

## Evaluation of the Frequency and Factors of Hospital Mortality in Surgery at the Kankan Regional Hospital

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### Abstract

**Purpose of the Study:** The purpose of this study is to make an analysis on the factors of mortality at the prefecture hospital of Kankan.

**Introduction:** By its very definition, mortality can be defined as the number of deaths that have occurred in a population during a given period. The mortality rate is expressed as a percentage; it is the proportion between the total number of deaths in a given space and the size of the population.

**Materials and Methods:** Its was a prospective cross-sectional observational study over a period of 6 months. The target population consisted of all patients admitted to the surgical department during the study period.

**Results:** The sex ratio of nearly 1.42 (M/F) reflected a strong male prevalence of mortality with a frequency of 20 cases, 59% against 14 women, or 41%. In our study, the hospitalization time was less than 10 days with extremes of 1 to 27 days.

The average age of the deceased patients was  $41 \pm 10$  years with extreme ages of 2 years and 81 years. The maximum number of deaths concerns the age group between 50 and over with a percentage of 38.22%.

**Conclusion:** This study allowed us to understand that most of our deceased patients were due to septic wounds, see generalized sepsis and the chronic poverty of the patients which impacts the adequate management.

**Keywords:** Frequency; Mortality; Factor; Kankan Hospital

### Introduction

Mortality is the number of deaths that have occurred in a population during a given period [1].

The mortality rate is expressed as a percentage; it is the proportion between the total number of deaths in a given space and the size of the population. Addressing the issue of post-operative mortality in general surgery amounts to questioning many param-

eters. Today in medical or surgical practice one can only base oneself on objectivity and on evidence. Thus, we have entered the era of “evidence-based medicine” which dedicates facts to opinions. The challenge is tough, they force us to change our attitudes, our mentalities and roll up our sleeves. To describe the health status of a population, different types of information can be used: Mortality, morbidity, and Prevalence of risk factors.

In developing countries, mortality statistics are incomplete and often unreliable. Postoperative mortality seems to us to be a tool for the qualitative evaluation of the performance of a general surgery service, but on condition that it has demonstrated its validity and reliability. The study of mortality in a community makes it possible to define the axes of disease prevention and to readjust health policies. In a hospital service, such a study allows control and review of therapeutic measures.

Mortality studies in some developed countries are used to assess not only professional practices but also hospital performance. Today, obviously, medicine, especially digestive surgery, has entered the era of evaluation. It has indeed become essential to really and as objectively as possible know the results of our daily operating activity. Surgeons must therefore, with the most rigorous approach possible, analyze their techniques themselves [10].

The mortality rate is expressed as a percentage; it is the proportion between the total number of deaths in a given space and the size of the population. Mortality has declined for many decades while life expectancy among the population has only increased. Post-operative mortality is not like this development. Indeed, she was able to benefit from the improvement of working conditions, technological development, the treatment of parallel medical problems and access to healthcare facilities [2-9].

It is sensitive on two points: the operating indication and the patient information.

The operative indication should not be unnecessary or delayed. Patient information is a must. This should in particular relate to the current and foreseeable state of health of the patient, the nature, the ins and outs of the treatment (s) envisaged, the consequences in the event of refusal, the possible therapeutic alternatives, the frequent or serious risks normally and the precautions to take. It will also be necessary to be able to provide evidence of the information, especially in writing, but also through testimony. The

patient’s consent to the intervention must be obtained. All patients have the right to know their disease, its stage and its course, with or without surgical treatment.

The checklist in the operating room tool necessary to locate the cause, the origin and the responsibility of the fault if it exists, having caused the death. The WHO has developed surgical safety recommendations; guidelines for safe surgery: in the form of a simple checklist, applicable in all countries and contexts to be checked for any operation (as any airplane pilot must do).

