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Strengthening Psychosocial Support and Emergency Response in Senegal: Lessons from a Tragic Traffic Accident.

Renforcement du Soutien Psychosocial et des Interventions d'Urgence au Sénégal : Les Leçons d'un Tragique Accident de la Route

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ABSTRACT

On January 8, 2023, Senegal experienced a tragic traffic accident that claimed the lives of 42 people and left approximately 100 injured. During such events, the victims, their families, the first responders to arrive on the scene and the frontline personnel must benefit from medical and psychological care. Promptly, the Emergency Health Operations Center (EOC) acted, activating the Kaolack mobile psycho-social intervention and Support Team in addition to deploying mental health professionals in Kaffrine. On-site in Kaffrine, a medical-psychological emergency cell was established. This cell efficiently organized immediate and post-immediate care, offering individual and group counseling sessions tailored to the specific needs of each person affected. Approximately sixty direct or indirect victims received psychological assistance. Beyond the challenges inherent in managing such events and considering their increasing occurrence in our country, a vital lesson emerged-the necessity of formalizing Mobile Intervention and Psychosocial Support Teams in every region for the effective management of medical-psychological emergencies.

RÉSUMÉ

Le 8 janvier 2023, le Sénégal a connu un tragique accident de la circulation qui a coûté la vie à 42 personnes et fait une centaine de blessés. Lors de tels événements, les victimes, leurs familles, les premiers intervenants arrivés sur les lieux et le personnel de première ligne doivent bénéficier d'une prise en charge médicale et psychologique. Le Centre des opérations d'urgence sanitaire (COUS) a réagi rapidement en activant l'équipe mobile d'intervention psychosociale et de soutien de Kaolack et en déployant des professionnels de la santé mentale à Kaffrine. Sur place à Kaffrine, une cellule d'urgence médico-psychologique a été mise en place. Cette cellule a organisé efficacement les soins immédiats et post-immédiats, offrant des séances de conseil individuelles et collectives adaptées aux besoins spécifiques de chaque personne affectée. Une soixantaine de victimes directes ou indirectes ont bénéficié d'une assistance psychologique. Au-delà des défis inhérents à la gestion de tels événements et compte tenu de leur fréquence croissante dans notre pays, un enseignement essentiel se dégage : la nécessité de formaliser des équipes mobiles d'intervention et de soutien psychosocial dans chaque région pour une gestion efficace des urgences médico-psychologiques.

HIGHLIGHTS OF THE STUDY

What we know about the subject

All emergencies and disasters lead to various types of social and mental health problems. In Senegal, as in many developing countries, road accidents are becoming increasingly common. Despite the frequency of these incidents in our country, psychosocial care for victims is not systematic.

The question addressed in this study.

Psychosocial support and emergency response in Senegal.

What this study adds to the knowledge

This study gives an idea of the need to establish procedures in partnership with local and regional intervention players, as well as to develop the psychosocial care reflexes of players in the medical-psychological emergencies they will have to manage.

Implications for practice, policy, and future research

This study will give health authorities a clearer picture of the psychosocial management of road accident victims. It will enable them to define training courses in psychosocial assistance techniques in mass trauma situations and to set up a sustainable mechanism for the psychosocial assistance of victims.

INTRODUCTION

Road crashes are a leading cause of death in low- and middle-income countries. The World Health Organization (WHO) reports that 93% of road traffic deaths occur in these regions, having only 60% of the world's vehicle fleet [1]. The African Region has the highest road traffic death rate, while the European Region has the lowest. WHO also notes that in high-income countries, individuals from lower socio-economic classes are more likely to be involved in road traffic crashes [1]. Several factors contribute to the high frequency of road accidents, including dangerous road infrastructure, unsafe vehicles that don't meet safety standards, inadequate post-accident care, and insufficient enforcement of traffic laws [1, 2]. Senegal is not immune to these issues. In recent years, the country has expanded and renovated its road and highway network to improve transportation to remote regions... However, challenges persist, such as unlicensed drivers, disregard for traffic rules, poorly maintained vehicles, and road infrastructure that remain a safety hazard. Road traffic in Senegal is considered quite hazardous, with an average of 3,654 road deaths per year between 2013 and 2019 [3].

