain security-challenged regions, which prevented GP from completing the questionnaire, or from doing so at the right time. Some participants also reported that the link did not work, probably due to the use of an inappropriate browser. Some people might also not be connected at the time of the study for various reasons. These various factors constitute probable selection biases. It is also possible that there was a recruitment bias. Indeed, since the questionnaire was online, it could have been filled in by specialist doctors or doctors in specialization instead of general practitioners. However, this bias was minimized by recalling our study population in the newsletter and questionnaire. Information bias cannot be ruled out, as some of the information requested could be filled in hastily due to fatigue or the length of the questionnaire, or filled in on a cell phone, which is not well suited to reading. Despite these constraints and limitations, we were able to obtain results that we have compared with those in the literature. Male GP predominated in our sample. These data are in line with those of the Institut National de la Statistique et de la Démographie. Indeed, it has been shown that the proportion of salaried workers in Burkina Faso is 9.5% for men and 5.2% for women [12]. Just under half the GP in our study (49%) have completed a psychiatric internship. Our results are inferior to those of Tabril et al. in Morocco, who found that 72.5% of doctors had attended a psychiatric internship at least once during their training. Just under a third of these doctors (31.2%) considered that this training enabled them to diagnose mental disorders well, while 46.1% replied that their diagnosis was moderately accurate [13]. This difference could be due to the priority given to the psychiatry internship in Morocco.

According to the GP' total knowledge score, the majority (57.6%) had poor knowledge of psychotraumatism, having scored less than 10/20. On the other hand, our results were similar to those of Teguera, who found that doctors' level of knowledge was considered low. This could be explained by the fact that doctors who have taken PTSD courses are better able to recognize

**Table 2** Assessment of general practitioners' knowledge of psychotraumatism

| Questions about knowledge of psychotraumatism | Proportion of correct answers (%) |
|---|---|
| Significant symptoms of acute stress after recent exposure within seven days of a potentially traumatic event? | 62 |
| The traumatic event may be physical violence, sexual violence or a serious accident. | 96 |
| For an event that occurred less than a month ago, to assess the symptoms of acute stress, look for insomnia, reliving symptoms, avoidance symptoms or unexplained physical symptoms such as hyperventilation. | 84 |
| If the person meets all of the following criteria, we speak of post-traumatic stress disorder (PTSD): a person has experienced a potentially traumatic event more than one month, has at least one symptom of reliving, has a symptom of avoidance, and has a symptom of hyperarousal and difficulties with daily activities. | 74 |
| Enuresis can be considered a symptom of acute stress in children | 59 |
| Benzodiazepines should be prescribed to treat symptoms of acute stress. | 34 |
| Individuals with PTSD can sometimes suffer from concomitant problems, such as physical pain, low energy, fatigue, irritability and depressed mood. | 93 |
| People with PTSD suffer from unwanted memories of the traumatic event. When they recall the event, they may feel emotions such as fear or horror, identical to the feelings they experienced during the actual event. | 94 |
| If qualified and supervised therapists are available, referral to individual or group post-traumatic cognitive-behavioural therapy (CBT-PT) or EMDR (eye movement desensitization and reprocessing) therapy should be considered. | 69 |
| Benzodiazepine use is not addictive | 79 |
| In adults, antidepressants should be considered when CBT-PT, EMDR therapy or stress management are ineffective. | 62 |
| In children and adolescents, antidepressants can be offered to manage PTSD. | 22 |
| Propose regular follow-up (after 2 to 4 weeks, for example): follow-up can take the form of a consultation at the clinic, follow-up can take place by telephone, and follow-up can take place through a community health worker. | 60 |
| In children and adolescents, benzodiazepines should be prescribed to treat insomnia | 40 |
| Encourage children to breathe into a paper bag | 20 |
| In addition, systematically auscultate the patient and carry out a basic medical examination to identify, treat or rule out possible physical causes, even if the problem began immediately after a stressful event. | 94 |
| Consider the use of culturally-specific and harmless interventions, as appropriate | 70 |
| EMDR therapy (Eye Movement Desensitization and Reprocessing) is based on the idea that negative thoughts, feelings and behaviors stem from unassimilated memories. | 32 |
| EMDR involves detailed description of the event, direct questioning of beliefs, prolonged exposure and home exercises. | 6 |
| If the problem persists for more than a month, any concomitant mental disorders should be reassessed and treated. | 77 |
| In the absence of a concomitant mental disorder, or in the absence of response to treatment of a concomitant mental disorder, benzodiazepine doses should be increased | 15 |

