Knowledge of, Attitudes Towards, and Practices Relating to Child-spacing Methods in Northern Burkina Faso

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ABSTRACT

This study was carried out to document current trends in knowledge of, attitudes towards, and practices relating to traditional and modern child-spacing methods in a remote area in northern Burkina Faso. Information on sexual abstention, weaning, and contraception was elicited from 296 women of reproductive age, involving 413 postpartum intervals. A number of older women and key informants were also interviewed. The findings depicted significant diversity in that durations of individual postpartum sexual abstinence varied between 40 days and 3 years, with shorter durations associated with stricter adherence to Islamic beliefs and, possibly, a trend towards a less collective and, for the family unit, more labour intensive, agro-pastoral subsistence economy. Although durations of amenorrhoea were relatively short at between (median) 9 and 11 months, they determined the length of non-susceptible periods in almost 90% of cases. The median timing of weaning was stable at 24 months across all three main ethnic groups. However, changes in the frequency and type of complementary feeds may have impacted on the duration of amenorrhoea. Both demand for modern contraception and contraceptive prevalence (<1%) were very low. The creation of new child-spacing norms and the promotion of modern contraceptive methods are likely to be successful in areas like this one only, if the population can be sensitized to the idea that Islam does not necessarily discourage contraception.

Key words: Child-spacing; Birth interval; Sexual abstinence; Breast-feeding; Amenorrhoea; Fulani, Gurmance; Burkina Faso

INTRODUCTION

Postpartum insusceptibility due to lactational amenorrhoea and postpartum sexual abstinence has traditionally been a major component of fertility regulation in sub-Saharan Africa (1). Modern contraception has only recently begun to have a larger effect in that region, and in Sahelian countries in West Africa, it seems to have taken hold mainly in urban areas (2). In rural areas, lactational amenorrhoea and postpartum sexual abstinence have remained more important in limiting fertility and enhancing infant and maternal health than they ever were in the developed world (1,3-5).
behaviours are available, while ethnic or religious correlates and information on motivations are missing (8). In some West African studies, feelings of guilt were frequent among women who resumed sexual intercourse earlier after childbirth than they had done previously, perhaps indicating a demand for more effective methods (4-5). Among the Yoruba in Nigeria, coitus interruptus played a significant role at a time when abstinence was gradually being replaced by modern contraception (9). In many other ‘natural fertility’ societies, women’s attitudes towards either traditional child-spacing or the use of modern birth-control methods remain unknown. This study, with original data collected in 1993, aimed at filling this gap in northern Burkina Faso.

A special sociocultural feature of this geographical area is the deepening influence of Islam on people’s life over the last decades (10), and the main underlying hypothesis of this study, therefore, was that Islamization was also having an impact on attitudes and practice relating to child-spacing.

**MATERIALS AND METHODS**

**Geographical and ethnographic background**

The study area, the Yagha, is located in the north-eastern corner of Burkina Faso and is culturally heterogeneous, with a population mainly composed of Fulani (Fulbe and Rimaibe, former Fulbe vassals) and a few thousand Gurmance. The Rimaibe, many of them of Gurmance origin, are now the most important single ethnic group, accounting perhaps for 40% of the population. Minorities include Mossi, Sonrhai, Hausa, and Bella.

Fulbe/Rimaibe and Gurmance differ on many determinants of social organization, including modes of production and religion. The Fulbe are traditionally pastoralists, with their life revolving around their herds. A strong behavioural code expressed in the concept of Pulaako (Fulani-ness), prescribes self-discipline and reservedness for both males and females (11), a feature which, among other things, strongly influences data-collection choices. In contrast, the Gurmance are traditionally agriculturalists, and of a typically-gerontocratic society in the sense of Meillassoux (12), with the elders and the patrilineal family traditionally exercising strong control over younger men’s marriage and women’s fertility and sexuality. The Rimaibe are agriculturalists as well, their ancestors having cultivated fields for Fulbe herders for several generations.

