AN ANNOTATED BIBLIOGRAPHY OF POSTPARTUM FAMILY PLANNING LITERATURE

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April 2008
Introduction

ACCESS-FP, in an effort to promote documented best practices, has supported the development of this annotated bibliography of postpartum family planning literature to serve as reference for both researchers and program managers.

Updated from an earlier 2006 version, the bibliography primarily focuses on published literature, but includes some key gray literature as well (gray literature entries include a URL). The literature has been reorganized for this edition, and over fifty new entries have been incorporated. Separate categories for LAM and birth spacing have been allotted and expanded, and facility- and community-based literature was combined because this distinction was not always made in the literature. Also, the postpartum IUD category is new to this edition.

Categories include, in this order:
1) descriptive studies,
2) community- and facility-inclusive intervention studies,
3) selected literature related to LAM and breastfeeding for contraception,
4) HIV and family planning, and prevention of mother-to-child transmission related to postpartum contraception (PMTCT),
5) birth spacing,
6) postpartum intrauterine devices (IUDs) and long-lasting and permanent contraception, and
7) program approach (including male involvement with postpartum contraception) and other relevant studies in postpartum contraception.

An index is included, beginning on page 66.

Methodology

Initially the review focused primarily on journal articles published in 1996 or later with an emphasis on studies that were undertaken in developing countries. This edition updated the list with similar studies, and expanded the initial list with historically important literature that continues to inform the post-partum contraception discussion today. The literature review was begun with a search on Medline (1996–current update) using the following keywords: family planning services, family planning policy, contraception, birth intervals, prenatal care, postnatal care, postpartum period, maternal-child health, immunizations, and breastfeeding. This search was then repeated on CINAHL (a database for nursing and allied health) and EMBASE (a database of biomedical and pharmacological literature). Next, the reference lists of the selected articles were examined for appropriate articles that had not been captured with previous searches. Finally, the search method used by the Cochrane Collaboration for the review Education for contraceptive use by women after childbirth was used on Medline (1996–current update), CINAHL and EMBASE.

In an effort to be more inclusive of programmatic gray literature, searches were also conducted in USAID’s Development Experience Clearinghouse, the British DFID publications database, AUSAID, JICA, and Popline. The timeframe was extended to include 1993 to the present.
1. DESCRIPTIVE STUDIES


“Objective: To determine the level of Unmet need for Contraception among women in the first year post-delivery in Ile-Ife, Nigeria.

Methods: A prospective study of 256 women attending antenatal clinic of the OAUTHC, Ile-Ife, Nigeria was carried out 9–10 months post-delivery. Using a semi-structured questionnaire, the respondents were interviewed for socio-demographic characteristics; obstetric, sexual, and contraception history were also taken. The data were analyzed using descriptive and inferential statistical methods.

Results: There was a high level of unmet need (59.4%) in the sample of Nigerian women despite a high level of awareness of common methods of contraception. Education and parity had no significant effect on usage of contraception (p > 0.05). No reason was given for non-usage in the largest proportion (30.3%) of the non-users. Only one-third of the respondents could correctly report the ‘at-risk’ period for getting pregnant in the post-partum period.

Conclusion: There is a need to study in more detail the social and cultural factors that determine contraceptive utilization before success can be achieved in closing the gap of unmet need, as it has become evident that increasing the awareness and knowledge of contraception is not enough to achieve the objectives of family-planning programs” (Adeyemi et al., 2005, abstract).


“The factors determining the choice of contraception were studied among 230 pregnant women attending the antenatal clinic at Nnewi, Nigeria. There were 174 (52.1%) choices for the natural methods of contraception, 86 (25.7%) for the traditional methods, and 74 (22.2%) for the artificial methods. The most commonly chosen contraceptive methods were rhythm, 95 (28.4%) and Billings, 79 (23.5%), while the least was surgical contraception, 4 (1.2%). The barrier method was not chosen at all. The most common reason given for choice of contraception was safety, 28.7%, followed by dislike of artificial methods, 25.2%; the no-response rate was 29.1%. Other reasons given were ease of use, 10%; husband’s decision, 1.3%; fear of the complications of the artificial methods, 13%; dislike of foreign body, 2.6%; the method most understood, 24.8%; need for further counseling, 7%; and long-lasting, 2.6%. The most common reason given against the use of the artificial methods of contraception was fear of its complications, 31.9%, followed by preference for the natural methods, 22.3%. Condom use decreased with increasing age, being highest at 16–20 years, 37.5%, and lowest at 31–35 years, 5.9%. When compared with other parity groups, the grandmultipara group (> or = 5) used the IUD, 14.3%; injectable contraception, 4.8%; and other traditional methods (breastfeeding and abstinence), 28.5%, and did not use the rhythm method. Women of the lowest social class most commonly chose other traditional methods, 57.1%, and never chose the Billings method. Women who desired 1 to 3
children most commonly chose the pill, 23.5%, or withdrawal method, 23.5%, while women who desired 4 to 10 children most commonly chose the rhythm and Billings methods. There was no difference in choice of method of contraception for the various religious denominations, although the artificial methods were less commonly chosen by Catholics, 14.1%, compared with Anglicans, 33%, and other Christian denominations, 33.3%. The physician was the most common source of information for the choosers of the condom, 18.9%; surgical contraception, 2.7%; and the pill, 8.1%; the nurse for injectable contraception, 4.9%, while the commonest source of information among choosers of the rhythm method was the electronic media, 40.5%; print media, 34.9%; and peer group, 34.4%. Lecture/sex instruction was the commonest source of information among choosers of the Billings, 35.5%, and withdrawal, 22.6%, methods, while the no-response rate on source of information on contraception was highest among choosers of the Billings method. There is a need to bridge the gap in contraceptive information by redirecting counseling strategies and restructuring family planning programs to dispel negative perceptions and encourage informed choice of effective family planning methods” (Adinma, Agbai & Nwosu, 1998, abstract).


“Sub-Saharan Africa has one of the highest fertility rates in the world, which is further promoted by the low utilisation of modern contraceptive methods. Yet, many communities claim to have traditional methods of family planning that pre-date the introduction of modern contraceptives, implying that contraception is a culturally acceptable norm. It was therefore postulated that the study population would have a high level of awareness and practice of natural methods of family planning. We aimed to obtain an insight into the extent and correctness of knowledge about natural family planning methods, and its practice as a guide to the general acceptance of contraception as a concept. Pre-tested structured questionnaires were administered to women of childbearing age in households properly numbered for primary healthcare activities. The level of awareness of natural family planning methods was significantly less than awareness for modern methods of contraception. The awareness rate for rhythm method, lactational amenorrhoea method and coitus interruptus was 50.7%, 42.1% and 36.1%, respectively. For all three national family planning methods, there is a steady decline between awareness, correct description of method and utilisation, a difference that was statistically significant in all cases. The sociodemographic factors of the responders had varying influence on utilisation of all three natural family planning methods studied. Rural dwellers practised the lactational amenorrhoea method significantly more often than urban dwellers. Significantly more Muslims than Christians with four children or more practised coitus interruptus or the rhythm method, while the use of lactational amenorrhoea method was significantly increased with the number of living children in both religious groups. There is a relatively low level of awareness of natural family planning methods in the study population, poor utilisation and wrong use of methods. Therefore, improving the correct level of information on natural family planning methods is likely to improve the use of both natural family planning and modern contraceptive methods” (Audu, Yahya & Bassi, 2006, abstract).

“A total of 400 antenatal, 200 postpartum, 400 child welfare clinic attenders and 69 staff were interviewed in two hospitals by trained medical students. This study demonstrated a huge unmet need and demand for family planning information and services at all stages of pregnancy, delivery and in the postpartum period. Women reported that they would be receptive to family planning services during antenatal and child welfare visits when they are in the hospital or after delivery” (Bradley et al., 1995, abstract).


“Extended durations of postpartum non-susceptibility (PPNS) comprising lactational amenorrhoea and associated taboos on sex have been a central component of traditional reproductive regimes in sub-Saharan Africa. In situations of rising contraceptive prevalence this paper draws on data from the Demographic Health Surveys to consider the neglected interface between ancient and modern methods of regulation. The analysis reports striking contrasts between countries. At one extreme a woman’s natural susceptibility status appears to have little bearing on the decision to use contraception in Zimbabwe, with widespread ‘double-protection.’ By contrast, contraceptive use in Kenya and Ghana builds directly onto underlying patterns of PPNS. Possible explanations for the differences and the implications for theory and policy are discussed” (Brown, 2007, abstract).


“This study was designed to learn what types of postpartum health and family planning services are most appropriate for couples with low incomes living in Istanbul, Turkey. The methods used included focus groups, site visits, questionnaires for postpartum women, and a self-administered questionnaire for health-care providers. By five months postpartum, 86 percent of the women surveyed were using some method of family planning. Many couples used withdrawal, starting immediately upon resumption of intercourse after childbirth, intending to use a medical method after menses resumed. However, only 34 percent of users had begun to use a medical method by five months after childbirth. The health facilities visited provide little information and counseling about the postpartum period. Women said that they wanted information on infant care, breast-feeding, and family planning, either before becoming pregnant or while they are pregnant. Most women prefer that postpartum services address the needs of the whole family, not only those of the baby or the mother. Recommendations for the timing, mode, and content of postpartum health and family planning services are made based on the study's findings” (Bulut & Turan, 1995, abstract).


“Promotion of family planning in countries with high birth rates has the potential to reduce poverty and hunger and avert 32% of all maternal deaths and nearly 10% of childhood deaths. It would also contribute substantially to women's empowerment, achievement of universal primary schooling, and long-term
environmental sustainability. In the past 40 years, family-planning programmes have played a major part in raising the prevalence of contraceptive practice from less than 10% to 60% and reducing fertility in developing countries from six to about three births per woman. However, in half the 75 larger low-income and lower-middle income countries (mainly in Africa), contraceptive practice remains low and fertility, population growth, and unmet need for family planning are high. The cross-cutting contribution to the achievement of the Millennium Development Goals makes greater investment in family planning in these countries compelling. Despite the size of this unfinished agenda, international funding and promotion of family planning has waned in the past decade. A revitalisation of the agenda is urgently needed. Historically, the USA has taken the lead but other governments or agencies are now needed as champions. Based on the sizeable experience of past decades, the key features of effective programmes are clearly established. Most governments of poor countries already have appropriate population and family-planning policies but are receiving too little international encouragement and funding to implement them with vigour. What is currently missing is political willingness to incorporate family planning into the development arena” (Cleland et al., 2006, 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 abstinence, 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 labor intensive, agro-pastoral subsistence economy. Although durations of amenorrhea 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 amenorrhea. Both demand for modem 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” (Dehne, 2003, abstract).


“Objectives: This longitudinal study documents contraception practice and factors influencing contraception decision within the first six months postpartum, amongst women residing in the rural Northern Central region of Vietnam. 
Methods: A sample of 463 rural women who gave birth during August–October 2002 were recruited and interviewed at one, 16 and 24 weeks postpartum. 
Results: The proportion of contraceptive users at weeks 16 and 24 were 17% and 43% respectively. At week
24, of contraceptive users, 57% used IUD, 25% used condom, and 14% used traditional methods. Logistic regression analysis found age, sufficient knowledge on contraceptives and husband/partner opinion can significantly affect the contraception decision.

**Conclusions:** In order to improve the situation, health authorities should be encouraged to provide counseling on postpartum contraceptive methods during ante- and postnatal care visits. Health education on family planning and breastfeeding should also involve the husband/partner group taking into account local socio-cultural features” (Duong, Lee & Binns, 2005, abstract).


“**Objectives:** To describe patterns and changes in contraceptive use among pregnant adolescents in early and later postpartum compared with nonpregnant adolescents.

**Methods:** One-hundred-seventy-six pregnant and 187 nonpregnant adolescents, recruited through community clinics, were interviewed three times (baseline, 6-month follow-up, 12-month follow-up) about their condom and hormonal contraceptive practices. Changes in contraception use and patterns of consistent hormonal and/or condom use were examined. Statistical analyses included General Estimating Equations (GEE) and multinomial regression.

**Results:** Pregnant adolescents increased hormonal contraceptive use from baseline to early postpartum, but decreased use from early postpartum to late postpartum. Nonpregnant adolescents did not change their hormonal contraceptive use over time. Pregnant adolescents were more likely to be consistent dual users and hormonal-only users during the 6-month follow-up compared with non-pregnant adolescents. These findings persisted at the 12-month follow-up, although there was a decline in hormonal contraception use.

**Conclusions:** Adolescents change their contraceptive use during the postpartum period. Given the slight decline in contraceptive use in late postpartum in this sample, more work is necessary to maintain motivation to continue these positive postpartum trends” (Kershaw, 2003, abstract).


“**Objective:** To determine the breast-feeding practices and duration of lactational amenorrhoea among women within the first year of delivery in a Nigerian population.

**Method:** Cross-sectional study carried out between January 2005 and April 2006, among mothers within one year of delivery, who were attending the Infant Welfare Clinic at Wesley Guild Hospital, Ilesa, Nigeria. Using a semi-structured questionnaire, mothers were interviewed to obtain information regarding their socio-demographic characteristics, parity, breast-feeding habits, use of contraception and onset of menstruation after delivery. Information obtained was analysed using the Statistical Package for Social Sciences (SPSS) software version 11.

**Results:** All 268 (100%) mothers interviewed breast-fed their babies, 261 (97.4%) of which for at least 6 months. Most (71.6%) suckled exclusively for 6 months and more; only 10 (3.7%) never carried out exclusive breast-feeding. Age, parity and educational level did not affect the duration of exclusive breast-feeding. Lactational amenorrhoea lasted 3 months or more in 229 (85.5%) of the mothers. Of the 174 who exclusively breast-fed for 6 months, 109 (62.6%) remained amenorrhoeic during that time and, hence, met the criteria for
use of LAM contraception.

**Conclusion:** Exclusive breast-feeding among nursing mothers is highly prevalent among Yoruba mothers of South-west Nigeria. Since lactational amenorrhoea lasts 6 months in about two-thirds of the women nursing for that period of time, there is a great potential for the application of LAM for contraception” (Kuti, Adeyemi & Owolabi, 2007, abstract).


“**Objective:** To determine the causes of non use of contraceptive during immediate postpartum period. **Methodology:** Cross-section observational descriptive study. We include women that went for attention of obstetric event, we identified those were in immediate postpartum period, and we selected the women which not started contraceptive use. Data were collected directly with an interview; the causes of not use of contraceptive were classified in three groups. Group I: causes be derived by patient: personal, religious, moral, families, culture, etc. reasons, when they received information, and advice or when they did not attend to educational actions. Group II: causes be derived by the hospital: technique administrative factors, insufficient educational communication activities by service provider. Group III: Medic Indication: presence of risk factors for health women. We found 2,593 women, we identified 1,493 (57.5%) in immediate postpartum period, 478 (32%) not started contraceptive use. In 349 (73%) women the causes were group I, in 91 (19%) group II, and 38 (8%) group III. **Conclusion:** Is necessary more research to know users concerns, ideas and perspectives in relation with methods of contraception, contraceptive counseling, informants, advisers, and with health service institution, to improve educational communication strategies; and to unify medical criterions for not use contraceptive during immediate postpartum period” (Navarro Nunez et al., 2002, abstract).


“**Objective:** This study was undertaken to describe demographics and contraceptive familiarity and use among postpartum adolescents in El Salvador. **Study design:** Questionnaire-guided interviews were conducted in Spanish with 50 postpartum adolescents at an urban, public hospital in El Salvador. Open-ended questions included assessments of education, partnership status, and contraceptive knowledge and use patterns. **Results:** The median age of subjects was 17 years, 84% were nulliparous, 80% had partners, and 6% were married. Eighty-four percent of the women reported contraception knowledge and 18% reported contraception use. Educational experience and literacy predicted contraceptive knowledge (P = .008 and .001, respectively), but not use. After delivery and postpartum contraception education, 58% of the subjects stated intention to use contraception. Having a partner and living with him were predictors of intent to use contraception (P = .001 and .002, respectively). Being single negatively predicted intention to use contraception (P = .001). **Conclusion:** Education and literacy predicted contraceptive knowledge; however, contraceptive knowledge did not predict contraceptive use. Adolescent contraception use depends on more than just contraceptive knowledge” (Newmann et al., 2005, abstract).
Throughout a cross-section observational descriptive study, 1,010 postpartum patients were included. Data were collected directly with a survey, and women were divided into two groups: 507 (50.20%) women who accept postpartum contraceptive use and 503 (49.80%) women, which did not accept postpartum contraceptive use. Variables with statistical significance related with postpartum contraceptive acceptance or refusal were: patient age (P < 0.05), marital status (P < 0.001), pregnancies number (P < 0.001), parity (P < 0.01), cesarean section number (P < 0.001) and previous contraceptive use (P < 0.001). Postpartum contraceptives more accepted were: intrauterine device (67.85%), and tubal section (28.20%). Main reasons for postpartum contraceptive acceptance were: desire of no more children (27.02%), satisfaction with previous contraceptive methods (21.4%) and gynecologist counseling during prenatal care and delivery room (18.55%). Main reasons for postpartum contraceptive refusals were: husband's rejection of postpartum contraceptive use (33.6%), and delaying contraceptive use until after finishing postpartum (31.8%). It was concluded that according to presence of significant differences between both groups in some variables, these variables should be kept in mind by physicians in promoting contraceptive methods in a personalized manner during prenatal care. Likewise, owing to husband's rejection of postpartum contraceptive use is needed to incorporate the husbands systematically to the prenatal care and to try convincing them of accepting postpartum contraceptive use” (Romero-Gutierrez et al., 2001, abstract).

Objectives: The aim of the present study was to identify the reasons for the acceptance or rejection of contraceptive methods among postpartum women at the Hospital of Obstetrics and Gynecology in Leon, Mexico.

Methods: A prospective cross-sectional study of 1025 postpartum women was undertaken. Reasons for acceptance or refusal of contraceptives were registered in a written survey. Twelve sociodemographic variables were included as predictors in a logistic regression analysis; the acceptance or refusal was the dependent variable, and statistical significance was set at 0.05.

Results: There were 513 patients who accepted contraceptives (50.0%) and 512 (50.0%) who refused them. The main reasons for accepting contraceptives were definitive desire for no more children (17.0%) and satisfaction with previous contraceptive methods (21.5%). The main contraceptive methods chosen were intrauterine device (67.7%) and tubal sterilization (28.5%). Reasons for contraceptive refusal were husband's rejection (33.6%) and delaying contraceptive use until after finishing the postpartum period (31.8%). In the logistic regression model, the variables previous deliveries (p < 0.001), number of Cesarean sections (p < 0.001) and women's level of education (p < 0.02) were included as predictors of acceptance.

Conclusions: Previous deliveries, previous Cesarean sections and women's level of education were significant in contraception acceptance. The rejection of contraceptives was mainly attributed to husbands” (Romero-Gutierrez et al., 2003, abstract).

“Context: The year after a woman gives birth presents a rising risk of an unwanted conception and an often frustrated desire for contraceptive protection. At present, contraceptive use levels during this period fall short, resulting in unplanned pregnancies and unwanted childbearing.

Methods: Data from 27 surveys conducted as part of the Demographic and Health Surveys series between 1993 and 1996 are analyzed to assess intentions to practice contraception and unmet need for it, both in the first year after birth. Unmet need is partly redefined here to focus on future wishes rather than on past pregnancies and births.