**Table 3** Factors associated with GPs' good knowledge of psychotraumatism

| Variable | | | | | | |
|---|---|---|---|---|---|---|
| | log(OR) | 95% CI | *p*-value | log(OR) | 95% CI | *p*-value |
| Urban | - | - | | | | |
| Rural | -0.57 | -1.4, 0.22 | 0.2 | | | |
| Age | -0.01 | -0.07, 0.06 | 0.8 | | | |
| Gender | | | | | | |
| Male | - | - | | | | |
| Female | -0.10 | -0.55, 0.33 | 0.6 | | | |
| Marital status | | | | | | |
| Married | - | - | | | | |
| Single | 0.03 | -0.43, 0.50 | 0.9 | | | |
| Cohabiting | 0.32 | -0.37, 1.0 | 0.4 | | | |
| Have you ever done a psychiatric internship during your medical studies? | | | | | | |
| No | - | - | | | | |
| Yes | 0.18 | -0.22, 0.57 | 0.4 | | | |
| Did you receive any training in psychotraumatism during your medical studies? | | | | | | |
| No | - | - | | - | - | |
| Yes | -0.44 | -0.91, 0.02 | 0.065 | -0.40 | -0.85, 0.04 | 0.078 |
| Did you receive any training in psychotraumatism during your medical studies? | | | | | | |
| No | - | - | | | | |
| Yes | -0.01 | -0.57, 0.54 | > 0.9 | | | |
| Do you think you've ever taken on a case of psycho-trauma? | | | | | | |
| Yes | - | - | | | | |
| No | 0.02 | -0.41, 0.45 | > 0.9 | | | |
| Professional experience | | | | | | |
| 0 | - | - | | | | |
| 1 | 0.05 | -0.47, 0.57 | 0.8 | | | |
| 2 | 0.00 | -0.55, 0.54 | > 0.9 | | | |

symptoms and risk factors. Also, GP who have taken part in the PTSD course during basic medical training would reinforce doctors' knowledge of this pathology. Indeed, the courses received during basic medical training represent an invaluable source of information for improving knowledge of the clinical manifestations and risk factors of PTSD. However, efforts still need to be made on the part of doctors who did not receive training in PTSD during their basic medical training. In our context, general practitioners represent the first level of contact [14]. This level of knowledge could also be explained by the fact that many GP had not completed a training course in psychiatry.

In our study, the majority of GP (63%) thought they had managed at least one case of psychotraumatism. Our results are inferior to those of Rougegrez et al. who found that 92.9% of GP frequently diagnosed psychotraumatism [15]. Respectively, 27% of GP claimed to have received training in psychotraumatism during their medical studies, and 18% had received further training after defending their thesis. At the end of our study, 26.9% of our sample said they had received training in psychotraumatism during their medical studies, and 17.8% had received further training on this topic.

The results found in our study could be explained by the security situation in the sub-region in general and in Burkina Faso in particular. Indeed, Burkina Faso has been the victim of terrorist attacks since 2016 [16].

Most GP clearly express difficulties with this type of care. First, the length of the consultation poses a problem for more than half. This is a major difficulty, given that GP carry out an average of 22 consultations a day, and the particularly time-consuming nature of these emotionally-charged consultations. Secondly, there are difficulties with secondary referral, pointing to the lack of visibility of a specific care system, but also to the inadequacy of resources deployed on a regional scale outside the emergency context. Other difficulties encountered concerned the relational aspect of care, therapeutic strategy, emotional burden and diagnosis. They emphasize the need for training in these areas [15]. Furthermore, the existence of courses on PTSD during basic medical training would reinforce doctors' knowledge of this pathology. The courses received during basic medical training represent an invaluable source of information

for improving knowledge of the clinical manifestations and risk factors of PTSD. However, efforts still need to be made on the part of doctors who did not receive training in PTSD during their basic medical training. In our context, GP represent the first level of contact. The majority of specialist doctors used the Internet as a source of knowledge (58.21%), unlike their GP colleagues. Almost all specialists are based at the Centre Hospitalier Régional Universitaire of Ouahigouya, i.e. in urban areas where the Internet is more accessible. The vast majority of specialists are also committed to a university hospital career, which means they are more open to Information and Communication Technologies. Nowadays, the Internet is the primary channel used to obtain information and acquire new knowledge [14]. Our study did not reveal any factors associated with greater knowledge of psychotraumatism. The differences found would most likely be due to chance. This could be due to the selection bias of our study. However, if the significance threshold were a little lower, certain variable such as "Have you ever received training in psychotraumatism during your medical studies?" would be significant.

## Conclusion

PTSD is a major public health problem in our context, given the country's security situation. Efforts are being made in the field to provide training in psychotraumatism, but this remains insufficient, given that general practitioners' knowledge of psychotraumatism is not good in most cases. Cooperation between psychiatric care providers needs to be supported by training courses and multidisciplinary meetings at local level [17]. Also, the active implementation of evidence-based clinical guidelines for PTSD using an outreach model could improve the recognition and management of PTSD in primary and secondary care. Availability and access to psychological services also need to be improved [18]. A study of a wider population, including nurses, could give a better idea of the level of knowledge about pychotraumatism.

### Abbreviations

GP General practitioner
PTSD Post-traumatic stress disorder

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### Author contributions

SAWADOGO Konsam Cédric Christel wrote the protocol, the main manuscript, managed data and reviwed the main manuscript. BAGUE Boubacar wrote the protocol, the main manuscript and reviewed the main manuscript. GALBONI Adama reviewed the main protocol, the main manuscript and managed data. SALIFOU ABDOU Mahamane Mobarak reviewed the main protocol and reviewed the main manuscript. CISSE Zeinabou reviewed the main protocol and reviewed the main manuscript. KARFO Kapouné reviewed the main protocol and reviewed the main manuscript.

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No fund was received.

### Data availability

The datasets generated and/or analysed during the current study are not publicly available because further publications are still being analysed from the date. Howether, are available from the corresponding author upon reasonable request.

## Declarations

### Ethics approval and consent to participate

This study was approved by the general secretary of the ministry of Health of Burkina Faso. All participants provide written informed consent. All procedures were in accordance with the ethical standards of the Helsinki Declaration.

### Consent for publication

Not applicable.

### Competing interests

The authors declare no competing interests.

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## Publisher's note