



## Maternal and neonatal health care status in Somalia: A descriptive, facility-based survey

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### ABSTRACT

*It is estimated that 287,000 women worldwide die annually from pregnancy and childbirth-related conditions, and 6.9 million under-five children die each year, of which about 3 million are newborns. Most of these deaths occur in sub-Saharan Africa. According to WHO, a woman in Somalia has one in 10 chance of dying for pregnancy or childbirth-related causes. This study assessed the availability, accessibility and quality of emergency obstetric and Neonatal care services in Somalia. From February to April, 2019, a descriptive, cross-sectional health facility survey was conducted in 9 purposively selected referral Hospitals and 28 randomly selected health centers in Somalia. Multistage, cluster sampling method was used to make sure that we have subjects from all administrative areas of Somalia. The health facility tools developed by the Averting Maternal Death and Disability program were adapted for local use. Structured questionnaire and observation methods were used for data collection. Descriptive, bivariate and multivariate logistic regression analyses were conducted. Only 10.8 % of the health facilities qualified as functioning comprehensive EmONC (Emergency Obstetric and Neonatal Care) facilities and 29.7 % were Basic EmONC Facilities. 35.1% were partially performing basic EmONC and the remaining 24.3% were not providing EmONC. Neonatal resuscitation was performed in 62 % of health facilities that were surveyed. The study found that there was limited availability of human resources in all visited health facilities. There is a need to strengthen human resource capacity at both Health centers and Hospitals through training of health care providers as well as provision of essential drugs, equipment and supplies to improve EmONC services, and to reduce workload at the comprehensive EmONC facilities and increase geographic access*

**Keywords:** Maternal and neonatal Health care, Pregnancy, Maternal mortality, EmONC, Somalia.

### 1. BACKGROUND

Maternal mortality, the second-most common cause of death among women aged 15–44 years worldwide, is responsible for 14.6% of all deaths in this age group.[1] Most deaths occur during labor, delivery, and in the immediate postpartum period due to postpartum hemorrhage, infection, unsafe abortion, and

eclampsia.[2] Meanwhile, neonatal deaths account for 40.3% of all deaths among children under 5 years of age, with 3.1 million deaths annually.[3] Most Neonatal deaths occur within the first week of life.[4] An estimated 35.1% of neonatal deaths are caused by prematurity, 23.3% by intrapartum related complications (birth asphyxia), and 26.9% by infection-related causes (sepsis/meningitis, pneumonia, tetanus, and diarrhea).[3] An important component of reducing maternal mortality and morbidity and intrapartum-related neonatal deaths is to increase the availability, quality, and demand for skilled care at birth.[5][6][7]

One way that this can be achieved is to ensure that health facilities have adequate capacity to provide emergency obstetric care (EmOC) and emergency newborn care (EmNC), collectively referred to as emergency obstetric and newborn care (EmONC). It is estimated that 287,000 women worldwide die annually from pregnancy and childbirth-related conditions, and 6.9 million under-five children die each year of which about 3 million are newborns. Most of these deaths occur in sub-Saharan Africa. According to WHO, a woman in Somalia has one in 10 chances of dying for pregnancy or childbirth-related causes. [8] Access to maternal health services and antenatal care coverage remain low. Only about 26 percent of Somalis have antenatal care coverage, and the number of necessary emergency care facilities for obstetrics is 0.8 per 500,00 people. This means the number of facilities is 4.2 facilities short of the international standard of five facilities per 500,000 people.[9] Pregnancy or childbirth-related complications such as hemorrhage, obstructed labor, infection, high blood pressures and unsafe abortion are the main contributors to maternal morbidity and mortality in developing countries.[10] This study assessed the availability, accessibility and quality of emergency obstetric and Neonatal Health care services in Somalia.

### 2. METHODS

From February to April, 2019, a descriptive, cross-sectional health facility survey was conducted in 9 purposively selected referral Hospitals and 28 randomly selected health centers in Somalia. Multistage, cluster sampling method was used to make sure that we have subjects from all administrative areas of Somalia. The health facility tools developed by the Averting Maternal Death and Disability program[11] were adapted for

local use. Structured questionnaire and observation methods were used for data collection. Descriptive, bivariate and multivariate logistic regression analyses were conducted. Health Facilities were classified into Referral Hospitals and MCH centers. At each health facility, we conducted a questionnaire interview with the supervisor or in some cases the director of maternity and/or newborn care wards about the facility’s characteristics, services, staffing, and availability of ambulance and phone for referring patients. Analyses were conducted in accordance with UN guidelines for monitoring obstetric services [11], including performance of signal functions and the calculation of the EmONC indicators.

