International Journal of Gynecology and Obstetrics 135 (2016) S2–S6

Contents lists available at ScienceDirect

International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo

Availability and utilization of obstetric and newborn care in Guinea: A national needs assessment

Adama Baguiya [a,b,*], Ivlabèhiré Bertrand Meda [a,c], Tieba Millogo [a,c], Mamadou Kourouma [d], Halima Mouniri [e], Seni Kouanda [a,b,c]

[a] Research Institute of Health Sciences, Ouagadougou, Burkina Faso
[b] Kaya Health and Demographic Surveillance System, Kaya, Burkina Faso
[c] African Institute of Public Health, Ouagadougou, Burkina Faso
[d] Directorate of Family Health and Nutrition, Ministry of Health and Public Hygiene of Guinea, Conakry, Guinea
[e] Averting Maternal Death and Disability, Mailman School of Public Health, Columbia University, New York, USA

ARTICLE INFO

Article history:
Accepted 5 September 2016

Keywords:
Emergency obstetric and newborn care
EmONC
Guinea
Maternal health
Neonatal health

ABSTRACT

Objective: To assess the availability and utilization of emergency obstetric and neonatal care (EmONC) in Guinea given the high maternal and neonatal mortality rates. *Methods:* We used the Guinea 2012 needs assessment data collected via a national cross-sectional census of health facilities conducted from September to October 2012. All public, private, and faith-based health facilities that performed at least one delivery during the period of the study were included. *Results:* A total of 502 health facilities were visited, of which 81 were hospitals. Only 15 facilities were classified as fully functioning EmONC facilities, all of which were reference hospitals. None of the first level health facilities were fully functioning EmONC facilities. The ratio of availability of EmONC was one fully functioning EmONC facility for 745 415 inhabitants. The institutional delivery rate was 32.3% and the proportion of all births in EmONC facilities was 7.1%. Met need for EmONC was 12.2%. Among 201 maternal deaths in EmONC facilities, 69 were due to indirect causes. The intrapartum and very early neonatal death rate was 39 deaths per 1000 live births. *Conclusion:* The study showed low availability of EmONC services and underutilization of the available services. Further investigation is needed to evaluate the effect of the current policy of user fees exemption for deliveries and prenatal care in Guinea.

1. Introduction

In Guinea, the maternal mortality ratio was estimated at 610 maternal deaths for every 100 000 live births for the period 2005–2010. Between 1990 and 2010, this ratio declined by 50% [1]. Neonatal mortality is facing a similar downward trend, declining by 25.1% from 52 deaths per 1000 live births in 1990 to 39 deaths in 2011 [2].

Although the country is making progress in the decline of maternal and neonatal mortality, its efforts remain insufficient [1]. Interventions such as "Prise en charge mutualisée des risques liés à la grossesse et à l'accouchement" [Mutual benefit organization for pregnancy and childbirth related risks management] (MURIGA) [3], enhancement of the safe motherhood program, prenatal care services, and exemption from childbirth and cesarean delivery fees have been implemented to significantly decrease maternal and neonatal mortality. In April 2012, the Ministry of Health and Public Hygiene revised the national roadmap for accelerating the decline of maternal, neonatal, and under-five mortality rates. They focused on improving the quality of pregnancy and childbirth-related services. Among other strategies, the roadmap highlighted the need to scale-up evidence-based, high-impact interventions such as emergency obstetric and neonatal care (EmONC) [4].

Previous studies have shown that EmONC can significantly reduce maternal and neonatal deaths [5]. However, implementing EmONC requires a deep knowledge of the needs of the target population. The last EmONC needs assessment in Guinea was conducted in 2003. The results revealed low availability of EmONC services with a lack of basic EmONC (BEmONC) in the country [6]. Ten years later, in the context of political goodwill to accelerate the reduction of maternal and neonatal mortality, it seemed urgent to measure progress and provide baseline evidence through monitoring and evaluation of EmONC services. This needs assessment was, moreover, relevant as like many other resource-constrained countries, the Guinean health information system faces many challenges that hinder its capacity to produce complete and timely data on maternal and neonatal mortality [7]. The aim of the present study was to describe the availability and utilization of EmONC services in Guinea in 2012 by determining the core EmONC indicators.

* Corresponding author at: Research Institute of Health Sciences, 03 BP 7192 Ouagadougou, Burkina Faso. Tel.: +226 70 87 83 70.
E-mail address: abaguiya@gmail.com (A. Baguiya).

http://dx.doi.org/10.1016/j.ijgo.2016.09.004
0020-7292/

2. Materials and methods

2.1. Data source, study design, and population

Data for this study were collected from the Guinea 2012 national EmONC needs assessment, via a national cross-sectional census of health facilities. Data collection was carried out from September 4, 2012, to October 31, 2012. The study was conducted by the Research Institute of Health Sciences, Ouagadougou, Burkina Faso, in collaboration with the Guinea Ministry of Health and Public Hygiene (MoHPH) with the technical support of the Averting Maternal Death and Disability (AMDD) program. The protocol of this assessment was approved by the Guinea health research ethics committee board. During the survey, approval was obtained from the head of each facility and staff members interviewed.