The Fulbe, Rimaibe, and assimilated minority groups speak Fulfulde, while in a few non-assimilated villages, Gurmance is spoken. The Fulbe and Rimaibe are Muslims, whereas the Gurmance are mostly adhering to their own traditional belief. The Yagha has undergone several waves of Islamic reform in recent decades, which led to the expansion of Islam to all but a few Gurmance villages, the spread of more radical brotherhoods, such as Hamallism since the 1950s and the Wahabiya since the 1970s, and a gradual deepening of beliefs and stricter adherence to Islamic principles among the majority Muslims. Imams and Marabus are now being consulted for all important life events, such as marriages, naming ceremonies and funerals, and act as arbiters of land, divorce, and inheritance disputes (10).

The Yagha has had very little intervention from development programmes. Enrollment in modern schools is very low, and the literacy rate is 5% in Burkina Faso. An unknown proportion of both boys and girls attend Koranic schools. Health services have remained weak, with only three health centres serving the entire area at the time of the survey, including the provision of a limited range of family-planning commodities. A mobile vaccination team regularly visits most villages and has started promoting the use of modern child-spacing methods during consultations.

**Data sources**

Data were collected by asking several open-ended and closed questions on child-spacing, postpartum sexual abstinence, amenorrhoea, and breast-feeding in a small-scale DHS type reproductive health sample survey. In addition, a series of in-depth key-informant interviews were conducted.

**The survey**

Ninety-four villages had been officially recognized in the Yagha at the time of the survey, but about half of these villages had not yet been enumerated. During previous surveys, community and religious leaders had shown great reluctance to allow villagers to participate. Despite these constraints, the United Nations Sahelian Office (UNSO), in an economic household survey the year before our reproductive health survey, had attempted to select a representative sample of men, by dividing the area into six socioeconomically, historically and geographically distinct zones, and, according largely to geographical criteria (e.g. distance to rivers or lakes), selecting three or four villages per zone (13). After several sensitization meetings with village elders, the number of sub-villages, their ethnic composition, and
relative size had been estimated, and approximately, 10 heads of household per village selected for the survey.

To overcome opposition by village leaders, we essentially used the same sampling frame, interviewing the wives of those heads of households interviewed by UNSO the previous year, and systematically adding younger women. As the men selected by UNSO had all been between 30 and 60 years old, most of their wives were expected to be at least 25 years old. Therefore, in each village, the wives of (two or three) heads of household married to at least one younger woman were added to the sample, and their wives were interviewed. The intended sample size was 350 women of reproductive age.

Five interviewers were recruited from among the few women in the wider region, who were literate in both French and one of the two main local languages: Fulfule and Gurmacema. They were taught the main topics of the survey, including child-spacing, abstinence, amenorrhoea, and breast-feeding, and were trained in interview techniques in a two-week course, and then conducted the survey under the supervision of an experienced field worker recruited from outside the study area. The Gurmacema-speaking interviewer was a nurse from the hospital in the regional capital in Dori. The questionnaire was pre-tested among 25 women in five ethnically-diverse villages.

Variables

Questions referred to demographic variables, such as age, ethnic affiliation, religion, and education; knowledge and ever-use of modern and traditional child-spacing methods; the women’s postpartum practices during the last five years preceding the survey, including breast-feeding, amenorrhoea, and durations of abstinence; and the place where the women had delivered their children. Additional questions on the current age of children and the number of menstruations between the end of amenorrhoea and the succeeding pregnancy served as consistency checks and to minimize recall errors.

The range of modern contraceptives available in the study area was known to be too limited to prompt respondents on all methods individually. Following introductory questions on whether they had ever considered the spacing or stopping the births of their children, and if so, if they had ever taken contraceptive action, the women were only prompted for their knowledge and ever-use of pill, condom, and traditional methods. A question referring to coitus interruptus had proved too sensitive in the pre-test and was removed from the questionnaire.

Attitudes towards abstinence, durations of amenorrhoea, and child-spacing methods were elicited by asking open-ended questions on reasons for stopping lactation, adhering to abstinence norms and using or not using modern and traditional contraception.

The interviews were held in the women’s huts and, depending on the interviewees’ responses to open-ended questions and consistency checks, took between two and three hours to complete. The entire survey took three months to complete.