The World Health Organisation (WHO) handbook on monitoring emergency obstetric and neonatal care EmONC defines the signal functions as (1) administration of parenteral antibiotics, (2) administration of parenteral uterotonics, (3) administration of parenteral anticonvulsants; (4) manual removal of the placenta (MRP); (5) removal of retained products; (6) Assisted Vaginal Delivery (AVD); (7) neonatal resuscitation; 8) blood transfusion; and (9) obstetric surgery. The handbook classifies health facilities that have performed the first seven signal functions in the last three months as basic EmONC (BEmONC) facilities and those providing all nine signal functions are classified as comprehensive EmONC (CEmONC) facilities [22]. Also, any facility providing at least one of the first seven signal functions was considered as partially functioning. A non- EmONC facility was defined as a facility which never provided any of the seven basic signal functions in the three-month period before the assessment.

### 3. RESULTS

#### 3.1 Availability of EmONC Services

The study investigated the availability of EmONC services in Somalia by monitoring the nine signal functions of EmONC in the facilities under this survey. This means that the study determined how much of the nine signal function have this

facilities performed in the last three months. Only 10.8 % of the health facilities qualified as functioning comprehensive EmONC (Emergency Obstetric and Neonatal Care) facilities and 29.7 % were Basic EmONC Facilities. 35.1% were partially performing basic EmONC and the remaining 24.3% were not providing EmONC. Neonatal resuscitation was performed in 62 % of health facilities that were surveyed. The study found that there was limited availability of human resources in all visited Health Facilities

#### 3.2 Accessibility of Maternal and Neonatal Health care services

Only 24.3 percent of the surveyed health facilities were having 24/7 hour (twenty four hour per seven) days open health care while majority of them (64.8%) were open half a day per seven days and a minority of them (10.8%) used to be open in 12 hours per six days. 54% of the visited facilities had not ambulance services while 46% of them had Ambulance services. A significant majority (72.9%) of the visited facilities had not telephone services while only 27% of them were having a telephone services.

#### 3.3 Quality of Maternal and Neonatal Health care services

The study investigated quality of maternal and neonatal Health care status in visited Facilities by monitoring the qualification of health care providers, the equipment and drugs available for pregnant mothers and the new born 40.44% of the visited Health facilities have no qualified Obstetrician and/or Gynecologists while the other 59.56% (whom majority of them were referral hospitals) have a qualified Gynecologists. 72.97% of the surveyed health facilities had no pediatrician while 27% of them had a pediatrician. 48.6% of the MCH centers reported that they do not have essential drugs and equipment while 51.4% said that they have Essential drugs and equipment for Maternal and Neonatal Health care.

**Table 1: Distribution of CEmONC, BEmONC, PEmONC, and Non-EmONC Health Facilities**

	Health Facility Status CEmONC % (n)	BEmONC % (n)	Partial EmONC % (n)	Non-EmONC % (n)
Overall	19	16.2	24.3	40.5
Number of Health Facilities	7	6	9	15
<b>Type of Health Facility</b>				
Referral Hospitals	13.74 (6)	8.1 (3)	0 (0)	0 (0)
MCH Centers	5.26 (1)	3 8.1 (3)	24.3(9)	40.5 (5)
<b>Location of Facility</b>				
Benadir	13.6 (5)	5.4 (2)	0 (0)	0 (0)
Somaliland	2.7 (1)	5.4 (2)	(0)	5.4 (2)
Puntland	2.7 (1)	2.7 (1)	8.1 (3)	0 (0)
Southwest	0 (0)	2.7 (1)	5.4 (2)	5.4 (2)
Jubbaland	0 (0)	0(0)	5.4 (2)	8.1 (3)
Galmudug	0 (0)	0(0)	2.7 (1)	10.8 (4)
Hirshabelle	0 (0)	0 (0)	2.7 (1)	10.8 (4)

**Table 2: Accessibility of Maternal and Neonatal Health care status**

Variables	Frequency (n=37)	Percent (%)
<b>Working time</b>		
24/7 open	9	24.3
12/7 open	24	64.8
12/6 open	4	10.8
<b>Ambulance services</b>		
Have Ambulance services	20	54
Have no Ambulance services	17	46
<b>Telephone Services</b>		
Have telephone	10	27.1
Have no telephone Services	27	72.1.9

