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COMMENTARY

Prehospital emergency care and injury prevention in Sudan

La prise en charge d'urgence préhospitalière et la prévention des blessures au Soudan

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Introduction: Emerging opportunities exist to improve prehospital emergency care and injury prevention in Sudan. This article aims to provide a description of the status of prehospital emergency care and injury prevention in Sudan, identify opportunities for improvement, create awareness, and initiate discussion around the development of EMS in Sudan. Sudan lags behind neighbouring Tanzania in terms of EMS development. Violent conflict and natural disaster place an enormous burden on the already fragile emergency care infrastructure. The need for an effective emergency prehospital care system in this setting is critical.
Methods: Qualitative descriptive data were collected in collaboration between Sudanese and United States based physicians from September 2008 to February 2014 from Sudan's Ministry of Health paper registries, internet, interviews, and empirical observations.
Results: In the capital Khartoum, the government operates 67 ambulances, with a further 30 ambulances in Darfur, making a total of 97 state operated ambulances in the entirety of Sudan. Ambulance crews comprise two emergency care assistants without certification. Ambulance transport costs are covered mostly by out-of-pocket cash payment and via insurance for the privileged few. The existing 24 h a day – 7 days a week ambulance service in Khartoum is coordinated from a central dispatch centre reached by dialling "333".
Conclusion: Due to an absence of published literature in Sudan, much of the data have been recorded from paper records and empirical observations. Prehospital care and injury prevention in the Sudan is a recent initiative, but it is developing into a promising model with many opportunities for improvement. This momentum should be nurtured and requires a purposive, collective collaboration to draw a blueprint for a locally relevant, effective and efficient prehospital system in Sudan. It is hoped that this article will highlight and encourage further progress.

Introduction: De nouvelles opportunités voient le jour pour améliorer la prise en charge d'urgence préhospitalière et la prévention des blessures au Soudan. L'objectif de cet article est de fournir une description de la situation de la prise en charge d'urgence préhospitalière et de la prévention des blessures au Soudan, d'identifier les possibilités d'amélioration, de sensibiliser les populations et de susciter une discussion sur la question du développement des services médicaux d'urgence (SMU) au Soudan. Le Soudan est en retard par rapport à son voisin qu'est la Tanzanie en termes de développement des SMU. Les violents conflits et les catastrophes naturelles constituent un fardeau considérable pour les infrastructures de prise en charge d'urgence déjà fragiles. Dans un tel contexte, un système de prise en charge d'urgence préhospitalière efficace est crucial.
Méthodes: Des données descriptives et qualitatives ont été recueillies de manière collaborative par des médecins soudanais et basés aux États-Unis de septembre 2008 à février 2014 à partir des registres papier du ministère de la Santé soudanais, des informations disponibles sur Internet, d'entretiens et d'observations empiriques.
Résultats: Á Khartoum, la capitale du pays, le gouvernement gère un parc de 67 ambulances, et 30 ambulances supplémentaires au Darfour, soit un total de 97 ambulances gérées par l'État sur la totalité du territoire national. Les équipes se composent de deux assistants urgentistes qui ne sont pas certifiés. Les frais de transport en ambulance sont essentiellement couverts par des paiements en espèces, ainsi que par des assurances pour les plus privilégiés. Á Khartoum, la coordination du service d'ambulances, qui fonctionne 24 heures sur 24, 7 jours sur 7, est assurée par un centre de coordination central joignable en composant le « 333 ».
Conclusion: En raison de l'absence de littérature publiée au Soudan, la majeure partie des données a été enregistrée à partir des registres papier et d'observations empiriques. La prise en charge préhospitalière et la prévention des blessures au Soudan est une initiative récente, mais se développe sous la forme d'un modèle prometteur, présentant de nombreuses opportunités d'amélioration. Un élan qu'il conviendra de nourrir et exigeant une collaboration à dessin et collective afin d'élaborer un plan si l'on souhaite voir l'émergence d'un système préhospitalier pertinent, effectif et efficace au Soudan. Nous espérons que cet article permettra de mettre en avant les progrès effectués et de favoriser l'émergence de progrès supplémentaires.

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African relevance

- Sudan is the third largest country in Africa in terms of land, with a strategic location.
- Effective prehospital care and injury prevention can reduce mortality and morbidity.
- A successful EMS model in Sudan could be applied in other African countries.
- Information sharing will help identify areas for training opportunities in Africa.

