MINISTÈRE DE LA SANTÉ
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Enabel

Continuous electronic monitoring of hypothermia in newborns as an intervention allowing quality holistic care for the mother-newborn couple in Benin

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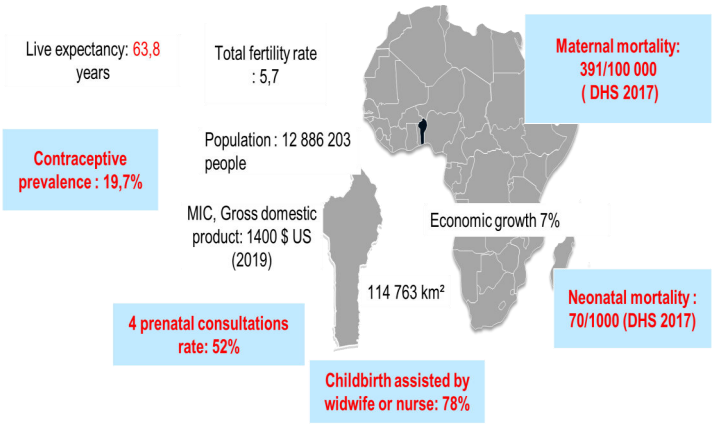
Introduction



Hypothermia is known as a common cause of death in newborns (Moshiro, 2019). We proposed an intervention based on an electronic device for monitoring hypothermia in low birth weight newborns to reduce neonatal mortality while aiming for holistic quality of care. The objective of the work is to describe how hypothermia electronic monitoring improve the quality of care of mother and newborn couple .

Overview

Implementation period: from december 2020 to December 2021

The intervention was based on electronic device using as a key to promote holistic care a package of evidence based maternal, neonatal child care strategies

It is consisted on the monitoring of hypothermia : Bempu ® bracelet alerts with an audiovisual alarm to ensure action is taken well before moderate or severe hypothermia cause injury and this help reducing neonatal mortality

Electronic bracelet was used for Newborn of 1500-2500g

Newborn electronic surveillance was completed by kangaroo mother care, exclusive breatsfeeding and systematic newborn examination

Weekly newborn health monitoring in health facilities and in the community

Implementation of a quality care approach with a quarterly evaluation of by peers

Method

Data related to the care and death of mothers and newborns were collected over the period 2020-2021 through the DHIS2 database and supervision reports.

These data were completed by a qualitative survey (78 individual interviews and 2 focus group discussion) of providers, community health workers (CHW) and beneficiaries aimed at analyzing their perceptions of the effects and constraints of the approach.

Quantitative data were compared after one year implementation: between 2020 to 2021

A thematic content analysis for the qualitative data was conducted

Results

404 out of 410 low weight newborns received bracelet Bempu during the experimentation period

220 alerts for hypothermia had been successfully managed in community

Zero death registered among the 404 newborns followed in the community

3 deaths among the other 6 newborns referred to university hospital (weight under 1,500g)

Weight gain in the 1st month : Mean+/- sd: 935g+/- 425,6g, minimum of 100 g and maximum of 2300g, vs 579 g (Manazir 2009)

Decrease of 14,5% in neonatal deaths at the health district level

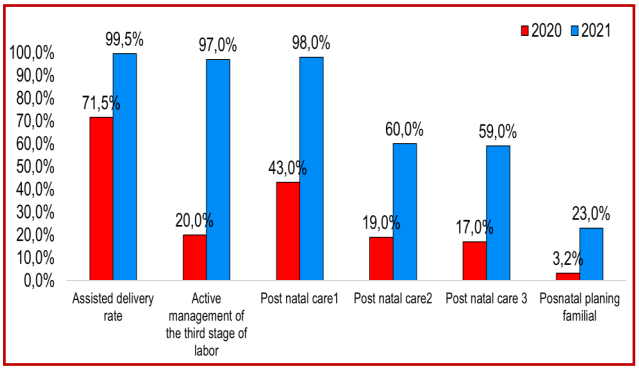


Fig1: Mother care improvement in Abomey-Calavi health district, 2021

The community itself has perceived the effectiveness of the initiative and this reinforces their motivation to comply with care:

"*When our child was born, we had enough worries because of the prematurity and the low weight. The grandparents had advised me to use traditional care as in the past. But this time the community worker convinced me to follow the care recommended by the health center. He was there every week and it was a success".* Father of baby being monitored

The initiative is a gender sensitive approach. Indeed, the father can also do the kangaroo care and the mothers are happy about this and describe it as facilitating complicity and solidarity within the couple ;

"*What I liked about this approach is that every time the bracelet rings, the father, is the first to go and get the child to snuggle up to him. This has brought us very close and since then he has taken an interest in the care of all the children and myself*" A mother said

Conclusion

The electronic bracelet has been an entry point for developing a global approach to quality care for the mother-newborn couple with promising results. An extension to the entire health district, including private health centers, is recommended, as well as a progressive national scale-up.