Key-informant interviews

During the questionnaire pre-test survey, all women had been asked who in their village or area they thought would be best to provide further and in-depth information on attitudes, norms, and practices towards child-spacing in the study area. Key eligibility criteria, therefore, included in-depth knowledge of, and/or significant influence on, social norms regarding attitudes towards child-spacing and behaviours in the area. From the persons nominated, four rural birth attendants, three nurses of the health centres, and three male village leaders, including two Imams, were selected, in seven villages. Ten in-depth interviews were conducted by the author, either in French or with the assistance of one of the interviewers as translators. A semi-structured questionnaire was used, comprising questions regarding all the main topics included in the sample survey as well as questions on possible changes in postpartum behaviours over time and the reasons for such changes.

Data analysis

Closed questions were analyzed using EPI Info software. The responses were discussed with the interviewers, checked for consistency, and data entered on the day of the interview. Several women were revisited the following day, when responses appeared inconsistent or otherwise not plausible.

Knowledge of, attitudes towards, and ever-use of, child-spacing were analyzed by individual woman, while abstinence, breast-feeding, amenorrhoea, and durations of breast-feeding were analyzed by birth event. The proportions of women reporting knowledge and ever-use of child-spacing methods as well as median postpartum events were calculated and tabulated by ethnic affiliation, religion, and education.
Median durations of postpartum behaviours were determined for the full sample of birth events during the five years preceding the survey, by survival analysis as first described by Potter et al., with the relevant event of the occurrence of weaning, menses, or resumption of sexual relations as recalled by the respondents, and the dependent variable—the time from delivery to the occurrence (13).

Non-parametric \( \chi \)-equivalent tests, and where sample sizes were very small, Fisher's exact tests, were employed to demonstrate significant differences, with 0.05 as the critical level.

The interviewers' notes on open-ended questions and those on key-informant interviews were transcribed as fully as possible. The data were then analyzed with the assistance of a word processor by grouping responses to each question and inspecting them for common themes, separately by ethnic group, religion, and education. In some cases, responses to open-ended questions were converted into categorical data and entered into the EPI Info database. The four main reasons of weaning, for instance, were, thus, associated with median durations of breast-feeding, ethnic affiliation, and religion.

<table>
<thead>
<tr>
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<th>Total no.</th>
</tr>
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<td>Amulets</td>
</tr>
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<td></td>
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</tr>
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<td>0.08</td>
</tr>
<tr>
<td>Koranic Education</td>
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<td>0.07</td>
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<td>Total</td>
<td>0.36</td>
<td>0.32</td>
<td>0.25</td>
</tr>
</tbody>
</table>

*Include 10 Wahabiya women

RESULTS

The survey comprised a total of 350 women, 296 of reproductive age (15-49 years), who reported on 413 livebirth events during the five years preceding the survey. Sixty-two of the 296 women reported no livebirths, 87 women one, 113 two, 33 three, and one reported four livebirths during this period.

The response rate was high, varying between 340 and 347 women responding to the questions on knowledge of, attitudes towards, and ever-use of, child-spacing and its methods. Women who had not given birth during the preceding five years were retained for the analysis of attitudes, norms and ever-consideration of abstinence and use of contraception, and breast-feeding. Four hundred ten of the 413 birth-related sets of questions were responded to.

Thirty-seven percent of the sample women were Rimaibe, 27% Gurmance, and 23% Fulbe, and 13% belonged to minority groups (Table 1), involving a similar ethnic distribution of birth events. Thirteen percent of the sample women adhered to their traditional religion, while the other 87% were Muslims belonging to either ‘moderate’ or more radical (Hamallists or Wahabiya) brotherhoods. Only 4% of the women had modern primary education, while 25% had been to Koranic school. More than three-fourths of the deliveries over the last five years had taken place at home.

Attitudes towards child-spacing

Responses to open-ended questions revealed widespread hesitation regarding any type of child-spacing among the majority Muslim Fulbe and Rimaibe, while the Gurmance pointed to their tradition of abstaining from sexual relations during postpartum periods (see below). Many Muslim women reported that child-spacing or contraception was against the will of God, or they referred to opposition by their husbands, village elders, and religious leaders to any interference with their natural fertility.
Of the 340 women, only about one-third had ever considered spacing their childbirths. This included significantly more Gurmance women, followers of their traditional religion, and moderate Muslims, than ethnic groups other than Gurmance and Hamallist Muslims \((p<0.001)\) (Table 1).

