International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319 – 6505, Impact Factor: SJIF: 5.438
Available Online at www.journalijcar.org
Volume 6; Issue 2; February 2017; Page No. 1958-1961

Research Article

THE IMPERATIVE NECESSITY OF POPULARIZATION OF SURGICAL SECURITY TOOLS IN THE EAST OF THE DEMOCRATIC REPUBLIC OF THE CONGO (DRC)

Ahuka ona Longombe[1]*., Mata A. Dieudonné[1] and Yannick Ekongo[2]

[1]Department of Surgery, School of Medicine, University of Kisangani (DRC)
[2]Economics Health Specialist, Division Provinciale de la Santé/Province de la Tshopo (DRC)

A R T I C L E I N F O

Article History:

Received 5th November, 2016
Received in revised form 9thDecember, 2016
Accepted 24th January, 2017
Published online 28th February, 2017

Key words:

Oxymeter, checklist, urban area, D.R. Congo

A B S T R A C T

Background: the use of surgical security tools is a current practice in developed country but not in poor setting conditions in which we work. Those tools are not known and used instead of their simple and easy manipulation. **Aim**: This study aimed to assess the practice and the used of surgical security tools in an urban area in a developing country.

Material and methods: This was a prospective descriptive study carried out in January 2017 in Kisangani town in Democratic Republic of the Congo. It concerned medical structure allowed to made surgical interventions. Then, 36 medical structures were included in this survey. The following parameters were studied: use of oxymeter, use of checklist promoted by the World Health Organisation and the qualification of the responsible of anaesthesia administration. The membership category of the medical structure was also studied (public, private or confessional).

Results: Only 8.3% of medical centres use the oxymeter and the checklist is used in 5.6%. The administration of anaesthesia was done by a qualified staff in 12.5% of centres. Only 2 private centres and a public one use the oxymeter and the checklist is used at two centres.

Conclusion: the used of surgical security tools, although simple, efficient and in good market pain to be used. Advantages of the use of these tools show the necessity and the emergency of making a program of patients' security in all surgical centres; program used in current practice of some area in Africa in general and in DRC in particular.

INTRODUCTION

In October 2004, the World Health Organization (WHO) threw the world alliance for the patients' security in answer to the resolution 55.18 of the world health assembly, which invited the WHO and the states members urgently to grant the biggest attention to the problem of patients' security [OMS, 2005]. In this setting the WHO published, in 2008, a list of 19 items intended to be universally applicable and to reduce the rate of surgical complications. It is about a simple and convenient tool that all surgical team can use to insure that the measures pre, per and postoperative have been respected [OMS, 2005].

The first challenge put the accent on the nosocomial infections (October 2004) whereas the theme kept for the second world challenge is the one of the surgical security (June 2008) with the following objectives [OMS, 2008]:

- getting a world sensitization to the importance of this initiative of the WHO;
- making the advertisement of the "WHO control list of the surgical security" as means to guarantee surer care;
- recalling the world that concrete efforts to secure the surgery will contribute to the patients' security.

Since more than a century, the surgical care constitutes everywhere an essential component of the health care in the world. According to the estimations, there are between 230 to 234 million major operations that are done every year in the world, what corresponds to an intervention for 25 living inhabitants [Haynes, Weiser, Berry *et al*, 2009]. The patients' security in surgery is define as the prevention of the avoidable mistakes and prejudices that these cause to the patients. It represents the foundation of a good patients' management and is part of the quality care setting [Marsden, 2015]. If more developed countries appropriated the practice of the surgical security [Grandbastien B, 2012; Cullati, Licker, Francis *et al*, 2014], it is not the same in developing countries where the application of the surgical security tools is extensively late in many countries [OuroBang'naMaman, Yapobi, Chobli, 2009; El Mhamdi, Letaief, Cherif, Bouanene *et al*., 2014]. It is obvious that in developing countries, the bad state of infrastructures and facilities, the lack of staff and their inadequate formation, as well as the chronic under-financing are as many elements that aggravate the situation and the surgical security comes only in the second plan. Yet the control list is conceived to be a tool to be used by clinicians anxious to improve the security of their interventions and to make lower the number of deaths and the avoidable complications in the services of surgery.

Reason why we had led this survey forassessing the practice of the use of the surgical security tools in an urban environment in a developing country.

