



MWAMI ADVENTIST HOSPITAL - IMPROVING THE QUALITY OF NEONATAL CARE AND REDUCING NEONATAL DEATHS AND FRESH STILL BIRTHS IN OBSTETRICS WARD



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THE PROBLEM

Mwami Adventist Hospital is situated 30 km from Chipata City, in the rural area. The hospital has a catchment population of more than 100,000. The health care services provided at Mwami Hospital include the following: Maternal and Child Health, Obstetrics, Medical, Surgical, Radiology, Laboratory, Physiotherapy, Pharmacy, Dental, ENT, ART, and Eye services. The hospital has also in-house clinics such as: Men's clinic, Cervical cancer clinic, ART clinic and Eye clinic. Over the past 3 years the hospital observed an increase in the number of neonatal deaths in the obstetrics or labour ward. Some of the reasons for these deaths could be attributed to: lack of equipment, inadequate doctors and midwives, mothers coming late for delivery, inadequate knowledge in resuscitation, stock out of drugs, medical and surgical supplies, and no independent neonatal unit. The table below shows the number of deliveries and neonatal deaths for a period of 3 and half years.

	2020	2021	2022	JAN – JULY 2023
Normal Deliveries	1444	1638	1393	670
Caesarian Section	396	297	294	229
Assisted Deliveries	74	120	90	57
Total Deliveries	1904	2055	1777	956
Maternal Deliveries	1	1	2	0
Neonatal deaths	24	35	25	1
Fresh Still Birth	19	23	11	2
Macerated Still Birth	12	12	9	6

Sub-Saharan Africa has the highest neonatal mortality rate in the world (27 deaths per 1000 live births) with 43% of global newborn deaths. In 2021, neonatal mortality rate for Zambia was 24.6 deaths per 1,000 live births. The infant mortality rate for Zambia in 2022 was 40.606 deaths per 1000 live births. WHO recommends, 12 or fewer third trimester (late) stillbirths per 1,000 total and 10 neonatal deaths per 1,000 live births by 2030.

The number of neonatal deaths and still births are as follows: 2020 (55), 2021 (70), and 2022 (45) for Mwami Hospital. The numbers of neonatal and still births were high as compared to WHO standards and it is for this reasons that measures were put in place to reduce the numbers and improve neonatal care in the obstetrics or labour ward starting the year 2023.



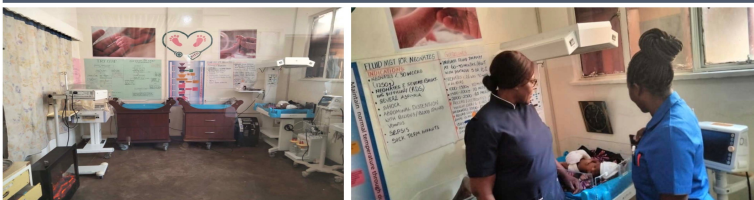
AIM

To reduce the number of neonatal deaths and improve neonatal care within six (6) months of implementing the agreed action points in maternity or obstetrics ward.

RENOVATED KANGAROO ROOM



RENOVATED NEONATAL INTENSIVE CARE UNIT WITH RESUSCITAIRE, INCUBATOR, PHOTOTHERAPY, CRIBS AND CPAP MACHINE



PLAN DO ACT STUDY CYCLE

PLAN

Guarantee quality in operation

Mwami Adventist Hospital started planning in 2021 to buy equipment and renovate the kangaroo room and NICU. This was precipitated by the increased numbers of neonatal deaths and FSB. The hospital sourced for funds and received from PEACE HEALTH, an NGO after coming up with an action plan. This plan was put in place to reduce on neonatal deaths and to improve neonatal care. Maintenance actions included the following; renovating the NICU and kangaroo and to purchase equipment

ACT

Minimize & Control

- every day a midwife visited the waiting shelter where high risk pregnant mothers wait for delivery to evaluate and monitor these mothers, treatment protocols have been placed in the NICU and Kangaroo room for easier reference when attending to a patient, review meetings of cases by doctors and midwives and admission of all neonatal patients to NICU.