It is a phase as sensitive as the two previous ones: it must be helped by a complete operating protocol which includes the anatomical particularities as well as the difficulties which may have arisen, as well as the intraoperative incidents which must not be concealed or concealed. The monitoring postoperative must be provided by the surgeon who will issue instructions and immediately seek a possible complication, react adaptively upon the occurrence of a complication (transfer to another specialized service operative recovery when necessary), while informing the patient or family of the situation [11-15].

### Method:

1. **Type and duration of study:** This was a cross-type observational prospective study of a 6-month period from 1<sup>st</sup> July to 31 December 2018.
2. **Target population:** Consisted of all patients admitted to the surgical service during the study period. We had done the encoding to avoid taking the same patients twice.
3. **Study population:** Concerned all patients admitted and died in the surgery department during the study period.
4. **Sampling:** This was an exhaustive sampling made up of all the patients who died in the surgery department during the study period.
5. **Selection criteria:** All patients admitted and died in the surgical service during the study period were included in this study. Were not included in the study all the patients admitted and died in the service whose outcome will be favorable.
6. **Data collection procedure:** We respected the administrative procedure and patient confidentiality. For the technique of data collection we had proceeded using a pre-established survey form.
7. Study variables were qualitative and quantitative.

## Results

Sampling	Number of cases	Percentage
Surgical deaths	20	3.10%
Other death	14	2.16%
Total	34	5.26%

**Table 1:** Distribution of patients by number of deaths.

## Discussion

The frequency of death in the surgical department of the Kankan regional hospital was 5.26%.

During our study, we met 28 men with a percentage of 59% against 14 women or 41%. Sex is not a risk factor. However, we recorded a male rate at 59% with a sex ratio of 1.42. The same result different to that found at Ankouane A., *et al.* but with a lower proportion of the sexes-ratio of 1.7. These results could be explained by activities related to men.

In our study, abdominal pain was the most marked with a frequency of 29 cases or 42%. This result has been demonstrated in many African studies.

Fever was the main symptom of our clinical signs with a frequency of 32 cases or 20%, this highlights that chronic infections or postoperative suppuration are always accompanied by intense fever.

In our study, the hypo-colored conjunctiva and the conscious physical state of our patient were the most marked out of 30 cases (19%). This could be explained by the fact that most of our patients were in an unsatisfactory state at reception.

Our study allowed us to bring out a moderate anemia with a hemoglobin level lower than 11 g/l on 27 cases, i.e. a frequency of 40%.

This could be explained by a dietary imbalance rich in iron.

The completion of our study allowed us to obtain 17 cases of septic wounds or 71%. This could be explained by poverty and lack of personal hygiene.

The completion of our study allowed us to highlight a high frequency of cases of septic wounds, i.e. 71%. Our results corroborate many other studies carried out in Africa. This could be explained by poverty and the lack of post-op follow-up.

In our study, most of our patients died from sepsis with a frequency of 20 cases, or 43%.

The male sex was the most represented in our study with a frequency of 20 cases or 59% against 14 women or 41% with a ratio of 1.42 (M/F).

**Figure 1:** Distribution of patients according by sex.

Factors	Frequency	Percentage
HTA	2	8
Obesity	2	8
Diabetes	1	4
Septic wound	17	71
Hepatitis	1	4
Jaundice	1	4
Total	24	100

**Table 2:** Distribution of patients according to the risk factor.

Complaints	Frequency	Percentage
Shocks	19	41
Septicemia	20	43
Anemia	4	9
internal bleeding	3	7
Total	46	100

**Table 3:** Distribution by cause of death.

Our results are different with those reported by Touil Mohamed Amine 2014 who among the 105 deaths, 69 men and 36 women, is a sex ratio of 1.91 M/F [2]. This could be explained by the lack of adequate application of the fundamental principles of infection prevention and surgical techniques.