Accidental disasters are events that, due to their unpredictability, severity, high fatality rates, media attention, and societal impact, possess significant trauma-inducing potential [4, 5]. In developed countries, exposure to potentially traumatic events leads to comprehensive management that integrates both psychological and physical care [6]. The situation differs in resource-limited regions of sub-Saharan Africa, where assistance for disaster victims primarily focuses on physical care [7]. However, various studies have demonstrated that immediate and post-immediate psychological care following potentially traumatic events can initiate a therapeutic relationship, alleviate initial distress, enhance clinical outcomes, and prevent post-traumatic disorders [6, 8, 9].

In Senegal, a structured system for providing psychological care during health emergencies and disasters has been in place since 2016. This system was established with the creation of the Mobile Psychosocial Intervention and Support Team (EMIS) by the Health Emergency Operations Center (HEOC) of the Ministry of Health and Social Action (MHSA) [10, 11]. Comprised of a multidisciplinary and well-trained team, EMIS is equipped to respond within 24 hours of a potentially traumatic event, delivering psychological and social support to the affected individuals.

On January 08, 2023, Senegal witnessed another tragic incident on the road in the Kaffrine region, resulting in the loss of 39 lives. Out of these, 35 individuals succumbed to their injuries at the accident site, while four passed away in the hospital. During mourning and psychological distress, the psychosocial EMIS from the HEOC, in collaboration with the Mental Health Division (MHD) of the MHSA and the psychosocial EMIS of Kaolack, mobilized to provide training for a medical-psychological team. The primary goal was to assist the medical region in Kaffrine with medical-psychological care for hospitalized victims, offer psychological support to grieving families, and provide support for front-line responders. In this article, the authors share their experience in the field of psychological intervention.

ACCOUNT OF THE EVENT

At approximately 3 a.m. on Sunday, January 8, 2023, a traffic accident occurred about 236 km from Senegal's capital, near the exit of the Kaffrine region. This accident involved the collusion of two public transport vehicles carrying a total of 140 passengers, including individuals from both Dakar and the Tambacounda region. The accident resulted in the loss of 39 lives, with 35 fatalities occurring immediately at the scene, and four injured individuals later succumbing to their injuries at the regional hospital in Kaffrine. Among the victims, seven were minors under the age of 12. Over a hundred injured individuals were admitted to various facilities within the Kaffrine region, including the regional hospital, health centers, and health posts. Thirteen of these were in intensive care and one was evacuated due to space constraints.

According to accounts from the injured individuals we spoke with, the accident occurred when one of the vehicles experienced a flat tire. A few minutes later, the few residents of the village of Sikilo, awakened by the sound of the collision, rushed to rescue the injured. Initial first aid assistance arrived several hours later, followed by the dissemination of information to the healthcare authorities in the Kaffrine region, who promptly initiated a care plan. The local authorities immediately informed the country's political and health officials. This tragic incident evoked painful memories for the Senegalese people, reminiscent of the 2001 Joola boat disaster, which claimed nearly 2000 lives [12]. In response, all levels of government mobilized

their efforts, and through decree 2023-1221, a national mourning period of three days was declared, starting on Monday, January 09, 2023.

MEDICAL AND PSYCHOLOGICAL EMERGENCY MANAGEMENT SYSTEM

In terms of rescue operations, the National Fire Brigade, defense and security forces, and the medical teams from the Kaffrine region were quickly deployed to the scene. The severely injured were promptly transported to the trauma and visceral emergency units at Thierno Birahim Ndao Regional Hospital in Kaffrine. The “minor" injured were transferred to the health centers and stations within the region. It’s worth noting that the overflow of existing healthcare facilities poses a significant challenge in a disaster situation [13].

Shortly after the accident, in the initial hours of the accident, social workers in the Kaffrine region, trained in active listening and medical-psychological support techniques, began providing immediate psychosocial care to those with minor injuries following a thorough psychosocial assessment. A dedicated reception area was established at Kaffrine Regional Hospital, where defusing sessions were conducted. Numerous studies have highlighted early contact with mental health professionals after exposure to potentially traumatic events. This is achieved by putting the event and its emotional content into words for the first time, which helps to reduce the emotional burden [9, 14].

A report from the team provided a description of the situation, along with the results of the initial psychosocial assessment. This report highlighted the immediate need to bolster the on-site psychosocial intervention team for the victims. Upon recognizing the urgency, the HEOC activated the Kaolack Regional Psychosocial EMIS in coordination with the Regional Chief Medical Officer and the National Psychosocial EMIS in collaboration with the Mental Health Division (MHD) of MHSA. In total, the psychosocial team dispatched to the site consisted of two psychiatrists and eight social workers. It's worth noting that the HEOC was established for the management and coordination of emergency responses and was very quickly adapted to create mobile intervention and psychosocial support teams based on the country's risk mapping [10]. All EMIS psychosocial workers have received specialized training in medical and psychological emergency management.