MATERIAL AND METHODS

This survey was conducted inKisangani town, Province of the Tshopo in Democratic Republic of the Congo. Kisangani is the provincial capital and has a population of 1 037 395 inhabitants (31%) out of the 3 389 571 that the whole province contains.

It was a prospective descriptive surveycarried out in January 2017 and concerned only the medical structures allowed to make surgical interventions in all the extent of the town. Thus, we had collected 36 medical structures that make the surgery.

We had been interested in the three essential parameters in the surgical security that are: use of oxymeter, use of checklist promoted by the World Health Organisation and the qualification of the responsible of anaesthesia administration. To complete our survey, the membership category of the medical structure was also studied (public, private or confessional).

For the qualification of the person responsible for the anaesthesia administration, we were interested in the staff's different categories that administrateanaesthesia. We had listed 5 categories that are:

- Nurses A_2 = graduate nurse from the Medical Technical Institute of secondary level (TMI: 4 years of formation) that practices anaesthesia without having benefitted from a normedformation in anaesthesia.
- A1 = graduated in nursing sciences: 3 years of formation in a Superior Institute of Medical Techniques (SIMT).
- A0 = nurses from superior formation (Bachelor in nursing sciences), but made the option of anaesthesia also in a Superior Institute of Medical Techniques (SIMT) (3 years of formation)
- L2 = Anaesthetist of formation (Bachelor in Anaesthesia)
- Physician = General Physician practitioner who practices anaesthesia without having benefitted from a formation in anaesthesia.

Table1 Use of tools, qualification of anaesthetists and membership of medical structures

Variables	n	%
Use of the oxymeter	**36**	
Yes	3	8.3
No	33	91.7
Use of the checklist		
Yes	2	5.6
No	34	94.4
Qualification of the anaesthetic staff	**40***	
Physicians, nurses A1 and A2	22	55.0
Physicians and Nurses A1	6	15.0
Nurses A1	6	15.0
Nurses A0	2	5.0
A2	1	2.5
L2	3	7.5
Membership of the medical centre	**36**	
Private	23	63.9
Public	8	22.2
Confessional	5	13.9

*Two of medical centres had 4 person in anaesthetic staff

The statistical analysis of the data has been achieved by using the Epi-info™ 7 software.

RESULTS

There are only 8.3% of the surgical centres that use the oxymeter. The checklist is only used in 5.6% of the centres. The anaesthetic management is only made by a qualified staff in 12.5% of the centres. In spite of the big number of private centres, there are only two that use the oxymeter and only one centre use the checklist.

DISCUSSION

In spite of the fact that the WHO made the patients security one of its priorities as testify the world challenges: the firston the patients security is centred on the hands hygiene ("Clean care is safer care") and the second on the security is in the operative block ("Safe surgery saves lives"), many developing countries do not seem to follow the rhythm discounted contrary to the developed countries as France and Switzerland [Grandbastien B, 2012; Cullati, Licker, Francis *et al*., 2014]. And this in spite of the fact that the World Health Organization published, in 2008, a list of 19 items intended to be universally applicable and to reduce the rate of surgical complications with an abundant consequent literature [Anonyme, 2012]. It is about a simple and convenient tool that all surgical team can use to insure that the measures pre, per and postoperative have been respected [http://www.who.int/patientsafety/safesurgery/sssl, 2017].

Thus, we had led a survey for assessing the level of use of some tools of the surgical security as the oxymeter and the checklist to which we had added the qualification of the person responsible for the anaesthesia and the membership of the medical centre (Table 1).

Oxymeter

There are only 8.3% of the surgical centres that use the oxymeter of pulse in our context in spite its importance in numerous circumstances, notably [Pottecher, Bouzou, Van de Louw, 2003]:

- For the patients under anaesthesia; it allows the precocious detection of the hypoxemia, before the apparition of a cyanosis; the cyanosis can be of belated apparition at the patient with anaemia, and of difficult observation at the patient very pigmented;
- Inpost-interventional surveillance room;
- Inemergency medicine, in particular in pre-hospitalised and inter-hospitalised;
- In resuscitation, in particular for the patients ventilated or susceptible of being ventilated.

The hypoxemia is a frequent situation during the perioperative period. Its deleterious effects are demonstrated, in terms of increase of mortality and the morbidity, notably cardiovascular. Its precocious detection is therefore primordial, in order to correct its causes and to limit its complications [Pottecher, Bouzou, Van de Louw, 2003].