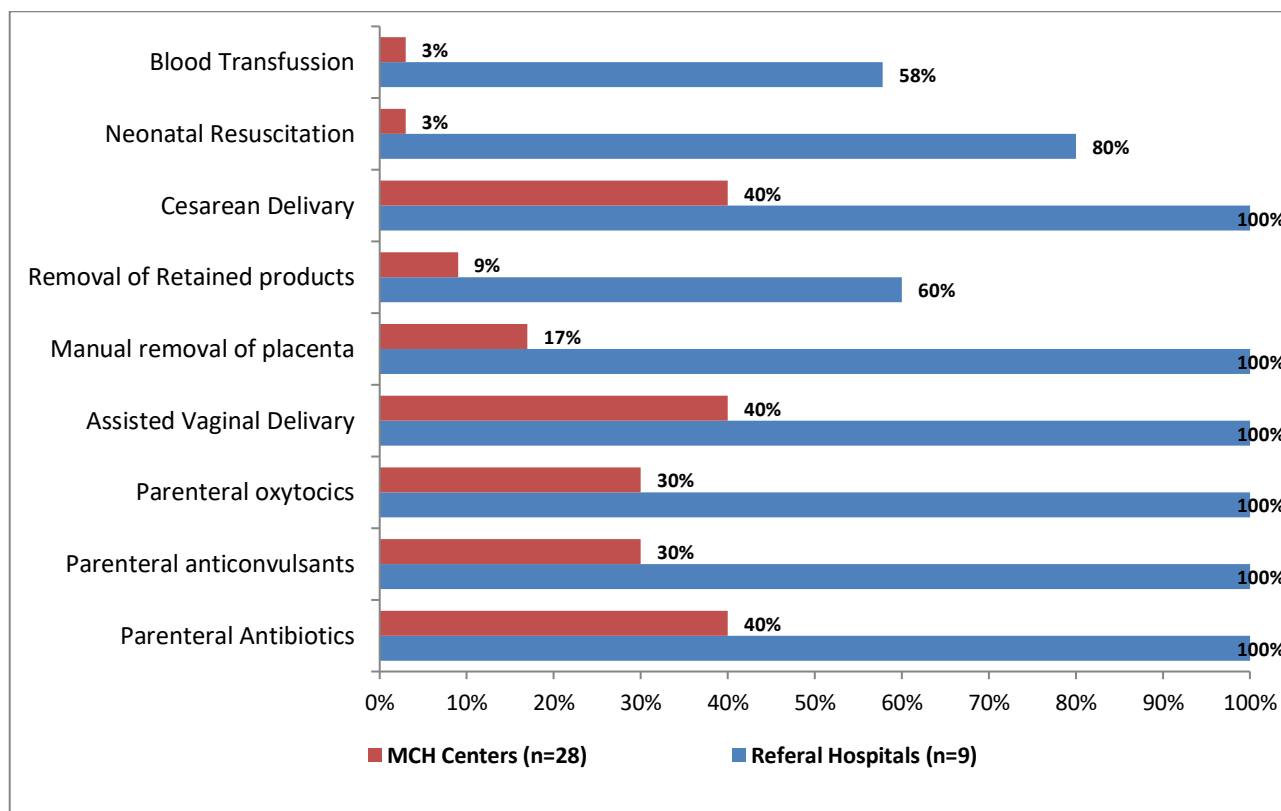


Fig. 1: Proportion of Health Facilities in which each of the nine signal functions was performed in the last three months

Table 3: Quality of Maternal and Neonatal Health Care Services Discussion

Variables	Frequency (n=37)	Percent (%)
<b>Are Qualified Obstetrician/Gynecologists available at this facility?</b>		
Available	15	40.44
Not Available	22	59.56
<b>Are Pediatricians available?</b>		
Available	10	27
Not Available	27	72.97
<b>Essential drugs and Equipment</b>		
Available	19	51.4
Not Available	18	48.6

Maternal health service coverage in Somalia is low. Antenatal care coverage is 26% and the number of basic emergency obstetric care facilities per 500,000 populations is 0.8, compared with an international standard of 5 EmONC facilities per 500,000 populations. Only 16.2% of the facilities provide Basic emergency obstetric care in which 8.1% of them were referral Hospital, and referral Hospitals locate only in major cities which makes most of the cities in Somalia without Basic Emergency Obstetric care.

The study shows that 64.8% of Health facilities were not accessible anytime; most of the Health Centers used to be open 12 hours per day and a significant majority had no telephone and ambulance services which makes them difficult to be accessed. Owing to inadequate number of health facilities, unavailability of twenty four hour per seven (24/7) days services and lack of ambulances and telephone services of the few existing ones, a majority of women in Somalia have no effective and efficiency primary maternal health care services including family planning, antenatal care (ANC), micronutrient supplementation and Emergency Obstetric care services

In general, the quality of reproductive health services outside of a few (private) facilities is compromised by a lack of quality

staff and human resource management, lack of equipment and/or training to use existing equipment, or inadequate, inefficient management and supervision mechanisms. There are no quality control mechanisms of services in place, neither in the private nor the public sector.

#### 4. CONCLUSION

There is a need to strengthen human resource capacity at both Health centers and Hospitals through training of health care providers as well as provision of essential drugs, equipment and supplies to improve EmONC services, and to reduce workload at the comprehensive EmONC facilities and increase geographic access.

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