



The Management of Obstetric Fistulae: A 5-Year Integrated Approach Decreases the Incidence in a Health District of DRC

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Abstract

Objective: To determine the impact of a structured, organized and integrated fistula (Solfa, Unikin, St. Luc hospital, Lumos KUL) care program in lowering the incidence of obstetric vesico-vaginal fistula in a district hospital in DR Congo.

Materials and Methods: Several Fistula campaigns were organized by SOLFA between 2008 - 2012. A database of all fistula patients was kept, containing their demographic and administrative data next to clinical data. The hospital yearly report of obstetric activity in Kisantu has been reviewed from 2008 to 2012.

The analysis of some epidemiological parameters (age, the original residence, the distance between the residence and fistula hospital, the year of treatment and the primary fistula or a recurrence) allowed to estimate the incidence per year in the Kisantu health district.

Results: 218 patients consulted in St. Luc hospital between 2008 and 2012 for obstetric fistulae. 43 patients had a primary fistula (19,75%). The number of patients with VVF from Kisantu compared with those living outside of Kisantu decreased over time. The incidence of new VVF compared with the recurrent/persistent VVF decreased as well, while there was increase in the rate of recurrent fistulas. The mean distance patients travelled to the fistula center increased over time.

Conclusion: The integrated management (Solfa, Unikin, St.Luc hospital, LUMOS KUL) is characterized by a pro-active practice of obstetrics and has significantly contributed to the decrease in numbers of VVF. The increasing numbers of VVF from remote areas indicate that overall health system and especially the obstetric care has to be improved to avoid late treatment.

Keywords: New Fistula; Recurrent Fistula; Curative Setting

Introduction

Obstetric vesico-vaginal fistulas (OF) is a major global health problem responsible for physical, social, psychosocial and financial suffering in sub-Saharan Africa and South-east Asia [1-4].

Several strategies are adopted worldwide to eliminate this disease: preventive and surgical campaigns organized by WHO, UNFPA and other NGO's as well as the organization of fistula hospitals.

This disease is a serious condition in which a leakage of urine is caused by prolonged labor when the head of the unborn child compresses the birth canal (between the vagina, the bladder, the urethra or the rectum), leading to ischemia and necrosis. That's the root of the perforation located either between most commonly

bladder and vagina (VVF), the rectum and vagina (RVF) or a combination of both [4-6]. These women are confronted with urinary, fecal or combined incontinence [7].

In low income countries where women have less geographic and financial access to adequate surgical care and obstetric program, fistulae have devastating consequences, such as social isolation, poverty, divorce, absence of sexual intercourse, decrease of fertility, amenorrhea and depression etc.

In developed countries, fistulas are caused by iatrogenic etiology: radiation therapy and surgical intervention (hysterectomy) [1,8,9].

The recommendation of the WHO about maternal mortality is to improve the global quality of the patients: the registration of birth and death, a well-functioning health information system, amelioration of administrative sources and survey [10].

In DR Congo, a country of 2.345.000.000 kms², it is very complex to use these measures due to lack of basic facilities and of difficult access to adequate health care: no continuous road maintenance, no boat to access in some areas. Significant measures have been taken in DR Congo but it has not been able to achieve Millennium Development Goal 5 (MDG 5): to decrease maternal mortality [11].

In Kisantu, SOLFA, NGO is organizing the global care of women and OF patients in particular. Its activity has been located in the district hospital of Kisantu, 126 km from Kinshasa.

The health district of Kisantu serves an area of 2400 km², with a population density of 64 habitants/km², for a total population of about 165000 (in 2012). There is one referral hospital (St. Luc) with a capacity of 270 beds and a network of 17 health centres and 18 dispensaries. The hospital has a rather eccentric geographical location in the health district (see map above, yellow circle).

The action of SOLFA integrated the training of local doctors and nurses concerning an adequate care of women, the organization of prenatal consultations, the pregnant women education, the financial initiatives planning, next to a surgical program for fistula repair (www.solfanet.org) fistulae Prevention and fistula patients reintegration are the major goals of this organization. In the same time period, other initiatives were also focusing on better health care in the hospital and the Kisantu region. The Belgian Medical Cooperation installed a financial system, by which patients could be admitted for hospital care for low and controlled prizes. LUMOS (the medical collaboration between Kisantu and the University Hospitals of KU Leuven) implemented a hospital-wide quality improvement plan. SOLFA organized the fistula care and prevention programs and made sure that fistula surgery and the subsequent hospital stay was free for the patient. SOLFA also installed a waiting home for pregnant women, where they could stay while waiting for an elective caesarean section. Also a patient advocacy program was put in place, involving cured fistula patients, who were thought to relate to other women in their village concerning safe pre-natal and peri-natal care.