By its simplicity of employment and its performances, the oxymeter of pulse became an indispensable device in about ten years. It is now integrated to many devices of surveillance [Van de Louw, Cracco, Cerf, Harf, 2001]. Even in developing countries, it can be used with success as [Ahuka,

Paluku, Vadza *et al*., 2016] demonstrated it in the remote regions of the Democratic Republic of the Congo.

Checklist

The checklist is only used in 5.6% of the surgical centres in Kisangani town, although Africa had been associated with the hospital of Ifakara (Tanzania) to the large survey to the world scale on the use of the checklist [Haynes, Weiser, Berry *et al*, 2009].

The objective of the checklist is to provide to the teams who work in the operative block a simple and efficient tool of important controls to do systematically. This gait gave the proof of its efficiency to improve the team work, the inter-professional communication and to encourage an active consideration of the patients' security at each intervention [Panel, Cabarrot, 2010].

Since 2009, Ouro Bang'na Maman *et al.* litigated for the introduction of the checklist in the operative blocks in Africa [8]. A Tunisian survey showed the importance of the use of the checklist while concluding that it must be part of work henceforth to the daily of the teams and that, in order to guarantee a surer surgery. It is about a flexible and less expensive solution with an obvious impact on the indicators of the patients' security [El Mhamdi, Letaief, Cherif, 2014]. It is the same as Sama*et al.* [16] who showed the efficiency of the checklist in the perioperative security in their survey made in Mali.

Qualification of the staff that makes the anaesthesia

In 87.5% of the surgical centres in Kisangani, the anaesthesia is made by a staff none formed in the domain: the general practitionersphysicians and nurses. The deficiency in qualified staff in medicine is a known reality and lived in several African countries [Eastwood, Conroy, Naicker, 2005]. A lot of palliative solutions have been proposed and even experienced with mitigated results in numerous disciplines as the surgery [Ahuka, 1997]. Many studies showed the risks of the anaesthesia broadly speaking in the developing countries [Walker, Wilson, 2008; Hodges, Mijumbi, Okello, 2007] and in particular at the children [Ivani, Walker, Enright, 2012;Walker, Obua, Mouton, 2010]. The lack of use of the simple tools of the surgical security and the concession of the anaesthesiaat the non-authorized hands make a synergy to the basis of the numerous complications raised in our conditions of work until the deadly complications [Keita, Samaké, Goïta, 2013;Guegen, 1994].

Category of the medical structure

In spite of the big number of private surgical centres (63.9%), the use of the basic tools of the surgical security is not a current practice in Kisangani. What puts nevertheless the problem of the good quality of the care bestowed in the various surgical centres [Samaké, Coulibaly, Diawara, 2005]. It is not necessary to minimize or to underestimate the weight that the surgery represents in the global burden of the illnesses as Shrime *et al.* [26] estimated it around 28-32%.

CONCLUSION

The use of the surgical security tools, although simple, efficient and in good market, pain to be developed in the current practice in some surroundings in Africa. Awareness at a time of the report, but especially of solutions that must be put in place by all actors of our health system - nursing, managers, but also users - is an important stake today. It is necessary for us to share this strong culture of patients' security extensively. The advantages of the employment of these tools show the necessity and the emergency to start a program in all surgical centres without exception on the patients' security, program that is going to help towards this possible largest appropriation and focus all energies for the correct application of the surgical security tools in our context. It will be a strong contribution to the development of this culture and to the diffusion of these ideas of the practice of the surgical security for teachers, students, and surely the set of the professionals of health and patients.