Results: Across the 27 countries, there is much unsatisfied interest in, and unmet need for, contraception. Unweighted country averages indicate that two-thirds of women who are within one year of their last birth have an unmet need for contraception, and nearly 40% say they plan to use a method in the next 12 months but are not currently doing so. Moreover, of all unmet need, on average nearly two-fifths falls among women who have given birth within the past year. Similarly, nearly two in five women intending to use a method are within a year of their last birth. The two groups—those with an unmet need and those intending to use a method—overlap; their common members include nearly all of those intending to use a method and about two-thirds of those with an unmet need (which is the larger group of the two). Only trivial proportions of both of these groups want another birth within two years. Between 50% and 60% of pregnant women make prenatal visits or have contact with health care providers at or soon after delivery, and additional contacts occur for infant care and other health services.

Conclusions: Women who have recently given birth need augmented attention from family planning and reproductive health programs if they are to reduce their numbers of unwanted births and abortions and to lengthen subsequent birth intervals. Prenatal visits, delivery services and subsequent health system contacts are promising avenues for reaching postpartum women with an unmet need for and a desire to use family planning services” (Ross & Winfrey, 2001, abstract).


“Qualitative and quantitative data are used to explore postpartum contraceptive use in two populations in Bangladesh. Findings from in-depth interviews with contraceptive users illustrate that women are primarily concerned with their own and their newborn child's health and well-being in the period following childbirth. In addition, women are aware of a diminished risk of pregnancy during the period of postpartum amenorrhea. These perceptions, plus a belief that modern methods of contraception are ‘strong’ and potentially damaging to health, mean that the majority of women are reluctant to adopt family planning methods soon after birth, despite a desire to avoid closely spaced pregnancies. Supplementation of the child's diet is also shown to be an important factor determining the timing of postpartum contraceptive initiation. The findings suggest that current policies promoting contraception to women in the immediate postpartum period are inappropriate for many Bangladeshi women (Salway & Nurani, 1998, abstract).

“In urban Bangladesh, as in many other settings, an immediate postpartum family planning strategy prevails, where providers seek to promote and provide contraception at 40–45 days following birth to women regardless of their breastfeeding or menstrual status. Despite such practices, the majority of women choose to delay the initiation of contraception until menses resumes, often several months after birth. The present paper seeks to explain this discrepancy by describing poor, urban women's understandings regarding the chances of conception and the risks associated with contraceptive use in the postpartum period. Findings from in-depth interviews reveal that the majority of women perceive no personal risk of pregnancy during amenorrhoea, though most do not recognise an association between this diminished risk of conception and breastfeeding. In addition, the data illustrate that women are primarily concerned with their own and their newly born child's health and well-being in the period following childbirth, both of which are perceived to be extremely vulnerable. These perceptions, plus an understanding that modern methods of contraception are 'strong' and potentially damaging to the health, mean that the majority of women are reluctant to adopt family planning methods soon after birth, particularly during postpartum amenorrhoea. The paper advocates that, since breastfeeding affords good protection against pregnancy for six to nine months following birth, efforts should be made to actively incorporate lactational amenorrhoea into postpartum family planning strategies in Bangladesh. Recommendations are also made for ways in which women may be encouraged to adopt contraception during amenorrhoea beyond the period of high natural protection. The paper highlights the importance of taking the client's perspective into consideration in attempts to improve the quality and effectiveness of family planning programmes” (Salway & Nurani, 1998, abstract).


“Background: Breastfeeding does not reliably protect against pregnancy except during the first 6 months postpartum and only then if accompanied by amenorrhea. Reluctance to use other methods of contraception during lactation may result in unplanned pregnancy. The aims of this study were to describe, among women in rural Egypt attending for antenatal care the prevalence of pregnancy during breastfeeding, contraceptive practice and unintended pregnancy. Finally, the study assessed women's impressions of the effect of conception during breastfeeding on breast milk and on the health of the breastfed infant.

**Study Design:** A descriptive study using an interviewer-administered structured questionnaire for 2617 parous women attending a hospital in Egypt for antenatal care.

**Results:** More than 95% of women breastfed the child before their current pregnancy; 25.3% conceived while breastfeeding. Conception occurred during the first 6 months postpartum in 4.4%, before resumption of menstruation in 15.1% and while exclusively or almost exclusively breastfeeding in 28.1%. Only 10 pregnancies (1.5%) occurred when all the prerequisites of the lactational amenorrhoea method of contraception (LAM) were present. Twenty-nine percent of pregnancies conceived during breastfeeding were unintended, 10% of women had considered terminating their pregnancy while 4.4% of them reported trying to do so.

**Conclusions:** Pregnancy during breastfeeding is common in Egypt and is often unintended. There is great potential for using LAM, but it must be properly taught, and women should be encouraged to start using
effective contraception as soon as any of the prerequisites of LAM expires” (Shaaban & Glasier, 2008, abstract).

**Susu, B., Ransjo-Arvidson, A. B., Chintu, K., Sundstrom, K., and Christensson, K. (1996.)**

**Family planning practices before and after childbirth in Lusaka, Zambia. East African Medical Journal, 73(11), 708–713.**

“A total of 408 randomly selected normally delivered women who had given birth to healthy infants were recruited from a postnatal ward at the University Teaching Hospital (UTH) in Lusaka, Zambia. Family planning practices before and after pregnancy and delivery were investigated among 376 of these women. The interviews were conducted in their homes or at the postpartum clinic at the UTH at the end of puerperium. The remaining 32 women, mainly primiparae, were lost to follow-up. Thirty four percent of the women had used a family planning method before the present childbirth. Most of those (90%) had used modern methods. Women with eight and more years of education used modern contraceptive methods more often than those with less education. One year after delivery, 64% of the women were using modern or traditional family planning methods. Of those who used traditional methods, 15% relied on lactational amenorrhea. Of those who did not use any method, 39% indicated that their husbands did not allow them. Fifty-six per cent of the teenagers stated that they had no knowledge of family planning, whereas 84% of the single teenagers had not used contraceptives before. In view of this, teenagers and single mothers need a special focus in the development of family planning programmes. We also recommend that more research should focus on views of both men and women on contraceptive use” (Susu et al, 1996, abstract).


**Factors influencing contraceptive use in Tehran.[see comment]. Family Practice, 18(2), 204–208.**

“Background: Despite reluctance to conceive, approximately 30% of couples do not use any method of contraception. Health concerns, side effects, failure of the method and some demographic issues such as education, age, residential region and number of living children have a major effect on contraceptive use. Objective: The aim of the present study was to determine those factors which influence contraceptive use in Tehran. Methods: Data from the project ‘The Study of the Effectiveness of Postpartum Consultation about Family Planning on Contraceptive Practice during 2 years after Parturition in University Hospitals of Tehran in 1996’ were applied for the analysis of those factors which influence contraceptive use by Iranian couples. A total of 4177 women of reproductive age who gave birth in one of the 12 hospitals in Tehran during the 24 hours following the interview of the initial study and had at least one living child were enrolled in the present study. The questionnaire used included some questions about socio-demographic status, fertility history, knowledge of contraceptives and the source of this knowledge, and previous contraception practice and its effectiveness. Results: Using a logistic regression model, it was found that age, women's level of education, their husbands' level of education and previous familiarity with contraceptive methods were the most significant factors influencing contraceptive use. Conclusions: It is suggested that health policy makers strengthen the family planning services through providing appropriate counseling in family planning clinics” (Tehrani, Farahani & Hashemi, 2001, abstract).

This study of postpartum women, based on Demographic and Health Surveys in 25 developing countries, reveals that the proportion of women who are exposed to the risk of pregnancy within two years after childbirth ranges from one-third in Sub-Saharan Africa to nearly two-thirds in Latin America and the Caribbean. More than half of postpartum women are current contraceptive users. Women exposed to the risk of pregnancy are more likely than unexposed women to be using reversible methods, usually the pill. Among women who are unexposed to the risk of pregnancy as a result of abstinence or amenorrhea associated with breastfeeding, 19% are using a contraceptive method, usually sterilization. The proportion of contraceptive users who initiate use of a modern method before menses returns ranges from 27–57% among countries in Latin America and the Caribbean and Asia, and from 24–46% among African countries. Smaller proportions of hormonal contraceptive users initiate use before the return of menses. About one-fifth of exposed women are not using any contraceptive method. Of this group, more than one-third want no more children and another one-third want to space their next pregnancy (Thapa et al., 1992).


“Determinants of modern contraceptive use are usually examined in isolation of the effect of exposure to other aspects of health care systems. Maternal interaction with organized health service provision during post-conception and postpartum stages of reproduction can provide an opportunity to transfer contraceptive service information and counseling. We found that living in a community in which women have widespread health service contact is related to both prenatal care use and subsequent modern contraceptive use. After controlling for effects of living in high health service contact areas and various demographic and background factors, our results suggest that prior use of prenatal care has a strong influence on subsequent use of modern contraception in Bolivia, Egypt and Thailand” (Zerai & Tsui, 2001, abstract).
2. COMMUNITY AND FACILITY


“An integrated postpartum health-care program was established by the Consultorio San Luis de Huechuraba (CSLH), a nongovernmental organization in a neighborhood of extreme poverty in Santiago, Chile. The main components were education, maternal and infant health care, support for the mothers, and active participation of women from the community served. The program was evaluated through indicators of contraceptive use, breastfeeding performance, infant growth and health, and a qualitative assessment of women’s satisfaction. Controls were women of similar characteristics attending the nearby public clinic. Acceptability of contraceptive methods was similar but contraceptive options differed between clinics. The total number of pregnancies and of respondents lost to follow-up was significantly higher for the public clinic than for the CSLH. Breastfeeding duration was significantly longer and infant growth and health were found to be significantly better at the CSLH than at the public clinic. Women valued being treated with respect, receiving education and support, and being offered timesaving services and wider contraceptive choices at the CSLH. This study demonstrates that such interventions are possible for poor communities, providing significant advantages for women and children” (Alvarado et al., 1999, abstract).


“Context: In Mexico, family planning advice has been incorporated into the clinical guidelines for prenatal care. However, the relationship between women’s receipt of family planning advice during prenatal care and subsequent contraceptive use has not been evaluated. Methods: Data were collected in 2003 and 2004 in 17 Mexican states from 2238 urban low-income women postpartum. Participating women reported on prenatal services received and contraceptive use. Logistic and multinomial logistic regression models evaluated whether receiving family planning advice during prenatal care predicted current contraceptive use, after quality of care in the community, service utilization, delivery characteristics, household socioeconomic characteristics, and maternal and infant characteristics were controlled for. Results: Overall, 47% of women used a modern contraceptive method. Women who received family planning advice during prenatal care were more likely to use a contraceptive than were those who did not receive such advice (odds ratio, 2.2). Women who received family planning advice had a higher probability of using condoms (relative risk ratio, 2.3) and IUDs (5.2), and of undergoing sterilization (1.4), than of using no method. Conclusions: Integrating family planning advice into prenatal care may be an important strategy for reaching women when their demand for contraception is high” (Barber, 2007, abstract).

“Objectives: To evaluate impact of postnatal health education for mothers on infant care and postnatal family planning practices in Nepal.

Design: Randomized controlled trial with community follow up at 3 and 6 months post partum by interview. Initial household survey of study areas to identify all pregnant women to facilitate follow up.

Setting: Main maternity hospital in Kathmandu, Nepal. Follow up in urban Kathmandu and a periurban area southwest of the city. SUBJECTS: 540 mothers randomly allocated to one of four groups: health education immediately after birth and three months later (group A), at birth only (group B), at three months only (group C), or none (group D).

Interventions: Structured baseline household questionnaire; 20 minute, one to one health education at birth and three months later.

Main outcome measures: Duration of exclusive breast feeding, appropriate immunization of infant, knowledge of oral rehydration solution and need to continue breast feeding in diarrhea, knowledge of infant signs suggesting pneumonia, uptake of postnatal family planning.

Results: Mothers in groups A and B (received health education at birth) were slightly more likely to use contraception at six months after birth compared with mothers in groups C and D (no health education at birth) (odds ratio 1.62, 95% confidence interval 1.06 to 2.5). There were no other significant differences between groups with regards to infant feeding, infant care, or immunization.

Conclusions: Our findings suggest that the recommended practice of individual health education for postnatal mothers in poor communities has no impact on infant feeding, care, or immunization, although uptake of family planning may be slightly enhanced” (Bolam et al, 1998, abstract).


The Center for Development in Primary Health Care from Al-Quds University in Jerusalem conducted a cluster randomized trial to quantify the impact of community health workers’ (CHWs) postpartum visits for women in Palestine. The study authors note that Palestinian women experience gaps in postpartum care as a rationale for this study (CDPHC, 2003, p. 1). Both the intervention and control groups of postpartum women received visits at 2 to 3 days postpartum, but the intervention group received a visit from a CHW at 30 to 38 days postpartum. The intervention visit included standardized teaching about “maternal and newborn care,” “encouragement of utilization of postpartum services” at 40 days postpartum, “social support during postpartum period” (focused on the social support from husbands for birth spacing), “knowledge and use of family planning” (including LAM), and “breast and cervical awareness and prevention practices” (CDPHC, 2003, p. 12). Women who had been visited were more likely to visit the clinic at day 40 postpartum, a variable that did not predict family planning habits. However, visited women breastfed longer, and were more likely to have discussed birth spacing with their spouses. The authors call for home visits for mothers and for education to encourage women to seek postpartum care, “improvement” of CHW performance during visits and the inclusion of maternal care during postpartum visits (as opposed to mostly

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newborn care), “efforts...to involve the husbands of low parity women,” and the consideration of mass media as a tool for these efforts (CDPHC, 2003, p.30).


“Objective: The aim of this study was to evaluate the effect of postpartum counseling on postpartum contraceptive use.  
Methods: One hundred and forty-three women who delivered between 1 January 2004 and 31 September 2004 and counseled about postpartum contraception were included in the study. The participants were interviewed by telephone. Age, gravidity, parity, and mode of delivery of the participants were recorded. Their method of contraception before pregnancy, their decision on the contraceptive method after counseling and the method actually used were asked. 
Results: Just after postpartum counseling, 47 women (32.9%) decided to use the intrauterine device (IUD), 23 (16.1%) condoms, 16 (11.2%) progestin injections, 7 (4.9%) oral contraceptives, and 7 (4.9%) coitus interruptus for contraception. Thirty-six women (25.2%) did not decide on any method of use. At the time of the telephone interview the actual method used was learned. Fifty-one women (35.7%) were using coitus interruptus, 45 women (31.5%) condoms, and 14 (9.8%) the IUD. Sixteen women (11.2%) were reported as not using any methods. 
Conclusion: In spite of postpartum counseling, a high majority of the women appeared to use traditional and less effective contraception methods” (Engin-Ustun et al., 2007, abstract).


“Mothers and their home birth attendants residing in rural Uttar Pradesh (UP), India, were taught to recognize and take action to resolve selected maternal and neonatal life-threatening problems. Community mobilization efforts were designed to reduce delays in transport to emergency obstetric care (EOC) referral units and to increase use of family planning. Retention of knowledge and skills for recognition and intervention for maternal bleeding and newborn sepsis was enhanced when pictorial depictions of the problem or take action message or both were used as memory aids. Advocacy efforts for use of EOC facilities were less successful. The community health promotion and home-based life-saving skills education efforts tested are recommended for replication” (Fullerton, Killian & Gass, 2005, abstract).


“A train-the-trainer intervention, based on the World Health Organization's Safe Motherhood Initiative, was successful in changing some health beliefs and health practices among village men and women of childbearing age in a remote area of Uganda. Specifically, more villagers reported attending postpartum care and beginning prenatal care earlier in pregnancy. Some beliefs were not changed (e.g., belief in bewitchment), but some beliefs (e.g., use of herbal medicines during labor) were not as widely held as a result of this cost-effective and easily sustainable program” (Gennaro et al., 2002, abstract).

“Improvements in the constellation of services in the African context are largely addressed through attaining better measures of service integration, which can be achieved through improved referral across categories of health programs. The use of an unobtrusive referral message that linked family planning and the Expanded Program of Immunizations (EPI) services was tested in an operations research study in Togo. The introduction of the referral message was accompanied by an 18-percent increase in awareness of available family planning services and an increase in the average monthly number of new family planning clients of 54 percent. These positive results indicate that the use of referral can have a significant and dramatic impact on family planning services in a relatively short time. In Togo, no evidence existed of a negative impact on EPI services, and a majority of the EPI providers reported satisfaction with the effect of the referral message at the close of the study” (Huntington & Aplogan, 1994, abstract).


“Objective: To assess the level of awareness and correlates of use of family planning services among sexually active breast feeding mothers attending an infant welfare clinic.

**Design:** Cross-sectional descriptive design.

**Setting:** Infant welfare clinic of the urban comprehensive health centre, Obafemi Awolowo University Teaching Hospital, Ile-Ife, Nigeria.

**Subjects:** Mothers of breast feeding infants aged 8-11 months attending the infant welfare clinic.

**Results:** Awareness of family planning was quite high (95.5%) while current family planning use was quite low (13%). Although the proportion of women who planned for future use of family planning in the sample was high (64%), all current non-users (86.6%) met the criteria for unmet need for family planning. Parity and the number of living children were the only socio-demographic correlates of the respondents that significantly influenced family planning acceptance (P<0.05).

**Conclusion:** There is a high level of contraceptive awareness but low contraceptive use among breast feeding mothers in Nigeria, with a majority of non-users depending on the perceived contraceptive effects of breast feeding” (Ijadunola, Orji & Ajibade, 2005, abstract).


FRONTIERS and the Ministry of Health (MOH) developed and tested a service protocol to improve antenatal and postnatal care, and trained traditional birth attendants in its use. The intervention increased the likelihood that women will receive preventive services when they attend health facilities, particularly family planning services. The range of services received by both mothers and babies during postnatal visits increased. Women attending the experimental clinics also received more information about danger signs for the mother and baby. Postnatal visits increased 46 percent in experimental sites, but similar trends in the control group were observed (Jacobs, Brambila, & Vernon, 2002).

“As an intervention against diarrhea, promotion of breastfeeding has been suggested by the World Health Organization (WHO). In the present study from Guinea Bissau we tested the possibilities of promoting breastfeeding at a local health centre. A total of 1250 children were allocated randomly into two groups. Mothers in the intervention group were given health education according to WHO’s recommendations; about exclusive breastfeeding for at least the first 4 mo, prolonged breastfeeding and family planning methods. At 4 mo of age introduction of weaning food was delayed in the intervention group (risk rate 1.18 (95% CI 1.03-1.38) and more mothers had an IUD inserted (risk rate 2.45 (1.27-4.70). The median length of breastfeeding was 23 mos in both groups. There was no difference in the number of children weaned early. Although exclusive breastfeeding was promoted by the intervention, early weaning of children in special risk groups was not avoided. An evaluation of the impact of the WHO recommendations in different settings is warranted” (Jakobsen et al., 1999, abstract).


“Purpose: This qualitative descriptive study aimed to explore Jordanian childbearing women’s perceptions of their needs for health care and the post-partum healthcare services they received.

Methods: Twenty-four Jordanian childbearing women participated in the focus groups. Discussions focused on infant and maternal health concerns, access to postpartum health care, including family-planning services, the characteristics and behavior of health care providers, and suggestions for the provision of quality maternal post-partum health care.

Findings: The majority of the women indicated that most of the services perceived and provided during the postnatal period were related to child care. They indicated that they attend post-natal visits mostly for treatment, family planning and/or child care and stated that they have not been told about the post-natal visits during pregnancy, or after giving birth.

