

## Surgical Emergency Management at the Regional and Protestant Hospitals of Ngaoundéré

This article was published in the following Scient Open Access Journal:

Journal of General Surgery

Received May 10, 2019; Accepted May 23, 2019; Published May 29, 2019

Ngaroua<sup>1\*</sup>, Pagoré Todou Parfait<sup>2</sup>,  
Dah'Ngwa Dieudonné<sup>2</sup>, Eloundou N.  
Joseph<sup>3</sup>

<sup>1</sup>Regional Hospital of Ngaoundéré-Cameroun

<sup>2</sup>Faculty of Medicine and Biomedical Sciences,  
University of Ngaoundéré-Cameroun

<sup>3</sup>Faculty of Medicine and Biomedical Sciences,  
University of Yaoundé, Cameroun

### Abstract

The global burden of surgical disease is steadily increasing, disproportionately affecting low- and middle-income countries as many move through the epidemiological transition away from communicable towards non-communicable diseases. Yet, little is known about the personnel's skills to manage these surgical emergencies in our country. The main goal of this study was to assess the level of knowledge and clinical practice of health personnel's regarding surgical emergencies in the emergency unit of the hospitals of study. As such, a survey questionnaire for data collection was addressed to the personnel of the two hospitals. The study carried out was a prospective study with four months of data collection. We used the software Sphinx Plus to elaborate the survey questionnaire, to introduce collected data and generate obtained results. Results obtained reveals that, 92.3% of the personnel never had a training session on the management of surgical emergencies. Moreover, the two hospitals had no tool of assessment of the state of gravity of patients so as to proceed to a sorting process depending on the seriousness of the lesions. Also, out of the 88.57% of the personnel who participated to this design study, only 15.38% of them had a professional experience of 5 years and above.

In conclusion, the knowledge of the personnel of the hospitals of study concerning the management of surgical emergencies remains insufficient. Health workers of the emergency unit should be provided with refresher courses to keep them updated and informed with the evolution of surgical procedures, equipment and technologies. If these challenges are managed properly, then the regional and protestant emergency department services will improve its care provision.

**Keywords:** Emergency, care, Management, Regional hospital Ngaoundéré, Protestant hospital Ngaoundéré

### Introduction

In sub-Saharan Africa, the burden of surgical disease is characterized by emergency and essential procedures requiring immediate attention, in contrast to industrialized countries where 80 % of procedures are elective [1, 2]. In Cameroon, the emergency unit is one of the most congested service in hospitals. It is so because, the epidemiological transition is shifting from communicable diseases towards non-communicable diseases [3]. The emergence of surgical diseases is progressively increasing with a high disease burden in low and middle-income countries like Cameroon [4]. Reports from the World Health Organization (WHO) shows that 5 billion people currently do not have access to safe, timely and affordable surgical care and anesthesia worldwide [5]. Adequate surgical care is required as well in Cameroon as the burden of surgical diseases increases disproportionately. Yet, these services are not provided because the Cameroon health sector faces tremendous challenges as it attempts to provide safe surgical care to patients [3]. Surgical emergency management is one of the most essential mission of hospitals. With its ability to answer efficiently to the needs of patients no matter their health state and conditions (DAKNOU, 2011) the major challenges faced by this department include among others, the inadequate number of surgeons and resources. Cameroon is classified by WHO as having a shortage of health personnel [6-14]. On the other hand, the limited number of health workers posted to health facilities and the few available surgeons face overwhelming workloads which negatively impact the efficiency and efficacy of surgical care administered to patients [3]. Even though, Marquise and al.; revealed that infrastructure for emergency and essential surgical care (EESC) was generally inadequate with the largest gaps in availability of oxygen concentrator supply, an on-site blood bank, and pain relief management guidelines. Human resources were

