Causes Of Mortality In Rural Areas Of Drc: Case Of The Ime / Kimpese Reference General Hospital

Gaëlle Nkoji-Tunda[1], Junior Bulabula-Penge[2], Jemimah Kianda[3], Eddy Kinganda-Lusamaki[4], Fabrice Mambu-Mbika[5], Patrick Mukadi[6], Steve Ahuka-Mundeke[7]

[1,2,3] Protestant University in Congo, Kinshasa, DRC
[1,2,4,5,6,7] University of Kinshasa, Kinshasa, DRC
[6,7] Institut National de Recherche Biomédicale, Kinshasa, DRC

ABSTRACT

Context: The study describes the causes of death in DRC by referring to the causes of death at the hospital IME/KIMPESE. The lack of reliable data on the causes of death in the DRC motivated the initiation of the study. Knowing the causes of death and the frequency of death makes it possible to assess the effectiveness of the health system in a country, the assessment of the competence of the staff of a heath establishment, the amelioration of the evaluation of the management of patients by the doctor, sensitization on patients and finally the development of effective strategies and programs to reduce the burden of main causes of the death in the DRC and KIMPESE especially.
Method: This is a descriptive retrospective study conducted at the morgue of General Hospital Reference IME/KIMPESE over a period of 12 months from January 1st to December 31th 2017.
Findings: Among 4356 hospitalized patients in 2017, 309 cases of death were found in the morgue register of the hospital.
It appears from the study that: the male sex was the most affected; the services of internal medicine and Pediatric have recorded the large number of deaths. The most common causes of death were crania-encephalic trauma, cerebrovascular accident, malaria. Infectious diseases were predominant in the occurrence of deaths; the age group above 15 years was the most affected by death; the months of August and september recorded the highest death rate, while the month of December had the lowest rate.
Conclusion: The results obtained from this paper provide an overview of the major causes of the mortality in the DRC, which can be used to reorient disease control strategies by integrating the major causes of death into when developing programs to combat mortality.

Keywords

causes of Mortality, Rural areas, DRC

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Introduction

Mortality is a demographic factor which assesses the number of deaths in a given population and during a given period; its rate is an important indicator in public health.

The issue of the causes of death remains dominated by the absence of reliable data in countries with limited resources (1) such as the Democratic Republic of Congo (DRC) where statistics on the causes of death in the general population are almost non-existent, especially in rural areas. This lack of data is due to the low completeness of the civil registry and the low interest in the causes of mortality (2). There are, however, some data on the causes of death, concerning the specific categories (infant and maternal mortality) which are unfortunately not sufficient to determine the causes of death for the entire population.

While we no longer die today for the same reasons as in the past, the improvement in medical knowledge and the change in lifestyle habits have considerably modified the main causes of death since the beginning of the 20th century (3). Yesterday, infectious diseases were the main causes of death in Africa, today are added non-infectious diseases (like stroke, high blood pressure, diabetes, etc.), the new challenge for Africa including the DRC.

Knowing the causes of mortality and the frequency of death is important for improving the life expectancy, especially in low-income countries, where the health status of the population remains. precarious with fragile health systems. Acquiring this data could allow a hospital to assess the competence of its staff and thus improve the quality of care. Likewise, knowledge of the pathologies responsible for a large number of deaths in a community would encourage to improve the management of these

illnesses and to raise public awareness of these pathologies in order to reduce the associated mortality.

Thus, statistics on the causes of death help health authorities to determine the direction to be given to public health actions in order to improve the quality of life of the citizens.

Method

Site

The Kimpese Evangelical Medical Institute "I.M.E-KIMPESE" is a non-profit association founded in 1950 and inaugurated in 1953 by Protestant missionary societies from overseas and some Protestant communities of the Church of Christ in the Congo.

The IME-Kimpese is located on the edge of the 1st national road (which connects Kinshasa to Matadi-Boma), 265km from Kinshasa, in the Province of Kongo Central, territory of Songololo, district of Cataractes, city of Kimpese .

Study design

We conducted a retrospective and descriptive study at the IME / KIMPESE hospital mortuary over the period from January 1 to December 31, 2017.

We collected data on all death cases recorded at the morgue during the study period using a pre-designed questionnaire.

The sources of information were the register of the hospital morgue and the files of deceased patients still in hospital.

The essential information sought included socio-demographic (age, sex, origin, department) and clinical (clinical diagnosis and cause of death).

The data were collected on the survey sheet, entered and then processed with SPSS software version 16.0 (Statistical Package for the Social Sciences). Anonymity was respected.