The key-informant interviews confirmed the low acceptability of child-spacing among the majority Muslim population. The two Imams interviewed expressed their strong opposition to any kind of child-spacing, while the clinic nurses reported a high demand for children, and little success of, and strong resistance against, their efforts to promote child-spacing among their clients. The main themes emerging from the interviews with the birth attendants were their clients' belief that the spacing of births was against Islamic teaching and their reluctance to oppose their husbands' wishes in fertility-related matters.

**Knowledge of, attitudes towards, and ever-use of, oral contraceptives and condom**

When prompted about contraceptive pills, 48% of all women reported having heard about them. The majority of Fulfulde–speaking Fulbe (58%), Rimaibe (58%), and women of minority group (64%) had heard about other women using the pill, while most Gurmance women (84%) were completely unaware of this contraceptive method. Young women aged less than 40 years were better informed than older ones (Table 2). There also seemed to be a (statistically non-significant) tendency for moderate Muslims to be better informed than Hamallists (and the few Wahabiya). Only two younger women reported that they had ever-used modern hormonal contraceptives (Table 1).

Condom was much less known in the Yagha than hormonal contraceptives, with 19% of women (64 of 340) stating that they had heard of it. The age distribution was similar to that associated with knowledge of oral contraceptives, and the differences between the two main brands of Islam were highly significant as well. One-third of moderate Muslims and only 15% of Hamallist Muslims admitted knowing about condom being used in their villages \((p=0.001)\). None of the 340 women had ever-used condom with their husbands.

The qualitative data showed largely negative attitudes towards the use of modern contraceptives in the study area. Most women who knew about oral contraceptives, but had not used them, stated that they objected to their use because of their husbands’ will and/or for adherence to Islamic teaching. Common complaints among the few who had ever-used contraceptives were their difficulties in accessing the health centres for supplies and in concealing their use from their husbands.

The clinic nurses and birth attendants all interpreted that the lack of motivation among many of their clients to use oral contraceptives was fear and reluctance to oppose what they perceived to be strong social norms in the villages. Condom was described as being associated with extramarital sex and the prevention of sexually transmitted diseases rather than child-spacing. Both the Imams objected to the use of modern oral contraceptives as against the will of God, while not expressing any attitudes towards condom use.

**Attitudes towards, and use of, traditional child-spacing methods**

With 85 women (25%) stating to have ever-practised it for child-spacing, postpartum sexual abstinence was the most frequently-used traditional method in the Yagha. Ninety percent of women adhering to Gurmance traditional religion mentioned having abstained from sexual relations to avoid early pregnancies, while only 13% of Muslims did (Table 1).

All other Muslim women stated that they, too, had abstained from sexual relations during postpartum periods of varying durations, but for religious reasons and to “avoid the poisoning of the breastmilk” rather...
than for child-spacing purposes. Mostly for the Hammalists Rimaibe and assimilated groups, religion was the most frequent reason for abstaining, while by the less-strict Muslim Fulbe, multiple reasons, such as health of the infant and avoiding the poisoning of the milk were more often stated, in addition to religion.

The qualitative data resulting from open-ended questions and in-depth interviews of two Gurmance key informants did not confirm the intentional use of abstinence for child-spacing among the Gurmance. Their primary motivation to abstain seemed to be their tradition, not child-spacing per se, and the postpartum taboo described to serve multiple purposes, allowing mothers to continue breast-feeding until their children reach the age of weaning and to recover their own health and full strength before falling pregnant again. For none of the interviewees, did abstinence imply lower family-size preferences.

The only other traditional method reportedly practised in the Yagha was the use of amulets, talismans, and cords. Their existence was universally known, but only 28 women (8%), mainly Rimaibe and Fulbe, mentioned having ever-used them (Table 1). The qualitative data showed that these amulets, carried around the waist during intercourse, had usually been prescribed by Hammalist Marabuses, for instance in cases where women felt unprotected against an early pregnancy or guilty after having resumed sexual relations shortly after a preceding birth. Another current theme, for both those who had used amulets and cords and the large number of those who had never used them, was their perceived lack of effectiveness.