\*Corresponding author: Ngaroua, Regional Hospital of Ngaoundéré-Cameroun, Tel: (237) 699 978 351; Email: mdngaroua2007@yahoo.fr

scarce. He conducted the study in 12 hospitals of Cameroon. None of the hospitals of the grand north was included to the study. As such, we decided to focus on one regional hospital and one private hospital of the Adamawa region to assess the knowledge and clinical aptitudes of the health workers of the emergency department regarding surgical emergency managements. Knowing that much has been done and yet still much has to be done to improve care provision, data provided by Marquise and al., is a positive foundation for evidence-based decision-making surrounding appropriate allocation and provision of resources for adequate surgical emergency management in Cameroon. But our main goal here is to assess the contribution of the health staff personnel know-how and skills in the management of surgical emergencies. That is why, we asked ourselves the following questions: Do the personnel's of the emergency department possesses the necessary skills and know-how concerning the management of patients in this unit? are the necessary equipment's and supplies present for better quality of care? Has something been done since 2009 to improve the infrastructures of our hospitals and its plateau technique?

### Specific Objectives

- To assess the knowledge of health personnel's concerning the management procedures of surgical emergencies;
- To assess the capacity workload of the personnel's and as such the technical practice combining technological environment and available medical supplies in the emergency units
- Identifier factors that impedes the management of patients in emergency situations

### Methodology

An anonymous survey questionnaire was addressed to medics (20 questionnaires) and paramedics (40 questionnaires) working in the emergency department of the regional and protestant hospitals of Ngaoundéré, going from August 17<sup>th</sup>, to November 22<sup>nd</sup> 2017. We carried out a prospective exploratory study based on the survey questionnaire established for the purpose, direct observations and interviews following the goals and objectives of the study. Were included all the nurses, assistant nurses, physicians and specialists of the service. Collected information focused on:

- Age, sex and grade;
- Professional experience in the emergency unit;
- Knowledge of certain vital parameters (BP, SpO2...);
- Knowledge concerning certain vital gestures;
- The mastery of tools of selection or sorting etc.

The method used for sampling was non probabilistic and exhaustive. Collected data were recorded and registered by the means of the software sphinx plus. It equally helped us to generate results whereas, Microsoft word and Excel 2013, helped us to establish tables, graphs and figures from obtained results.

### Limits of the study

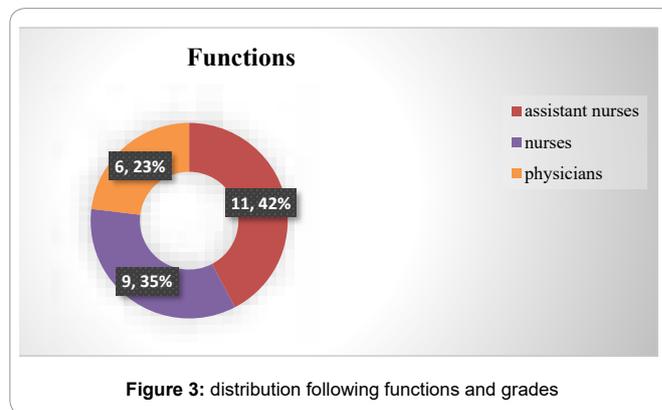
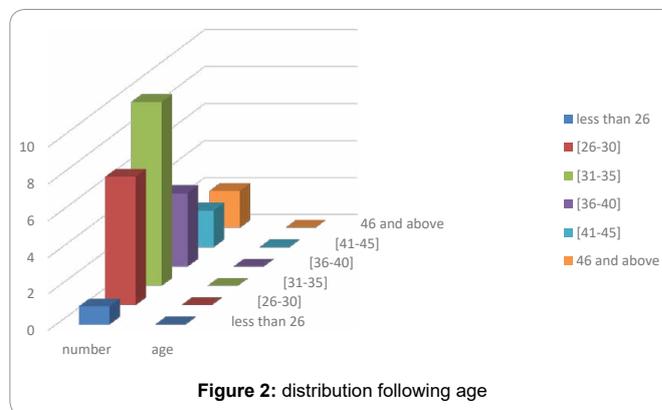
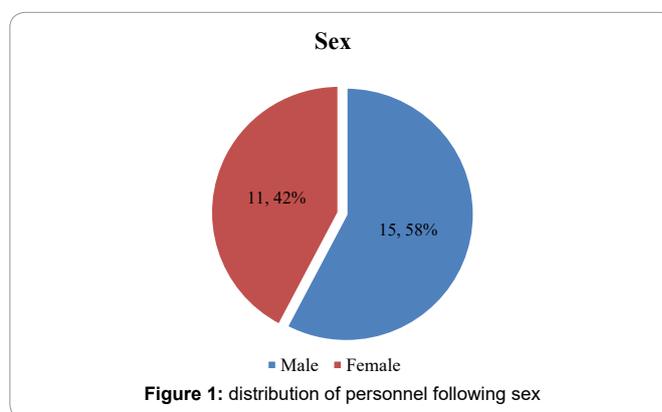
- The sample size of the study was small, hence, difficulties