Descriptive statistics including proportions are presented in the form of figures and tables.

Results

During the study period, 4,356 patients were hospitalized, of whom 309 died, for a relative mortality rate of 7%.

Table 1. Socio-demographic characteristics

Age groups	Sex				Total	
	Male		Female			
	N	%	n	%	n	%
< 5 years	43	1.9	34	11.0	77	24.9
6 - 15 years	10	3.2	16	5.2	26	8.4
> 15 years	121	39.2	85	27.5	206	66.7
Total	174	56.3	135	43.7	309	100.0

Deaths were more recorded in males with 56.3% (174/309) and in the over 15 age group with 66.7% of cases (ie 206/309).

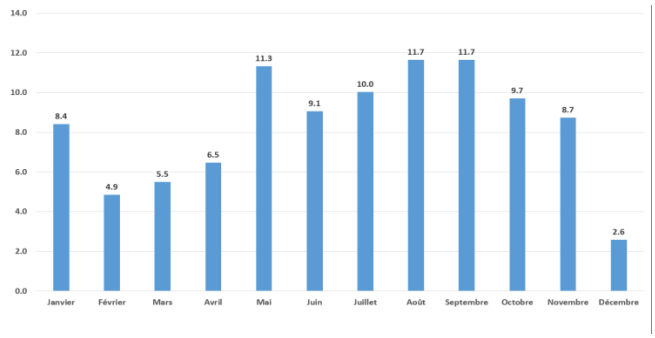
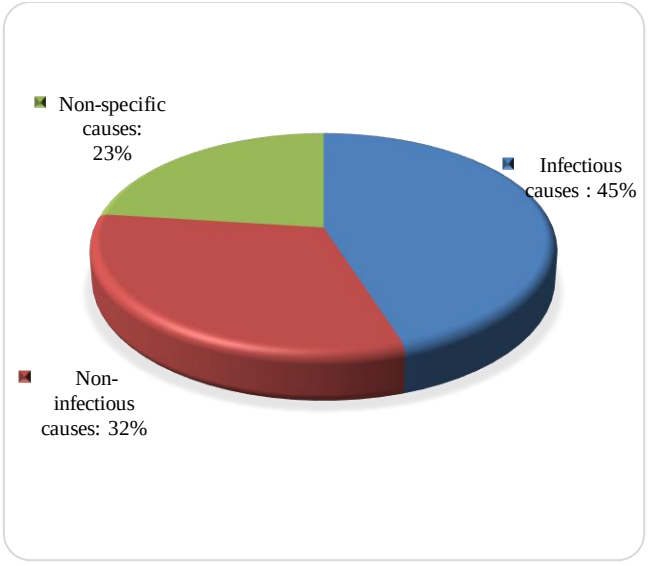


Figure 1. Distribution of death rates over the year

The months of August and September recorded the highest death rates with 11.7% mortality. The month of December had the lowest death rate with 2.6% of cases.



* Non-specific causes: the causes of death for which it could not be certified whether they are infectious or non-infectious such as pneumonia, open fractures, bedsores.

Figure 2. Distribution of causes of death at the IME Hospital

The major causes of death were of infectious origin with a death rate of 45%.

Table 2. Breakdown of causes of death by department

Causes	Pediatrics		Internal medicine		Surgery*		Obstetrical Gynecology		Emergencies		Total	
	n	%	n	%	n	%	n	%	n	%	N	%
Infectious	69	22.3	39	12.6	20	6.5	4	1.3	6	1.9	138	44.7
Non infectious	1	0.3	81	26.2	10	3.2	4	1.3	4	1.3	100	32.4
Non specific origin	14	4.5	11	3.6	34	11.0	1	0.3	11	3.6	71	23.0
Total	**84**	**27.2**	**131**	**42.4**	**64**	**20.7**	**9**	**2.9**	**21**	**6.8**	**309**	**100.0**

**Surgery= general surgery, traumatology and orthopedics*

The Internal Medicine service recorded the highest number of deaths with 131 cases, or 42.4%, and the majority of deaths were linked to non-infectious causes with 81 cases (or 26.2%).

The Gyneco-Obstetrics department had the lowest death rate with 9 out of 309 cases, or 2.9%.