The combination of these efforts and the active involvement of the highly motivated local professionals has probably led to an improved and more pro-active peri-natal and pre-natal care.

Purpose of the Study

The purpose of this study is to evaluate the impact of organized, structured, integration, collaboration between local team and international actors on the incidence of VVF in the community.

Patients and Methods

Since 2006, an obstetric fistula program has been installed in Kisantu, focusing on prevention (organization of prenatal consultation, training of doctors and nurses on prevention and management of fistulae).

The curative setting was organized by a local team, responsible for patient selection, reach-out to remote areas, providing pre-operative counseling and post-operative follow-up. During surgical fistula campaigns the local and Belgian surgical team collaborated in operating the selected OF patients. To facilitate social reintegration an agricultural micro-financed activity was established. An Access database was kept on all patients, containing demographic and obstetrical data, as well as the operative findings, fistula etiology and classification and post-operative follow-up. The address of the patients was noted and the distance to Kisantu was calculated. Also, the health district, to which the patient belonged, was noted. In that way we could detect who got a fistula in the own health district and who in another.

To obtain a reference population, we used the yearly activity reports of the hospital from 2008 - 2012. This report contains an overview of the obstetrical activity in the hospital itself, but also in the remote dispensaries that are controlled by the hospital. In that way we could calculate the number of vaginal deliveries, caesarean sections, stillbirth, maternal mortality, intra uterine mortality and of eventual OF fistula patients that did not consult with the OF team.

The statistical analysis was made using Microsoft Word and Excel 2011 software which allowed to obtain the means and the percentage as well as the plotting of the graphs of presentation of the annual means of the results. The descriptive analysis was obtained, thanks to the calculations of the proportions for the qualitative variables (frequency, percentage), the means for the continuous variables.

Results

A total of 218 OF patients have been included in the database between 2008 and 2012.

In 2008, at the start of this study, the majority of the patients came from Kisantu.

During the subsequent years, the number of patients from Kisantu whereas, the total numbers of patients and those coming from outside the health district increased. From 2011 all fistulas came from outside of Kisantu (Figure 1).

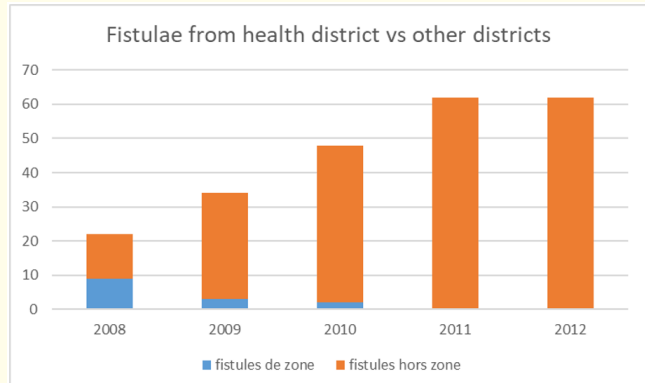


Figure 1: Yearly incidence of OF in the health zone of Kisantu in comparison with fistula from outside of Kisantu during 5 years.

At the time this fistula program was installed, mostly new fistula was seen, while over time more recurrent/persistent fistulae were seen, both from our own center as from other hospitals.

The mean distance patients travelled to be treated in Kisantu, increased gradually from 20 km at the beginning to 90 km in 2012 (Figure 2).

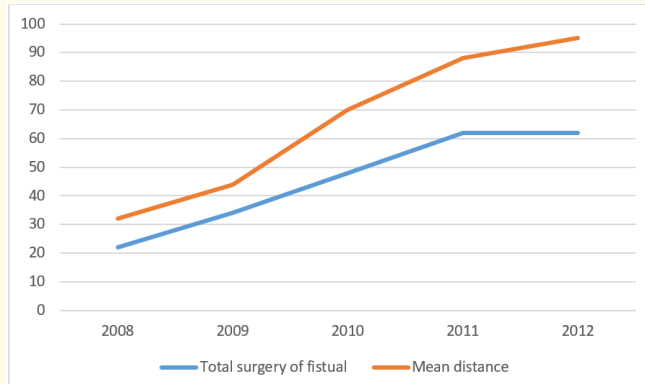


Figure 2: The mean distance of original residence of patients in comparison with the numbers of the surgical case per year.

Analysis of the obstetrics data register showed that the number of referred patients increased from 885 to 1403 in 5 years' time (58.5% increase). The proportion of caesarean section versus the total childbirth varied between 40 - 50% during the study period and did not increase with the higher number of total births (Figure 3). Maternal mortality was low and improved over time from

0.56% to 0.36%, but and intra uterine mortality rate was rather high, although there was a declining trend (from 8.02% to 6.27%) (Figure 4).