globalize results

- The study didn't consider all the forms of emergency hence creating some bias
- Pediatric, medical and gynecologic emergencies were not taken into account

### Results

Totally, 26 personnel took part in this study distributed as follows: 15 personnel from the regional hospital of Ngaoundéré and 11 from the protestant hospital of Ngaoundéré. Male represented 56% participation and female 44% with a sex ratio of men to women equals to 1.36 (Figures and Table).



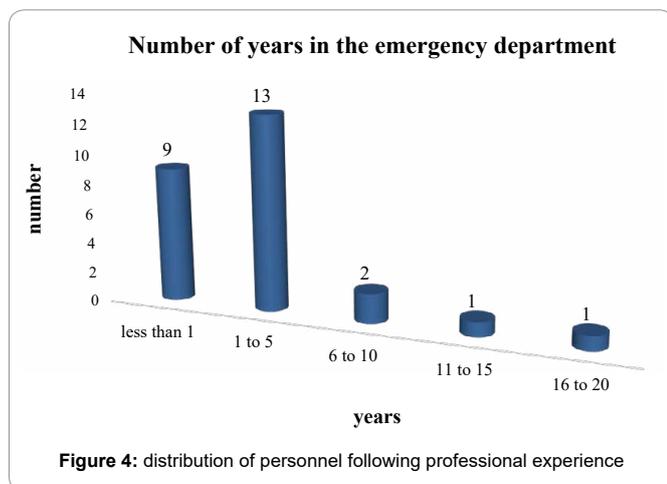


Table 1: Minimum material and equipment a normal emergency unit most possess

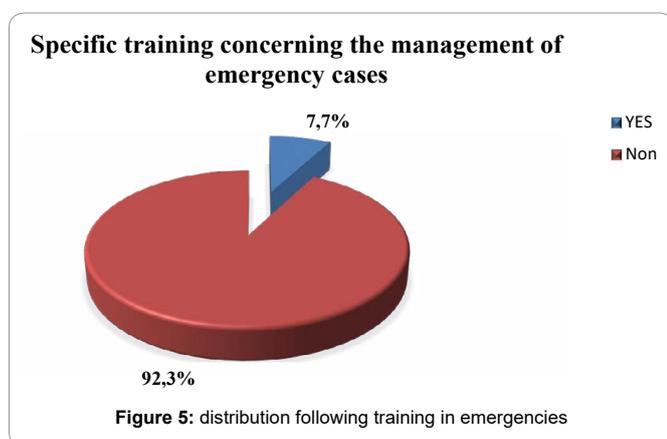
Materials	Regional Hospital of Ngaoundéré (RHN)	Protestant Hospital of Ngaoundéré (PHN)
BAVU and facial mask		
Bottle of oxygen		✓
Stretcher	✓	✓
Wheel chairs	✓	✓
Care truck		✓
Defibrillator		
Emergency drugs		
Monitoring systems		✓

In our sample size, 50% of the personnel had a professional experience of 1 to 5 years in the emergency department with 34.6% of them in their first years of function. Only 15.3% of the personnel, either 04 participants had more than 5 years of professional experience.

In this study 92.3% of the personnel responds to have never had a specific training concerning the management of emergency patients against 7.7% who affirms having once had a training concerning emergencies.

69.2% of the sample do not use any evaluation tool of sorting or selection of patients according to the extreme seriousness of the emergency, whereas, 30.8% of the personnel affirm to use one.