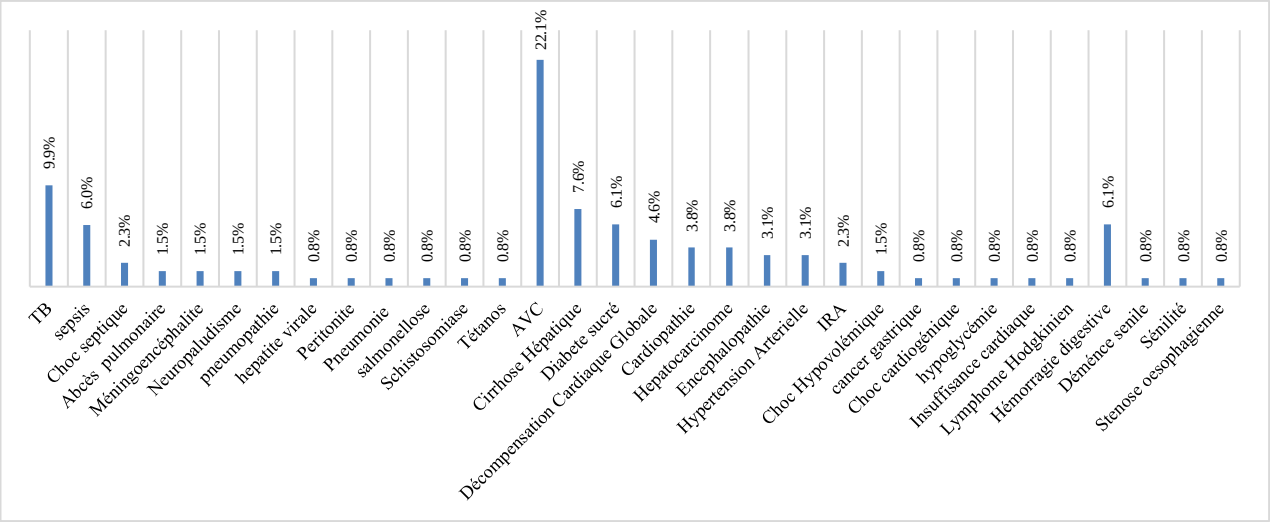


Figure 3. Distribution in% of causes of death in the Internal Medicine department

Stroke was the leading cause of death in Internal Medicine with a mortality rate of 22.1%.

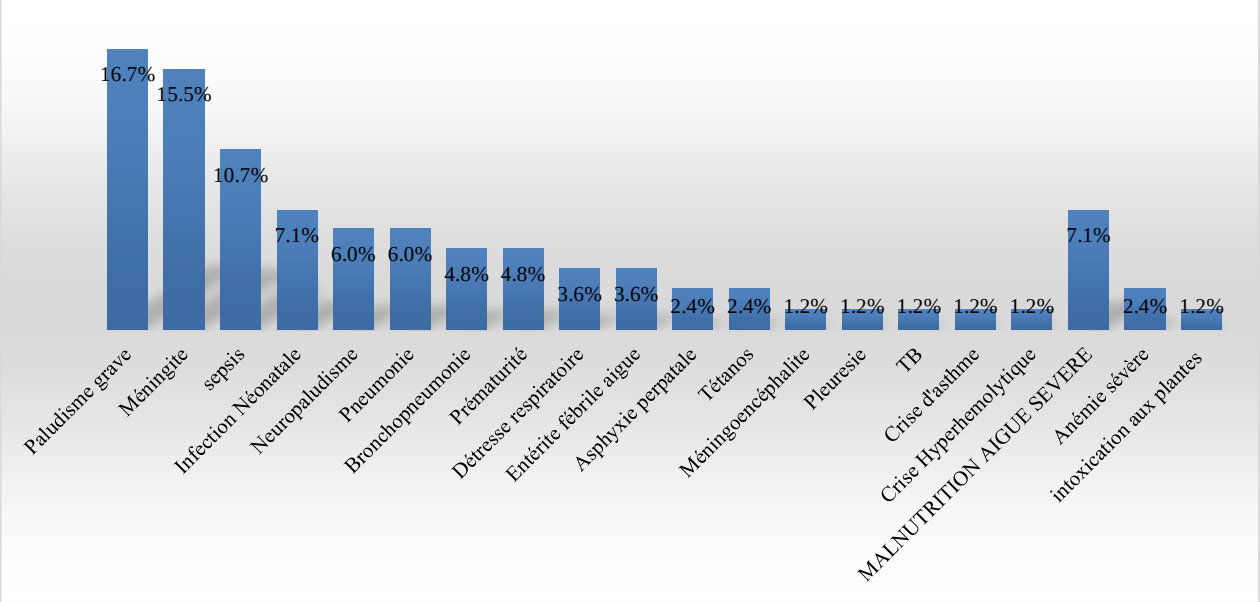


Figure 4. Distribution in% of causes of death in the Pediatric department

Severe malaria and meningitis were the main causes of death in Pediatrics with respective mortality of 16.7% and 15.5%.