WORK OF THE MOBILE PSYCHOSOCIAL INTERVENTION AND SUPPORT TEAM

The primary role of the psychosocial intervention team was to offer early medical-psychological support to those psychologically affected by the accident. This included individuals who were physically and/or psychologically injured, as well as their families and first responders. Consequently, team members were responsible for welcoming, informing, and delivering immediate care and assistance to the affected families. In the hours following the incident, the team compiled a list of victims admitted to the Hospital's Reception and Emergency Service (HRES) and to the Kaffrine Health Center to inform and guide the victims’ families. After this crucial identification step, the team convened to formulate the intervention strategies. They opted for two strategies: conducting individual interviews with hospitalized victims and their families and facilitating focus groups for those closely associated with them. In addition to these strategies, one of the team members served as an assistant to the hospital morgue manager for the handling of the deceased bodies.

Individual interviews were conducted with stable victims 48 hours after the incident at their bedside... The team conducted interviews with 38 victims, including 31 men and 7 women. During these individual sessions, the team identified anxious and depressive symptoms linked to the event, as well as feelings of guilt, confusion, powerlessness, and post-traumatic psychosomatic manifestations. Some victims exhibited signs of acute post-traumatic stress, which included insomnia, nightmares with flashbacks of the accident, unfounded fear of imminent death, and associated neurovegetative symptoms like tachycardia and headaches. The clinical manifestations of psychological trauma following a traumatic event are diverse and vary based on factors such as the nature of the event, the victim’s proximity to the event, their personal experience, and the number of deaths [4, 11, 15]. After these interviews, a victim mapping was conducted to better organize psychosocial responses across the various affected regions of the country. The data indicated that the victims originated from the southeastern, especially Tambacounda and Kolda. The psychosocial EMIS teams in these affected regions are prepared to provide care for the victims and support their grieving families.

A team member, who also served as the head of the psychosocial team and was experienced in the medical and psychological management of victims of potentially traumatic events, engaged in a one-hour individual interview with the morgue manager. During this conversation, shared his experience, revealing that he had encountered an unprecedented situation. He described experiencing insomnia, recurring flashbacks of the disturbing images of the bodies, a fear of being alone in the morgue, loss of appetite, and a persistent smell of blood. These accounts underscore the severity of the trauma the morgue manager had endured and the urgency of helping.

In response, the morgue manager was prescribed anxiolytics and referred to a psychiatrist at the Kaolack Social Reintegration Center for long-term support. These different interviews allowed us to normalize the symptoms presented by the victims and to inform them about the possible evolutionary modalities in a preventive aspect [16]. They are centered on the event and have allowed the victims to associate intimate memories and fantasies with their account in an often intense transferential relationship. The event is then resituated in the victim's personal history [17], which sometimes requires several interviews. It is in this

context that the psychiatrist has set up a system for long-term follow-up.

For the first responders (firemen, Red Cross agents), focus groups were organized four days after the incident (Image). This technique of focus group can be used in this post-immediate period [18], whose aim is to offer both a space for listening and expression, where speech can be asked and heard; to offer a space that allows for effective communication on the difficulties encountered in a particular problem thanks to the exchanges that take place there [11]. Two discussion groups were undertaken with Red Cross agents with 23 participants and firemen with 17 participants. The primary objective of these discussion groups is to help the first-line responders, tertiary victims [19], to metabolize the event experienced to quickly return to daily functioning [20].

The discussion groups were conducted by the psychiatrist, head of the EMIS psychosocial, assisted by social workers from the same locality. They were organized on the same day at the respective headquarters of the Red Cross and the fire department. For both groups, the same methodology was used with homogeneous participants. After introducing themselves, the speakers stated the reasons for their presence, the instructions for confidentiality, and free participation in the group. These sessions allowed for the sharing of emotions and thoughts experienced during the interventions. During these two sessions, clinical manifestations of psychic trauma such as psychosomatic complaints (diffuse algies, headaches, joint pains, dizziness...) emerged. *"Since that day, I have headaches and sometimes a huge fatigue in the evening when I finish my service...", emotional symptoms (crying, anxiety...). Some participants mentioned flashbacks with reliving the event "I see the bodies again when I am alone...especially the body of a man who reminds me of my brother...". Invasive images of the bodies collected at the scene of the accident were reported to disrupt their daily work activities. Sleep disturbances such as difficulties in falling asleep and waking up early were also reported: "I don't sleep much at night..., sometimes I have nightmares when I see the bodies of the victims again..."* said a Red Cross agent.