✓ Equipment's and materials present during study period

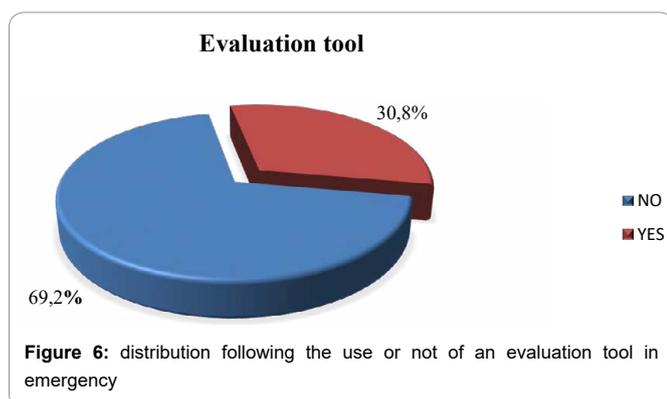


## Discussion

The study reveals a predominant representation of men with 15 out of the 26 sample size of study, either 56%. Very few or no study in the same vein have yet been carried out to permit us compare the predominance of a particular sex in the emergency unit. A study carried out by RIADH KHEDIMI in 2011 on "the late night working conditions in the emergency department and its impact on the personnel and on the quality of care ", he obtained a male predominance representation with 67%. Hence, the predominance of the male sex in this department may be as a result of the weight of work and the physical conditions required to give the best of ours during care delivery and patients' management, taking into account equally the place of men in our societies in their socioeconomic daily activities.

Concerning the age of the sample, 30.76% of the personnel had less than 30 years, whereas, more than half of the sample (53.84%) had between 31 and 40 years, with a predominant age group of [31-35]. These results reveals the youth character of the personnel of the emergency unit which for the most are at their beginning careers. RIADH KHEDIMI in his study found that 60% of the personnel was between 20 to 30 years, whereas, those aged between 31 years and 40 years constituted just 37% of the whole sample. Obtained results from both studies may slightly differs from one another but still, the sample sizes remains young adults in both studies.

Very few personnel in this study had a professional experience of more than 5 years (15.38%). Those with less than a year of professional experience concerned 34.61% of the personnel, yet, the most represented (84.61%) concerned those within the range



The age group of [31-35] was the most represented with 38.46% against 3.84% for the less than 26 years, the least represented age group. The mean age of the sample was 34.08 with extremes at 23 years and 48 years respectively.

Among the 26 participants to the study, we had 11 assistant nurses (42%), 09 nurses (35%) and 06 physicians (23%). They were distributed as follow: 7 assistant nurses, 4 nurses and 4 physicians for the regional hospital of Ngaoundéré and for the protestant hospital of Ngaoundéré we had 4 assistant nurses, 5 nurses and 2 physicians.

of 1 to 5 years of experience. The difficulties in rotation of personnel from one unit to another in our hospitals milieu may be as a result of the lack of appropriate know how and abilities regarding specific services. As such, this lack of skills, direct consequence of lack of experience greatly impacts the quality of care administered to patients. DOUGUET, 2003. RIADH KHEDIMI in 2011, by distributing the number of years of work of the personnel by night, came out with the following results, 27%; 40% and 30% for the ages less than 1 year, 1 to 5 years and 5 to 10 years respectively. These results are similar to those of our design study.

Generally in this study, assistant nurses were the most represented with 42%, followed by the nurses with 35% and lastly the physicians with 23%. The predominance of assistant nurses may be as a result of the fact that, in our local hospitals 80 to 90% of the hospitals personnel is composed of them. In this study we find out that, there is a gap concerning this study and what the reviews preconize concerning personnel representations and availabilities in services.

The design study reveals that, 92.3% of the personnel answered to have never received any training concerning the management of emergencies. These results are different to that of RIADH KHEDIMI who obtained in his study that, 77% of the personnel had benefited for training courses regarding the management of emergencies. This difference may be as a result of the fact that, Cameroon doesn't have a training center or school of emergency nurses and in the other hand, the training of emergency physicians is not as such widely spread in the whole country. Moreover, it may be as a result of the lack or insufficient recycling sessions of personnel concerning the updates of the management of emergency patients.

