

RESEARCH ARTICLE

Where and why do we lose women from the continuum of care in maternal health? A mixed-methods study in Southern Benin

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Abstract

Objective: Continuum of care (CoC) in maternal health is built on evidence suggesting that the integration of effective interventions across pregnancy, childbirth, and the postnatal period leads to better perinatal health outcomes. We explored gaps along the CoC in maternal health in Benin.

Methods: A mixed-methods study triangulating results from a qualitative study in southern Benin with a quantitative analysis of Benin Demographic and Health Survey (BDHS) data on the use of services along the CoC was conducted.

Results: Benin Demographic and Health Survey analysis showed that although 89% of women reported at least one antenatal care (ANC) visit, only half initiated ANC in the first trimester and completed 4 or more visits. 85% reported facility-based childbirth and 69% a postnatal check within 48 h after childbirth. Our qualitative study confirms early initiation of ANC and the transition from facility-based childbirth to postnatal care are important gaps along the CoC and reveals late arrival at health facility for childbirth as an additional gap. These gaps interact with spiritual and alternative care practices that aim to safeguard pregnancy and prevent complications. Structural factors related to poverty and disrespectful care in health facilities compounded to limit the utilisation of formal healthcare.

Conclusions: The combined use of BDHS and qualitative data contributed to highlighting critical gaps along the maternal CoC. A lack of integration of spiritual or alternative aspects of care into biomedical services, as well as structural factors, impeded access to healthcare in Benin.

KEYWORDS

alternative healthcare, continuum of care, maternal health, mixed methods

INTRODUCTION

Saving lives from maternal and neonatal complications remains a major health challenge in low-income and

middle-income countries (LMICs), and in particular sub-Saharan Africa [1,2]. More than a quarter of maternal deaths occur during or within 24 h after childbirth and about 40% between 24 h and 42 days post-partum [3]. Children who

Sustainable Development Goal: Good health and wellbeing.

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die within the first 28 days of birth suffer from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth [4]. The main strategies employed in LMICs to reduce maternal and neonatal mortality and morbidity include access to antenatal care (ANC), skilled birth attendance, postnatal care (PNC) and family planning (FP) services.

The continuum of care (CoC) approach in maternal health is built on the assumption that crucial interventions across pregnancy, childbirth and the postnatal period are linked and that their completion will lead to better maternal and neonatal health outcomes [5]. In 81 countries with the highest burden of maternal, neonatal and child mortality, utilisation of health services along the CoC has shown substantial progress but gaps remain: from an estimated 90% of pregnant women with at least one ANC visit, 72% of women give birth in a health facility and 59% and 42% had a PNC visit for mothers and babies within 6 weeks, respectively [6,7]. Furthermore, high coverage of interventions has not led to the expected reduction of maternal mortality in some countries. In Benin, for example, despite high ANC coverage (83% had at least one visit with qualified staff) and 78% of births being assisted by skilled personnel [8], maternal mortality is estimated at 397 deaths per 100,000 live births [1] and neonatal mortality at 33 per 1000 live births [9].

Several studies have shown how both cultural and structural factors challenge women's access to and acceptance of maternal health services [10–17]. However, these studies rarely investigate women's health-seeking behaviour outside of the formal health sector, or question whether the biomedically conceptualised CoC is at odds with the cultural logics that underlie context-dependent perceptions of appropriate care [18,19]. The documented factors are often disconnected from the historically embedded socio-cultural context which shapes perceptions of women's reproductive choices and obligations. This mixed-methods study aimed to document reproductive perceptions and practices accounting for variations in the use of maternal health services for pregnancy, childbirth and the postnatal period in Southern Benin. The study further explored whether these variations occurred in tandem with the key gaps along the maternal CoC in Benin according to Benin Demographic and Health Survey (BDHS) data.

METHODS

Study design

This mixed-methods study employed a triangulation design, in standard notation QUAL + quan. Primary data collection in the qualitative strand and the analysis of secondary data in the quantitative strand occurred separately. The results from the qualitative study prompted a targeted exploration of certain variables (i.e. identified gaps and variations in the use of health services) in the BDHS. Findings from each strand were integrated during interpretation.