Conclusions: Study findings provided insight and understanding of women’s perspectives on post-partum health care and implied a need to translate qualitative findings into clinical practice guidelines. It is suggested that the Jordanian Ministry of Health develops a comprehensive plan to improve educational offerings for post-partum women, and ensure that all health care facilities offer affordable and high-quality post-partum health care” (Khlaf et al., 2007, abstract).


This report identifies and summarizes descriptive and research studies of existing community-based postpartum programs that provide counseling, services, and education on self-care. The literature review identified three models of community-based postpartum care. These were: 1) home visits by professional health care providers, 2) home visits by community workers, and 3) home visits by community workers with referral or health facility support. It also defines programmatic and research issues for further follow-up (Koblinsky, 2005).
www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Honduras_contraception.pdf

Based on the success of an earlier project at the largest hospital in Honduras, this study aimed to introduce postpartum/postabortion contraceptive services at five additional hospitals in the country. FRONTIERS, the Ministry of Health, and the Hospital Escuela collaborated to train staff to provide family planning counseling and methods to postpartum and postabortion women. The proportion of women receiving this information doubled and the proportion of women who received a contraceptive method tripled (Medina et al., 2001).


“Background: The study was conducted to determine the impact of counseling and educational leaflets on contraceptive practices of couples.

**Study Design:** Randomization of 600 women was done in two groups matched for age, parity and socioeconomic status at the Department of Obstetrics and Gynaecology, Shifa Foundation Community Health Centre, Shifa International Hospital, Islamabad, Pakistan. In Group A, the intervention group was exposed to contraceptive counseling and educational leaflets in the postnatal ward after delivery, whereas in Group B, the nonintervention group was not given any formal contraceptive advice. Later on, both groups were assessed regarding their contraceptive practices.

**Results:** At their follow-up visit (8–12 weeks) postpartum, 19 (6.3%) women in the nonintervention group had started contraceptive use, whereas 153 (50.8%) had decided to start contraception in the next 6 months, and 129 (42.8%) women were still undecided. The main contraceptive user was the male partner (n=117, 38.8%), and the most common method used was coitus interruptus (n=62, 36.3%). In the intervention group, 170 women (56.9%) had started using contraceptives, whereas 129 (43.1%) had decided to start contraceptive use in the next 6 months. The predominant contraceptive user was the females (n=212–70.9%), and the most popular method chosen was oral contraceptive pills (n=111, 37.1%).

**Conclusion:** There is a definite increase in contraceptive uptake in women provided with educational leaflets and counseling session with a shift toward use of more reliable contraceptive methods” (Saeed, et al., 2008, abstract).

Saowakontha, S., Pongpaew, P., Vudhivai, N., Tungtrongchitr, R., Sanchaisuriya, P.,
Mahaweerawat, U., et al. (2000.) Promotion of the health of rural women towards safe

“An intervention project focusing on the health of women in the reproductive age was conducted in three districts of Khon Kaen Province, northeast Thailand between 1991 and 1996. Main emphasis was placed on improving reproductive health, the nutritional status including the iron deficiency anemia (IDA) as well as iodine deficiency disorders (IDD), and the parasitic diseases liver fluke (Opisthorchis viverrini) and hookworm. For implementation a community based Primary Health Care approach was used including the training of health officials in health matters, primary health care workers and villagers as well as enhancing health education and the dissemination of health information. The health delivery system was encouraged to take appropriate actions such as in the treatment of parasitic diseases and the control of IDA and IDD.

Monitoring was done on a regular basis. The outcome of the project was assessed by comparing baseline data compiled from a random sample of the target population with the results of the final evaluation. An attempt to compare results obtained from villages within and outside of the project area failed most probably because
of spill over effects. A number of important indicators on family planning and mother and child health care improved during the time the project was implemented; this included practicing family planning, and participation in antenatal care. Also the proportion of females becoming pregnant for the first time when 20 years or older increased. Child-raising also improved in that almost all females gave colostrum to their babies by this time. Almost 75% of the women breast-fed their children. Improvements occurred in the nutritional status as far as the micronutrients iron and iodine were concerned, however the overall nutritional status of females did not change, but a rather high proportion of females were found to be overnourished. The project failed in reducing abortion and the proportion of females becoming pregnant when they are 18 years old or younger. It was also not possible to improve the usage of postnatal care. As anticipated, the results achieved so far are most suitable in serving as a training ground and providing a favorable example to improve family planning, mother- and child health care, and also the general health of females in the region, particularly in neighboring countries such as Lao PDR, Cambodia and Vietnam” (Saowakontha et al., 2000, abstract).


Researchers from the University of Colombo in Sri Lanka inferred from previous studies that “a deficiency in family planning in the postpartum period and in families with young children” was present in Sri Lanka, as evidenced by the high abortion rate and reported rationales for abortions that included lack of birth spacing (Senanayake, Seneviratne & Kariyawasam, 2006, p. 41). Analysis of this study’s questionnaire revealed a general lack of education about post-partum education (especially in fathers), and the researchers conclude that this lack of education “could contribute to reducing the high abortion rate in Sri Lanka” (Senanayake, Seneviratne & Kariyawasam, 2006, p. 41).


“Objectives: To describe mothers’ satisfaction with perinatal care received during hospitalization for delivery, and to identify sociodemographic and health-care-related factors associated with satisfaction.

Method: A cross-sectional study of 446 mother-newborn pairs from five hospitals in Puttalam district, Sri Lanka, was carried out by stratified randomization. Client satisfaction was measured using a 16-item survey instrument with high internal consistency (Cronbach’s alpha = 0.81), through exit interview.

Results: The proportion of mothers who were fully satisfied varied from 10.8% to 31.4% for interpersonal aspects, and from 10.1% to 28.9% for technical aspects of care. The satisfaction rates were lower with physical environment (6.1 – 10.1%) and higher with outcome of care (41.0 – 48.0%). Multivariate analyses indicated that mothers were more satisfied with the services available from lower level hospitals. Multiparae were more satisfied than primiparae. Determinants of satisfaction included providing immediate mother-newborn contact, information after examination and counseling on family planning. Higher satisfaction with the physical environment was associated with being Moor or Tamil as opposed to Sinhalese and with lower family income.

Conclusions: The factors associated with client satisfaction identified in this study may be helpful in improving quality of care. Hospital staff should ensure that these are addressed and develop interpersonal
relationships, especially with the first-time mothers and in higher level hospitals. Maternity units of lower level institutions should be upgraded with essential facilities” (Senarath, Fernando & Rodrigo, 2006, abstract).


“In response to the concept that a good postpartum program should begin prenatally, this study was designed to determine whether the provision of expert contraceptive counseling during the antenatal period would have an impact on contraceptive uptake, patterns of contraceptive usage, and pregnancy rates during the first year after childbirth. Over 500 women attending antenatal clinics in each of three centers (Edinburgh, Scotland; Shanghai, People's Republic of China; Cape Town, South Africa) were randomized to receive expert contraceptive advice (participants, n = 771) or the standard advice routinely given in that setting (controls, n = 866). Follow-up was by postal or interviewer-administered questionnaires at 16 and 52 weeks after childbirth. There were no significant differences in the prevalence of contraceptive use at one year (over 79% in all centers) between participants and controls. In Edinburgh, participants were more likely to undergo sterilization (p < 0.01) than controls, otherwise there were no differences among Edinburgh, Shanghai, or Cape Town in either the methods of contraception chosen or in the methods used over time. Contraceptive counseling delivered antenatally appeared to have no impact on the pregnancy rate during the first year after childbirth. In Shanghai, over 11% of women in both groups underwent termination of pregnancy in the year of follow-up. In conclusion, although women in all centers said they found the opportunity to discuss contraception antenatally was useful, it had very little effect on contraceptive use or on subsequent pregnancy rates” (Smith et al., 2002, abstract).


“The impact of antenatal counseling on couples' knowledge and practice of contraception was investigated. An interview questionnaire was used before and after conducting counseling sessions with 200 pregnant women and 100 spouses. The participants were followed up immediately after delivery and 3 months later. Both the control and study groups displayed a lack of knowledge of contraception. Counseling sessions improved the couples' knowledge and practice in the study group. Involving husbands in family planning counseling sessions led to joint decisions being made and encouraged women's use of contraception. The majority of couples retained most of the information given. Integrating family planning counseling into antenatal care in all facilities and involving the husband are recommended” (Soliman, 1999, abstract).


To address reproductive health problems in the Russian Federation, recommendations for changes in clinical practice and the organization of service delivery formed the basis for two women’s health activities involving the World Bank: a “field test” in two women’s consultations and one maternity home in Lubertsy of revised clinical protocols in antepartum, intrapartum, postpartum and family planning. This report summarizes the
current situation with regard to health status of women and service organization in the Russian Federation
and presents the results of the Lubertsy Field Test. The Lubertsy Field Test demonstrated that positive
changes in clinical practice, use of contraceptives, and quality of services can be achieved through an
emphasis on provider training (Stephenson et al., 1998).


“In this article we present the results of three studies investigating methods for including men in antenatal education in Istanbul, Turkey. Participants were first-time expectant parents living in low and middle-income areas. After a formative study on the roles of various family members in health during the period surrounding a first birth, an antenatal-clinic-based education programme for women and for couples was carried out as a randomized, controlled study. Based on the results, separate community-based antenatal education programmes for expectant mothers and expectant fathers were tested. There was demand among many pregnant women and some of their husbands for including expectant fathers in antenatal education. In the short term, these programmes seemed to have positive effects on women and men’s reproductive health knowledge, attitudes and behaviors. In the clinic-based programme the positive effects of including men were mainly in the area of post-partum family planning, while in the community-based programme positive effects among men were also seen in the areas of infant health, infant feeding and spousal communication and support. Free antenatal education should be made available to all expectant mothers and when possible, men should be included, either together with their wives or in a culture such as that of Turkey, in separate groups” (Turan et al., 2001, abstract).


“To improve perinatal service delivery at the Hospital Materno-Infantil in Tegucigalpa, the Honduran Social Security System created a reproductive health program with five main components: a prenatal education program, a reproductive health counseling service, an expansion of contraceptive options offered in the postpartum period, a postpartum clinic for women to visit on the 40th day after birth, and an improved perinatal data collection system. The prenatal education program, attended by approximately half of more than 6,000 women who delivered at the hospital during a 15-month period, significantly increased the women’s knowledge about such topics as reproductive risk factors, warning signs during pregnancy, breastfeeding and infant care. Rates of acceptance of postpartum family planning increased significantly and rapidly, from 9% of women who delivered in December 1990 to 47% in February 1992. Over a 10-month period, the number of women seeking family planning and reproductive health counseling increased from 33 per month to 296 per month. The proportion of women who returned for a checkup 40 days postpartum increased from 15% to almost 40%” (Vernon et al., 1993, abstract).

“Objectives: To explore the main determinants of the reproductive behavior of nursing mothers, all inhabitants of the central part of the European region of the Russian Federation, their use of modern contraceptive methods and their attitude to future family planning.

Methods: Open cohort multicenter study of 1200 nursing mothers aged 16–42 years interviewed at 3–5 days' postpartum, with subsequent longitudinal monitoring of the majority in the local family planning centers during the 2 years after labor.

Results: The main determinants of the reproductive behavior of this cohort of women are an early debut of sexual activity, several partners in their reproductive history, relatively early marriage with a motivation to have one child in their family and the tendency to use induced abortion as one of the methods of birth regulation. Our experience of postpartum counseling demonstrated positive changes in the women's attitudes to modern contraceptive methods. The data reveal that the induced abortion rate among 639 mothers regularly followed-up during the first year postpartum was 4.4%, and among 606 during the second year was 5.1%. The corresponding rates among 129 women who did not visit the family planning centers and who were only interviewed 2 years after labor were 9.3% and 8.5%, respectively.

Conclusions: Our data show that the unmet needs are remarkably concentrated among women who have given birth within the last year or two, and who need augmented attention from the family planning and reproductive health services” (Vikhlyaeva, Nikolaeva & Brandrup-Lukanow, 2001, abstract).
3. BREASTFEEDING FOR CONTRACEPTION & LACTATIONAL AMENORRHEA METHOD


“Introduction: This study aims to assess the potential for the lactational amenorrhoea method (LAM) and passive LAM among women with children below six months of age, and to examine its association with women empowerment in household decisions.

**Methods:** Data from the Egypt Demographic Health Survey 2000 was downloaded from the Demographic and Health Surveys website. A sub-sample of women fulfilling all four criteria were selected: (1) women whose last birth was less than three years ago; (2) currently married; (3) not sterilized; and (4) currently breastfeeding their children. Accordingly, only 3447 women entered into the statistical analysis, of whom 1141 had children below six months of age.

**Results:** Passive LAM users constituted 82 percent of the women who met LAM criteria, 57.1 percent of exclusive breastfeeding mothers, and 32.9 percent of all nursing mothers of children below six months of age. 11.8 percent of women who met the LAM criteria were under double coverage of family planning methods.

In the logistic regression model where all variables were adjusted, women empowerment in household decisions, significantly and independently, inversely predicted passive LAM along with increase in child age (Odds ratio [OR] of 0.86 and 0.43 respectively). Women with higher birth order children were more likely to use passive LAM (OR 1.11).

**Conclusion:** Women of low empowerment index in household decisions were more likely to use passive LAM. Passive LAM users could be subjected to discontinuation or double coverage of contraceptives” (Afifi, 2007, abstract).


“This paper examines the interaction between contraceptive use and breastfeeding in relation to resumption of intercourse and duration of amenorrhea post-partum. We used data from the month-by-month calendar of reproductive events from Demographic and Health Surveys (DHS) in Peru and Indonesia. The analyses show that breastfeeding women were less likely than non-breastfeeding women to have resumed sexual intercourse in the early months post-partum in both countries. In Peru, but not in Indonesia, breastfeeding women had a significantly lower odds than non-breastfeeding women of adopting contraception. Although the likelihood of contraceptive adoption was highest in the month women resumed menstruation in both countries, about ten per cent of subsequent pregnancies occurred to women before they resumed menses. These results emphasize the importance of integrating breastfeeding counseling and family planning services in programmes serving post-partum women, as a means of enabling those who wish to space their next birth to avoid exposure to the risk of a pregnancy that may precede the return of menses” (Becker & Ahmed, 2001, abstract).

www.linkagesproject.org/media/publications/LAM%20Research%20Report,%20Final,%20November%202005.pdf

This document reports on LINKAGE's research in Jordan with LAM. “LINKAGES is USAID's Breastfeeding, LAM, Related Complementary Feeding, and Maternal Nutrition Program managed by the Academy for Educational Development (AED)” (Bongiovanni, et al, 2005., p. ii.). Interventions included service provider training, educational materials for clients, and public media messages, and took place from 1998-2003. Next, information about LAM use was gathered by survey in 2004. Not only was LAM found to be effective, but “increasing the proportion of BFFP [breastfeeding for family planning] users who know and act upon the six month criterion [of LAM] would result in a substantial increase in effective LAM use” in Jordan (Bongiovanni, et al., 2005, p.ii.). In other words, exclusive breastfeeding women who did not know about LAM were at risk for not transitioning to another method of contraception at six months postpartum, while women who were aware of LAM criteria were likely to transition appropriately. The authors included a discussion of child health as a benefit of LAM (Bongiovanni, et al., 2005).


“Extended durations of postpartum non-susceptibility (PPNS) comprising lactational amenorrhoea and associated taboos on sex have been a central component of traditional reproductive regimes in sub-Saharan Africa. In situations of rising contraceptive prevalence this paper draws on data from the Demographic Health Surveys to consider the neglected interface between ancient and modern methods of regulation. The analysis reports striking contrasts between countries. At one extreme a woman’s natural susceptibility status appears to have little bearing on the decision to use contraception in Zimbabwe, with widespread ‘double-protection.’ By contrast, contraceptive use in Kenya and Ghana builds directly onto underlying patterns of PPNS. Possible explanations for the differences and the implications for theory and policy are discussed” (Brown, 2007, abstract).


www.cdc.gov/reproductivehealth/Products&Pubs/Africa/AfricaFP.htm

This book for health care providers working in Africa contains a chapter entitled, “Lactation and Postpartum Contraception” (CDC, 2000). The chapter opens with a short vignette about a physician who “made certain they [postpartum patients] had contraceptive supplies at home well before the baby’s 6-month birthday” (CDC, 2000, p. 261). Topics include the characteristics and physiology of lactation in Africa, the benefit of lactation to mother and baby, and information about breastfeeding as it pertains to HIV. Lactational amenorrhea is discussed, and a practical lactation guide to common breastfeeding complications is included. Finally, the chapter concludes with an overview of contraceptive choices and timing for the postpartum woman, and tips for the integration of family planning services with breastfeeding assistance (CDC, 2000.)

“This report presents a secondary data analysis based on prospectively collected records gathered during a field assessment that was carried out in Rwanda in August 1993. The assessment used service statistics and follow-up interviews to evaluate the efficacy of a modified lactational amenorrhea method (LAM) as a nine-month introductory postpartum natural family planning method. The program, carried out by Action Familiale Rwandaise (AFR), reflects high efficacy of the method in a compliant sample that sought this method followed by another form of family planning. These results are promising and provide guidance for the extended use of LAM past six months. Programmatic findings suggest that studies be conducted of the contribution of extended LAM to improved weaning practices, the high efficacy of continued reliance on substantial lactation and amenorrhea beyond nine months, and male involvement in LAM and breastfeeding” (Cooney et al., 1996, abstract).


“Background: Exclusive breastfeeding, though better than other forms of infant feeding and associated with improved child survival, is uncommon. We assessed the HIV-1 transmission risks and survival associated with exclusive breastfeeding and other types of infant feeding.

Methods: 2722 HIV-infected and uninfected pregnant women attending antenatal clinics in KwaZulu Natal, South Africa (seven rural, one semiurban, and one urban), were enrolled into a non-randomised intervention cohort study. Infant feeding data were obtained every week from mothers, and blood samples from infants were taken monthly at clinics to establish HIV infection status. Kaplan-Meier analyses conditional on exclusive breastfeeding were used to estimate transmission risks at 6 weeks and 22 weeks of age, and Cox’s proportional hazard was used to quantify associations with maternal and infant factors.

Findings: 1132 of 1372 (83%) infants born to HIV-infected mothers initiated exclusive breastfeeding from birth. Of 1276 infants with complete feeding data, median duration of cumulative exclusive breastfeeding was 159 days (first quartile [Q1] to third quartile [Q3], 122–174 days). 14·1% (95% CI 12·0–16·4) of exclusively breastfed infants were infected with HIV-1 by age 6 weeks and 19·5% (17·0–22·4) by 6 months; risk was significantly associated with maternal CD4-cell counts below 200 cells per μL (adjusted hazard ratio [HR] 3·79; 2·35–6·12) and birthweight less than 2500 g (1·81, 1·07–3·06). Kaplan-Meier estimated risk of acquisition of infection at 6 months of age was 4·04% (2·29–5·76). Breastfed infants who also received solids were significantly more likely to acquire infection than were exclusively breastfed children (HR 10·87, 1·51–78·00, p=0·018), as were infants who at 12 weeks received both breastmilk and formula milk (1·82, 0·98–3·56, p=0·057). Cumulative 3-month mortality in exclusively breastfed infants was 6·1% (4·74–7·92) versus 15·1% (7·63–28·73) in infants given replacement feeds (HR 2·06, 1·00–4·27, p=0·051).