Concerning the use of an evaluation tool of patients selection, 18 participants out of 26 never uses any tool whereas, 8 participants used a tool. Furthermore, the evaluation tools used by the participants were not the standardized required tools as written in the reviews, hence, regarding the two hospitals, none of them really used an evaluation tool of patients' seriousness. Zero training was received by the participants concerning the sorting process of patients either in school or in the hospital.

Observations carried out during study period concerning the structures, the equipment's, materials and the attitude of personnel towards patients and visitors, the followings emerges:

- The emergency department of the regional hospital of Ngaoundéré doesn't respect the architectural required norms;
- The materials for cardiac reanimation doesn't exist in both structures;
- The regional hospital of Ngaoundéré doesn't possess any material of apparatus for oxygen therapy, notably a bottle of oxygen and its accessories. There equally exist no apparatus for patient monitoring and surveillance;<
- The emergency chariot is inexistent in the regional hospital of Ngaoundéré and present materials are ageing.
- Welcome service according to certain users is lamentable,

care administration is very bad and the maintenance of the spaces and the environment very deplorable;

- Physicians are for the most of times absent at some hours of the days.

## Conclusion

Many factors hinders the management of patients in the emergency unit as the insistent lack of qualified personnel, demotivation, lack of training sessions etc. almost all of the personnel never benefited a training session in school as well as in the hospital milieu. Again, experience insufficiencies is noted from both emergency department of the two hospitals. As such Health workers of the emergency unit should be provided with refresher courses to keep them updated and informed with the evolution of surgical procedures, equipment and technologies. If these challenges are managed properly, then the regional and protestant emergency department services will improve.

## References

1. Chichom Mefire A, Atashili J, Mbuagbaw J. Pattern of surgical practice in a regional hospital in Cameroon and implications for training. *World J Surg.* 2013;37:2101-108.
2. Humber N, Frecker T. Rural surgery in British Columbia: Is there anybody out there? *Can J Surg.* 2008;51:179-184.
3. Marquise Kouo Ngamby, Fanny Nadia Dissak-Delon, Isabelle Feldhaus, Catherine Juillard, Kent A. Stevens, Martin Ekeke-Monono. A cross-sectional survey of emergency and essential surgical care capacity among hospitals with high trauma burden in a Central African country. *BMC Health Serv Res.* 2015; 15: 478.
4. Jamison, Dean T, Breman, Joel G, Measham, Anthony R, Alleyne, George Claeson, Mariam, Evans David B, Jha Prabhat, Mills Ann, Musgrove Philip. *Disease Control Priorities in Developing Countries, Second Edition.* Washington, DC: World Bank and Oxford University Press. *World Bank.* 2006.
5. Emergency & Essential Surgical Care Programme. *Service Delivery and Safety Health Systems and Innovation World Health Organization Avenue Appia 201211 Geneva 27 Switzerland.*
6. KIBU Odette. Challenges facing safe surgical care in Cameroon. Nkafu policy institute Health Policy Analyst Nkafu Policy Institute Denis & Lenora Foretia Foundation. 2018.
7. Daknou A. "Architecture distribuée à base d'agents pour optimiser la prise en charge des patients dans les services d'urgence en milieu hospitalier". Ecole centrale de Lille, France: s.n. 2011.
8. Douguet F. "Le vieillissement des personnels hospitaliers, Les effets de l'âge sur la relation soignant-soigné" 2003.
9. El Margai N. "le tri des adultes aux urgences retour d'expérience du canada perspectives pour le chu brugmann". Canada: s.n. 2012.
10. GERBEAUX P, et al. "Recommandations de la Société Francophone de Médecine d'Urgence concernant la mise en place, la gestion, l'utilisation et l'évaluation des unités d'hospitalisation de courte durée des services d'urgence" 2001.
11. GHCL. "Votre prise en charge aux urgences" 2013.
12. MOHAMED MOUNIR G. "Mémento Médicaments de l'urgence". CHU Farhat Hached- Sousse.; s.n. 2011.
13. Riadh K, Septembre. "Les conditions de travail nocturne aux urgences et son impact sur le personnel soignant et la qualité de soins", Université Tunis El Manar: s.n. 2011.
14. ROY P.M, LANNEHOA Y. "Le triage aux urgences". Éditions scientifiques et médicales Elsevier SAS éd. s.l.:s.n. 2002.