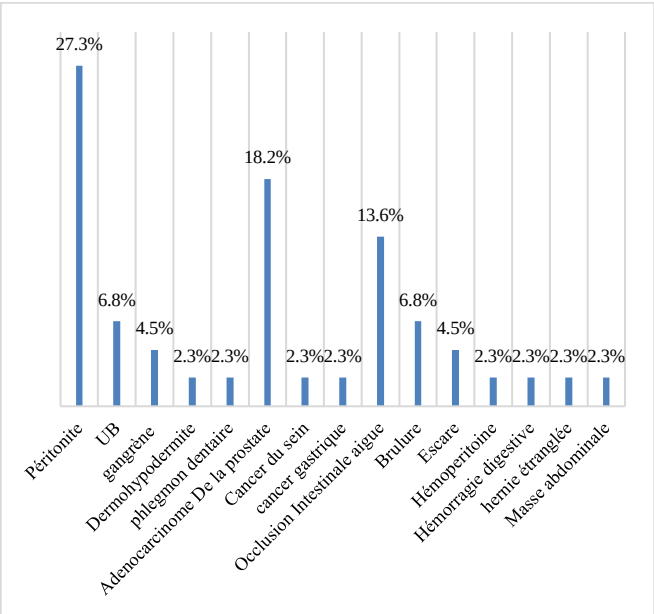


Figure 5. Distribution in% of causes of death in the surgical department

Cranioencephalic trauma (TCE), peritonitis and adenocarcinoma of the prostate were the main causes of death in surgery.

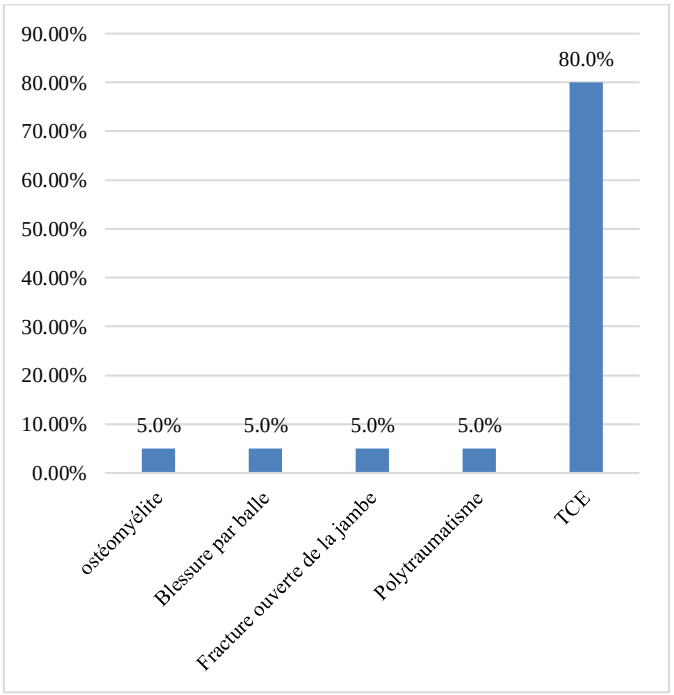


Figure 6. Distribution in% of causes of death in the Traumatology and Orthopedics department

TCEs were the main cause of death in the trauma and orthopedics department.

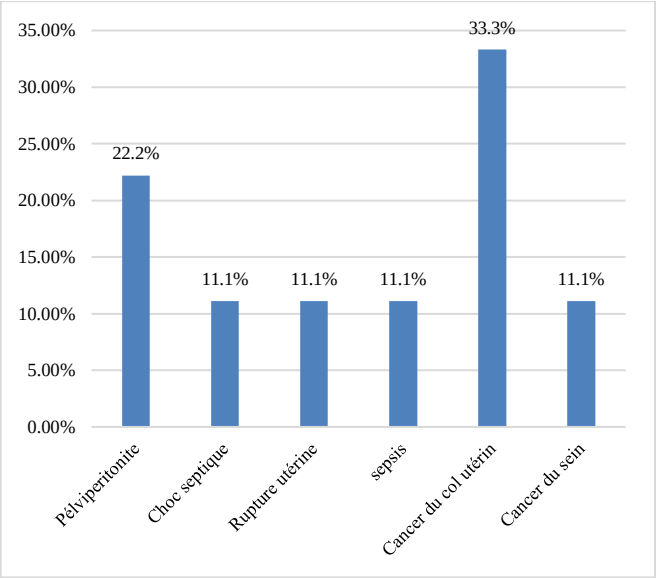


Figure 7. Distribution in% of causes of death in the obstetrics and gynecology department

Cervical cancer and pelviperitonitis were the main causes of deaths in obstetrics and gynecology with a respective rate of 33.30% and 22.2%.