Interpretation: The association between mixed breastfeeding and increased HIV transmission risk, together with evidence that exclusive breastfeeding can be successfully supported in HIV-infected women, warrant revision of the present UNICEF, WHO, and UNAIDS infant feeding guidelines” (Coovadia, et al., 2007, abstract).
Breastfeeding for contraception & LAM


“The contraceptive efficacy of breastfeeding was assessed in 236 healthy urban women who were followed at monthly intervals during the first postpartum year. Proportional hazard models were used to evaluate the influence of time postpartum, menstrual status and breastfeeding pattern upon the risk of pregnancy. Time and menstrual status had a highly significant effect on this risk. Those women who remained in amenorrhea had cumulative probabilities of pregnancy of 0.9% and 17% at 6 and 12 months postpartum, respectively. In those who recovered menstrual cycles, the risk rose to 36% and 55% at 6 and 12 months, respectively. Milk supplementation also increased significantly the risk when considered alone but not when time and/or menstrual status were included in the analysis. However, amenorrheic women who introduced bottle feeding, had a higher risk of pregnancy after 6 months postpartum than those who remained fully nursing. The analysis was unable to detect a significant influence of the nursing frequency. The results confirm that lactational amenorrhea is an effective contraceptive during the first six months postpartum. The first postpartum bleeding marks a great increase in the risk of pregnancy. Supplementation also increases the risk, particularly in amenorrheic women” (Diaz et al., 1991, abstract).


“The objective of this study was to determine the exclusive breast-feeding practices, return of menstruation, sexual activity and contraceptive practices among breast-feeding mothers in the first six months of lactation. The study was based in Onitsha, South Eastern Nigeria. A structured questionnaire was used to obtain data from breast-feeding mothers on their age, educational attainment, breast-feeding practices, return of menstruation, sexual activity and contraceptive practices within the first six months of lactation at intervals of 6 weeks, 10 weeks 14 weeks and 6 months post delivery. Analysis of the information obtained showed that out of the 178 mothers who participated in the study 81% of the mothers were within the ages of 20–34 years. While all the mothers had formal education, the majority (59%) had secondary education. Seventy-three percent initiated breast-feeding within one hour of delivery. On discharge from hospital, all of them had already established breast-feeding which continued up to six weeks and dropped to 97.8% at six months. Exlusive breast-feeding which was practiced by 100% on discharge dropped to 3.9% at six months. The feeding regimen was on demand as practiced by 98.9% of the mothers. Menstrual flow had returned in 33.8% of the mothers by 6 weeks of lactation, and had risen to 70.2% at six months. There was more prolonged lactational amenorrhea in exclusively breast-feeding mothers than in those who were not. By 6 weeks post delivery 31.6% of the mothers had resumed sexual activity and this rose to 93.6% at six months. With the resumption of sexual activity only 5% of the mothers resorted to contraceptive practices other than lactational amenorrhea and this increased to 54% at six months. There was no pregnancy in any of these women during the six months period. While appreciating the role of lactational amenorrhea in child spacing and considering the early return of sexual activity among the mothers the practice of introducing contraceptive practices needs to be encouraged especially in women whose menstruation has returned (Egbono et al., 2005, abstract).

“60 breastfeeding mothers in Baltimore and 41 in Manila recorded their infant feeding patterns daily, and gave additional information at weekly interviews. Ovarian activity was monitored by assays for hormone metabolites in daily urine samples. On average, women in Baltimore breastfed less often but for longer at each feed than women in Manila, and the mean times until ovulation were 27 and 38 weeks post partum. 41% of first ovulations had luteal phase defects. Anovular first menses were common (45.1%) during the first 6 months post partum but the rate fell greatly thereafter. The risk of ovulation was reduced by a higher frequency of breastfeeds, longer duration of each feed, and less supplementary feeding. During the first 6 months post partum, amenorrhoeic women had low risks of ovulation (below 10%) with partial breastfeeding, and exclusive breastfeeding reduced the risk to 1-5% with either frequent short feeds or infrequent longer feeds. However, if the woman started menstruating before 6 months post partum, or if she continued breastfeeding beyond 6 months, the risk of ovulation rose, and contraception would be needed” (Gray et al., 1990, abstract).


“Assays of first morning urine samples for pregnanediol-3 alpha-glucuronide (PdG), estradiol-17 beta-glucuronide (E2G), and LH were used to monitor endocrine function in 16 regularly cycling women and 22 postpartum nonbreastfeeding women. Twice weekly blood samples were also obtained from the postpartum group. Ovulation was inferred by a significant rise in LH and PdG, and reversal of the E2G to PdG ratio. Luteal phase PdG excretion was measured by the peak of smoothed PdG levels and the area under the smoothed luteal phase PdG curve. The lower limits of normal established in 16 cycling women were a peak luteal phase PdG of 4 micrograms/ml and an area under the PdG curve of 20 micrograms/ml. In the postpartum women, 32% of first cycles were anovulatory, and among ovulatory cycles, 73% had abnormally low luteal phase PdG excretion or short luteal phases. In second and subsequent cycles, 15% were anovulatory and 26% had luteal phase abnormalities. There was a progressive increase in luteal PdG excretion from the first to third cycles. The mean delay before first ovulation was 45.2 days, and no woman ovulated before 25 days after delivery. The correlations between blood and urinary hormone levels were 0.78 for PdG, 0.65 for E2G, and 0.55 for LH. We conclude that assays of daily early morning urine samples provide reliable information on ovulation and luteal phase adequacy, and that there is gradual recovery of pituitary ovarian function after parturition” (Gray, et al., 1987, abstract).


“There is good evidence that lactational amenorrhea (LAM) is an effective method of fertility regulation during the first 6 months postpartum, provided no other food is given to the baby and the mother remains amenorrheic. However, although breast-feeding is strongly promoted in many maternity hospitals that also run postpartum family planning programs, LAM is rarely included among the contraceptive options being offered. This paper presents the results of an operational study which compared the prevalence of
contraceptive use and the cumulative pregnancy rate at 12-months postpartum among 350 women observed before and 348 women studied after introducing LAM as an alternative contraceptive option offered to women following delivery at the Instituto Materno Infantil de Pernambuco (IMIP), in Recife, Brazil. The percentage of women not using any contraceptive method was significantly lower (p<0.0001) after the intervention (7.4%) than before (17.7%). This difference remained statistically significant after controlling for age, number of living children, marital status and years of schooling. The proportion pregnant one year postpartum was also significantly lower (p<0.0001) after the introduction of LAM (7.4%) than before (14.3%), but the difference was no longer significant after controlling for the same variables. It is concluded that LAM is a useful addition to family planning postpartum programs” (Hardy et al., 1998, abstract).


This book is a reference for reproductive health and contraceptive options. Chapter 23, entitled “Postpartum Contraception and Lactation,” is written by experts Kathy Irene Kennedy, DrPH, and James Trussell, PhD. A biology explanation is given for LAM and mechanisms of postpartum infertility, and the explanations are used to support a list of evidence-based guidelines for counsel for postpartum patients about breastfeeding. LAM is presented as an algorithm for the provider and postpartum client to evaluate whether LAM is an appropriate choice for her care. Next, an in-depth description of other forms of postpartum contraception is given, including information on the IUD. The topic of breastfeeding concludes the chapter, and evidence-based breastfeeding information is given and formatted for patient education (Hatcher et al., 2004).


“A multicenter study of the Lactational Amenorrhea Method (LAM) was carried out to determine acceptability, satisfaction, and utilization in 10 different populations, and to confirm the efficacy of the method. Efficacy data are presented in a companion paper. A protocol was designed at the Institute for Reproductive Health (IRH), Department of Obstetrics and Gynecology, Georgetown University Medical Center, and reviewed and modified in collaboration with the co-sponsors, the World Health Organization, the South-to-South Cooperation for Reproductive Health, and the principal investigators from each site. Data were gathered prospectively on LAM users at 11 sites. Data were entered and cleaned on-site, and further cleaned and analyzed at IRH, using country-level and pooled data to produce descriptive statistics. The overall satisfaction with LAM was 83.6%, and continuation with another method of family planning was shown to be 67.6% at 9 months postpartum, in most cases exceeding previous use of contraception prior to use of LAM. Knowledge and understanding of the method at discontinuation were high, ranging from 78.4 to 88.6% for the three criteria. LAM can be used with a high level of satisfaction and success by women in a variety of cultures, health care settings, socio-economic strata, and industrial and developing country settings. The results confirm that LAM is acceptable and ready for widespread use, and should be included in the range of services available in maternal and child health, family planning, and other primary health care settings” (Hight-Laukaran et al., 1997, abstract).

“**Objective:** The study uses data from nationally representative sample surveys in developing countries to estimate the overlap between lactational amenorrhea and contraceptive use during the first 6 months postpartum.

**Method:** Secondary analyses of survey data were used to tabulate the proportion of the population in lactational amenorrhea among contraceptive users for all women, for postpartum women and for the country as a whole.

**Results:** Among postpartum women, the proportion in lactational amenorrhea was particularly high in Africa and the Near East and lower in Latin America and the Caribbean where breast-feeding practices have declined. The median duration of use for oral contraceptives is also presented as an aid to interpreting the significance of the findings.

**Conclusions:** The significance of the findings is considered in the context of planning reproductive health services in the postpartum period. Decisions about timing of contraceptive use for postpartum women, while arrived at on an individual basis, also result from program strategies that focus counseling immediately postpartum or at a later interval, such as when menses resume. On a national level the impact of postpartum contraception policies on use of commodities may be substantial” (Hight-Laukaran et al., 1996, abstract).


“Breastfeeding is a major contributor to child spacing and reproductive health, and as such, is a vital women's issue. Further, if breastfeeding levels were to decline, the increase in family planning services that would be required to replace the lost fertility impact would be prohibitive, both in terms of cost and difficulty. This concern places breastfeeding centrally as a family planning policy issues as well. This paper discusses how breastfeeding contributes to child spacing and reduced fertility; the appropriate and timely introduction of complementary family planning methods during breastfeeding; issues and controversies in the support of breastfeeding as a family planning issue in the context of women's concerns, including the concept of exclusive breastfeeding for 6 months, the encouragement and support to maintain breastfeeding after 6 months, and the use of the Lactational Amenorrhea Method (LAM) and other family planning methods in the early postpartum period; and the role of family planning programs in supporting women's informed reproductive health choices” (Huffman & Labbok, 1994, abstract).


“**Objectives:** The promotion of exclusive breastfeeding (EBF) to reduce the postnatal transmission (PNT) of HIV is based on limited data. In the context of a trial of postpartum vitamin A supplementation, we provided education and counseling about infant feeding and HIV, prospectively collected information on infant feeding practices, and measured associated infant infections and deaths. **Design and methods:** A total of 14 110 mother-newborn pairs were enrolled, randomly assigned to vitamin A treatment group after
Breastfeeding for contraception & LAM

Results: A total of 4495 mothers tested HIV positive at baseline; 2060 of their babies were alive, polymerase chain reaction negative at 6 weeks, and provided complete feeding information. All infants initiated breastfeeding. Overall PNT (defined by a positive HIV test after the 6-week negative test) was 12.1%, 68.2% of which occurred after 6 months. Compared with EBF, early mixed breastfeeding was associated with a 4.03 (95% CI 0.98, 16.61), 3.79 (95% CI 1.40-10.29), and 2.60 (95% CI 1.21-5.55) greater risk of PNT at 6, 12, and 18 months, respectively. Predominant breastfeeding was associated with a 2.63 (95% CI 0.59-11.67), 2.69 (95% CI 0.95-7.63) and 1.61 (95% CI 0.72-3.64) trend towards greater PNT risk at 6, 12, and 18 months, compared with EBF.

Conclusion: EBF may substantially reduce breastfeeding-associated HIV transmission” (Illif et al., 2005, abstract).


US public health researchers consider the evidence of LAM since its inception as a programmatic option ten years previous to this study, and examine “the advantages and disadvantages of LAM, and their implications for policy and use,” especially in consideration of varying world contexts (Kennedy & Kotelchuck, 1998, p. 191). Advantages of LAM are its efficacy, reliability, and it expands the “contraceptive options” for women; and, in addition, potential advantages may be realized if LAM is shown to “be an effective conduit to other modern methods” and if the method is shown to be “cost effective” (Kennedy & Kotelchuck, 1998, p. 201). Disadvantages include that LAM “affords no protection against STDs, it requires counseling from a well-informed provider, and intensive breastfeeding can make heavy demands on the woman’s time” (Kennedy & Kotelchuck, 1998, p. 201). In consideration of these findings, the researchers call for “research designed to determine what factors, if any, will maximize the uptake of a second modern contraceptive method after LAM protection expires…, to compare this with other contraceptive strategies, and to evaluate the cost aspects” (Kennedy & Kotelchuck, 1998, p. 201).


“It is unknown whether a user's understanding of the Lactational Amenorrhea Method (LAM) is related to its successful use. A study of 876 LAM users in Pakistan and the Philippines collected information about women's understanding of LAM. The present analysis aims to determine: (1) the proportion of LAM users who understand the method, (2) whether any known factors can distinguish those who understand LAM from those who do not, and (3) whether an understanding of LAM is related to subsequent pregnancy. Over 75% of LAM users could consistently recite the LAM guidelines correctly for a full year postpartum. However, 38% of users failed to display, at least once, an understanding of LAM during the first year postpartum mainly by failing to abstain, to use another method or to explain their nonuse of another method when their LAM protection expired. LAM understanding generally could not be predicted by sociodemographic factors. The occurrence of pregnancy during the first year postpartum was not related to
LAM understanding, regardless of how LAM understanding was defined, nor could it be predicted by any other measured characteristic of the users” (Kennedy et al., 1998, abstract).


“Pregnancy is rare among breastfeeding women with lactational amenorrhoea. The lactational amenorrhoea method (LAM) is the informed use of breastfeeding as a contraceptive method by a woman who is still amenorrhoeic, and who is not feeding her baby with supplements, for up to 6 months after delivery. Under these three conditions, LAM users are thought to have 98% protection from pregnancy. It can be difficult, however, to determine when supplementation of the baby's diet begins. We have analysed data from nine studies of the recovery of fertility in breastfeeding women to assess the effectiveness of lactational amenorrhoea alone, irrespective of whether supplements have been introduced, as a fertility regulation method post partum. Cumulative probabilities of ovulation during lactational amenorrhoea were 30.9 and 67.3 per 100 women at 6 and 12 months, respectively, compared with 27.2 at 6 months when all three criteria of the LAM were met. Cumulative pregnancy rates during lactational amenorrhoea were 2.9 and 5.9 per 100 women at 6 and 12 months, compared with 0.7 at 6 months for the LAM. The probability of pregnancy during lactational amenorrhoea calculated from these studies is similar to that of other modern contraceptive methods, and it seems reasonable for a woman to rely on lactational amenorrhoea without regard to whether she is fully or partly breastfeeding. So that amenorrhoea and fertility suppression can be maintained, counselling about good breastfeeding and weaning practices remains important” (Kennedy & Visness, 1992, abstract).


“Because of the potential importance of the lactational amenorrhea method (LAM) as a family-planning option in Egypt, we analyzed data from the 1995 Egyptian Demographic and Health Survey (EDHS) to study breastfeeding practices, use of contraception, reproductive history and sociodemographic factors for 5504 mothers with children under 3 years. According to the EDHS data, about 80% of Egyptian women breastfed for at least 6 months, and 40% breastfed for 15–18 months. Over half of breastfeeding mothers used no additional contraception. Thirty-six percent of mothers breastfeeding children younger than 6 months who reported using no additional contraception were exclusively breastfeeding and amenorrheic, but only 4% reported relying on breastfeeding for family planning. We also held eight focus group discussions with breastfeeding mothers from urban and rural Upper and Lower Egypt on their use of contraceptive methods, breastfeeding, lactational amenorrhoea and LAM. Participants showed strong recognition of the contraceptive effects of breastfeeding but differed widely in their understanding of lactational infecundability and knowledge of LAM as a method. These results suggest that LAM would be widely acceptable to Egyptian women, but that an educational program about the method is needed” (Khella et al., 2004, abstract).


“Objective: To determine the breast-feeding practices and duration of lactational amenorrhoea among women within the first year of delivery in a Nigerian population.
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Method: Cross-sectional study carried out between January 2005 and April 2006, among mothers within one year of delivery, who were attending the Infant Welfare Clinic at Wesley Guild Hospital, Ilesa, Nigeria. Using a semi-structured questionnaire, mothers were interviewed to obtain information regarding their socio-demographic characteristics, parity, breast-feeding habits, use of contraception and onset of menstruation after delivery. Information obtained was analysed using the Statistical Package for Social Sciences (SPSS) software version 11.

Results: All 268 (100%) mothers interviewed breast-fed their babies, 261 (97.4%) of which for at least 6 months. Most (71.6%) suckled exclusively for 6 months and more; only 10 (3.7%) never carried out exclusive breast-feeding. Age, parity and educational level did not affect the duration of exclusive breast-feeding. Lactational amenorrhoea lasted 3 months or more in 229 (85.5%) of the mothers. Of the 174 who exclusively breast-fed for 6 months, 109 (62.6%) remained amenorrhoeic during that time and, hence, met the criteria for use of LAM contraception.

Conclusion: Exclusive breast-feeding among nursing mothers is highly prevalent among Yoruba mothers of South-west Nigeria. Since lactational amenorrhoea lasts 6 months in about two-thirds of the women nursing for that period of time, there is a great potential for the application of LAM for contraception” (Kuti, Adeyemi & Owolabi, 2007, abstract).


“A multicenter study of the Lactational Amenorrhea Method (LAM) was carried out to test the acceptability and efficacy of the method. Additionally, the data are used to test new constructs for improvement of method criteria. A protocol was designed at the Institute for Reproductive Health (IRH), Department of Obstetrics and Gynecology, Georgetown University Medical Center, a World Health Organization (WHO) Collaborating Center, and was reviewed and modified in collaboration with the co-sponsors, the World Health Organization and the South to South Cooperation for Reproductive Health, and the principal investigators from each site. Data were gathered prospectively on LAM acceptors at 11 sites. Data were entered and cleaned on-site and further cleaned and analyzed at IRH, using country-level and pooled data to produce descriptive statistics and life tables. The 98+% efficacy of LAM is confirmed in a wide variety of settings. In addition, the results yield insight on the possibility of continued use beyond 6 months. LAM is found to be highly effective as an introductory postpartum method when offered in a variety of cultures, health care settings, socio-economic strata, and industrial and developing country locales. In addition, LAM acceptance complements breastfeeding behaviors without ongoing breastfeeding support services. The parameters studied yield high efficacy and method continuation. Therefore, the basic tenets of the 1995 Bellagio consensus on LAM is reconfirmed and it is recommended that LAM be reconfirmed and it is recommended that LAM be incorporated into hospital, maternity, family planning, maternal and child health, and other primary health care settings” (Labbok et al., 1997, abstract).


“Objective: To determine the impact of postpartum counseling on the acceptance of lactational amenorrhoea method (LAM) for family planning.

Methods: In a prospective cross-sectional study 1490 postpartum women were included. Women who
accepted or refused LAM for family planning were identified by means of a written survey. Twelve socio-demographic and clinical variables were included as predictors in a logistic regression analysis, the acceptance or refusal of LAM was the dependent variable; an Alpha level was set at 0.05.