At the end of the focus groups, the Red Cross and firefighters thanked the team for allowing them to express themselves: *"It was my first experience with these types of incidents, ... I am not used to expressing myself after an intervention, but this was useful. ... I didn't think it was going to be so relieving"*, said a firefighter. Almost all participants praised the relief provided by the counseling. Some participants even recommended that they systematically integrate these focus group sessions into their daily work.

Figure 1: Group discussion with the Red Cross agents who intervened during the accident in Kaffrine (11-01-23).

LESSONS LEARNED.

Disasters such as traffic accidents are a source of psycho-trauma [7, 13]. The international literature describes several types of reactions after such events. The manifestations noted after the accident in Sikilo in the Kaffrine region among direct and indirect victims fall within the framework of adapted and exceeded stress for others.

The rapidity with which the psychosocial EMIS was set up and operationalized in the first moments of the accident is to be commended, as recommended by most authors who noted immediate psychosocial assistance within 24 hours of a potentially traumatic event, regardless of its nature and duration [21, 22]. The implementation of the psychosocial EMIS was a success with effective coordination between the different stakeholders in the psychosocial response (HEOC, MHS, EMIS in Kaolack, and local social actors). The psychosocial EMIS met a need to some extent, as evidenced by the number of people received during the response period. However, there was a lack of preparation and a clear lack of training for some actors in Psychotrauma. In addition, the profile of certain categories of workers, such as the social workers in Kaffrine, are not as well equipped to deal with Psychotrauma as their colleagues at the psychosocial EMIS in Kaolack. Hence a need to set up a multidisciplinary, multisectoral, and trained psychosocial EMIS in the region of Kaffrine, for faster and more efficient availability.

The other important lesson learned in the psychosocial response to the Sikilo accident was the intervention methods used according to the victims: individual interviews for hospitalized victims and group listening for front-line workers. The focus group is particularly appropriate in many situations: first, it respects the preference of most people not to have to give an account of the intimacy of their own being within the framework of a dual relationship, sometimes experienced in the aftermath of the trauma as much more

intrusive [11]. However, a second evaluation is necessary to judge the effectiveness of the assistance technique used.
As regards the management of the bodies of the dead in the hospital morgue, psychosocial care has shown the importance of training morgue managers in the emotional management of mass deaths.

CONCLUSION

The tragic accident of January 8, 2023, in Sikilo on the road in the Kaffrine region, which resulted in the death of 42 people, allowed the medical-psychological emergency cell set up by HEOC to carry out activities in a constructive and effective manner, but also with multiple shortcomings. As mentioned above, this type of accident is recurrent on African and Senegalese roads. It is therefore quite likely that an emergency of the same type and of equal or greater morbid intensity will recur, especially since the development of the continent [23] and population growth [24] will increase travel on all scales. Political authorities can intervene both by defining a prevention policy and by enforcing existing legislation/regulations more strictly to make road travel safer. For their part, health authorities can define training in psychosocial assistance techniques in mass trauma situations and procedures in partnership with local and regional intervention actors to integrate/diffuse psychosocial care reflexes and to better prepare these actors for the medical-psychological emergencies they will have to manage.