The key informants further described the social context in which these two traditional methods were used. One Rimaibe birth attendant stated:

“I abstained for several months after my last delivery, and when this was becoming difficult, because my husband no longer agreed to abstain, I went to see a Marabu who gave me an amulet. I know some other women who did the same. Others do nothing. I think the amulets do not really work well. I have heard that the pill works, but it is not really popular here. Many men are against it, and the Marabuses also object.”

The two Imams interviewed expressed different attitudes towards the promotion and use of cords and amulets. While the Hammalist Imam objected to the use of modern contraceptives only, the Wahabiya Imam explicitly stated his opposition also to the use of amulets and other traditional contraceptives.

**Durations of postpartum abstinence**

The median of 410 postpartum abstinence periods was 2.9 months, with about 90% of all resumptions of sexual relations either reportedly occurring during the first 4 or at 12, 24, or 36 months postpartum. Many Gurmance reported that they had adhered to a long taboo (with a median of 12.9 months and quartiles at around 6 and 24 months), whereas most Fulbe and the vast majority of Rimaibe had resumed sexual relations between 40 days and three months after the birth of their children ($p<0.0001$). Median postpartum abstinence differed even more significantly by religion ($p<0.000001$). Those adhering to the Gurmance traditional religion observed long taboos, while Islamized Gurmance women, married to Muslim husbands and/or living in majority Muslim sub-villages, reported intermediate durations of between three months and 12 months. The median duration of abstinence did not differ by education (Table 3).

For the Fulfulde-speaking Fulbe, Rimaibe and minority groups, there was a small but significant difference in the median duration of abstinence, depending on whether the children had been delivered at home (median duration of abstinence 5 months), or at the child’s maternal grandparents’ home or the health centre (3 months) ($p=0.04$).

In addition to reporting on actual postpartum abstinence practices, virtually all women responded to two open-ended questions referring to abstinence norms. Women adhering to Gurmance traditional religion reported either 24 or 36 months’ taboos, while Muslims reported much shorter norms. Most Hamallists (and the few Wahabiya) women reported a 40-day norm as prescribed in the Koran, while many ‘moderate’ Muslims reported intermediate norms of 2-5 months. Intermediate durations were associated with a composite belief that an additional period of abstinence was required to prevent the child from falling sick from vomiting and diarrhoea due to sperms circulating in the blood and poisoning the breastmilk.

Key-informant interviews confirmed the increasing influence of Islam and provided an explanation for the association between delivery site and duration of postpartum abstinence.

A Fulbe birth attendant reported:

“In former times, couples waited for one to two year(s) before resuming sexual contacts. Now the usual waiting period is two months or even only 40 days. The women
do not wait any more after childbirth, and men prefer to have more children. Before, the women used to return to their mothers’ homes for delivery and stayed there for longer periods thereafter. These changes have all occurred because of the increasing influence of religion. Many people listen to the Marabu now and attend Koranic schools.”

A 50-year-old Gurmance birth attendant of an ethnically mixed, originally Gurmance, village stated:

“Many changes have occurred in local customs. Today, the women do not abstain for as long as we used to do, and when a woman gives birth, it is the Muslims that now gather and choose the name. There are no sacrifices (Gurmance rituals) any more in the villages.”

Male Fulbe and Rimaibe key informants, including a village elder, a nurse, and the two Imams, all attributed the abandonment of long postpartum abstinence more to economic and social factors than to religion:

“The separation period used to be one year or even longer. While a woman was at her parents’ place during the postpartum period, the husband was supposed to bring her milk and millet to feed her. But the maintenance of the nursing woman became a cause of conflict between her husband and her own family, and she ended up not feeling well looked-after and properly fed at her parents’ home. She, therefore, started joining her husband earlier than anticipated.”