**Results:** There were 807 (54.2%) women who accepted LAM as a contraceptive method; 683 (45.8%) refused it. Main reasons for accepting LAM were: conviction following counseling (54.4%) and use of LAM initially before switching to another modality (18.3%). Main reasons for LAM refusal were: belief that the method was unsafe (62.2%) and fear of some undesirable effect on health (15.8%). In the logistic regression analysis the variables *occupation outside the home* (P=0.01) and *previous knowledge of LAM* (P<0.001) emerged as predictors of LAM acceptance.

**Conclusions:** Postpartum counseling of LAM had a very positive impact on its acceptance. Although it is recommended that information about LAM be given antenatally, in some settings postpartum counseling could improve its acceptance rate” (Lopez-Martinez, Romero-Gutierrez & Ponce-Ponce de Leon, 2006, abstract).


“In most mammalian species lactation suppresses fertility. There is no doubt that it is the suckling stimulus that provides the controlling signal, and, in human reproduction, this is the only truly physiological signal that suppresses fertility in normally nourished, healthy women. In breastfeeding women, the return of normal fertility follows a relatively well-defined path progressing through: an almost complete inhibition of gonadotrophin-releasing hormone/luteinizing hormone (GnRH/LH) pulsatile secretion in the early stages of lactation; return of erratic pulsatile secretion with some ovarian follicle development associated with increases in inhibin B and oestradiol; a resumption of apparently normal follicle growth associated with a normal increase in oestradiol, but often an absence of ovulation, or formation of an inadequate corpus luteum; and a return to normal ovulatory menstrual cycles. A key element in controlling the rate of this progression is the impact of the suckling stimulus on the GnRH pulse generator, a common feature of lactation in those species for which there is information. The variability in the duration of lactational amenorrhoea between women is related to the variation in the strength of the suckling stimulus, a unique situation between each mother and baby. Full breastfeeding can provide a reliable contraceptive effect in the first 6 to 9 months, but the precise mechanisms whereby the suckling stimulus affects GnRH pulsatile secretion remain unknown. Many studies on the hypothalamic pathways that might be involved in the translation of the neural suckling stimulus to suppression of hypothalamic GnRH secretion have been undertaken, principally in rats. In women, suckling increases the sensitivity of the hypothalamus to the negative feedback effect of oestradiol on suppressing the GnRH/LH pulse generator, a mechanism that appears to be common across species. In contrast, the role of prolactin in the control of GnRH appears to be species-dependent, with the importance varying from none to an important role in late or throughout lactation. In women, there is little evidence for a role of leptin, opioids or dopamine, although this may merely reflect the ethical dilemma of being able to give sufficient drug to test the system in the mother since these drugs will pass through the breast milk to the baby. Regardless of mechanism, practical guidelines for using breastfeeding as a natural contraceptive have been developed, which allows mothers to utilize the only natural suppressor of fertility in women as an effective means of spacing births” (McNeilly, 2001, abstract).
Breastfeeding for contraception & LAM


“The effect of breastfeeding on fertility is well known; however, its use as a method of family planning was, until recently, untested. In 1988, the Bellagio Consensus Conference proposed guidelines that became the basis for a method of family planning called the lactational amenorrhoea method (LAM). The principle of LAM is that a woman who continues to fully or nearly fully breastfeed her infant and who remains amenorrhoeic during the first 6 months postpartum is protected from pregnancy during that time. We have assessed this method in the context of a breastfeeding support intervention study of 422 middle-class women in urban Santiago, Chile. The cumulative 6-month life-table pregnancy rate was 0.45% among women who relied on LAM as their only family planning method (1 woman pregnant in month 6). The findings indicate that LAM, with its high acceptance and efficacy, is a viable method of family planning and can safely serve as an introductory method for breastfeeding women” (Perez, Labbok & Queenan, 1992, abstract).


“The objective of this effort was to assess the use and efficacy of the Lactational Amenorrhea Method (LAM) with reduced numbers of client–provider contacts. A co-sponsored multicenter study of LAM was performed to test the efficacy and acceptability of the method under “post-marketing” conditions, with investigator-initiated contact occurring only twice: at the time of intake and then again at month 7 of postpartum. These data are assumed to provide an assessment of LAM’s use, efficacy, and performance that more closely reflects the prevailing conditions of these populations during normal use. Three hundred and sixty-two subjects were recruited through centers that had participated in the previous, more contact-intensive studies. Using a cooperatively developed protocol, data were gathered prospectively on at least 10 and up to 50 LAM acceptors at nine sites, and entered and cleaned on site. Data were further cleaned and analyzed at the Georgetown University Institute for Reproductive Health (IRH) and the Department of Nutrition at the University of Connecticut. Using country-level and pooled data, descriptive statistics and life tables were produced. LAM efficacy in this sample is 100% because there were no pregnancies at any of the participating sites. Satisfaction with the method was high, and the rate of continuation on to another method after LAM was 66.7% at 7 months postpartum. Of the women who had never used family planning prior to LAM, 63.0% went on to use another method of family planning in a timely manner. LAM can be highly effective as an introductory postpartum family planning method when offered in a variety of cultures, health care settings, and industrial and developing country locales. Under conditions of limited client–provider contact, LAM remains effective and leads to acceptance of another method by about two-thirds of the acceptors. Women are able to use LAM effectively without extensive counseling or follow-up, with a high level of user satisfaction” (Peterson et al., 2000, abstract).


“The effect of breastfeeding on reestablishment of ovulation and fertility and on birth spacing are now well known. A study was conducted on lactational amenorrhoea (LAM) at 180 days in Hoima District, Uganda in order to understand whether and how LAM could be applied in fertility control and birth spacing. Since the
introduction of supplementary food by Ugandan women does not replace or substitute for breastfeeding, a study was designed to determine if LAM was effective irrespective of supplementation of infant's diet. One hundred and fifty four mother/child pairs were entered into the study and 134 women completed the sixth month of the study. At the end of the period, eighty four women (62.7%) were amenorrhoeic of whom only 33 (39.3%) were exclusively breastfeeding and no woman had dropped out of the study because of pregnancy or the use of other family planning methods other than LAM. The study confirmed that LAM could be applicable in Uganda to the majority of the breastfeeding women (62.7%). It is expected that if health workers increase the intensity of breastfeeding support as well as the women's knowledge and motivation to use LAM for family planning, this would contribute to children's health as well as to birth spacing that is one of the major factors related to infant deaths. According to data from this study, the return of menses is irrespective of whether supplements have been introduced and their frequency” (Ravera et al., 1995, abstract).


“Objective: The lactational amenorrhoea method (LAM) is an effective contraceptive option in developing countries. Post-partum, of the women who accept to apply LAM, many never do. Our aim was to determine the actual use of LAM.

Methods: A group of 326 post-partum women who accepted LAM use were recruited. After 6 months, they were asked if they actually had applied the method or not. In a logistic regression analysis, nine socio-demographic and clinical variables were studied as predictors of actual LAM use. An alpha level was set at 0.05.

Results: Overall, of the 326 women, only 61 (18.7%) actually applied LAM. The mean duration of LAM use was 4.3 +/- 0.2 months. The main reason for not applying LAM was that women thought the method was ineffective (66.0%). The variable time of menses resumption emerged as a predictor of LAM use (p = 0.001).

Conclusions: Despite post-partum acceptance, most women did not actually apply LAM. In our setting as well as in other developing countries, regular contacts with a health care provider could improve LAM use” (Romero-Gutierrez et al., 2007, abstract).


“Background: Breastfeeding does not reliably protect against pregnancy except during the first 6 months postpartum and only then if accompanied by amenorrhea. Reluctance to use other methods of contraception during lactation may result in unplanned pregnancy. The aims of this study were to describe, among women in rural Egypt attending for antenatal care the prevalence of pregnancy during breastfeeding, contraceptive practice and unintended pregnancy. Finally, the study assessed women’s impressions of the effect of conception during breastfeeding on breast milk and on the health of the breastfed infant.

Study design: A descriptive study using an interviewer-administered structured questionnaire for 2617 parous women attending a hospital in Egypt for antenatal care.

Results: More than 95% of women breastfed the child before their current pregnancy; 25.3% conceived while breastfeeding. Conception occurred during the first 6 months postpartum in 4.4%, before resumption of menstruation in 15.1% and while exclusively or almost exclusively breastfeeding in 28.1%. Only 10 pregnancies (1.5%) occurred when all the prerequisites of the lactational amenorrhea method of
contraception (LAM) were present. Twenty-nine percent of pregnancies conceived during breastfeeding were unintended, 10% of women had considered terminating their pregnancy while 4.4% of them reported trying to do so.

Conclusions: Pregnancy during breastfeeding is common in Egypt and is often unintended. There is great potential for using LAM, but it must be properly taught, and women should be encouraged to start using effective contraception as soon as any of the prerequisites of LAM expires” (Shaaban & Glasier, 2007, abstract).


In order to expand the benefits of breastfeeding as a birth spacing option for women in the Republic of Kazakhstan, the Kazakh Academy of Nutrition at the Academy of Preventive Medicine in Almaty conducted an operations research study to test the effectiveness of Lactation Amenorrhea Method (LAM) promotion among women in Kazakhstan, as part of the Population Council’s Frontiers in Reproductive Health Small Grants Program. In the Promotion of Lactation Amenorrhea Method Intervention Trial (PLAMIT), researchers trained maternity ward staff in four hospitals to provide patient counseling on the benefits of LAM as a family planning method, while five comparison hospitals received no additional support. After the intervention, they observed the breastfeeding habits of 3,969 women and 4,003 children in all nine hospitals, and conducted a total of eight interviews over 12 months with each mother. Reproductive and child health outcomes were compared according to the status of the hospital as intervention or control, and Baby-Friendly (those that are certified according to UNICEF standards) or ordinary (not Baby-Friendly). This report presents only results related to family planning (Tazhibayev et al., 2004).


“The aim of this study was to evaluate the effectiveness of lactational amenorrhoea and to determine the relationship between extended breastfeeding and the return of fertility. Breastfeeding pattern, basal body temperature, cervical mucus, salivary ferning, vaginal blood discharge, frequency of sexual intercourse, and the presence of ovulation in the first cycle after the resumption of menses with ultrasonography were evaluated in 40 women. All subjects completed the study with only one case of incomplete breastfeeding. No pregnancies were observed. The mean number of feeding sessions and mean interval between sessions decreased significantly (p <0.01) during the first six months postpartum (7.5 +/- 1.3 after 60 days postpartum vs. 5.7 +/- 2.1 after 180 days, and 3.6 +/- 0.8 vs. 5.1 +/- 0.9, respectively). Eight women (20%) menstruated before weaning, but none had an adequate thermal shift, while 32 (80%) had their first vaginal bleeding after weaning with 12 (37.5%) registering an adequate thermal shift. Both basal body temperature and salivary ferning proved to be suggestive of ovarian activity, while mucus characteristics were not reliable in identifying fertile periods. Our study showed that breastfeeding associated with lactational amenorrhoea proved to be a good method of postpartum fertility control. Since the importance of supplementation is still debated, it is recommended that a "complete" breastfeeding program be used” (Tommaselli et al., 2000, abstract).
Breastfeeding for contraception & LAM


“The proximate causes of the contraceptive effect of lactation are still a matter of productive debate. This study sought to disentangle the relative impact that intense breast-feeding practices and maternal nutrition have on the regulation of ovarian function in nursing women. A mixed-longitudinal, direct-observational, prospective study was conducted of the return to postpartum fecundity in 113 breast-feeding, well-nourished Toba women. A sub-sample of 70 women provided data on nursing behavior, daily activities, diet quality and urinary levels of oestrone and progesterone metabolites. Well-nourished, intensively breast-feeding Toba women experienced a relatively short period of lactational amenorrhea (10.2 +/- 4.3 months) and a high lifetime fertility (TFR = 6.7 live births/woman). Duration of lactational amenorrhoea was not correlated with any of the nursing parameters under study or with static measures of maternal nutritional status. The results indicated that the pattern of resumption of postpartum fertility could be explained, at least partly, by differences in individual metabolic budgets. Toba women resumed postpartum ovulation after a period of sustained positive energy balance. As the relative metabolic load hypothesis suggests, the variable effect of lactation on postpartum fertility may not depend on the intensity of nursing per se but rather on the energetic stress that lactation represents for the individual mother” (Valeggia & Ellison, 2004, abstract).


“Background: 50 % of pregnancies are unwanted. For several reasons including difficulty in obtaining contraceptives, no or ineffective contraception is used to prevent these unwanted pregnancies. The Lactational Amenorrhoea Method (LAM) however is a contraceptive method available and accessible for many women.

Objectives: To assess in fully breastfeeding women, staying amenorrheic, the efficacy of the Lactational Amenorrhoea Method as a contraceptive method. The efficacy of LAM, as defined in 1988 in Bellagio, was compared with alternative definitions of LAM; the outcomes were measured using pregnancy and menstruation life tables.

Search strategy: Data sources: MEDLINE searches from 1966 until 2002 and EMBASE from 1988 until 2002; reference lists of studies and review articles; books related to LAM; published abstracts from breastfeeding, reproductive health, contraceptive conferences; and e-mail communication with coordinators of such studies.

Selection criteria: From 454 potentially relevant studies 154 investigated the risk of pregnancy during LAM or lactational amenorrhea. Two reviewers applied the following inclusion criteria: prospective study, cases and if available- controls had to be sexually active, pregnancy had to be confirmed by physical examination or a pregnancy test. Life table menstruation rates and life table pregnancy rates were taken as endpoints. Thirteen publications, reporting on 9 intervention groups and 2 control groups, met the inclusion criteria and were included in this systematic review. Their quality was assessed.

Data collection and analysis: Two reviewers independently extracted data, disagreements were resolved through discussion. Because of the heterogeneity of the included studies, the studies were analyzed using narrative methods.

Main results: For the outcome two controlled studies of LAM users reported life table pregnancy rates at 6 months of 0.45 and 2.45 percent and 5 uncontrolled studies of LAM users reported 0-7.5 percent. Life table pregnancy rates of women fully breastfeeding and amenorrheic but not using any contraceptive method were
Breastfeeding for contraception & LAM

0.88 in one study and 0.9-1.2 percent (95% CI 0.0-2.4) in a second study, depending on the definition of menstruation used. The life table menstruation rate at 6 months in all studies varied between 11.1-39.4 percent.

Reviewer's conclusions: No clear difference in life table pregnancy rates was found between women using LAM and supported in doing so, and fully breastfeeding, amenorrheic women not using any method. Because the length of lactation amenorrhoea of women using LAM is too different between populations studied, and population specific, it is uncertain whether LAM extends lactational amenorrhoea” (Van der Wijden, et al., 2003, abstract).


“Objective: To determine the knowledge of women about lactational amenorrhea and contraceptive properties of breastfeeding.

Design: A prospective, randomized descriptive study.

Setting: Kocaeli University School of Medicine, Department of Obstetrics and Gynecology.

Subjects or participants: Nine hundred and twenty-two women in their reproductive ages.

Intervention: A questionnaire was filled by doctors or nurses during face to face interview.

Main outcome measures: There was significantly less knowledge for the importance of frequency and duration of suckling (p < 0.0001). The education increases the knowledge of lactational amenorrhea as a interruptus contraceptive method.

Results: More than fifty-three per cent of women were using one of the modern contraceptive methods, 23.86% were using natural methods and 22.78% not using any family planning method. Intrauterine devices (30.15%), coitus interruptus (21.69%) and condom (16.48%) were the most common contraceptive methods. Nearly fifty-two per cent of women were not aware of the contraceptive property of breastfeeding, 25.68% of women knew lactation had a protective effect from pregnancy, 48.16%, did not know the importance of frequency and duration of suckling on fertility reducing effect of lactation.

Conclusion: The level of knowledge on lactational amenorrhea and frequency of suckling was significantly low in our study, especially in the illiterate group. Since efficacy of natural family planning depends on the compliance of women, education of women about lactation is very important. Family planning programmes should be focused on breastfeeding and type of breastfeeding practices used, especially where there are no contraceptive alternatives” (Vural et al., 1999, abstract).


“This paper reports the results of a 12-month implementation study documenting the process of integrating the Lactational Amenorrhea Method (LAM) into a multiple-method family planning service-delivery organization, the Céntro Médico de Orientación y Planificación Familiar (CEMOPLAF), in Ecuador. LAM was introduced as a family planning option in four CEMOPLAF clinics. LAM was accepted by 133 breastfeeding women during the program’s first five months, representing about one-third of postpartum clients. Seventy-three percent of LAM acceptors were new to any family planning method. Follow-up interviews with a systematic sample of 67 LAM users revealed that the method was generally used correctly. Three pregnancies were reported, none by women who were following LAM as recommended. Service
providers’ knowledge of LAM resulted in earlier IUD insertions among breastfeeding women. Relationships with other maternal and child health organizations and programs were also established” (Wade, Sevilla & Labbok, 1994, abstract).


“This paper reports a hospital-based longitudinal study that was conducted in Zibo, China, in June 1996. The objective was to investigate the existing patterns of breastfeeding, amenorrhea and contraceptive use among postpartum women in urban areas of China. Information was obtained from 492 newly parturient women. Follow-up interviews were done at 42 days, 4 months and 1 year after delivery. The results showed that the full breastfeeding rate (including exclusive and almost exclusive breastfeeding) was 78% and 43% at 42 days and 4 months after delivery, respectively. The mean reported length of abstinence from sexual intercourse after delivery was 71 days. The mean reported time to menses resumption was 184 days. Ninety-three per cent of women had resumed sexual intercourse at 4 months after delivery. Seventy-three per cent of women were using contraceptive methods when they resumed sexual activity after delivery. After childbirth, the majority of the women interviewed used condoms within 3 months. Thereafter, most of them switched to intrauterine device (IUD)). Life table analysis shows that the continuation rates of full breastfeeding and amenorrhea at 4 months after delivery were 35% and 68%, respectively. This implies that if the full breastfeeding rate can be prolonged, it is feasible to use the lactational amenorrhea method (LAM) among Chinese postpartum women. The policy implications of this study are that quality care on contraceptive services and information for postpartum women in urban areas need to be improved further” (Zhang et al., 2002, abstract).
4. HIV AND FAMILY PLANNING, AND PMTCT


“Objectives: This study examined hormonal contraceptive use and pregnancy in urban Rwandan women, following human immunodeficiency virus (HIV) antibody testing and counseling.

Methods: A sample of 1458 childbearing urban Rwandan women aged 18 to 35 years was tested and followed for 2 years.

Results: At enrollment, 17% of 998 HIV-negative women and 11% of 460 HIV-positive women were pregnant, and 17% vs. 23%, respectively, were using hormonal contraceptives. One year later, half of the HIV-positive and one third of the HIV-negative hormonal-contraceptive users had discontinued use. The 2-year incidence of pregnancy was 43% in HIV-positive and 58% in HIV-negative women. HIV-positive women with fewer than four children were more likely to become pregnant than those with four or more; this association persisted in multivariate analyses but was not noted among HIV-negative women. At the end of the study, over 40% of non-users said that they would use hormonal contraception if it was provided at the study clinic, but 40% of HIV-positive women desired more children.

Conclusions: Research is needed to identify the practical and psychosocial obstacles to effective long-term contraception among HIV-positive women. HIV counseling programs must specifically address the issue of childbearing” (Allen et al., 1993, abstract).


“Objectives: The objectives of this study were to determine patterns of contraceptive utilization among sexually active HIV-1-seropositive women postpartum and to identify correlates of hormonal contraception uptake.

