

ORIGINAL RESEARCH

**EVALUATION OF THE QUALITY OF CARE
SECURITY PRODUCED BY THE ROOM THEATER
OF THE REGIONAL HOPITAL OF NGAOUNDERE**

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ABSTRACT

The mission of the operating room is to provide an efficient framework for surgical interventions, programmed or emergency cases because patients increasingly claim the right to the best possible quality of care. The objective of this study was to improve the quality of care service produced in the operating room of the Regional Hospital of Ngaoundéré. It concerned an observational descriptive study going from August 1st to September 30th, 2016. Data collection was carried out through direct observation and interview. Results reveal from this study that, 46.66% of the operating room infrastructures were not up to the required international standards. Skin cleaning was carried out in 31 % of the cases by standard products but the different steps were not respected. Concerning hand washing and preliminaries to surgical scrub, it was a forgotten practice or non-applied practice in the regional hospital of Ngaoundéré. The surgical disinfection of hands by friction in its two stages were not observed normally in 75.70 % and 97.10 % respectively. We realized that only 34.4 % of observations regarding the required time allowed for surgical friction was equal to or a little greater to the standards.

KEY WORDS: Audit quality; surgical unit; friction; evaluation

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INTRODUCTION

In a context marked by the rationalization of cost and control of expenses, hospital establishments today have a major challenge regarding their evolutions. Healthcare production longtime centered on medical excellence must from now on reconcile medical excellence and managerial excellence. Face to this challenge, hospital managers must assure an efficient and rational utilization of resources (human, financial and material) available as well as assuring the best possible quality services rendered to patients. Surgery is a therapeutic inescapable mean of treatment of certain pathologies. It interests a great increasing number of illnesses. In spite of the mastery of surgical technics, post-surgery complications unfortunately continues to appear (TRAORE, 2008). The most frequent is post-operative infections.

According to the WHO, infections varies following hospital scale in Africa. Most important rates have been published in Senegal with 5.3% against 8.6% in Ivory-Coast (TRAORE, 2008). In Mali, a study carried out in the pediatric surgical unit of the university hospital of Gabriel Touré found as rate of surgical site infection (ISO) 4.9% (COULIBALY, 1999). It is estimated globally that, 2 to 5 % of patients who undergone surgery will develop complications. The impact of this last is considerable for both the users and the health systems because of the fact that, it extend hospital stay period to 7 to 10 days and multiplies the risk of mortality in patients 2 to 11 times comparatively to those who undergone the same surgery without any complication (LABERGE and al., 2014). Even though, the unexpected arrival of the last depends on

several factors, these complications are for the most avoidable and thus raises up the question on the quality of healthcare administered by the room theaters. Hence, given that the security of the patient passes through a certain given number of healthcare processes, our interest focused on the quality of care produced in the room theater of the regional hospital of Ngaoundéré with the goal to evaluate the security quality of healthcare produced by the personnel throughout and observational study audit.

General objective: We aim at ameliorating the quality of care services produced in the room theaters of the regional hospital of Ngaoundéré

Specific objectives : - To index and analyze the state of the theaters premises ; - To evaluate the level of conformity of the room theater with international standards of patients security; - To propose and conduct corrective measures and actions

METHODS

- Type of study : Observational descriptive case study
- Site : Services of the room theater of the regional hospital of Ngaoundéré
- Duration : Study took place within the months of august to September 2016 (02 months)
- Population study : Patients and personnel of the regional hospital of Ngaoundéré present during study period
- Materials of data collection

We had a mixed file composed of an observation scale file and an interview scale file. The file is subdivided into two parts. The first part concerned the structural audit and gives informations about the room environment whereas the second part concerns the audit of the processes and gathers informations about the practice process of personnel's (hand hygiene, cutaneous preparation...)

- Sampling

Hospital staff of the room theater of the regional hospital of Ngaoundéré without distinction of category and all patients who undergone surgery and consented to take part to the study during study period. Observed surgical interventions and interrogated patients were recruited every day of the week from Monday to Friday as from 07h30 to 16h00.

Inclusion criteria:

- Consented patients who had surgery whether in emergency or programmed in the theater during study period;
- Consented personnel of the theater present and assisting the surgical procedure during study period.

Non-inclusion criterion

Patients who couldn't answer or refused to answer our questions during study period.