References

1. OMS : ler Défi mondial pour la sécurité des patients (2005)
2. Organisation Mondiale de la Santé. Alliance mondiale pour la sécurité des patients. Défi mondial pour la sécurité des patients 2005 – 2006. http://www.who.in/patientsafety/events/05/GPSC_Launch_French%20FINAL_low_res.pdf (Consulté le 20/11/2016).
3. Organisation Mondiale de la Santé. World alliance for patient safety. 'Safe surgery saves lives' initiative. 2008. http://www.who.int/patientsafety
4. Haynes A., Weiser T., Berry W., Lipsitz S., Breizat A.H., Dellinger E., and al. A surgical safety checklist to reduce morbidity and mortality in a global population *N Engl J Med* 2009; 360 : 491-499
5. Marsden J. Assurer la sécurité des patients: guide pratique. Revue de Santé Oculaire communautaire 2015, 12, 15 : 27-30.
6. Grandbastien B. La sécurité des patients: un nouvel enjeu en 2012. adps 2012,79 : 2
7. Cullati S, Licker MJ, Francis P *et al*. Implementation of the Surgical Safety Checklist in Switzerland and Perceptions of Its Benefits: Cross-Sectional Survey. PLoS ONE 2014, 9, 7: e101915.
8. OuroBang'na Maman AF, Yapobi Y, Chobli M. La check-list en chirurgie: nécessité absolue d'introduction dans nos blocs opératoires. Médecine d'Afrique Noire 2009 ; 56 : 659-62.
9. El Mhamdi S, Letaief M, Cherif Y, Bouanene I, Kallel W, Hamdi A. Implémentation de la liste de contrôle chirurgical de l'Organisation Mondiale de la Santé au niveau de l'hôpital universitaire de Monastir (Tunisie). La tunisieMedicale - 2014 ; Vol 92 (n°06) : 385-390.
10. Anonyme. NosoThème Checklist. *Hygiène* 2012, Vol 10, 2 : 73-76.
11. http://www.who.int/patientsafety/safesurgery/sssl_manual_french.pdf, Consulté le 20 Janvier 2017.
12. Pottecher J, Bouzou G, Van de Louw A. Monitorage de la saturation du pouls : intérêts et limites. Réanimation 2003, 12, 30-36.
13. Van de Louw A, Cracco C, Cerf C, Harf A, Duvaldestin P, Lemaire F, *et al*. Accuracy of pulse oximetry in the intensive care unit. Intensive Care Med 2001; 27: 1606–13.
14. Ahuka OL, Paluku MJ, Vadza E et Iteke FR. Anesthésie pour chirurgie des fentes labiopalatines en milieu à ressources limitées : Bilan et perspectives. Ramur 2016, 21,1: 9-12.

15. Panel P, Cabarrot P. Pourquoi une checklist au bloc opératoire ? *Journal de Gynécologie Obstétrique et Biologie de la Reproduction* 2010, 39, 362—370
16. Sama HD, OuroBang'na Maman AF, Hemou P *et al*. Efficacité de la check-list sécurité péri opératoire en Afrique subsaharienne : expérience d'un hôpital militaire Togolais de niveau 2 en OPEX à Sévaré, Mali. *ReanoxyoMédecineetarmées*, 2014, 42, 5, 478-480.
17. Eastwood JB, Conroy RE, Naicker S, West PA, Tutt RC and Plange-Rhule J. Loss of health professionals from sub-saharan Africa: The pivotal role of the UK. *Lancet* 2005; 365:1893-1900.
18. Ahuka O. L. Surgical training of nurses in Rural Areas: Necessity or Aberration. *East and Central African Journal of Surgery* 1997, 3, 1, 43 – 48.
19. Walker IA, Wilson IH. Anaesthesia in developing countries-a risk for patients. Lancet 2008, 371, 968-969.
20. Hodges SC, Mijumbi C, Okello M, McCormick BA, Walker IA, Wilson IH. Anaesthesia in developing countries: defining the problems. Anaesthesia 2007, 62: 4-11.
21. Ivani G, Walker I, Enright A. Safe perioperative pediatric care around the world. Pediatric Anesthesia 2012, 22, 947-951.
22. Walker IA, Obua AD, Mouton F *et al*. Paediatric surgery and anaesthesia in south-western Uganda: a cross-sectional survey. Bull World Health Organ 2010; 88 :897-906.
23. Keita M, Samaké B, Goïta D *et al*. Pratique de l'anesthésie loco-régionale à propos de 1261 cas. Mali Médical 2013, 28, 4: 22-26
24. 24. Guegen G. La rachianesthésie en Afrique: risques, précautions à prendre. Med Afr Noire 1994, 41 (2): 121-128.
25. Samaké B, Coulibaly Y, Diawara F *et al*. Accidents et incidents anesthésiques en chirurgie programmée à l'Hopital Gabriel Touré à Bamako. *J Magh A RéaMédUrg*. 2005, 13: 198.
26. Shrime MG, Bickler SW, AlkireBC, Mock C. Global of surgical disease: an estimation from the provider perspective.www.thelancet.com/lancetgh 2015, 3 (S2): S8-S9

****