Goal: The goal of this study was to improve delivery of family planning services to HIV-1-infected women in resource-limited settings.

Study Design: HIV-1-infected pregnant women were followed prospectively in a perinatal HIV-1 transmission study. Participants were referred to local clinics for contraceptive counseling and management.

Results: Among 319 HIV-1-infected women, median time to sexual activity postpartum was 2 months and 231 (72%) women used hormonal contraception for at least 2 months during follow-up, initiating use at approximately 3 months postpartum (range, 1-11 months). Overall, 101 (44%) used DMPA, 71 (31%) oral contraception, and 59 (25%) switched methods during follow-up. Partner notification, infant mortality, and condom use were similar between those using and not using contraception.

Conclusions: Using the existing healthcare infrastructure, it is possible to achieve high levels of postpartum hormonal contraceptive utilization among HIV-1-seropositive women” (Balkus et al., 2007, abstract).

"Objective: To assess the content and delivery of essential antenatal services before implementation of programmes for prevention of mother-to-child transmission (PMTCT) of human immunodeficiency virus (HIV).

Methods: We assessed 18 antenatal care centres (eight public units and ten managed by nongovernmental organizations) in Kinshasa, Democratic Republic of the Congo. We used a survey to capture information about the number and type of antenatal health workers, infrastructure capacity and the delivery of basic antenatal care services such as: nutritional counseling; tetanus toxoid vaccination; prevention and management of anaemia, malaria, sexually transmitted infections, and tuberculosis; and counseling for post-partum contraception.

Findings: Antenatal care units differed with respect to size, capacity, cost, service delivery systems and content. For instance, 17 of the 18 sites offered anaemia screening but only two sites included the cost in the card that gives access to antenatal care. Nine of the clinics (50%) reported providing the malaria prophylaxis sulfadoxine pyrimethamine as per national policy. Four (22%) of the sites offered syphilis screening.

Conclusion: Scaling up PMTCT programmes in under-resourced settings requires evaluation and strengthening of existing basic antenatal service delivery” (Behets et al., 2006, abstract).


"Objective: To assess whether the custom of prolonged post-partum sexual abstinence in Benin is associated with an increased incidence of extra-marital sexual contacts by husbands.

Design: Cross-sectional survey of adult men and women.

Methods: Data obtained from men on their extra-marital sexual behavior in the past 12 months were linked to data on post-partum abstinence over the same time interval reported by wives. Multivariate analysis was applied to assess the association between conjugal abstinence and husband’s extra-marital sex, net of the effects of possible confounders.

Results: Approximately half of married men experienced post-partum abstinence in the past 12 months. In this group, 32% reported one or more extra-marital sexual contacts compared with 20% among those who experienced no abstinence (OR = 1.8, P < 0.001). This association is essentially unchanged after controlling for marriage type, age, education, urban-rural residence, income and household wealth. Age, income and wealth are also significant predictors of the probability of extra-marital sex. The effects of income and wealth largely disappear when attention is restricted to extra-marital sex without using a condom on the most recent occasion.

Conclusions: The potentially protective effect of prolonged abstinence after childbirth in Benin (and probably in much of West Africa) is offset by an increased probability that husbands will seek extra-marital partners without using condoms. Although not quantifiable, the enhanced longer-term risks of sexually transmitted diseases/HIV infection for wives probably outweigh the short-term benefits. Family planning practitioners in this region should not hesitate to recommend the early resumption of sex and suitable methods of post-partum contraception for women who express concern or uncertainty about their husband’s behavior” (Cleland, Ali & Capo-Chichi, 1999, abstract).
HIV and family planning, and PMTCT


**Background:** Exclusive breastfeeding, though better than other forms of infant feeding and associated with improved child survival, is uncommon. We assessed the HIV-1 transmission risks and survival associated with exclusive breastfeeding and other types of infant feeding.

**Methods:** 2722 HIV-infected and uninfected pregnant women attending antenatal clinics in KwaZulu Natal, South Africa (seven rural, one semiurban, and one urban), were enrolled into a non-randomised intervention cohort study. Infant feeding data were obtained every week from mothers, and blood samples from infants were taken monthly at clinics to establish HIV infection status. Kaplan-Meier analyses conditional on exclusive breastfeeding were used to estimate transmission risks at 6 weeks and 22 weeks of age, and Cox's proportional hazard was used to quantify associations with maternal and infant factors.

**Findings:** 1132 of 1372 (83%) infants born to HIV-infected mothers initiated exclusive breastfeeding from birth. Of 1276 infants with complete feeding data, median duration of cumulative exclusive breastfeeding was 159 days (first quartile [Q1] to third quartile [Q3], 122–174 days). 14.1% (95% CI 12.0–16.4) of exclusively breastfed infants were infected with HIV-1 by age 6 weeks and 19.5% (17.0–22.4) by 6 months; risk was significantly associated with maternal CD4-cell counts below 200 cells per μL (adjusted hazard ratio [HR] 3.79; 2.35–6.12) and birthweight less than 2500 g (1.81, 1.07–3.06). Kaplan-Meier estimated risk of acquisition of infection at 6 months of age was 4.04% (2.29–5.76). Breastfed infants who also received solids were significantly more likely to acquire infection than were exclusively breastfed children (HR 10.87, 1.51–78.00, p=0.018), as were infants who at 12 weeks received both breastmilk and formula milk (1.82, 0.98–3.36, p=0.057). Cumulative 3-month mortality in exclusively breastfed infants was 6.1% (4.74–7.92) versus 15.1% (7.63–28.73) in infants given replacement feeds (HR 2.06, 1.00–4.27, p=0.051).

**Interpretation:** The association between mixed breastfeeding and increased HIV transmission risk, together with evidence that exclusive breastfeeding can be successfully supported in HIV-infected women, warrant revision of the present UNICEF, WHO, and UNAIDS infant feeding guidelines” (Coovadia, et al., 2007, abstract).


“The aim of this paper is to describe the adherence of African HIV+ women to the counseling provided after announcement of the result of the HIV test during pregnancy, focusing on early weaning to reduce post-natal transmission, protected sexual intercourse to avoid sexual transmission, and contraceptive use to avoid unexpected pregnancies. In 1999–2000, a questionnaire on sexual and reproductive behaviors was administered to 149 HIV+ women followed in post-partum, informed and counseled in the ANRS 049 DITRAME project in Abidjan. Cote d'Ivoire. Duration of breastfeeding, post-partum amenorrhea and abstinence, contraceptive use and condom use were measured. Incidence of pregnancies during the first 24 months post partum was estimated and modeled by a Cox regression model. Average duration of breastfeeding was 7.9 months, average duration of post partum abstinence was 12.0 months, and 39% of women used contraceptives at the time of the survey. Frequency of condom use was 13%. Incidence of
pregnancies was 16.5 per 100 women-years at risk. Half of these pregnancies were not desired and a third were terminated by induced abortion. The significant determinants of the pregnancy occurrence were the death of the previous child, the cessation of breastfeeding, the cessation of the post partum abstinence, and higher education. In conclusion, if counseling on early weaning can be followed by the HIV+ women, it is not easily the case for condom and contraceptive use. Hence, pregnancy incidence in the post-partum follow-up was high. The main strategy of these HIV+ women to avoid unexpected pregnancies as well as sexual transmission of HIV seems to be an increase of the duration of post-partum abstinence. The most educated women who cannot easily adopt this strategy are particularly exposed to unwanted pregnancies” (Desgrees-du-Lou et al., 2002, abstract).


This Lancet viewpoint paper presents the case for the integration of family planning and prevention of mother-to-child HIV transmission programs. The authors review the varied contraceptive options available for HIV-infected women, and discuss how the integration of programs may provide more integrated health care, although they recognize that we “lack documentation of the effectiveness of integrating family planning services with mother-to-child transmission prevention programmes” (Duerr et al., 2005, p. 262. However, while the current practice is to use antiretrovirals to protect against vertical transmission of HIV to the newborn, the authors postulate that it may be just as effective to guard against vertical transmission by preventing pregnancies in the first place through postpartum contraception (Duerr et al., 2005).

Family Health International. (2006.) Contraception cost-effective for preventing mother-to-child transmission of HIV. *Work funded by USAID through Family Health International.*

“Most efforts to reduce mother-to-child transmission of HIV focus on increasing HIV counseling and testing services and services that provide antiretroviral drugs, like nevirapine, to HIV-infected mothers and their newborns. But another strategy is to increase contraceptive use among sexually active women who wish to avoid pregnancy. Family Health International has developed a model to assess the cost-effectiveness of this strategy – preventing unintended pregnancies – as an HIV prevention approach. When the model was applied to a hypothetical population in sub-Saharan Africa, reducing unmet need for contraception was more cost-effective for preventing HIV-positive births than was the current programmatic emphasis on HIV counseling and testing coupled with nevirapine provision. These results emphasize the central role that contraception can and should play in HIV prevention” (FHI, 2006, summary).


“To determine effect of partner involvement and couple counseling on uptake of interventions to prevent HIV-1 transmission, women attending a Nairobi antenatal clinic were encouraged to return with partners for voluntary HIV-1 counseling and testing (VCT) and offered individual or couple posttest counseling. Nevirapine was provided to HIV-1-seropositive women and condoms distributed to all participants. Among
2104 women accepting testing, 308 (15%) had partners participate in VCT, of whom 116 (38%) were couple counseled. Thirty-two (10%) of 314 HIV-1-seropositive women came with partners for VCT; these women were 3-fold more likely to return for nevirapine (P = 0.02) and to report administering nevirapine at delivery (P = 0.009). Nevirapine use was reported by 88% of HIV-infected women who were couple counseled, 67% whose partners came but were not couple counseled, and 45% whose partners did not present for VCT (P for trend = 0.006). HIV-1-seropositive women receiving couple counseling were 5-fold more likely to avoid breast-feeding (P = 0.03) compared with those counseled individually. Partner notification of HIV-1-positive results was reported by 138 women (64%) and was associated with 4-fold greater likelihood of condom use (P = 0.004). Partner participation in VCT and couple counseling increased uptake of nevirapine and formula feeding. Antenatal couple counseling may be a useful strategy to promote HIV-1 prevention interventions” (Farquhar et al., 2004, abstract).


“This paper explores the reproductive preferences and outcomes of HIV-positive women in two cities in Brazil. We used three types of data, all drawn from women who delivered in public sector hospitals: (1) clinical records of 427 HIV-positive women; (2) pre- and postpartum in-depth interviews with 60 HIV-positive women; and (3) a prospective survey carried out among 363 women drawn from the general population. The HIV-positive samples were collected on women who had prenatal care between July 1999 and June 2000, and the general population survey was conducted with women who started prenatal care between April 1998 and June 1999. Among the women in the clinic sample, we found dramatic differences in the proportion sterilized postpartum: 51% in Sao Paulo vs. 4% in Porto Alegre, compared to 3.4% and 1.1%, respectively, of women in the general population. Our qualitative data suggest that HIV-positive women in this study had strong preferences to have no more future children and that female sterilization was the preferred way to achieve this end. Therefore, we conclude that the large difference in rates is mainly due to HIV-positive women’s differential access to sterilization in the two settings. In-depth interviews revealed that women in Sao Paulo were often encouraged by clinic staff to be sterilized postpartum. In contrast, HIV-positive women in Porto Alegre clinics were not offered sterilization as an option and those who requested it were repeatedly put off. The striking difference found in the frequency with which doctors provide postpartum sterilization to seropositive women in our study sites deserves attention and discussion in the respective medical communities. At the higher level of national policy on reproductive rights, there may be grounds for reopening discussion about the norms regarding postpartum procedures, and for devoting far more resources to expanding contraceptive options” (Hopkins et al., 2005, abstract).


“Objectives: The promotion of exclusive breastfeeding (EBF) to reduce the postnatal transmission (PNT) of HIV is based on limited data. In the context of a trial of postpartum vitamin A supplementation, we provided education and counseling about infant feeding and HIV, prospectively collected information on infant feeding practices, and measured associated infant infections and deaths. Design and methods: A total of 14 110 mother-newborn pairs were enrolled, randomly assigned to vitamin A treatment group after
delivery, and followed for 2 years. At baseline, 6 weeks and 3 months, mothers were asked whether they were still breastfeeding, and whether any of 22 liquids or foods had been given to the infant. Breastfed infants were classified as exclusive, predominant, or mixed breastfed.

**Results:** A total of 4495 mothers tested HIV positive at baseline; 2060 of their babies were alive, polymerase chain reaction negative at 6 weeks, and provided complete feeding information. All infants initiated breastfeeding. Overall PNT (defined by a positive HIV test after the 6-week negative test) was 12.1%, 68.2% of which occurred after 6 months. Compared with EBF, early mixed breastfeeding was associated with a 4.03 (95% CI 0.98, 16.61), 3.79 (95% CI 1.40-10.29), and 2.60 (95% CI 1.21-5.55) greater risk of PNT at 6, 12, and 18 months, respectively. Predominant breastfeeding was associated with a 2.63 (95% CI 0.59-11.67), 2.69 (95% CI 0.95-7.63) and 1.61 (95% CI 0.72-3.64) trend towards greater PNT risk at 6, 12, and 18 months, compared with EBF.

**Conclusion:** EBF may substantially reduce breastfeeding-associated HIV transmission” (Illif et al., 2005, abstract).


“Objectives: Since contraception is an effective way of preventing the vertical transmission of HIV, we evaluated the impact of a family planning intervention on hormonal contraceptive use and incident pregnancy in a group of HIV-positive and HIV-negative urban Rwandan women.

**Subjects and Methods:** In a longitudinal cohort study, 502 women who were not pregnant or infertile and who had been previously HIV tested and counseled viewed an informational video about hormonal contraception followed by a facilitated discussion. They were given access to oral or injectable hormonal contraception and Norplant at the research clinic; those who used these methods were seen every 3 months.

**Results:** Of the 330 HIV-positive and 172 HIV-negative women who underwent the intervention, 120 either became new hormonal method users (n = 40), continued their previous use of a hormonal method (n = 64), or switched to another hormonal method (n = 16) following the intervention. There was a shift to use of longer lasting hormonal methods, and the annualized attrition rate was < 15%, compared to > 50% prior to the intervention. Rates of oral and injectable contraceptive use were similar among HIV-positive and HIV-negative women. Nine per cent of HIV-positive women became pregnant in the year after the intervention compared to 22% in a prior 12 month period when contraceptives were not provided at the study site. The corresponding proportions for HIV-negative women were 20% after the intervention versus 30% before the intervention.

**Conclusions:** Access to and information about hormonal contraceptives resulted in increased use and reduced attrition among both HIV-positive and HIV-negative women in this study. The reduction in incident pregnancy was greatest among HIV-positive women, suggesting that factors other than access to hormonal contraceptives may have influenced fertility outcomes. Knowledge of HIV serostatus may have an important influence on family planning decisions” (King et al., 1995, abstract).


“Objective: To assess the immediate and longer-term effects of the use of hormonal contraception on the progression of HIV-1 disease in postpartum women.
Design: A prospective cohort study.
Methods: Information on contraceptive use, breastfeeding and intercurrent illnesses was obtained from HIV-infected postpartum Kenyan women monthly in the first year postpartum and quarterly in the second year. Blood was collected for T-cell subset analyses and HIV-1-RNA levels at months 1, 3, 6, 9, 12, 18, and 24 postpartum. The immediate effect of the initiation of oral contraceptive pills (OCP) and depot medroxyprogesterone acetate (DMPA) was assessed using Loess curves and linear mixed effects models to compare changes over the first 24 months postpartum in these same disease progression markers.
Results: There were no significant immediate or longer-term effects of the use of OCP or DMPA on HIV-1-RNA plasma viral loads and CD4 T-cell counts in this cohort of HIV-infected postpartum Kenyan women.
Conclusion: Comprehensive contraceptive counseling for HIV-1-infected women requires an understanding of the effects of various contraceptive methods on HIV-1 disease progression. In this study, hormonal contraception reassuringly had no immediate or longer-term effects on the rate of disease progression in chronically HIV-1-infected postpartum women. This highly effective family planning method may provide a useful and safe option for the prevention of mother-to-child transmission of HIV-1” (Richardson et al., 2007, abstract).


“This article reviews field experiences with provision of family planning services in prevention of mother-to-child transmission (PMTCT) programs in ten countries in Africa, Asia, and Latin America. Family planning is a standard component of most antenatal care and maternal-child health programs within which PMTCT programs are offered. Yet PMTCT sites often miss opportunities to provide HIV-positive clients with family planning counseling. Demand for family planning among HIV-positive women varies depending on the extent of communities' openness about HIV/AIDS, fertility norms, and knowledge of PMTCT programs. In Kenya and Zambia, no differences were observed in use of contraceptives between HIV-positive and HIV-negative women in the study communities, but HIV-positive women have more affirmative attitudes about condoms and use them significantly more frequently than do their HIV-negative counterparts. In the Dominican Republic, India, and Thailand, where HIV prevalence is low and sterilization rates are high, HIV-positive women are offered sterilization, which most women accept. This article draws out the policy implications of these findings and recommends that policies be based on respect for women's right to informed reproductive choice in the context of HIV/AIDS” (Rutenberg & Baek, 2005, abstract).

Semrau, K., Kuhn, L., Vwalike, C., Kasonde, P., Sinkala, M., Kankasa, C., et al. (2005.) Women in couples antenatal HIV counseling and testing are not more likely to report adverse social events. AIDS, 19(6), 603-609.

“Background: Couple counseling has been promoted as a strategy to improve uptake of interventions to prevent mother-to-child HIV transmission (pMTCT) and to minimize adverse social outcomes associated with disclosure of HIV status.
Objectives: We tested whether women counseled antenatally as part of a couple were more likely to accept HIV testing and nevirapine in a pMTCT program, and whether they would be less likely to experience later adverse social events than women counseled alone.
Methods: A pMTCT program that included active community education and outreach to encourage couple counseling and testing was implemented in two antenatal clinics in Lusaka, Zambia. A subset of HIV-positive
women was asked to report their experience of adverse social events 6 months after delivery. Couple-counseled women were compared with individual-counseled women stratified by whether or not they had disclosed their HIV status to their partners.

**Results:** Nine percent (868) of 9409 women counseled antenatally were counseled with their husband. Couple-counseled women were more likely to accept HIV testing (96%) than women counseled alone (79%); however uptake of nevirapine was not improved. Six months after delivery, 28% of 324 HIV-positive women reported at least one adverse social event (including physical violence, verbal abuse, divorce or separation). There were no significant differences in reported adverse social events between couple- and individual-counseled women.

**Conclusions:** Couple counseling did not increase the risk of adverse social events associated with HIV disclosure. Support services and interventions to improve social situations for people living with HIV need to be further evaluated” (Semrau et al., 2005, abstract).


Shelton of the US Agency for International Development and Fuchs discuss in this article why the clinic may be a “weak platform” for the integration of HIV prevention efforts and family planning, but why the community-based efforts of family planning and the programmatic efforts of some HIV efforts (such as prevention of mother-to-child transmission, voluntary counseling and testing, and long-term anti-retroviral therapy) may dovetail nicely (Shelton and Fuchs, 2004).