**Amenorrhoea**

The median duration of amenorrhoea across all birth events was 11.0 months. At 9.2 months, the median duration of amenorrhoea among the Gurmance was two months shorter than amenorrhoea among the Rimaibe and Fulbe, for whom a median duration of 11.1 and 11.2

**Table 3.** Median durations of postpartum abstinence by women’s education and religion, and site of preceding birth (months)

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<thead>
<tr>
<th>Characteristics</th>
<th>Gurmance Median no.</th>
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<th>Rimaibe Median no.</th>
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<td>-</td>
<td>-</td>
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<td>4.0 37</td>
<td>3.2 44</td>
<td>2.8 28</td>
<td>3.5 123</td>
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<tr>
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<td>3.0 57</td>
<td>2.6 133</td>
<td>(3.0) 18</td>
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<tr>
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<td>3.6 47</td>
<td>2.8 111</td>
<td>2.8 32</td>
<td>3.0 273</td>
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<td>(2.8) 7</td>
<td>(2.8) 7</td>
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<tr>
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<td>2.8 59</td>
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<td>3.0 46</td>
<td>2.4 130</td>
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<tr>
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<td>(3.0) 9</td>
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<td>2.8 46</td>
<td>2.9 410</td>
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<td>12.8 93</td>
<td>3.4 94</td>
<td>2.8 177</td>
<td>2.8 46</td>
<td>2.9 410</td>
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</table>

* Include 14 postpartum periods of Wahabiya women

Responding to an open-ended question, many women expressed concern about short amenorrhoea periods and about criticism by other women when menses had returned early. None of the women gave any explanations for variations in duration of amenorrhoea.

One of the Fulbe birth attendants stated:

“Everyone in the compound notices when a woman has her menstruation, because, for her (Muslim) religious beliefs, she is not supposed to wash herself when she is bleeding, and she does not attend prayers. If the menses return too early, she usually goes and consults a Marabu who may give her an amulet.”

Another Rimaibe reported:

“My neighbour, who is married to a Gurmance, resumed her menses after six months. Other women told her that this was not normal, and that the bleeding should only return after one or two year(s). She, therefore, went to consult a traditional healer (Marabu). If a woman sees that her menses return before one year after a delivery,
the other women will criticise her by saying she is running the risk of falling pregnant; for if a woman’s menses return fast, she will also fall pregnant fast.”

At 20 months, the median duration was shorter, when weaning had occurred for a new pregnancy rather than because the weaning age had been reached.

Amenorrhoea determined the length of non-susceptible periods in 88% of intervals. Only in 43 postpartum periods reported by Gurmance and nine intervals reported by Fulbe and Rimaibe women, was abstinence longer than amenorrhoea.

Breast-feeding

The median duration of breast-feeding was 23.0 months. When calculated separately for the three main ethnic groups, only small differences emerged, with median durations varying between 23.5 months among the Gurmance and 23.1 and 22.5 months among the Rimaibe and Fulbe respectively (Fig.). The median durations and probability curves were also similar for different religions and educational levels.

The durations of breast-feeding significantly differed by reason of weaning. For each child born during the last five years, women had been asked for the reason why they had weaned. In 34% of all weaning events, mothers had discontinued breast-feeding because their child had reached the ‘normal’ age of weaning (e.g. 24 months, see below), at which children in the Yagha are expected to have started walking. In an equal proportion (34%), breast-feeding had been stopped because the mother had fallen pregnant again. Other reasons were associated with poor health or fatigue of mother (24%), or poor quality of milk (3%)—usually assumed when sexual intercourse had been resumed before the customary abstinence period had expired—or bad health or there were reasons relating to maternal health (p=0.017).

Key informants revealed that it was customary among the Fulbe and Rimaibe to stop lactation of boys at 23 months and of girls at 24 months. There was a belief that if one did not do so, the child would turn out to lack intelligence. Among the Gurmance, no such belief seemed to exist.

DISCUSSION

Lesthaeghe has suggested that long periods of postpartum abstinence, of one year or longer, must have existed almost everywhere in Africa in the past (15). The present differences would be the result of a combination of initial cultural differences in the duration of the taboo (beyond that one-year minimum) and variations in the pace of its erosion. Our findings from a culturally-heterogeneous area in the North of Burkina Faso are consistent with this suggestion. The adherence to either customary postpartum spousal separation or a taboo on postpartum sexual relations is an integral part of both Yagha Fulbe/Rimaibe and Gurmance reproductive regimes.

From national-level surveys there is little evidence of an attenuation in the length of abstinence in West African countries over the last 15 or 20 years (7), and from our single-round cross-sectional survey in the Yagha, we cannot conclusively prove a shortening either. However, heterogeneity within individual ethnic groups,
differences between norms and practices, reports from older women and key informants, and comparisons with the ethnographic literature all strongly suggest a significant erosion of abstinence durations over recent decades.