DO

Implementation

Between January and February 2023 the following were done after receiving funds; renovated kangaroo room and the Neonatal Intensive Care Unit, bought equipment (phototherapy machine, resuscitator, cribs, CPAP machine, blankets and bed sheets. Review meetings of every death that occurred in NICU, monitoring of every pregnant woman that came to the ward or was in the waiting shelter. Monitoring of women resulted in detecting complications early

STUDY

Evaluation and Assessment

-medical staff and nursing staff observed a high number of neonatal deaths and fresh still births from 2020 to 2022 and this could have been due to few midwives, lack of medical equipment and few trainings in neonatal resuscitation. Having more skilled midwives and equipment led to reduced neonatal deaths and fresh still births. As an institution, we learnt that good supervision of staff, having dedicated trained skilled staff and having adequate medical equipment and also monitoring and quick detection of complications results in reduction of neonatal deaths and fresh and improves neonatal care

DATA

FIGURE 1: SHOWING MWAMI ADVENTIST HOSPITAL LABOUR WARD DELIVERIES FROM 2020 TO 2023

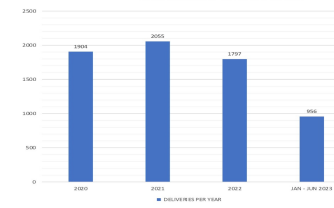
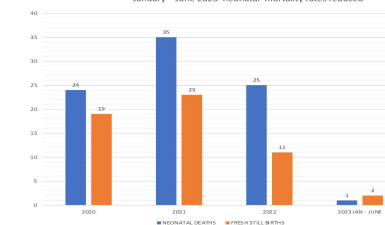


FIGURE 2: SHOWING MWAMI ADVENTIST HOSPITAL NUMBER OF NEONATAL DEATHS AND FRESH STILL BIRTHS - 2020 – 2023. From January – June 2023 neonatal mortality rates reduced



RESULTS

Mwami Adventist Hospital recorded a total number of deliveries (normal deliveries, caesarian sections, assisted deliveries 2020 to 2022) as follows: 2020; 1,904 deliveries, 2021; 2,055 deliveries, 2022; 1,777 deliveries, January to June 2023 has recorded 956 deliveries. The number of neonatal deaths and still births are as follows; 2020 (55), 2021 (70), and 2022 (45). For January to June 2023, the hospital has recorded 0 maternal deaths, 1 neonatal deaths, 2 still births and 6 macerated still births. In 2022 the number of neonatal deaths and still births was 45 and 2021 was 70 and comparing to half of 2023 the number is 1 neonatal deaths and 2 Fresh Still Births. This shows that they is a reduction in neonatal deaths and still births in comparison with the previous or past years.

The hospital has managed to reduce the number of neonatal deaths, still births and recorded no maternal deaths in the 6 months of 2023. Mwami Adventist Hospital management managed to do the following to improve neonatal care and reduce neonatal deaths and still births in the labour ward;

1. Bought 2 phototherapy machines through partners (Peace Health)
2. Bought 1 resuscitator through partners (SIDA)
3. Bought 3 heaters through partners (Peace Health)
4. Bought CPAP machine for the NICU through partners (Peace Health)
5. Renovated the kangaroo room and NICU – painting
6. Printed out neonatal protocols for managing neonatal conditions and complications
7. Received 2 cribs from Churches Health Association of Zambia for the NICU
8. Allocated more midwives and nurses to labour ward and every shift, there are two midwives
9. Established a Kangaroo room for managing premature babies
10. Improved a small neonatal intensive care unit within labour ward for managing neonatal complications such as birth asphyxia
11. Having peri-natal neonatal and maternal review meetings for every death that occur
12. 4 midwives have been trained in neonatal resuscitation and the trainings are continuing to ensure all are trained
13. The hospital has also intensified the supervision of midwives, doctors and support staff in the labour ward through the Chief of Medical Staff, Director of Nursing Services and Ward In-charge.
14. Labour ward has allocated one midwife in the mothers waiting shelter for the purpose of reviewing, examining and monitoring high risk pregnant mothers (with complications) on a daily basis. This is done to ensure that complications are detected, prevented and treated early.

SUMMARY

As Mwami Adventist Hospital, we have learnt that having adequate trained skilled human resource, equipment (Resuscitator, Incubators, Oxygen Machine, heaters, Phototherapy) and good supervision is essential for providing quality, good and standard neonatal care and reduces neonatal mortality rates and Fresh Still Births. Undertaking this activity or project has helped the hospital to reduce neonatal deaths and Fresh Still Births (FSB). In the first half of 2023 (January – June) the hospital recorded only 1 neonatal death, 2 Fresh still Births and 0 Maternal deaths as compared to the past years of 2022 (Neonatal deaths - 25, FSB - 11), 2021 (Neonatal deaths - 35, FSB - 23), 2020 (Neonatal deaths - 24, FSB - 19). This positive reduction of neonatal deaths and good neonatal care will attract more pregnant mothers to come and deliver in our hospital and contribute to development of Zambia.

FUTURE STEPS/ WHAT'S NEXT?

The next thing we want to embark on is: 1. Build an Intensive Care Unit 2. Build a separate Neonatal Intensive Care Unit 3. Buy resuscitative equipment. 4. Build a Separate Gynaecology ward. 5. Upgrade to Second level Hospital (General Hospital).