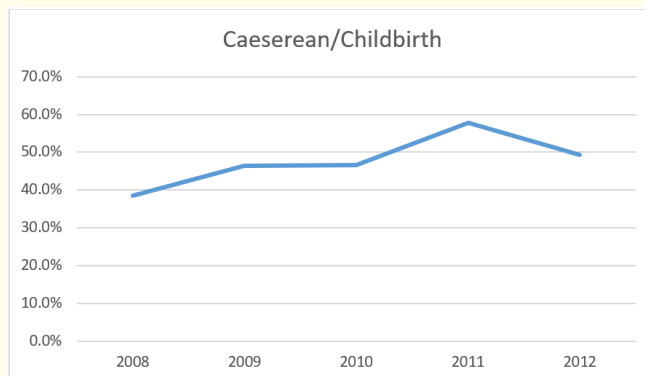


Figure 3: The rate of caesarean section in comparison with all childbirth per year.

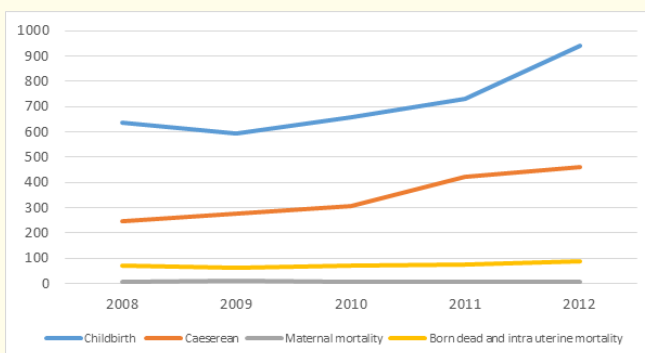


Figure 4: Obstetric activities in Kisantu from 2008 to 2012.

The number of obstetric fistula of the own health district dropped significantly over the observation period. In 2011 and 2012 no new fistula were detected in the health district. In the surrounding districts, the number of new fistula decreased as well, but at a slower rate.

Discussion

The present study examined the result of an integrated program in the global prevalence and incidence of obstetric fistula in a district hospital and the health district for which the hospital serves as referral center.

This is reflected in the fact that at the beginning of this program, the majority of VVF patient's lived in Kisantu and that the incidence decreased progressively (Figure 1).

In the same time period the number of referrals from the peripheral dispensaries to the referral hospital for elective caesarean increased by more than 50%, proving that the central hospital really started to act as referral center for more complex obstetrical care. Despite this the proportion of caesarean section compared to vaginal deliveries remained more or less constant. Moreover, the maternal mortality rate and the stillbirth rate decreased, which can be seen as signs of improved quality of care.

Installing a successful program for obstetric fistula actually contributes to the elimination of VVF in the perimeter surrounding the treatment center, if prevention, education and surgical treatment and local capacity building are integrated.

Internationally similar evolutions have been noted. In Ethiopia, since 2005, the government has prioritized maternal health by increasing the numbers of health centers and maternal health professionals. The government increased the number of medical schools, training programs in emergency surgery and obstetric care. A declining incidence has been obtained in three study centers over 4 years period [6].

A recent paper by Hillary, *et al.* noted that surgical repair carried by experienced fistula surgeons could contribute to the decrease of the fistulae incidence and prevalence [1].

According to De Bernis, the global care of VVF patient involves specific management programs organized in specific treatment centers [10].

In Nigeria and Ethiopian, similar fistula repair and surgeon training organizations exist [12-15].

Donnay and Ramsey described the need for a partnership between a variety of actors to contribute to the prevention and the care of fistula [16]. The findings observed in this study on the evolution of the treatment of the fistula following the integrated program installation, corroborate several publications [6,17,18].

Our study also has some limitations such as a relative low number of patients during this study period (related to the bi annual intervention of fistulae program).

The strength of this study is the simple demonstration of the impact of an integrated program on lowering the incidence of this disease in the community.

Overall, the results of this study imply that a generalization of this type of integrated systems in DR Congo, could be a solution for the care of fistulae.

The management should be based on local units (village, territory, district, and province) and requires more collaboration between local and international actors to facilitate the care of VVF patients (training of doctors, nurses, micro financial initiatives).

Conclusion

The integrated management is characterized by a proactive practice of the preventive and curative aspects of obstetric fistulae and has significantly contributed to the decrease in the numbers of VVF.

Large numbers of VVF from remote locations show that a global contribution of an organized health system is required to avoid late treatment and to reduce the emergence of fistulae.

Conflict of Interest

None.

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