Qualitative strand

Study site

Data were collected between 2018 and 2019 in selected villages in the Atlantique region in the South of Benin. Study sites were selected in light of observed variations in the use of services along the CoC of maternal health [20]. Moreover, the ancient kingdom of Allada is still considered a reference point for pre-colonial cultures and practices related to birth, life, sexuality, reproduction, and death in southern Benin.

Data collection

The research team was composed of three anthropologists and three public health physicians. Three of the researchers were able to speak the Fon language with participants. Prior to the start of data collection, political and health authorities in the three communes of the Allada-Toffo-Zè health zone were contacted to negotiate their support and assistance throughout the study, a crucial step. Potential participants were approached at the community level and in healthcare facilities for social interaction. Access to participants was achieved primarily through snowball sampling. Fieldwork continued until theoretical saturation was reached. The following ethnographic techniques were used:

- (i) *Participant observation*. The researchers stayed for several weeks/months in the study villages and observed people's behaviour at health facilities, private practices, and traditional healing sessions and conducted informal conversations with villagers and at the health centres ($n = 86$).
- (ii) *In-depth interviews*. Open-ended in-depth interviews were held face-to-face, guided by a continuously adapted interview guide in line with an emergent theory study design. Participants were classified according to relevant variables such as gender, age, parity, and locality to allow for internal variation and comparison. All 73 interviews were carried out in French or Fon and were audio-recorded and transcribed.
- (iii) *Focus group discussions (FGDs)*. We conducted three FGDs to better understand sexual and reproductive health practices of adolescent girls and boys. Participants were recruited with the help of school principals, the commune-level artisan leader and the local village chief.

Sampling

The target population for this study was healthcare users and non-users and providers in the public, private, traditional and home care sectors, targeting pre-pregnancy, pregnancy, childbirth and postnatal care. Participants were selected based on the principles of theoretical sampling,

where the researcher simultaneously collects and analyses data based on existing theories to guide the next phase of the research and selection of new participants. Sampling also aimed to progressively select for maximum variation in profiles in terms of localities, gender, age, marital status, socioeconomic status, occupation, religious beliefs, ethnicity and (non-)use of formal maternal health services (Table 1).

Data analysis

In the initial phase of research, inductive coding of raw data was done. When new hypotheses and theories were formed, question guides were adapted accordingly, and further tested in the field until theoretical saturation was reached. After all data were collected, deductive coding was done on all raw data in Nvivo 12 Qualitative Analysis Software. A final coding framework was constructed based on the results of the analytic process during fieldwork and an analytical workshop in which all researchers involved in the project participated. Coding queries were performed to test relationships between codes or between codes and attributes of respondents.

Quantitative strand

Data source and population

We used the most recent BDHS from 2017 to 2018. The DHS are nationally representative surveys of households.

Data analysis

We identified five CoC elements or steps from ANC to PNC (details in File S1) and estimated the percentage of women

receiving each of the five steps separately, and then cumulatively. Analysis was conducted in STATA v14.

Ethical considerations

The BDHS 2017–18 received approvals from the National Statistics Council and the National Ethics Committee for Health Research in Benin. As DHS data are secondary data, our analyses did not require any additional ethical approvals. The ethnographic study protocol was approved by the Local Ethics Committee for Biomedical Research of the University of Parakou in Benin (approval number: 0092/CLERB-UP/P/SP/R/SA), and the Institute of Tropical Medicine Antwerp in Belgium (approval number: IRB/AB/AC/044). All participants were thoroughly informed about the study aims, content, benefits, risks and confidentiality issues including their right to withdraw consent at any time without having to provide a reason for withdrawal or having to fear negative consequences. Written informed consent was sought from interviewees participating in in-depth interviews, while participants in informal conversation as part of participant observation provided oral consent, documented by the researcher and a witness.