In our study, the hospitalization time less than 10 days  $\pm$  10 was the most represented with extremes from 1 to 27 years. Our results have been reported by many studies in Africa. The average length of stay was  $6 \pm 0.77$  days with extremes ranging from 1 to 45 days. Diarra in the digestive surgery department had found in 2001 an average length of stay of 15.6 days with extremes ranging from 1 to 82 days, and LY in the internal medicine departments in 2001 had found an average length of stay of 15, 9 days [4].

This could be explained by the variable care depending on the location.

Our study allowed us to bring out a blood sugar level of 1.26 g/dl in 17 patients, that is to say a proportion of 50% non diabetic then 1.27 to 2 g/dl in 14 patients, that is to say 41% who had a badly known blood sugar level and higher than 2 g/dl in 3 patients, that is to say a proportion of 9% presenting a frank diabetic state.

The completion of this study allows us to understand that 6 patients had a surgical history, that is a percentage of 17.65% against 28 cases with a percentage of 84.85%, these results have been demonstrated in many other studies carried out on the African continent.

During our study 6 patients had higher blood pressure e to 14/9 18% against 28 cases with lower blood pressure or equal to 14/9 82%. The most of our patients do not know that he was hypertensive.

In our study, the farmers were the most represented with a frequency of 50% followed by housewives of 29, 41%. This result could be explained by the low socio-economic level of the patients and the poor post-operative follow-up at the pavilion.

## Conclusion

Surgical deaths remain a public health problem in our country. The patients who died from sepsis were the most represented, 43%. The study of post-operative mortality in a surgical depart-

ment does not constitute a criterion for evaluating the efficiency of a medical and surgical team. It allows, through a self-assessment, to detect the main factors favoring the occurrence of death and beyond, the improvement of patient care.

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## Bibliography

1. Brochure for world health day, 7 2004. From the World Report on Injury Prevention to traffic accidents. WHO, Geneva.
2. Health Indication in Morocco: planning and financial resources department, planning and studies division, studies and information service, health in figures 2007.
3. B Tavernier Avernier, *et al.* "Post-operative mortality in a general surgery department: incidence of deaths from cardiac origin". *Annales Françaises d'Anesthésie et de Réanimation* 19.1 (2000): 54-61.
4. Pocket Larousse. Dictionary common names, proper names. Maury-Manchecourt (1998).
5. C Proye, *et al.* "Mortality of a general surgery department of CHU- Study on the year 125,409 operated, 45 postoperative deaths". *Journal de Chirurgie* 125.4 (1988): 255-259.
6. C Proye, *et al.* "Mortality of a general surgery department of CHU Study on the year 1990: 1,492 operated, 27 postoperative deaths". *Journal de Chirurgie* 128 (1991): 453-458.
7. U Wolters, *et al.* "ASA classification and perioperative variable as predictors of postoperative outcome". *British Journal of Anaesthesia* 77.2 (1996): 217-222.

8. Campion Ecoffey, *et al.* "Causes of death in a general and visceral surgery department at the CHU de Rennes" (2003).
9. JF Gillion. "Is the crude post-operative mortality rate a criterion relevant to the efficiency of a surgical team? Prospective follow-up study operative of 11756 patients". *Annals of Surgery* 130.6-7 (2005): 400-406.
10. Lucius F Wright. "Survival in patients with end-stage renal disease". *American Journal of Kidney Diseases* 17.1 (1991): 25-28.
11. Mazliak P Avicenne and Averroès. "Medicine and Biology in the Civilization of Islam". Vuibert/Adapt (2004): 250.
12. Ranking G. "The Life and Works of Rhazes". In Proceedings of the Seventeenth International Congress of Medicine, London (1913): 237-268.
13. Bayon HP. "Significance of the demonstration of the Harveyan circulation by experimental tests". *Isis* 33 (1941): 443-453.
14. Westbrook R. "Old Babylonian Period, a History of Ancient Near Eastern Law". Volume 1, Leiden (2003): 361-430.
15. Oms recommendation: [guidelines for safesurgery.com](http://guidelinesfor safesurgery.com).

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