Introduction

Prehospital emergency care includes the first formal contact with emergency medical services (EMS) and embraces emergency medical care and subsequent transfer to an appropriate emergency centre or other medical facility.[1] Poor initial care and injury prevention measures are major contributors to increasing mortality and morbidity worldwide.[2] The situation is especially worrisome in developing countries where the healthcare system is immature or unsophisticated and little attention is paid to prehospital emergency care.[3] Exacerbating circumstances further is the fact that developing countries have higher rates of injuries requiring prehospital emergency care compared to developed countries.[3] The 1999 report by the Institute of Medicine (IOM) on reducing the burden of injury highlighted the absence of injury prevention training programs in public health.[4] While conditions have improved in the United States since the IOM report, attention to training in prehospital care remains scant in resource-limited countries with negligible systems of governance and accountability.[5]

According to estimates, Sudan has a population between 39 and 40 million.[16] The population of metropolitan Khartoum is expanding rapidly (six to seven million), including around two million displaced people from the southern war zone as well as western and eastern drought-affected areas.[16] Two thirds of the population is located in a rural setting. As is the case in other developing countries, there are scant data on the non-communicable disease burden in Sudan, with little good evidence or statistics. Thus, the true incidence of emergency related injury and illness is unknown. Notwithstanding the paucity of data, Sudan, akin to other developing countries, bears a significant burden of trauma emergencies and thus begs the establishment of an EMS system.[15]

Sudan is ranked thirteenth globally in terms of incidence of road traffic accidents. A report on traffic accidents in the Arab world found that 1827[6] people died and about 13,000 were seriously injured in Sudan in 2008 alone from traffic accidents.[2] This is equivalent to three deaths every 24 h and ten serious injuries every 3 h.[6] This may be attributed to massive migration and the accompanying increase in the number of vehicles. In the last two decades the population of Khartoum increased 16-fold while the number of vehicles increased from 148,000 vehicles in 1984 to 400,000 in 2008.[7] In addition to road traffic accidents, Sudan also has been significantly affected by both violent conflicts and natural disasters, which add an enormous burden to the already-tenuous prehospital emergency care system. The need for an effective and efficient emergency prehospital care system in Sudan is apparent and is likely to significantly contribute to reducing avoidable mortality and morbidity and saving treatment cost.[3]

Methods

Qualitative descriptive data on the status of prehospital emergency care and injury prevention in Sudan were collected in collaboration between Sudanese and United States-based physicians from September 2008 to February 2014. Data were collected from Sudan's Ministry of Health paper registries, the internet, interviews, and empirical observations.

Results

Presently, Sudan has a state-run health service, which includes an ambulance service. Prehospital care and ambulance transportation in Sudan were initiated in 2006, when minivan ambulances for transportation were introduced together with a central dispatch centre and a '333' emergency response number, established by the Khartoum State Ministry of health.[8,9] In 2010 Saudi Arabia donated 30 well-equipped ambulances to Sudan to operate in Darfur, one third of which is operated respectively by the Ministries of Health in North, West, and South Darfur. Similarly, the United Arab Emirates (UAE) donated 30 well-equipped ambulances to operate in Khartoum in 2014.

The existing government ambulance service in Khartoum State is coordinated from one central dispatching command centre at Ahmed Gasim Hospital in Khartoum North. In other states they are operated by the corresponding state Ministry of Health. Most (69%) of the 97 government-operated ambulances are located in the capital Khartoum; the remaining 30 ambulances are in the Darfur region.[8] Government-operated ambulances provide transportation to approximately 29 hospitals in the city depending on the medical condition. The ambulance services in Khartoum are accessed via a single central emergency response number: "333".[8,9] This is a free call, the cost being incorporated in the phone service bill by the provider. This number, however, is not well publicized in the community. Few Sudanese citizens have easy access to the EMS – few reside in areas where services do indeed exist, few are aware of the option, and few are able to pay[8,9,12] Government ambulances are paid by either cash on a fee for service basis or via an insurance option.

There are a few private ambulance service providers in the country, but coverage for these is more restricted.[3,8] They are based at and organized from specific private hospitals, and are not regulated or standardized. Owners operate the private services, with a cash fee being levied for service. There is no insurance option, and private services only respond to emergencies on behalf of their respective hospital or network.

There exists neither standardized training nor a national scope of practice for EMS providers. Dispatchers and call-takers are not professionally trained in EMS – no formal training or certification exists yet. The primary function of the EMS is to transport patients to the nearest emergency centre. Numbers of ambulances may fluctuate depending on hospital needs and logistics. Ambulance crew in general consists of two Emergency Care Assistant workers without formal certification. No qualification is needed for this role, though on-the-job CPR and first aid training is provided. This in-service training