RESULTS

Continuum of care in Southern Benin

Cross-sectional biomedical utilisation along the CoC

People in Southern Benin have access to maternal health services offered by peripheral public health centres, religious health centres (*centres de santé confessionnels*), a health zone

TABLE 1 Participant profiles

Profiles	Total	Male	Female
Healthcare providers			
Biomedical care (providers in public, private and religious health facilities)	18	05	13
Spiritual care (key figures in evangelical, Muslim and celestial religions)	10	07	03
Alternative care (bone setters and healers, diviners and herbal medicine practitioners)	9	9	00
Community members			
Petty trade (sellers of various goods)	25	00	25
Agriculture (farmers; plantation workers)	83	21	62
Local administration (City Hall Officer; delegate; community health worker)	27	17	10
Public administration (accountant, secretary, teacher)	22	8	14
Student	15	7	8
Craftsmen (hairdresser, tailor...)	14	02	12
Age group			
Adults	196	68	128
Adolescents	27	8	19
Total	223	76	147

referral hospital, and numerous private clinics, practitioners and pharmacies. ANC is available from all these biomedical health facilities, except for private practitioners and pharmacies. The BDHS analysis of each step along the CoC separately showed that 89% of women reported using ANC for their most recent birth in the 5 years preceding the survey (Figure 1). However, only 51% reported that the first ANC visit took place in the first trimester, and 52% received four or more ANC visits during pregnancy. According to the focused ANC model [21], women were advised to have one visit in the first and second trimesters each, and two visits in the third trimester. Therefore, women who start ANC late were commonly unable to receive four or more visits throughout pregnancy. Only 38% of women started ANC early and received four or more visits. Next, 85% of women gave birth in a health facility and 69% reported receiving PNC within 48 h of birth, meaning that not all women who gave birth in a health facility were checked. Overall, 30% of women completed all five CoC steps (Figure 2).

Alternative care practices

There are several alternative modalities of maternal and infant care that are perceived to be complementary to biomedical services. Although the recognition of the medical risks involved in pregnancy and childbirth ties most of our participants to the formal healthcare system, our qualitative results show that culturally specific perceptions of reproductive matters link families to alternative modalities of care, which are extensions of the everyday experiences of and conversations about fertility, pregnancy and childbirth.

Our qualitative study indicated that one of the most important caregivers in the traditional care structure is the *Fâ*, a diviner who predicts by mystical means the path of your pregnancy and child's life. The *Fâ* steers clients in the "right" direction by prescribing sacrifices to ancestors and spirits, herbal treatments, as well as behavioural and food restrictions. Guided by the *Fâ*'s visions, the *Bokono* oversees and takes charge of the rituals and taboos that are particular to his lineage. Commercially, there are also other traditional healers with knowledge of plants or spirits, which can be consulted for a fee. '*Tradimoderne*' health centres resemble modern biomedical clinics but use 'traditional' knowledge to develop therapies for bonesetting, infertility, revalidation, etc.

Qualitative data show these alternative care structures are evolving to include religious healing practices. Evangelical, pentecostal and celestial religions thrive in west Africa, often with charismatic pastors that have the power to heal illness, converging with roles that are traditionally taken up by *Fâ* or *Bokono*. Many of these spiritual healing frameworks have incorporated rituals that are rooted in the local *vodun* religions and associated traditional healing structures. The Therapy Management Group [22], the social support system that makes decisions about the patient's path to health, spans their decisions across spiritual, alternative and biomedical

care modalities. In case of reproductive health, this group usually centres around the parents in law, who advise who must be consulted and when.

For my first child, I lived in Cotonou with my wife and when she was almost full term, I sent her to the village for my mother to help her because it was our first child. My father went to consult the "Fâ" and asked him to use certain things.

(In-depth interview, male *Fâ* client)

Gaps in the continuum of care

We will present the gaps in the continuum of care shown by both the BDHS analysis (Figures 1 and 2) and our qualitative study and how these gaps interact with certain alternative and spiritual practices.