DECLARATIONS

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REFERENCES

1. Organisation mondiale de la santé (OMS). Accidents de la route. [En ligne]. https://www.who.int/fr/news-room/fact-sheets/detail/road-traffic-injuries, 2022. (Consulté le 04 février 2023).
2. Azzeddine M, Ghiat T. Les principales causes des accidents de la circulation routière et les mesures d'atténuation en Algérie. European Scientific Journal. Edition, 2015, vol.11, No.20, p : 163-76.
3. Transports et infrastructure en Sénégal. [En ligne]. Sénégal, 2019. [Cité le 20 Janvier 2023]. Disponible : https://www.donneesmondiales.com/afrique/senegal/trafic.php (consulté le 17 janvier 2023).
4. Cremniter D., Coq J.-M., Chidiac N., Laurent A. Catastrophes. Aspects psychiatriques et psychopathologiques actuels. EMC (Elsevier Masson SAS, Paris), Psychiatrie, 2007, 37-113-D-10.
5. Baubet T, Coq JM, Ponseti-Gaillochon A, Vitry M, Navarre C, Cremniter D. Intervention médico-psychologique à Charm el Cheik auprès des familles du crash aérien de la Flash Airlines. Presse Med ; 2006, 35 :250-1.
6. Lebigot F. Le débriefing collectif. Stress Trauma 2001 ; 1 : 137-41.
7. Nanema D, Goumbri P, Bague B, Karfo K, Ouango JG, Ouedraogo A. Intervention médico-psychologique lors des attentats terro-ristes de Ouagadougou par une cellule d'urgence médico-psychologique informelle. L'Information psychiatrique ; 2017, 93 (10) : 854-8 doi :10.1684/ipe.2017.1725.
8. Doucet C, Joubrel D, Cremniter D. L'intervention post-immédiate des cellules médico-psychologiques : étude clinique et psycho-pathologique de 20 débriefings psychologiques de groupe. Ann Med Psychol ; 2013, 171: 399-404.
9. Prieto N, Cheucle E, Faure P et al. Defusing des victimes des attentats de Paris. Éléments d'évaluation un mois après. Encéphale, 2016 : S0013-7006(16)30211-1. Doi : 10.1016/j.encep.2016.10.002.
10. Ministère de la Santé et de l'Action sociale (MSAS). Arrêté portant sur la création et les règles de l'organisation et du fonctionnement d'une équipe mobile d'intervention et de soutien psychosociale N° 819531. Centre des Opérations d'Urgence Sanitaire, 2017, Senegal.
11. Diagne I, Ndiaye Ndongo ND, Dieng AB et al. Une expérience d'intervention psychologique après le naufrage d'une pirogue à Bettenty au Sénégal. Ann Med Psychol (Paris), 2020, https://doi.org/10.1016/j.amp.2020.04.012
12. Diouf ML, Fall L, Thiam MH, Sylla O, Gueye M. Naufrage du « Joola » (Sénégal, septembre 2002). Retour sur le travail de la cellule me´ dico-psychologique. Stress et Trauma; 2011, 11:113–8.
13. Teeter DS. Illnesses and injuries were reported at disaster application centers following the 1994 Northridge earthquake. Mil Med 1996 ; 161 : 526-30.
14. Organisation Mondiale de la Santé (OMS). Les premiers secours psychologiques : guide pour les acteurs de terrain. Organisation mondiale de la santé. 2012. apps.who.int/iris/bitstream/10665/44779/1/9789242548204-fre.pdf (consulté le 17 janvier 2023).
15. Chidiac N, Crocq L. Le Psychotrauma II. La réaction immédiate et la période post-immédiate. Ann Med Psychol; 2010, 168:639–44.
16. Doucet C. En cellule d'urgence médico-psychologique : clinique de l'impatience et réveil singulier. In : Doucet C, editor. Le psychologue en service de psychiatrie. 2011, Paris : Masson.
17. Lebigot, F. Traiter les traumatismes psychiques, 2005. Paris, Dunod.
18. Guichardon G. Groupe de Parole, Relogement, rédaction novembre 2006/intervention 23 janvier 2007, www.crdsu.org/Datas/File/DT_relogement/DT_relogement./Gr oupe-Parole-2.pdf.
19. Interpol. L'identification des victimes de catastrophes. Fiche pratique. COM/FS/2018-03/FS-02. 2018, https://www.interpol.int/content/download/621/file/...
20. Feciane Bioud NK, Ait Mohand A. L'intervention médico-psychologique auprès des victimes de catastrophes et des situations d'urgence. Institut National de Santé Publique. Traumatismes psychiques–S M C 2 - INSP. 2002.
21. Quelier C. Les cellules d'urgence médico-psychologique face à une demande croissante. Module interprofessionnel de sante´ pu-blique. Rennes : École nationale de santé publique,

2001, https://documentation.ehesp.fr/memoires/2001/mip/g_31.pdf
22. Rerbal D, Prieto N, Vaux J, et al. Organisation et modalités d'intervention des Cellules d'Urgence médico-psychologique. Recom-mandations de la Société française de médecine d'urgence (SFMU) en collaboration avec l'Association de formation et de recherche des cellules d'urgence médico-psychologique - Société française de psychotraumatologie (AFORCUMP-SFP). Ann Fr Med urgence ; 2017, 7 :410–24.
23. Agence Française de Développement (AFD). Atlas de l'Afrique, pour un autre regard sur le continent africain Armand Colin, Paris. 2020.
24. Tabutin, D., Schoumaker, B. La démographie de l'Afrique subsaharienne au XXIe siècle. Bilan des changements de 2000 à 2020, perspectives et défis d'ici 2050. Population, 2020, 75(2–3), 169–295.