To determine the incidence of and risk factors for HIV-1 infection among married women in northern Thailand, we enrolled 779 seronegative women from family planning clinics and a postpartum ward in Chiang Rai, Thailand, from 1998 through 1999. Women were tested for HIV antibodies at 6 and 12 months after enrollment. They received HIV prevention counseling at enrollment and at each follow-up visit. Counseling covered partner communication, partner HIV testing, and condom use by steady partners. Effects of counseling were measured using standardized questionnaires. Follow-up rates were 94% at 6 months and 92% at 12 months. Only 1 woman seroconverted during the follow-up period, yielding an overall HIV incidence of 0.14 per 100 person-years. After receiving counseling, women reported significantly increased communication with husbands concerning HIV risk, HIV testing, and condom use during the first 6 months after enrollment; communication remained high for 6 to 12 months. Women reported a modest increase in HIV testing and consistent condom use by husbands. The risk for HIV transmission to women in steady relationships is low in northern Thailand. Although HIV prevention counseling promoted partner communication, its effects on HIV preventive behaviors were limited.
Birth spacing

BIRTH SPACING


Requests for this publication can be sent to: pcouncil@popcouncil.org

Optimal birth spacing intervals (OBSI) of 3-5 years (as opposed to traditional recommendations of 2 years) are beneficial to mothers and their children (Abdel-Tawab et al., 2006, p. 1). To explore OBSI intervention strategies in Egypt, FRONTIERS studied two models: “The first model involves provision of OBSI messages through health services to women during prenatal and postpartum periods while the second model involves the above plus an awareness raising IEC component that targets husbands and community influencers” (Abdel-Tawab, et al., 2006, p. 2). This article describes the research rationales, study design (focus groups) that led to the interventions of the models, and preliminary results, while results and analysis are pending another article in 2008 (Abdel-Tawab et al., 2006).


“Context: Both short and long interpregnancy intervals have been associated with an increased risk of adverse perinatal outcomes. However, whether this possible association is confounded by maternal characteristics or socioeconomic status is uncertain.

Objective: To examine the association between birth spacing and relative risk of adverse perinatal outcomes.

Data sources: Studies published in any language were retrieved by searching MEDLINE (1966 through January 2006), EMBASE, ECLA, POPLINE, CINAHL, and LILACS, proceedings of meetings on birth spacing, and bibliographies of retrieved articles, and by contact with relevant researchers in the field.

Study selection: Included studies were cohort, cross-sectional, and case-control studies with results adjusted for at least maternal age and socioeconomic status, reporting risk estimates and 95% confidence intervals (or data to calculate them) of birth spacing and perinatal outcomes. Of 130 articles identified in the search, 67 (52%) were included.

Data extraction: Information on study design, participant characteristics, measure of birth spacing used, measures of outcome, control for potential confounding factors, and risk estimates was abstracted independently by 2 investigators using a standardized protocol.

Data synthesis: A random-effects model and meta-regression analyses were used to pool data from individual studies. Compared with interpregnancy intervals of 18 to 23 months, interpregnancy intervals shorter than 6 months were associated with increased risks of preterm birth, low birth weight, and small for gestational age (pooled adjusted odds ratios [95% confidence intervals]: 1.40 [1.24-1.58], 1.61 [1.39-1.86], and 1.26 [1.18-1.33], respectively). Intervals of 6 to 17 months and longer than 59 months were also associated with a significantly greater risk for the 3 adverse perinatal outcomes.

Conclusions: Interpregnancy intervals shorter than 18 months and longer than 59 months are significantly associated with increased risk of adverse perinatal outcomes. These data suggest that spacing pregnancies appropriately could help prevent such adverse perinatal outcomes” (Conde-Agudelo, et al., 2005, abstract).

“Objective: To estimate the effects on pregnancy outcomes of the duration of the preceding interpregnancy interval (IPI) and type of pregnancy outcome that began the interval.

**Design:** Observational population-based study.

**Setting:** The Maternal Child Health-Family Planning (MCH-FP) area of Matlab, Bangladesh.

**Population:** A total of 66,759 pregnancy outcomes that occurred between 1982 and 2002.

**Methods:** Bivariate tabulations and multinomial logistic regression analysis.

**Main outcome measures:** Pregnancy outcomes (live birth, stillbirth, miscarriage [spontaneous fetal loss prior to 28 weeks], and induced abortion).

**Results:** When socio-economic and demographic covariates are controlled, of the IPIs that began with a live birth, those < 6 months in duration were associated with a 7.5-fold increase in the odds of an induced abortion (95% CI 6.0-9.4), a 3.3-fold increase in the odds of a miscarriage (95% CI 2.8-3.9), and a 1.6-fold increase in the odds of a stillbirth (95% CI 1.2-2.1) compared with 27- to 50-month IPIs. IPIs of 6-14 months were associated with increased odds of induced abortion (2.0, 95% CI 1.5-2.6). IPIs > or = 75 months were associated with increased odds of all three types of non-live-birth (NLB) outcomes but were not as risky as very short intervals. IPIs that began with a NLB were generally more likely to end with the same type of NLB.

**Conclusions:** Women whose pregnancies are between 15 and 75 months after a preceding pregnancy outcome (regardless of its type) have a lower likelihood of fetal loss than those with shorter or longer IPIs. Those with a preceding NLB outcome deserve special attention in counseling and monitoring” (DaVanzo et al., 2007).


“Before modern contraceptive methods were available in developing countries, post-partum sexual abstinence formed the backbone of birth spacing. With the changes occurring in African societies, how has post-partum sexual abstinence been affected? We conducted an exploratory study in 2000-2001 in Abidjan, Côte d’Ivoire with 23 women and 19 men who were parents of small children. Breastfeeding remains widespread and prolonged. Resumption of sexual relations after delivery was a mean of 11 months. Post-partum sexual abstinence was only distantly related to the traditional lactation taboo. Women expressed fears that their partner would seek elsewhere if they delayed sexual relations too long, and the risk of early pregnancy. Abstinence remained the main way to space births, given low contraceptive use. Mothers generally decided when to wean a child. Men usually made the first move to resume sexual relations, though most women negotiated timing and some insisted on condom use. Provision of condoms post-partum can play a contraceptive role for married couples and protect against STIs/HIV in extra-marital relationships, which are frequent post-partum. The duration of post-partum abstinence is in fact unclear because irregular sex may happen early and become regular only later. Women need post-partum information and services that address these issues” (Desgrees-du-Lou & Brou, 2005, abstract).

“Based on the 1989 Demographic and Health Survey of Bolivia, analysis of the joint effects of breastfeeding and contraceptive use on birth-spacing showed the IUD to be the most effective contraceptive method used to delay conception. Breastfeeding significantly lengthened the birth interval, but only following second and higher parity births. In addition, conditions of poverty appeared to further inhibit the return of fecundity and delay conception” (Forste, 1995, abstract).


“Decision-making regarding fertility and family planning involves a complex process of discussion and negotiation by married couples. This study investigates how various social, demographic, and economic factors influence spousal agreement on waiting time to next birth. We also explore how the practice of polygyny in the society affects spousal agreement on waiting time to next birth. The study uses nationally-representative samples of matched cohabiting couples included in 14 recent Demographic and Health Surveys (DHS) in sub-Saharan Africa (Benin, Burkina Faso, Ghana, Mali, and Chad from west and central Africa; and Ethiopia, Kenya, Uganda, Rwanda, Malawi, Mozambique, Zimbabwe, Zambia, and Namibia from eastern and southern Africa), conducted during 1999 to 2004. We compare reported waiting time to next birth by the husband and the wife to measure spousal agreement or disagreement. Couples where the difference is within +/- 2 months are defined as having agreement on waiting time to next birth. We examine the influence of selected social, economic, and demographic characteristics of couples on spousal agreement on waiting time to next birth, using binary logistic regression. We find that in sub-Saharan Africa spousal agreement on waiting time to next birth is associated with wanting the next child sooner. When the spouses disagree on waiting time to next birth, the wives want to wait longer than their husbands in most cases. Additionally, we find that the demographic factors are the primary determinants of spousal agreement on waiting time to next birth, not the socioeconomic factors. The strongest predictor of waiting time to next birth is infecundability. In most countries, cohabiting couples with fewer children and couples with infecund wives are more likely to agree on waiting time to next birth. Wife’s age is also positively associated with spousal agreement. Effects of socioeconomic factors, such as education, employment, and wealth status are generally weak and inconsistent. The separate analysis of pooled data for the low and high polygyny countries also shows strong effects of demographic factors, not socioeconomic. The findings highlight some of the challenges in developing programs to promote spousal communication and birth spacing and underscore the need for the programs to be gender-sensitive” (Gebreselassie & Mishra, 2007, abstract).


“Objective: To identify the extent of demand for birth spacing, according to age and parity among married women of reproductive age (MWRA) in developing countries.

**Methods:** Secondary analysis of data from the Demographic and Health Surveys (DHS) using cross-tabulations. Data collected from nationally representative samples of MWRA in selected developing countries between 1990 and 2004.
Results: Demand for birth spacing is the most prevalent reason for an interest in family planning among married women aged 15-29 years in the majority of developing countries examined. In the 15-19-year age cohort, the demand for spacing is proportionally the most prevalent reason for a demand for family planning. A demand for spacing even exists among young, zero-parity married women in each country examined. Findings on the demand for spacing among zero-parity married women quantifies the expressed desire of some married women in developing countries to postpone a first birth or the timing of a first pregnancy.

Conclusion: The substantial demand for birth spacing among young, low- and zero-parity women suggests that family planning programs in developing countries may need to reevaluate how accessible services are for this cohort of potential contraception users. Currently, many service-delivery protocols, counseling practices and service provider training may not fully address the needs of younger, low- or zero-parity clients” (Jansen, 2005, abstract).


"Objective: The interval between births is associated with child survival in the developing world. We aimed to investigate associations between use of depot-medroxyprogesterone acetate and other reversible contraception and short birth intervals in sub-Saharan Africa.

Methods: Data from successive Demographic and Health Surveys undertaken in nine African countries were analyzed. Logistic regression was used to explain changes in the proportion of short birth intervals in four countries with relatively high use of reversible contraception.

Findings: The overall odds ratio for the trend was 0.90 (95% CI 0.84 to 0.95) and this was unaffected by adjusting for the other variables. The odds of a short birth interval were reduced by exclusive breastfeeding (OR 0.67, 95% CI 0.58 to 0.78) and increased by use of injectable contraception (OR 1.23, 95% CI 1.11 to 1.38).

Conclusion: The proportion of short birth intervals has changed little over the last decade in a context of very low use of the intrauterine device. Widespread adoption of injectable contraception is associated with greater odds of a short birth interval, thus not contributing favorable conditions for improved child health” (Ngianga-Bakwin & Stones, 2005, abstract).


“This editorial summarizes new evidence, some of which is published in this supplement, on birth spacing and newborn, infant, child and maternal health, as well as the demand for birth spacing services in the developing world. The article points to the high number of annual infant, child and maternal deaths, low birth weight infants and malnourished infants and children in developing countries. It highlights several new findings on birth spacing relevant to these conditions: for infants and children under five years of age, births spaced at least 36 months apart are associated with the lowest mortality risk; birth to conception intervals of less than 6 months, as well as abortion-pregnancy intervals of less than 6 months, are associated with increased risk of pre-term birth, low birth weight and small for gestational age; birth to conception intervals of less than 6 months are associated with increased risk of maternal mortality and morbidity. It argues that, in light of the new evidence, birth spacing is an important, feasible and practical intervention to address these conditions and should be included in developing country health programs” (Norton, 2005, abstract).

“The Cebu Longitudinal Health and Nutrition Survey is used to examine the roles of women’s nutrition and infant feeding in determining time from birth to menses and time from menses to conception. The analysis sample includes 2,648 Filipino women followed for 24 months postpartum. Recently devised statistical estimation techniques to control for unobserved heterogeneity and endogeneity are employed in estimating a two-state hazard model. Low body mass index and lower dietary fat intake are associated with increased duration of postpartum amenorrhea. Contraceptive use, high dietary fat consumption, higher parity, and absence of spouse predict a longer waiting time to conception once menses have returned. Simulation of the hazard model is used to examine the effects of the key nutrition and lactation factors” (Popkin et al., 1993, abstract).


www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Mozam_OBSI.pdf

The benefits of birth spacing benefit both mother and child. Through Mozambique-Demographic Health Survey information and a review of terminology, this paper seeks to describe the implications of optimal birth spacing and outline demographic characteristics of various birth intervals. This information can help policy makers develop programs around the postponement of first births and the fostering of social acceptance of new findings (RamoRao, Townsend & Askew, 2006).


“Qualitative and quantitative data are used to explore postpartum contraceptive use in two populations in Bangladesh. Findings from in-depth interviews with contraceptive users illustrate that women are primarily concerned with their own and their newborn child's health and well-being in the period following childbirth. In addition, women are aware of a diminished risk of pregnancy during the period of postpartum amenorrhea. These perceptions, plus a belief that modern methods of contraception are 'strong' and potentially damaging to health, mean that the majority of women are reluctant to adopt family planning methods soon after birth, despite a desire to avoid closely spaced pregnancies. Supplementation of the child's diet is also shown to be an important factor determining the timing of postpartum contraceptive initiation. The findings suggest that current policies promoting contraception to women in the immediate postpartum period are inappropriate for many Bangladeshi women (Salway & Nurani, 1998, abstract).


“The aim of this study was to evaluate the effectiveness of lactational amenorrhoea and to determine the relationship between extended breastfeeding and the return of fertility. Breastfeeding pattern, basal body temperature, cervical mucus, salivary ferning, vaginal blood discharge, frequency of sexual intercourse, and the presence of ovulation in the first cycle after the resumption of menses with ultrasonography were evaluated in 40 women. All subjects completed the study with only one case of incomplete breastfeeding. No
The mean number of feeding sessions and mean interval between sessions decreased significantly (p <0.01) during the first six months postpartum (7.5 +/- 1.3 after 60 days postpartum vs. 5.7 +/- 2.1 after 180 days, and 3.6 +/- 0.8 vs. 5.1 +/- 0.9, respectively). Eight women (20%) menstruated before weaning, but none had an adequate thermal shift, while 32 (80%) had their first vaginal bleeding after weaning with 12 (37.5%) registering an adequate thermal shift. Both basal body temperature and salivary ferning proved to be suggestive of ovarian activity, while mucus characteristics were not reliable in identifying fertile periods. Our study showed that breastfeeding associated with lactational amenorrhoea proved to be a good method of postpartum fertility control. Since the importance of supplementation is still debated, it is recommended that a "complete" breastfeeding program be used” (Tommaselli et al., 2000, abstract).


Most studies of closed birth intervals are regarding their variation at specific orders among females. This paper attempts to study the nature of the distributions of consecutive closed birth intervals. Data from the Uttar Pradesh National Family Health Survey 1998-99 (NFHS-2) were analysed. It was found that, under certain assumptions, the postpartum amenorrhoea period and menstruating interval are negatively associated, indicating that socio-cultural factors are affecting the menstruating interval.
Postpartum IUD, and long-acting and permanent contraception

POSTPARTUM IUD, AND LONG-ACTING AND PERMANENT CONTRACEPTION


“Objective: This study aimed to compare immediate postplacental (IPP) and early postpartum (EP) intrauterine device (IUD) insertions with interval (INT) IUD insertions with respect to efficacy and complications.

Methods: The study group consisted of 268 women in whom the following TCu 380A IUD insertions were performed: 84 IPP (less than 10 min), 46 EP (10 min to 72 h) and 138 INT (more than 6 weeks). The women were followed up 8 weeks, 6 months and 12 months after insertion. Complications and pregnancies encountered at the end of 1 year following IPP, EP and INT insertions were compared. The chi-square test and Fisher's Exact Test were used for the evaluation of the data.

Results: Complications developed in 40.4% of the women in the IPP group, in 74.4% of the women in the EP group and in 19.2% of the women in the INT group (p<.001). Although no statistically significant difference was found between the groups for uterine perforation and infection (p>.001), there was a statistically significant difference between the groups in the incidence of complete and partial expulsion according to the time of IUD insertion. The overall cumulative pregnancy rate and frequency of pregnancy were found to be higher (p>.05 for both), which are both insignificant for the EP group (2 of 43 women), as compared with the INT (4 of 130 women) and IPP groups (2 of 84 women), and pregnancy rates at 1 year for all groups was 3.1% (8 of 257 women).

Conclusion: IPP and EP insertion of the TCu 380A IUD is an effective and convenient procedure, and expulsion rates in these groups are higher than in the INT group. Further studies are necessary to determine the cause of the higher expulsion rates and to find ways to reduce such rates” (Eroglu et al., 2006, abstract).


“The effectiveness and cost-effectiveness of postpartum family planning service provision were assessing in a study of 1,560 women giving birth in 1988-1989 at the largest hospital of the Peruvian Social Security Institute (IPSS). Contraceptive counseling and temporary methods were offered to one ward of postpartum women, while a second ward, acting as a control group, was discharged without being offered comparable services. In the second half of the study period, almost 90% of the experimental group accepted family planning prior to discharge, and 25% of the women received an IUD. Six months after delivery, 82% of the members of the experimental group were using a contraceptive method, with 40% using an IUD; by comparison, 69% of the controls were using a method, and 27% an IUD. Because in-patient IUD insertion was estimated to cost $9.38 per woman, compared with $24.16 for an interval insertion, implementing postpartum family planning services in all IPSS hospital in Lima could save 3–5% of an annual projected IPSS family planning budget in Lima and free up 6% of the current outpatient delivery capacity” (Foreit et al., 1993, abstract).
Postpartum IUD, and long-acting and permanent contraception


“Background: Insertion of an intrauterine device (IUD) immediately after delivery is appealing for several reasons. The woman is known not to be pregnant, her motivation for contraception may be high and the setting may be convenient for both the woman and her provider. However, the risk of spontaneous expulsion may be unacceptably high.

Objectives: To assess the efficacy and feasibility of IUD insertion immediately after expulsion of the placenta. Our a priori hypothesis was that this practice is safe but associated with higher expulsion rates than interval IUD insertion.

Search strategy: We used MEDLINE, Popline, EMBASE, and Cochrane Controlled Trials Register computer searches, supplemented by review articles and contact with investigators.

Selection criteria: We sought all randomized controlled trials that had at least one treatment arm that involved immediate post-partum (within ten minutes of placental expulsion) insertion of an IUD. Comparisons could include different IUDs, different insertion techniques, immediate vs. delayed post-partum insertion, or immediate vs. interval insertion (unrelated to pregnancy). Studies could include either vaginal or cesarean deliveries.

Data collection and analysis: We evaluated the methodological quality of each report and sought to identify duplicate reporting of data from multicenter trials. We abstracted data onto data collection forms. Principal outcome measures included pregnancy, expulsion, and continuation rates. Because the trials did not have uniform interventions, we were unable to aggregate them in a meta-analysis.

Main results: We found no randomized controlled trials that directly compared immediate post-partum insertion with either delayed post-partum or interval insertion. Modifications of existing devices, such as adding absorbable sutures or additional appendages, did not appear beneficial. Most studies showed no important differences between insertions done by hand or by instruments. Lippes Loops and Progestasert devices did not perform as well as did copper devices.

Authors’ conclusions: Immediate post-partum insertion of IUDs appeared safe and effective, though direct comparisons with other insertion times were lacking. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. However, expulsion rates appear to be higher than with interval insertion. The popularity of immediate post-partum IUD insertion in countries as diverse as China, Mexico, and Egypt support the feasibility of this approach. Early follow-up may be important in identifying spontaneous IUD expulsions” (Grimes et al., 2003, abstract).