Gap 1: late start of ANC and receiving <4 ANC visits

Among the several socio-cultural issues at play, early pregnancy is considered a risky condition for both mother and child, as pregnancy may provide an opening for spirits or sorcerers to attack. Disclosing one's pregnancy to the outside world confirms the woman's vulnerability and invites harm. Second, in the often-arranged marriages among Fon people, custom dictates that a woman should disclose her pregnancy to her mother-in-law first. Parents-in-law then set up the first consultation with the *Fâ*. Involving parents-in-law is a socially difficult process for many women, who prefer to leave the pregnancy disclosure to when their belly starts to show. After the initial *Fâ* consultation in which the health of the woman and the pregnancy as well as the nature of the unborn child is assessed, women usually attend their first ANC visit. Based on our qualitative findings we can assume that first ANC often only happens in the second trimester – when the belly starts showing. Women might not always be aware of exactly how far they are along in their pregnancy, as ultrasounds are not usually available at public health facilities which most women use for routine ANC. A common obstacle to using private ultrasound consultation is that practitioners are usually male and revealing the belly exposes a married woman to another man. In the moral framework of reproductive norms, this act is considered adultery.

"Even in the middle of an examination, if a male provider greets you [...], the women look up to see who it is, and some pull their loincloths to cover themselves." (Informal conversation, female ultrasound practitioner)

Finally, the cost of an ultrasound, almost exclusively available as a private service with out-of-pocket payment, presents an important obstacle.

Women commonly initiate ANC in the second trimester at a public or faith-based health facility for the benefits of an

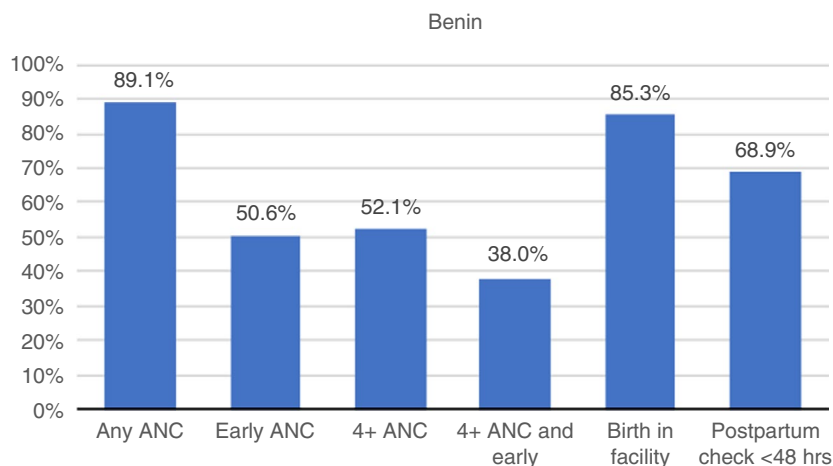


FIGURE 1 Percentage of women receiving each of selected continuum of care elements separately in Benin, BDHS 2017–18

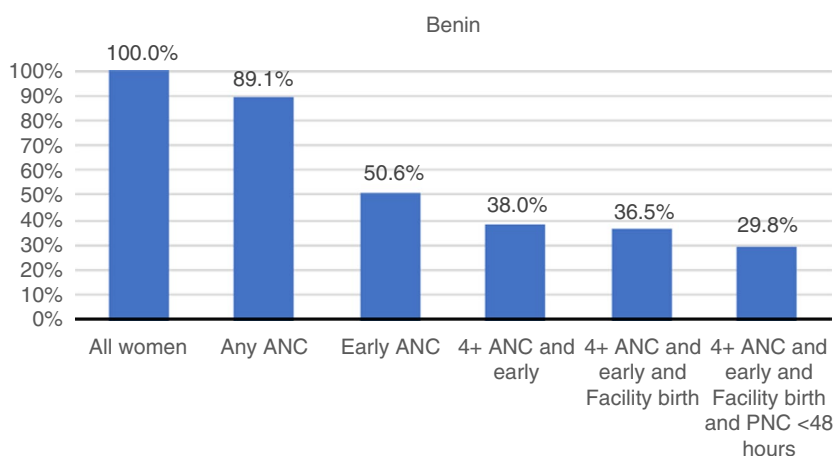


FIGURE 2 Percentage of women receiving each of selected continuum of care elements cumulatively in Benin, BDHS 2017–18

official ANC card, a urine dipstick test (proteinuria) and prophylactic antimalarial treatment. ANC cards are important because they represent official documentation of their pregnancy status and formally link them and the future child to the healthcare system. The ANC card will facilitate access to health services during labour and childbirth, postnatal care and newborn vaccinations, and ensures the birth certificate. However, participants report that their willingness to seek ANC in public health centres is challenged by long waiting times. Religious health centres are preferred because nurses are perceived to be warmer and more considerate of women's financial difficulties to pay for consultations. Participants also describe how they start to use herbal infusions at this time, prescribed by the therapy management group and/or the *Fâ* and *Bokono*, to assure a healthy pregnancy.