- Sample size

The sampling is random and thus, we had a total of 35 surgeries practiced and 60 scenes of hand washing observed

- Study limits

□ HAWTHORNE effect which is the risk that the presence of the auditor influences the behavior of the person audited

□ HALO effect which is a bias provoked by the tendency of the observer to attribute a score to the audited influenced by the impression the last gives.

- Data treatments

The confection of the observational scale file and data acquisition was made possible by the software Epi-Info

(version 7). Data treatment and statistical analysis was made by Sphinx Plus (version 5.4).

RESULTS

Hospital Premises and Room Theater Circuit

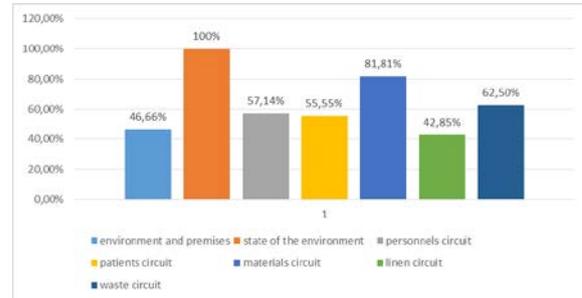


Figure1: Percentage of none conformity of premises, state and different circuits of the theater.

The above figure shows that 44.66% of the premises of the theater was not in conformity with the recommended standards as well as the state of the buildings in 100%, personnel circuit not conform in 57.14%, patients circuit not conform in 55.55%, equipment's circuit not conform in 81.81%, linen circuit not conform in 42.85% and waste product circuit not conform in 62.50%

Hand Washing

Description of Observations

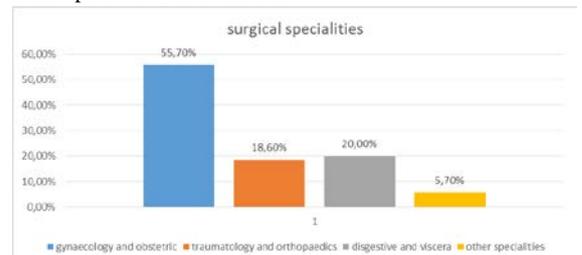


Figure2: Distribution of observations following surgical specialities.

The most observed surgical specialty here is the gynec-obstetric cases with 55.70%, followed by the digestive-viscera specialty with 20%. Traumatology and orthopedics 18.60%. The type of hand washing the most observed was the initial hand wash at service start with 58.60% followed by the hand wash between two surgeries at 41.40%. The most observed staffs were the surgical room theater nurses with 51%, followed by surgeons with 49%.

Description of the Technics

Preliminary conditions to hand washing

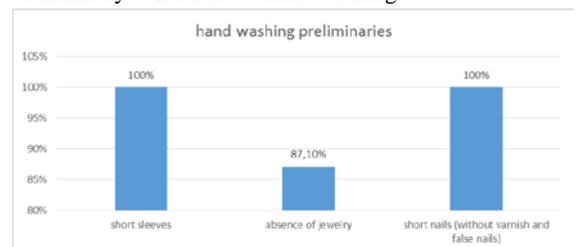


Figure 3: Observation of preliminaries to hand washing.

The rate of conformity regarding preliminaries to hand washing is described in the figure above where 100% of

the personnel respected the preliminaries, just 12.9% of the personnel carried on them their jewels.

Steps to hand washing



Figure 4: realization of the steps of hand washing.

Here, the use of soft soap was respected in 66.70%, hand rubbing and forearm respected in 66.70%, complete hand rinsing 66.70% and 00% observation of hand wiping.

Surgical hand disinfection

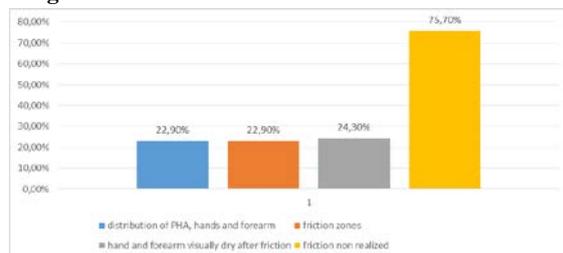


Figure 5: Hand friction.

This figure shows the different percentages of hand friction with the hydro alcoholic solution.

We find out that 24.30% of the friction of the hand was visually dry after friction and well performed whereas about 75.70% of the time of friction was not respected.