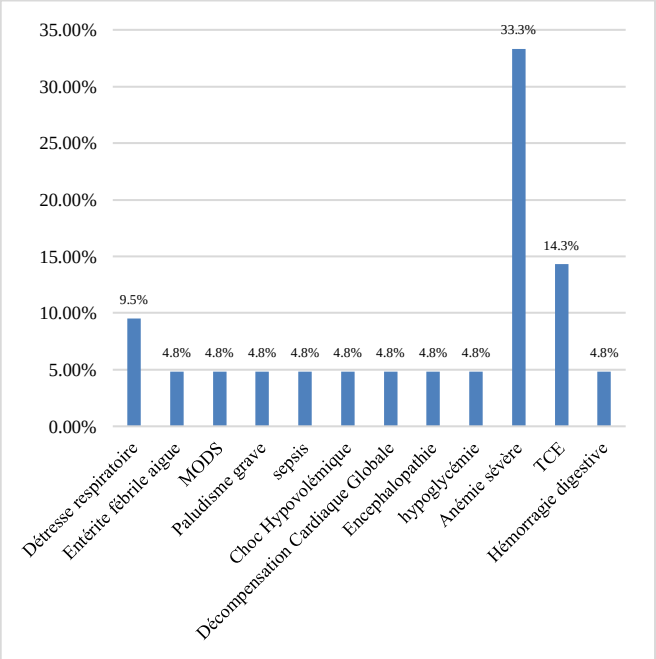


Figure 8. Distribution in% of causes of death in emergency rooms

Along with severe anemia, traumatic brain injury and respiratory distress were the leading causes of death in the emergencies.

Discussion

In mortality in rural DRC, the age group over 15 years (i.e. the young population) was the most affected with 206 cases of death out of 309 deaths recorded (i.e. 66.7%), contrary to studies by Lalande F. and Veber O. (Paris) who found a predominance of deaths in the 0-14 age group, while Zakaria and Butel Carneiro (Alger) recorded more deaths among the elderly, namely, over 61 for one and in the 52-82 age group for the second (4-6).

Lalande and Veber would explain this predominance by the fact that in France, it is more often the children of 0-14 years who go to hospital for health problem and that consequently, they die in the hospital thus providing data whereas those over 14 years old or even adults consult hospitals less and less and die at home. In Kimpese, this predominance among those over 15 is explained by the fact that children over 15 and adults consult the hospital late: they only go there if traditional treatment has failed. or if the symptoms of their disease worsen.

As with Zacharia in Algeria (6), we found that stroke with 22.1% of cases was the most frequent cause of death in the internal medicine service in rural hospitals in the DRC.

Moreover, the intense and rapid road traffic on the 1st national road, the only trade route between Kinshasa (the capital) and the Province of Kongo Central, causes numerous traffic accidents with considerable loss of human life and explains that the TCEs (25%) are the main cause of death in this part of the country.

Infectious causes (45% of deaths at IME-Kimpese) are less incriminated in France as demonstrated by Butel Carneiro and M. Pouzouille, with a preponderance of non-infectious causes (4).

References

[1] Moussa S., Mortalité et morbidité d'un service de réanimation du CHU de l'hôpital Gabriel Touré de Bamako, Thèse Méd., Bamako, 2006, 57p.

[2] Garenne. M, Toliman S et all, Causes de décès dans une zone rurale d'Afrique de sud comparées à deux autres situations (Sénégal et France), les dossiers ceped, Paris, 1999, 30p.

[3] Https://www.who.int/mediacenter/consulté le 8 juillet 2018.

[4] Butel Carneiro F. et Pouzoullie M., Mortalité intra hospitalière après prise en charge en réanimation médicale:

Identification des facteurs prédictifs, thèse méd, Angers, 2014, 55p.
[5] Lalande F. et Veber O., Mort à l'hôpital rapport Tome I, Paris, Novembre 2009, 164p.
[6] Zakaria B. et all., Epidémiologie des décès survenus, au service des UMC, Alger, 2015-2016, 41p.