Gap 2: just in time arrival in health facilities for childbirth

In the BDHS, the vast majority of women in the Atlantique region reported having given birth in health facilities

(98%). Nevertheless, qualitative data show that childbirth in a health facility is an event disconnected from the traditional and spiritual practices of care preceding the birth and even onset of labour. In the third trimester, many families consult the *Fâ* again for the measures that need to be taken to guarantee a smooth birth and a healthy and moral child. If not the *Fâ*, then other spiritual leaders or the most knowledgeable relatives in the therapy management group take charge of the appropriate alternative trajectories. Women also often reported going for a final ANC visit and a private ultrasound appointment, checking for the right (cephalic) position of the baby for birth. The *Fâ* is again consulted for the final sacrifice aiming to assure a smooth birth.

If labour continues and the health workers are concerned, the *Fâ* should be consulted and the situation should be resolved. Not respecting the prohibitions (problems to be avoided, evil eye, requests of the divinities...) is often the cause of these complications. [...] In the last moments of the pregnancy, the child changes position

because the Fà has been consulted and the sacrifices honored.

(Informal conversation, male local government employee)

Qualitative results revealed an additional gap (not seen in the BDHS) – late arrival at health facility. It is considered important that children are not carried beyond the perceived full term, because they are thought to act like elders compared to children of the same age, and are predicted to have little success in social relations. Once the therapy management group think the baby has been carried to full term, often counting from the last menstruation, sometimes they will start to give the woman herbal infusions to induce labour. Moreover, women and their families report going to the health facility as late in labour as possible, because early labour pains are perceived to receive little attention and support from healthcare workers at health facilities, whereas advanced stages of labour gain their immediate attention.

Interviews with community members indicate that herbal concoctions continue to be given by family members during labour within health facilities, a practice often shrouded in secrecy and concealed from healthcare workers. These concoctions are believed to ensure a smooth birth and limit complications of both spiritual and biomedical natures. Herbal concoctions and other practices (prayer, spiritual visions, use of amulets and other objects invested with spiritual power) are based on mystical interpretations of childbirth, which is a 'rite of passage' for the woman who is considered to die and come back to a new life and gain social status as a mother. Healthcare workers assist in the birth only medically, therefore the spiritual and emotional needs of a labouring woman often remain unaddressed. These emotional hardships are reported to limit their use of intrapartum and postnatal biomedical care.

Nevertheless, in agreement with the BDHS analysis, almost all participants in the qualitative study reported using health facilities for childbirth, even though late in labour, because it facilitates the process of obtaining administrative documents for the newborn. Biomedical care is also perceived to be effective in helping with medical complications immediately threatening the life of the woman or the baby.

Gap 3: a third of women do not receive PNC within 48 h of birth

The qualitative study showed that women usually leave childbirth facilities within 24 h and, in line with BDHS, do not systematically receive at least one PNC check before discharge. PNC is addressed extensively through a range of existing alternative modalities of home care at hand for postpartum women, which leads to a mismatch between the perceived medical needs and the offer of postnatal care in health facilities.

Participants report that the open wounds caused by childbirth are traditionally healed by sitting on a vessel with

herb-infused hot water, covered with a loincloth for this purpose. Drinking herbal infusions and bathing in herb-infused water are also part of preventing complications. Going through the appropriate rites to develop into one's new status as a woman, which includes taking proper care of one's wounds, is considered the woman's responsibility, assisted by her mother or mother-in-law.

My wife's mom comes to help us during the first days. The care at home has immediate effects. In case of a tear, the hospital often thinks stitching is needed, but once at home, her mother prepares herbal teas that are poured into a vase to accelerate the healing.