Most impressive was the variation among Gurmance women. While several Gurmance women still reported three-year norms and practices, younger Islamized Gurmance and those living in Rimaibe villages had drastically reduced durations of abstinence to a few months. Among the Fulbe, periods of abstinence also seemed to have shortened during the recent past, while among the Rimaibe, both abstinence norms and practices seemed relatively more homogeneous. However, a significant number adhered to a three-month, not an Islamic 40-day taboo, and had varying and sometimes composite reasons for doing so.

A major influence in the erosion of the taboo among all ethnic groups has almost certainly been Islamic teaching. This was obvious from the difference in the durations of abstinence between Muslim women and women of traditional religion Gurmance, and those between the stricter Hamallists (and Wahabiya) and ‘moderate’ Fulbe and Rimaibe respectively. The Hamalist women also more frequently stated religious reasons for adhering to the taboo. By contrast, fears common in sub-Saharan Africa that sexual intercourse during lactation might contaminate the milk and lead to the breastfed child suffering from gastroenteritis are not related to any particular religion (3-4,16).

However, Islamization may ultimately not be the only reason for erosion of the taboo in the Yagha. Individual households of any ethnic group and religion in the area have been under an increasing economic pressure to diversify production patterns and to minimize risks by practising agro-pastoralism, a combination of herding cattle, sheep and goats, with work in the fields (17). For many Fulbe women, this has meant being newly-recruited into the workforce, and for long periods of convalescence at their parental homestead to become less desirable. Demands by Islamic clerics for closer conjugal ties, continuous cohabitation, and shorter separation periods (10) have coincided with this development. Similarly, among the Gurmance, changes associated with the gradual abandoning of collective farming patterns (18) and, resulting from it, a nuclearization of families might have contributed to the erosion of the taboo.

In contrast to postpartum abstinence, there was little direct evidence from the survey to suggest significant erosions of breast-feeding durations. Among the Fulfulde-speaking groups, norms were stated as being

![Fig. Probability of continuing breast-feeding by month and ethnic group](image-url)
around 23 or 24 months or until the child walks. This closely corresponded to the actually-measured median duration of breast-feeding and with survey findings among other Fulbe populations in Mali and Senegal (19-20). There was no association of the durations of breast-feeding with maternal age or education, which might have been interpreted as a modernization effect.

However, 34% of women, a relatively large proportion, weaned their children because of a new pregnancy, and both this statistical finding and women’s own perceptions seemed to indicate that current breast-feeding durations were indeed shorter than they might have been in the past. In an earlier study in a neighbouring province, only 19% of children were weaned because mothers were pregnant again (21). In Mali, 12% of the Fulbe and Rimaibe women admitted that they had weaned their children because they were pregnant, although it was believed that pregnancy was in reality the most common reason for stopping breast-feeding (22). Unlike in Guinea Bissau, where many women stopped breast-feeding early because their children were suffering from diarrhoea and vomiting (23), pregnancy was by far the most important reason for earlier-than-planned weaning in the Yagha.

As postpartum abstinence hardly exceeded a few months in non-Gurmance women, amenorrhoea largely determined the length of non-susceptibility periods. At between 10 and 12 months, the median durations of amenorrhoea were relatively short compared to those found among similar Fulbe and Rimaibe populations elsewhere (19-20). The durations among the Yagha Gurmance were also low compared to most West African data (8,24). It cannot be excluded that these (relatively small) differences may have been due to the methodology used, e.g. because of recall errors which do not occur when women are asked for their current status rather than past experiences, or due to the fact that because of the relative inexperience of the interviewers, only the simplest of the definitions, the return of menses as perceived by the women themselves, was applied in the Yagha. The WHO definition (6), which specifies the return of menstruation as two consecutive days of vaginal bleeding with at least one day requiring sanitary protection, had been thought to be too complicated.

Whatever the accuracy of amenorrhoea estimates in this small sample, the durations of amenorrhoea were also short compared to the expectations of the interviewed women themselves. Many women interviewed in-depth expressed their concerns about the resulting risk of early pregnancies and short birth intervals.