We included all public, private, and faith-based health facilities that performed at least one delivery during the period of the study.

The Guinean health system is organized like a pyramid, the top consists of national hospitals (n = 2), followed downward by regional hospitals (n = 7), district hospitals (n = 38, including military hospitals), and health centers and community health centers at the bottom. National, regional, and district hospitals are referral centers for their catchment areas. They are expected to perform surgery and blood transfusion. These three types of hospitals are referred to as hospitals in this study. As for health centers, they perform normal and uncomplicated deliveries. Community health centers are not expected to perform deliveries.

There are also private and faith-based facilities that fully contribute to EmONC service provision. For the purposes of this study, these were classified to match the same level of public facilities, according to their equipment and available human resources and services.

Regarding EmONC service delivery, health facilities are arranged into two groups: first level facilities (health centers) that are expected to perform basic signal functions, and referral centers (hospitals) that are supposed to provide comprehensive signal functions. Signal functions are described in the handbook published by the UN agencies and AMDD [8].

Clinics and community health facilities that had not performed any delivery in the 12 months prior to the study were excluded.

2.2. Data collection tools and UN EmONC indicators

The Guinea EmONC needs assessment was carried out using standard tools developed by AMDD and the UN agencies, namely WHO, UNICEF, and UNFPA [8]. The tools were adapted to the Guinean context by the national assessment team, which was composed of researchers, experts from the UN agencies and AMDD, MoHPH officials, regional and district level health workers and officials, midwives, obstetricians, and pediatricians, among others. These tools are organized into a set of 11 modules, among which three were used to determine the indicators presented in this study. The first is the national module, which captures national level data such as crude birth rate (CBR) and total population by region, etc. The second is module number 4, which is designed to capture retrospective data on monthly number of deliveries, newborns, complications, and deaths that occurred in the past 12 months. These data were captured from registries. Finally, the third is module number 5, which is designed to capture the performance of signal functions in the last three months through interviews with heads of units and key health workers [9].

The eight indicators and their benchmarks are presented in Table 1. Indicators are determined only on the basis of data gathered from fully functioning EmONC facilities (which performed all required signal functions). However, we present data for all facilities. Fully functioning facilities are health centers that have performed the seven basic signal functions or hospitals that have performed all nine signal functions in the three months prior to the visit [8].

Table 1
UN emergency obstetric and neonatal care indicators and their benchmarks.

Indicators	Acceptable level
Indicators 1 and 2 Availability and geographical distribution of EmONC facilities	At least 5 EmONC facilities for 500 000 inhabitants including at least 1 comprehensive EmONC
Indicator 3 Proportion of all births performed in EmONC facilities	Set by country
Indicator 4 Met need for EmONC	≥100%
Indicator 5 Proportion of births performed by cesarean delivery	5%–15%
Indicator 6 Direct complication case fatality rate	<1%
Indicator 7 Proportion of deaths due to indirect causes	To be set by country
Indicator 8 Intrapartum and very early neonatal death rate	To be set by country

Source: WHO et al. [8].

Geographical information system (GIS) coordinates of all facilities were captured using the Magellan eXplorist 100 global positioning system (Magellan, Santa Clara, CA, USA). We used the coordinates to map the fully functioning EmONC facilities.

2.3. Statistical analysis

To determine the indicators, we first had to estimate the total number of expected births and direct complications by region and at the national level, using the crude birth rate and the total population. Total population figures were estimated by projection with data from the national census carried out in 1996. The crude birth rates were also derived from the same census.

As data extracted from the registers included the end of 2011 and the beginning of 2012, we considered the mean population of those two years.

The number of expected direct obstetric complications used to estimate met need for EmONC was obtained by multiplying the expected number of births by 15%, based on the fact that all pregnancies are risky but 15% of them are expected to experience a direct complication.

Formulas for calculating indicators are described in the AMDD documentation [8]. We computed standard descriptive statistics using Stata version 13 (StataCorp LP, College Station, TX, USA).

3. Results

Overall, we surveyed 502 health facilities. Among them, 421 were first level health centers and 81 were hospitals. Health centers were expected to perform basic EmONC signal functions. Some 85.2% were public facilities, whereas 6.8% were private, and 8% were managed by nongovernmental organizations (NGOs) or faith-based authorities. Six out of 10 (61.1%) facilities were located in rural areas.

3.1. Availability of EmONC services

Fifteen hospitals were functioning as full EmONC facilities. There was no full EmONC facility among health centers. All fully functioning EmONC facilities were comprehensive EmONC (CEmONC). The national rate of availability of EmONC was one for every 745 415 inhabitants. Table 2 shows the distribution of all facilities by region, level, managing authority, and location.

Fully functioning facilities were not equally distributed across regions. Boké and Conakry had four each, whereas Kindia and Mamou had none. Furthermore, rural areas had poor access to these services with only two full EmONC facilities out of 307 (Table 2). The geographical