(Informal conversation, male administrative worker)

Both observations and interviews indicate that lack of hot water in public health facilities presents an important barrier to remaining there longer after birth. Moreover, women report that they are detained at health facilities until the family can pay the fees, and therefore staying at the health facility indicates inability to pay for the health services, which is considered shameful in the community. Leaving the health facility quickly after birth is therefore considered to add to the respect of one's watchful neighbours.

DISCUSSION

Despite high coverage of several crucial interventions along the maternal health CoC in southern Benin, we identified three important gaps. First, women start ANC late in pregnancy, leading to a small percentage of women receiving four or more ANC visits, and even smaller percentage of the nationally recommended minimum of eight. Second, most women give birth in health facilities, but tend to arrive there late in labour. Finally, there is a gap between the proportion of women giving birth in health facilities and those reporting a PNC check within 48 h.

Our results regarding the gaps along the CoC are in line with quantitative studies in a number of African countries, including more recently in Benin [12–17]. The gap between birth and PNC has been identified either during the 48 h after birth [15] or within 6 weeks [16]. Early discharge of women after childbirth has been reported in Ghana as a factor associated with low use of PNC [15]. Our qualitative data show that these gaps can be partly explained by the alternative modalities of maternal and infant care common in southern Benin that are perceived to be complementary to the biomedical healthcare offered at formal public and private facilities. Alternative modalities of care often relate to the perception that physical imbalances are the result of a disruption in the moral status of the woman, in the proper execution of various 'rites of passage', or in the culturally and spiritually required practices of care along the reproductive cycle. Alternative care practices themselves, however,

do not present an obstacle to accessing or attending formal healthcare facilities. Our qualitative results show that these diverging modalities have integrated to form a syncretic framework of thought and action. Such ‘medical syncretism’ was described by Hausmann Muela et al in an African context to refer to the provocation of biomedical conditions through witchcraft [23], but also to integrate local perceptions of blood into the use of medicine. Modern medicines had to ‘agree’ with one’s blood, integrating biomedical perspectives with African spiritualism which highlights the importance of blood as one’s life force [23,24]. In southern Benin, such syncretic articulations emerge from family members hiding the herbal concoctions they give to women in labour in health facilities, although everyone, including the healthcare workers, is aware of this practice and thus endorses it as a way of showing support. One of the health centres operated by catholic Sisters has a statue of Virgin Mary presenting her in the same way as the representation of the *Vodun* deity a few metres away. In practice there is a certain permeability between different beliefs and practices, and the associated types of care. Gaps in the use of formal health services along the CoC cannot be explained by the predominance of traditional beliefs or practices, but rather through lack of integration of this syncretic logic into the biomedical modality of care. In addition, this study shows that (i) lack of financial means to meet the additional costs of consultations (travel costs and unforeseen medicines and tests, including for complications), the standard costs of childbirth, and the costs of private facility care for ultrasounds; (ii) poor perceived quality of care, including lack of equipment; (iii) poor and/or disrespectful reception by health facility staff; (iv) long waiting times to receive attention and care, set up the parameters of the context in which decisions to seek care *can* be made. Similar structural and socio-cultural factors associated with the use of maternal health services have been reported since the 1990s [13,25–30].

Considering these limiting structural factors, the integration of non-harmful spiritual or alternative aspects of care (i.e. active spiritual support and prayer during labour, provision of hot water that allows women to appropriately self-care in the immediate postpartum) into biomedical health service delivery could harmonise the expectations and intentions of both the provider and the patient with his/her therapy management group, ultimately leading to a supportive environment for the woman in need of care.

CONCLUSION

In conclusion, the combined use of BDHS and qualitative data contributed to documenting and exploring gaps along the continuum of maternal care. A lack of integration of spiritual or alternative aspects of care into biomedical services, as well as structural factors, impeded access to healthcare in southern Benin. Non-harmful spiritual and traditional types of support for pregnant women and their families can

be integrated into biomedical services to achieve higher levels of coverage across this continuum.

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SUPPORTING INFORMATION

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