“Objective: To compare the expulsion rates of intrauterine devices (IUDs) inserted in the immediate postpartum after vaginal birth and cesarean section.

Methods: Nineteen patients who had a vaginal birth and 19 patients who had a cesarean section at Hospital de Clínicas de Porto Alegre, Brazil, were selected for copper T 380A IUD insertion. With the aim of detecting clinically unnoticed dislodged devices, ultrasound examinations were performed at 1 month and between 3 and 12 months after delivery. The IUDs were considered completely expelled when found outside the
endometrial cavity (e.g., in the cervical canal) or outside the uterus (in the vagina).

**Results:** Expulsion rates were statistically different between the two groups: after a vaginal birth, 50% (ultrasound only) + 27.8% (clinical examination); and post-cesarean section, 0% (p < .001; OR 5.75, 95% CI 2.36-14.01).

**Conclusion:** Considering that the contraceptive efficacy of IUDs is associated with their intrauterine location, the high expulsion rates seen when they are inserted immediately after vaginal delivery contraindicate their use in this setting. The use of IUDs immediately after a cesarean section is still a reasonable alternative because its expulsion rate was zero. Ultrasound assessment of IUD positioning performed better than clinical examination, which failed to detect expulsion after postpartum insertion in 75% of the cases (9 from 12 cases)” (Letti Muller et al., 2005, abstract).


“Objectives: To evaluate the acceptance of postpartum intrauterine contraceptive devices (PPIUCD) among the inhabitants of Assiut governorate, Egypt and to study the factors that influence this acceptance.

**Subjects and methods:** Contraceptive counseling was given to 3,541 clients: 1,880 and 1,661 during the antenatal visits and postpartum hospitalization, respectively. Acceptors during antenatal counseling were to receive IUCDs via postplacental insertion in the case of vaginal delivery or transcesarean insertion in case of abdominal delivery. The clients who refused PPIUCD and chose interval IUCD insertion were referred to the Family Planning Clinic after the end of puerperium. Among postpartum counselees, PPIUCD acceptors received predischarge insertion within 48 h of delivery and the interval IUCD were referred to have IUCD inserted after the end of puerperium. The acceptance rate of both PPIUCD and interval IUCD and the percentage of actual insertions were recorded. The causes of both acceptance and refusal were also recorded.

**Results:** Of the 3,541 clients, 1,024 (28.9%) accepted the use of IUCD after delivery. Acceptance was approximately the same during antenatal and postpartum counseling: 26.4 and 31.8%, respectively. Verbal acceptance was higher among women with formal education than among illiterate women. Planning another pregnancy in the near future, preference for another contraceptive method, namely lactational infertility, and complications from previous use of IUCD were the most common reasons for refusing the use of IUCD. Of the 1,024 verbal acceptors, only 243 (23.7%) had the actual insertion of IUCD.

**Conclusion:** Both the acceptance and actual insertion of IUCD were low probably because the use of IUCD is a new concept in the community. For these women, the only opportunity to receive information about contraceptives is during childbirth when they are in contact with medical personnel. Hence, it is suggested that family planning should be integrated with maternal and child-care services in order to effectively promote the use of contraceptive devices in these women who otherwise would not seek the use of such a device” (Mohamed et al., 2003, abstract).


“Postpartum IUD insertion programs are new to Africa and few have been carefully evaluated. Also, data on the clinical outcomes of postpartum IUD insertions using the Copper T 380A IUD are sparse. Therefore, we conducted a study to evaluate introductory postpartum IUD programs using the Copper T 380A IUD in
Kenya and Mali. Postpartum IUD acceptors in Kenya (n = 224) and Mali (n = 110) were interviewed at baseline and at 1, 3, and 6 months after delivery. We compared expulsion, medical removal, and discontinuation rates by insertion characteristics in each country. Six-month cumulative expulsion rates were lower for immediate insertions (those within 10 minutes of placental delivery) than for late insertions (generally between 10 minutes and 72 hours after placental delivery) in both Kenya (0.01 vs 0.05) and Mali (0.15 vs 0.27). Medical removals occurred in 1% and 7% of Kenyan and Malian acceptors, respectively, while pelvic infections were rare in both countries (< or = 2%). Differences in 6-month cumulative discontinuation rates between immediate and late insertions were not significant in either Kenya (0.05 vs 0.07) or in Mali (0.24 vs 0.32). This study suggests that postpartum IUD insertions can be performed safely with acceptable expulsion rates in African settings. Previous studies of other IUDs showed that expulsion rates are lower for immediate insertions compared with late postpartum insertions. This study suggests that these findings can be extended to the Copper T 380A IUD” (Morrison et al., 1996, abstract).


Women were interviewed to determine what advice they received about postpartum contraception and what they thought of it. Only 4% of women discussed postpartum contraception antenatally. Up to 84% discussed the issue with a midwife on the postnatal ward but discussion was often felt to be brief, limited and frequently held as the mother was leaving the hospital. Obstetricians appeared to have little interest in the subject and only 50% of mothers left the hospital with supplies of a contraceptive. Almost all women discussed contraception with their general practitioner at the postnatal check but a significant number felt that the choice of method was limited to condoms or pills. The postnatal check is traditionally held at six weeks—two to three weeks after the recommended time for starting contraceptive precautions. Women with short inter-
Program approach (including male involvement), and others

Pregnancy intervals were younger, less likely to be married and more likely to default from postnatal follow-up. Pregnant women should be offered the opportunity during the antenatal period to discuss postpartum contraception with someone who has a special interest in the subject. The postnatal ward is not an appropriate setting for discussion about future contraception” (Glasier, Logan & McGlew, 1996, abstract).


"Objectives: Postpartum education on contraceptive use is a routine component of discharge planning in many different countries with a wide variety of health care systems. This education is based on assumptions concerning women's receptivity to contraceptive education during the postpartum period and their presumed lack of access to such education after that time. The objective of this review is to assess the effects of education about contraceptive use to postpartum mothers.

Search strategy: We searched the Cochrane Controlled Trials Register, MEDLINE, EMBASE, CINAHL, Psychlit, Popline, citations indexes and reference lists of relevant articles. We contacted subject experts to locate additional research, in addition to the Group's Specialized Register of Controlled Trials. Date of the most recent search: April 1999.

Selection criteria: Trials using random or quasi-random methods of allocation which evaluated the effectiveness of postpartum education about contraceptive use.

Data collection and analysis: Two independent reviewers abstracted data on trial characteristics and results.

Main results: Three trials were identified with 5438 women. These trials were conducted in Lebanon, Peru and Nepal. None of the trials examined all major prespecified endpoints. Postpartum education about contraceptive use influenced short-term use assessed between 40 days and three months post-partum. Women in the intervention groups were less likely to be non-users than women in the comparison groups (Odds Ratio (OR) = 0.47, 95% Confidence Interval (CI) 0.39 to 0.58). This benefit was not apparent following analysis of data from better quality studies (OR = 0.67, 95% CI 0.41 to 1.13). An apparent benefit on contraceptive use at six months post-partum (OR = 0.52, 95% CI 0.37 to 0.74) was not apparent following sensitivity analyses (OR = 0.59, 95% CI 0.33 to 1.06). Data are inadequate to assess the impact on cessation of breast feeding and non-attendance at family planning clinics. Unplanned pregnancies, knowledge about contraception and satisfaction with care were not assessed in any trial.

Reviewer's conclusions: The effectiveness of postpartum education about contraceptive use has not yet been established in randomized controlled trials. Such education may be effective in increasing the short-term use of contraception. However, there are only limited data examining a more-important longer-term effect on the prevention of unplanned pregnancies. Research needs to be undertaken to assess the effectiveness of the minimalist education provided in more developed countries and the variety of programs provided in less developed regions. Such research should examine the content, timing, range and organization of postpartum education on contraceptive use, as well as its impact on breast-feeding rates” (Hiller & Griffith, 2000, abstract).


“The 40-day postpartum period is characterized in the Middle East and elsewhere by an observance of
Program approach (including male involvement), and others

seclusion, congratulatory visiting, the reciprocal exchange of gifts and money, and a special diet. Based on primary data from in-depth interviews among the Negev Bedouin in Israel, health enhancing practices are reviewed. The data are a subset from a larger study carried out in this setting. Often postnatal checkups, family planning counseling, and immunization services may not be routinely available or used. It is argued that these health services could be provided at the end of the 40-day period for mother and child, as in a pilot study in Tunisia some years ago. Health service provision would thus build on the health enhancing practices of the 40-day period” (Hundt et al., 2000, abstract).


This report identifies and summarizes descriptive and research studies of existing community-based postpartum programs that provide counseling, services, and education on self-care. The literature review identified three models of community-based postpartum care. These were: 1) home visits by professional health care providers, 2) home visits by community workers, and 3) home visits by community workers with referral or health facility support. It also defines programmatic and research issues for further follow-up (Koblinsky, 2005).


“In this paper I describe maternal and child health needs in Zimbabwe, as well as existing health care delivery services designed to meet these needs. The information presented is based on a project sponsored by Earthwatch (a worldwide volunteer organization) that addressed the needs of women and infants, as well as the author’s contribution to this effort. Because of a long-standing drought, many women and children in Zimbabwe are malnourished. Poor nutrition affects the woman herself, pregnancy outcomes, and the developing child, and has far-reaching repercussions. The major problems that contribute to maternal child morbidity and mortality include nutritional deficiencies, lack of safe water, and family planning needs. Earlier surveys conducted on maternal nutrition consistently showed iron deficiency, goiters, underweight, and inadequate nutrient intake to be quite prevalent. On the basis of previous assessments, this project focused on educating community health workers on ways to assist families with nutritional deficiencies, family planning, and hygiene needs” (Mattson, 1998, abstract).


“Background: Neonatal mortality rates are high in rural Nepal where more than 90% of deliveries are in the home. Evidence suggests that death rates can be reduced by interventions at community level. We describe an intervention, which aimed to harness the power of community planning and decision making to improve maternal and newborn care in rural Nepal.

Methods: The development of 111 women’s groups in a population of 86 704 in Makwanpur district, Nepal is described. The groups, facilitated by local women, were the intervention component of a randomized controlled trial to reduce perinatal and neonatal mortality rates. Through participant observation and analysis of reports, we describe the implementation of this intervention: the community entry process, the facilitation
of monthly meetings through a participatory action cycle of problem identification, community planning, and implementation and evaluation of strategies to tackle the identified problems.

**Results:** In response to the needs of the group, participatory health education was added to the intervention and the women's groups developed varied strategies to tackle problems of maternal and newborn care: establishing mother and child health funds, producing clean home delivery kits and operating stretcher schemes. Close linkages with community leaders and community health workers improved strategy implementation. There were also indications of positive effects on group members and health services, and most groups remained active after 30 months.

**Conclusion:** A large scale and potentially sustainable participatory intervention with women's groups, which focused on pregnancy, childbirth and the newborn period, resulted in innovative strategies identified by local communities to tackle perinatal care problems” (Morrison, 2005, abstract).


“Couple-friendly reproductive health services and male partner involvement in women's reproductive health have recently garnered considerable attention. Given the sensitive nature of gender roles and relations in many cultures, understanding the context of a particular setting, potential barriers, and attitudes towards a new intervention are necessary first steps in designing services that include men. In preparation for a male involvement in antenatal care intervention, this qualitative study specifically aims to: (a) understand the barriers to male involvement in maternal health and (b) explore men's, women's, and providers' attitudes towards the promotion of male involvement in antenatal care and maternal health. In-depth interviews were conducted with fourteen couples and eight maternal health care providers at a public maternity hospital in Katmandu, Nepal. Additionally, seventeen couples participated in focus group discussions. The most prominent barriers to male involvement in maternal health included low levels of knowledge, social stigma, shyness/embarrassment and job responsibilities. Though providers also foresaw some obstacles, primarily in the forms of hospital policy, manpower and space problems, providers unanimously felt the option of couples-friendly maternal health services would enhance the quality of care and understanding of health information given to pregnant women, echoing attitudes expressed by most pregnant women and their husbands. Accordingly, a major shift in hospital policy was seen as an important first step in introducing couple-friendly antenatal or delivery services. The predominantly favorable attitudes of pregnant women, husbands, and providers towards encouraging greater male involvement in maternal health in this study imply that the introduction of an option for such services would be both feasible and well accepted” (Mullany, 2006, abstract).


“Observational studies suggest that including men in reproductive health interventions can enhance positive health outcomes. A randomized controlled trial was designed to test the impact of involving male partners in antenatal health education on maternal health care utilization and birth preparedness in urban Nepal. In total, 442 women seeking antenatal services during second trimester of pregnancy were randomized into three groups: women who received education with their husbands, women who received education alone and women who received no education. The education intervention consisted of two 35-min health education
Program approach (including male involvement), and others

sessions. Women were followed until after delivery. Women who received education with husbands were more likely to attend a post-partum visit than women who received education alone [RR = 1.25, 95% CI = (1.01, 1.54)] or no education [RR = 1.29, 95% CI = (1.04, 1.60)]. Women who received education with their husbands were also nearly twice as likely as control group women to report making >3 birth preparations [RR = 1.99, 95% CI = (1.10, 3.59)]. Study groups were similar with respect to attending the recommended number of antenatal care checkups, delivering in a health institution or having a skilled provider at birth. These data provide evidence that educating pregnant women and their male partners yields a greater net impact on maternal health behaviors compared with educating women alone” (Mullany, Becker & Hindin, 2007, abstract).


“The aim of the project was to improve the knowledge and attitude towards birth spacing by training the villagers in the selected villages of Vientiane Province in Lao PDR in family planning, providing them with the various family planning methods, and improving antenatal (ANC) and postnatal (PNC) care in the villages. Throughout the province, traditional birth attendants (TBA) were trained on several occasions during the project period. There were clear indications that reproductive health improved between 1995 and 1997. Considerable improvements were observed in the percentage of women making use of ANC and practicing birth spacing by using some form of contraception or other. The most common methods used were contraceptive pills and injectables. In the case of child mortality a slight decrease was found in the percentage of women having their first pregnancy below the age of 18 years. A still unsolved problem is the high number of abortions” (Rattanavong et al., 2000, abstract).


“Context: Periodic assessments between 1972 and 1999 found consistent increases in the intensity and types of effort exerted by national family planning programs in developing countries. An updated evaluation was needed to examine whether these trends have been affected by recent changes in the family planning environment, such as decentralization, the HIV/AIDS epidemic and funding reductions.

Methods: In 2004, informants in 82 developing countries completed a questionnaire that assessed 30 dimensions of program effort and included several new scales to explore current issues. Selected results were compared with findings from prior rounds of the study.

Results: Family planning effort increased between 1999 and 2004, both globally and within regions. When the data were weighted by country population size, effort declined slightly overall but increased in four of six regions. Countries with low initial scores improved more than those with high initial scores. Contraceptive access varied by region and was lowest in Sub-Saharan Africa. The strongest justifications for programs were improving maternal and child health and preventing unwanted births. Changes in funding were often judged to have had negative effects on programs. Unmarried youth and women receiving postabortion care received the least emphasis among special populations of interest.

Conclusions: Although average program effort scores have risen again, increases in effort, funding and access to contraceptive methods are still needed in many countries, especially in rural areas, and among the 65
Program approach (including male involvement), and others

More emphasis should be placed on providing postpartum and postabortion family planning services” (Ross, Stover & Adelaja, 2007, abstract).


“Background: The study was conducted to determine the impact of counseling and educational leaflets on contraceptive practices of couples.

Study Design: Randomization of 600 women was done in two groups matched for age, parity and socioeconomic status at the Department of Obstetrics and Gynaecology, Shifa Foundation Community Health Centre, Shifa International Hospital, Islamabad, Pakistan. In Group A, the intervention group was exposed to contraceptive counseling and educational leaflets in the postnatal ward after delivery, whereas in Group B, the nonintervention group was not given any formal contraceptive advice. Later on, both groups were assessed regarding their contraceptive practices.

Results: At their follow-up visit (8–12 weeks) postpartum, 19 (6.3%) women in the nonintervention group had started contraceptive use, whereas 153 (50.8%) had decided to start contraception in the next 6 months, and 129 (42.8%) were still undecided. The main contraceptive user was the male partner (n=117, 38.8%), and the most common method used was coitus interruptus (n=62, 36.3%). In the intervention group, 170 women (56.9%) had started using contraceptives, whereas 129 (43.1%) had decided to start contraceptive use in the next 6 months. The predominant contraceptive user was the females (n=212–70.9%), and the most popular method chosen was oral contraceptive pills (n=111, 37.1%).

Conclusion: There is a definite increase in contraceptive uptake in women provided with educational leaflets and counseling session with a shift toward use of more reliable contraceptive methods” (Saeed, et al., 2008, abstract).


Shelton of the US Agency for International Development and Fuchs discuss in this article why the clinic may be a “weak platform” for the integration of HIV prevention efforts and family planning, but why the community-based efforts of family planning and the programmatic efforts of some HIV efforts (such as prevention of mother-to-child transmission, voluntary counseling and testing, and long-term anti-retroviral therapy) may dovetail nicely (Shelton and Fuchs, 2004).


The FRONTIERS Men in Maternity (MiM) program in India “encouraged husbands’ participation in their wives’ antenatal and postpartum care” as a response to the findings that men as primary household decision-maker has an impact upon women’s health (Varkey et al., 2004, p. ii). Populations of couples served by three dispensaries served as controls for three comparable populations who used different dispensaries. The interventions targeted healthy maternal and newborn care, as well as appropriate prevention strategies for transmission STIs, with the emphasis of involvement of fathers. Outcomes included parameters of “family planning knowledge and use,” “STI preventive behaviors,” “pregnancy danger signs,” “syphilis testing,” “gender roles and decision-making,” “infant health indicators,” “client-provider interaction and satisfaction,”
Program approach (including male involvement), and others

and “cost of intervention” (Varkey et al., 2004, pgs. iii-iv). Findings included that couples who experienced the interventions were not more likely to remember the components of LAM, but they were more likely to use family planning “between six to nine months postpartum” (Varkey et al., 2004, pg iii.) STI knowledge did not increase, but “knowledge of danger signs” of pregnancy did for women in the intervention group (but not for the men) (Varkey et al., 2004, pg iii). Finally, these interventions were found to be cost-effective, and men were more involved in the intervention group than in the control dispensary populations (Varkey et al., 2004, pg iv).


“This paper reports the results of a 12-month implementation study documenting the process of integrating the Lactational Amenorrhea Method (LAM) into a multiple-method family planning service-delivery organization, the Céntro Médico de Orientación y Planificación Familiar (CEMOPLAF), in Ecuador. LAM was introduced as a family planning option in four CEMOPLAF clinics. LAM was accepted by 133 breastfeeding women during the program's first five months, representing about one-third of postpartum clients. Seventy-three percent of LAM acceptors were new to any family planning method. Follow-up interviews with a systematic sample of 67 LAM users revealed that the method was generally used correctly. Three pregnancies were reported, none by women who were following LAM as recommended. Service providers’ knowledge of LAM resulted in earlier IUD insertions among breastfeeding women. Relationships with other maternal and child health organizations and programs were also established” (Wade, Sevilla & Labbok, 1994, abstract).


“This article examines the rationales for commonly advocated postpartum family planning services and challenges the behavioral and biological assumptions on which they are based. An alternative approach to service delivery is suggested. Services should be designed to incorporate breastfeeding and to increase their acceptability to postpartum women” (Winikoff & Mensch, 1991, abstract).
Program approach (including male involvement), and others
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* = updated entries
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