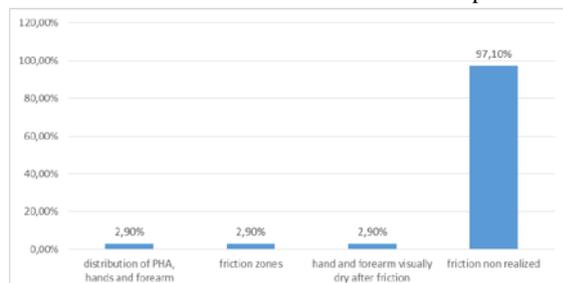


Figure 6: second step friction

Here, almost a hundred percent of the time of friction for the second time is not respected either 97.10%. Hidden zones of the hands to be frictioned were conformed only in 2.90% and visually dry hands after friction was conform in 2.90% equally.

DISCUSSION

- Premises and circuits of the theater

In the course of this study, the rate of availability of the theaters premises was not conform in 46.66%, the nature of buildings was not conform in 100%. The circuit of the personnel was not conform in 57.14%. The circuit of the patient was not conform in 55.55%. The circuit of the material was not conform in 81.81%. The circuit of the linen was not conform in 42.85% and the circuit of waste products was not conform in 62.50%. Obtained results are opposite to expected results of 100% for each of the

following parameters according to the recommendations of the CCLIN West which recommends the posting and practice of the procedure. This gap in the results may be as a result of the lack of know how or skills of the personnel in charge of the hospital premises. On the other hand, concerning the different circuits of the theater, since the majority of healthcare professionals are state nurse workers which had limited or no training at all concerning the respect of rules governing the respect of circuits in the theater it may be an argument in favor of this difference.

- Skin detersion and disinfection of surgical site

Study shows that only 31% of the cases had a skin detersion preparation before surgery. These results are opposite to that obtained by the GREPHH (2008) in France which shows a detersion rate of realization at 80%. The most used solution for skin preparation was the chlorhexidin soap solution with 31.40%. These results are different from the expected 100% concerning the chlorhexidin or polyvidon iodine solution. This may be due to the fact that patients are not systematically prepared before surgery. Concerning skin disinfection, polyvidon Iodine solution was used for all surgeries at 100%.

- Hand washing

This study reveals from all the observations made that, the most observed surgery was from the gyneco-obstetric unit with 55.70%, followed by the digestive-visceral surgery with 20%. Traumatology and orthopedics with 18.60%. Obtained results are least different from those of the GREPHH in the services of surgery of East France inter region in 2011 who obtained 60% in gyneco-obstetric surgery, 15.50% in digestive-visceral surgery and 28.20% in traumatology and orthopedics. This may be explained by the fact that a similar study carried out in the regional hospital of Ngaoundéré to evaluate the activities of the room theater showed that, gyneco-obstetric surgery represented 60.40% of all the surgeries in the room theater of the hospital (ASSINKOA and al.,2015).

The most observed hand washing technic was the initial hand washing at service start with 58.60%, followed by that in between two surgery with 41.40%. These results are similar to those of the GREPHH who obtained 58.90% for the initial hand washing and 40.90% for that between two surgeries.

The most observed category of personnel were the Room Theater nurses with 51% followed by the surgeons with 49%. Similar results were obtained by GREPHH in 2011 where the surgeons represented 48% and Room Theater nurses 45%.

- Description of the technic of hand washing

From this study, we observed regarding the preliminaries to hand washing that 100% of the participants had short sleeves, 87.60% didn't carried any jewel on them and 100% had short recommended nails. GREPHH in 2011 equally obtained similar results with respectively 100%, 94.20%, and 98% for each of the above rules.

Concerning friction, the distribution of the hydro-alcoholic solution was conform in 22.90%, zones for friction were conform at 22.90%, visually dry hand after the friction procedure conform at 24.30%. We noticed that a high rate

of non-realization of hand friction is observed either 75.70%. Our results are different to those of GREPHH whereby our non-conformity rates are higher meaning that the regional hospital of Ngaoundéré doesn't dispose of hydro alcoholic solution for friction hence not taken into consideration during patient's preparation to surgery.

CONCLUSION

In conclusion, in Room Theater of the regional hospital of Ngaoundéré, the premises of the hospital are available but do not respond totally to the rules and norms of conformity of a room theater in 46.66%. The circuits of the personnel was not conform in 57.14%, the circuits of the patients was not conform in 55.55%. The circuits of equipment's was not conform in 81.81%, the circuits of linen was not conform in 42.85% and waste product circuit not conform in 62.50. These non-conformities related to the lack of knowledge of personnel concerning the function of circuits and inadequate hospital premises with well-defined circuits is a consequence of these obtained results.

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