The length of amenorrhoea tends to be associated with the duration of individual feeds, their frequency, and the introduction of food other than breastmilk, rather than with the length of breast-feeding status per se (25-26). Other variables that influence amenorrhoea include the place of delivery and educational levels of mothers (26). In this study, no association of duration of amenorrhoea with delivery site or education or religion of mothers was found. Modifications in breast-feeding practices relating to wider dietary and socioeconomic changes in the area over time may well have played a role in determining the durations of amenorrhoea. Several Gurmane women who were breast-feeding at the time of the survey reported supplementing breastfeeds with cow-milk, a practice that would have been unlikely two decades before the survey. Only after the great drought of the 1970s, the Yagha Gurmane started to buy cattle from the Fulbe herders and to gain regular access to milk-products through their own cattle-herding (17). Among the Fulbe, an opposite trend, away from an exclusively pastoralist pattern of subsistence towards an increasingly-mixed, agro-pastoralist economy, with the increased availability of millet and sorghum, may have contributed to the erosion of traditional breast-feeding patterns. Among the Fulbe groups in Mali, the introduction of supplementary feeds was also thought to have been due to the improved availability of weaning foods—rice and fish in these cases (20).

Despite the erosion of natural fertility restraints and the resulting shorter non-susceptibility periods, the demand for, and use of, modern contraceptives were very low. The findings of the most recent Burkina Faso Demographic and Health Survey would seem to indicate that this is not likely to have changed since our survey was conducted (27).

Knowledge of effective modern contraceptive methods, such as oral contraceptives, was fair, with almost half of all women interviewed, and almost two-thirds of those living in the non-Gurmance-speaking part in the central Yagha, being aware of them. However, hardly any women admitted ever using modern methods. Furthermore, most non-Islamized Gurmane women, who spaced their children by adhering to a long postpartum taboo, were likely to have done so to fulfil the requirements of their traditions rather than to deliberately
limit family size, as the meaning of postpartum abstinence in such settings tends to be ambiguous (3,28).

The consultations of Marabus and the use of cords and amulets prescribed by them seem similarly ambiguous, as they may be interpreted either as intentions to control births or as attempts to legitimize short birth intervals in a community in which one would otherwise be blamed by older women for the poisoning of one’s milk and for the violation of local customs.

The low knowledge of, and demand for, modern contraceptives seemed, to a large extent, to be determined by the opposition of religious and community leaders to their use. The proportion of women that admitted knowing about contraceptives markedly differed not only between Muslims and non-Muslims, but also between Hamallist and moderate Muslims. In most villages, women of different religious affiliations lived closely together. Some Hamallist women may, therefore, have denied knowing about the pill and condom when interviewed. In some instances, the (Hamallist) Marabuses and Imams had apparently objected to the use of oral contraceptives and prescribed amulets instead. By contrast, the Wahabia Imam interviewed not only shared the Hamallists’ opposition against the use of any modern contraceptives, but also objected to the use of charms and amulets as well. The few Wahabia women interviewed lived secluded in their compounds and may have had less access to information than had other groups.

Low demand for contraceptives was compounded by poor access to contraceptive supplies. Only three health centres were serving a population of roughly 100,000 at the time of the study, and clinic-based family-planning education and contraceptive distribution could, therefore, reach only a small fraction. The promotion of modern child-spacing methods at vaccination outreach points had just started and had not yet been successful. Some Gurmance women living in remote villages entirely lacked access to family planning-related information and contraceptive supplies. No functional village health worker system existed, and there was no tradition of specialized village birth attendants among at least two of the three ethnic groups (29).

The creation of new family-planning norms and motivations is likely to be successful in areas like the Yagha only if views of the male community leaders are also given due attention. Except for a few key informants, men were not directly included in this survey; many women referred to their husbands and village elders with regard to child-spacing norms and decisions. Family-planning messages should perhaps initially target the most ‘modern’ segments of the population, including the few women and men who are literate, the few who have already experimented with child-spacing, and, among the Muslims, those who are the least strict. At the same time, Imams, Marabuses, and other community leaders will need to be sensitized to the idea that Islam does not necessarily discourage contraception.

REFERENCES


