Breast-Feeding and Sexual Response

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Despite the recent trend toward more women breast-feeding their infants and extending breast-feeding for longer periods of time, there are few reports in the literature on the effects of lactation on female sexuality. A self-selected group of 121 presently or recently lactating women completed a detailed questionnaire on their breast-feeding experience and how it affected postpartum sexual response. It was found that the lactational amenorrheic period, which can last for a year or more, is a highly significant factor influencing sexual response. Compared with the prepregnancy period, 72 of the respondents (62.6 percent) reported experiencing less or no sexual desire while amenorrheic and nursing, 30 (26.1 percent) reported they had the same sexual desire, and only 13 (11.3 percent) said they experienced more sexual desire. These findings differ significantly from those of Masters and Johnson, who reported higher levels of sexual tension in all 24 of the lactating women they questioned. In addition, 39 women in this study (32.2 percent) volunteered the information in open-ended questions that they encountered a lack of vaginal lubrication and subsequent unpleasant coital experience when they were amenorrheic and lactating.

From an evolutionary perspective, the physiology of pregnancy and lactation is the antithesis of mating. Most animals are not sexually receptive either during pregnancy or until after their young are weaned. However, nonreproductive, situation-dependent sexual receptivity is not unique to humans; many of the primates exhibit occasional noncyclical receptivity.[1]

The physiology of lactation and lactational amenorrhea is complex and still not fully understood. Successful lactation is said to be a result of several factors: an intact hypothalamic-pituitary axis, an adequate diet, the regular removal of milk, and a suitable psychological attitude concerning nursing.[2] These factors, among others, also determine the length of lactational amenorrhea.

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A rarely mentioned factor probably affecting the length of lactational amenorrhea is the type of breast-feeding practiced—unrestricted vs restricted. For the purposes of this paper, unrestricted breast-feeding is defined as nursing for the purpose of comforting the child as well as providing nutrition, disregarding time intervals between feedings. Unrestricted nursers seek to satisfy all or most of the child's sucking needs with the breast. In this context, breast-feeding is used for comfort even when the child's age demands solid food supplementation. In contrast, restricted breast-feeding denotes scheduled breast-feeding, supplemented breast-feeding, or breast-feeding where other devices are used to comfort and satisfy the child's sucking needs.

Some studies[3-8] have examined the resumption of sexual desire following pregnancy, but none has considered the possible effects of lactational

amenorrhea on sexual response or mentioned the type of breast-feeding practiced. Masters and Johnson[3] interviewed 101 women, aged 21 to 43 years, who agreed to participate in a subjective study of the effect of pregnancy on female sexual response. Twenty-four of the 101 women successfully nursed their infants for at least two months. At the three-month postpartum interview, all 24 of the nursing women reported significantly higher levels of sexual tension compared with their nonpregnant state. As a group, these 24 women also expressed a desire for a quick return to active sexual relations.

Methods

The subjects of this study were 121 presently or recently lactating women who chose to complete and return a written questionnaire made available to them at a Midwestern conference of an international organization devoted to offering support and encouragement to women who are breast-feeding. Two hundred fifty questionnaires were distributed, and 121 were returned, for a return rate of 48 percent. Demographic data on those attending the conference were unavailable. Respondents were, however, representative of the organization as a whole on those variables that were available for comparison. The members have a higher educational level and a smaller proportion of them are employed outside the home than the comparable general population.[9]

For reliability purposes, rating and categorization of open-ended questions were done independently by the two investigators and by a third, impartial observer, with over 90 percent agreement among the three. Statistical analyses utilized the Michigan Interactive Data Analysis System (MIDAS),[10] which provided significance levels reflecting chi-square. Also utilized were the Goodman-Kruskal Gamma[11] and Fisher's Exact Test.[12]

Results

For purposes of analysis, the subjects were divided into four groups designating their present breast-feeding status: 43 (35.5 percent) were amenorrheic and nursing (AN), 48 (39.7 percent) were menorrheic and nursing (MN), 18 (14.9 percent) were menorrheic and no longer nursing (MNN), and 12 (9.9 percent) were amenorrheic because they were pregnant (AP). Ninety-four of the women (77.7 percent) were presently breast-feeding a child, including three of the APs who were nursing during their pregnancies. Mean age of the respondents was 29.6 years (SD, 3.6 years), with a range of 20 to 37 years. Slightly over 50 percent had a college or graduate degree: 19 had graduate degrees (15.7 percent), 42 had college degrees (34.7 percent), 44 had completed some college (36.4 percent), and 16 were high school graduates (13.2 percent). Only one of the women was employed full time outside the home, 16 worked part time, and 103 were not currently employed.

The average number of children for the group was 2.04; 95 percent had three or fewer children, and 5 percent had four or five. Thirty-eight (31.4 percent) of the women were primiparas. For those who were no longer nursing (18 MNNs and 9 APs), length of breast-feeding averaged 26 months (SD, 9.4 months), with a range of 11 to 48 months. Mean length of lactational amenorrhea for those women who had resumed menses (48 MNs, 18 MNNs, and 8 APs after previous birth) was 10.9 months (SD, 6.1 months), and ranged from 1 to 34 months. Primiparas averaged 9.4 months of amenorrhea, compared with 11.8 months for multiparas, indicating a relationship between parity and length of amenorrhea[13,14] (Goodman-Kruskal γ .2456, $P < .05$). Women under 30 years of age averaged 9.6 months of amenorrhea and those over 30 years of age averaged 12.2 months.[13]

From evidence gathered from several questions, including one requesting information on sleeping patterns and breast-feeding at night, it was concluded that the subjects were unrestricted nursers rather than restricted nursers. Fifty-three of the women (44.2 percent) stated that they slept with their child in a family bed, where the child is allowed to nurse at will through the night. Thirty-three (27.5 percent) said that they brought the child into their bed at night for nursing, where it usually stayed for the remainder of the night, commonly called modified family bed. Night-time nursing on demand was practiced by 31 of the subjects (25.8 percent), though not in a family or modified family bed. Only 3 of the women (2.5 percent) gave information from which it could not be discerned whether unrestricted nursing was practiced.

One third of the study children were given nothing but breast milk until they were 6 months of age. The mean age at which the 121 children were given anything other than breast milk (such as

Table 1. Sexual Desire While Amenorrheic and Nursing Compared with Prepregnancy (n = 115)*

	Less or None No. (%)	Same No. (%)	More No. (%)
Amenorrheic nursing	27 (23.4)	10 (8.7)	4 (3.5)
Menorrheic nursing	25 (21.7)	14 (12.2)	6 (5.2)
Menorrheic not nursing	12 (10.5)	3 (2.6)	2 (1.7)
Amenorrheic pregnant	8 (7.0)	3 (2.6)	1 (0.9)
Total	72 (62.6)	30 (26.1)	13 (11.3)

*Six participants did not respond

Table 2. Present Sexual Response Compared with Prepregnancy (n = 114)*

	Better Then No. (%)	Better Now No. (%)	No Difference No. (%)
Amenorrheic nursing**	26 (22.8)	4 (3.5)	12 (10.5)
Menorrheic nursing**	10 (8.8)	11 (9.6)	25 (21.9)
Menorrheic not nursing	3 (2.6)	1 (0.9)	13 (11.4)
Amenorrheic pregnant	3 (2.6)	4 (3.5)	2 (1.8)
Total	42 (36.8)	20 (17.5)	52 (45.6)

*Seven participants did not respond
**Difference between amenorrheic nursing and menorrheic nursing was significant at $P < .001$

water, formula, juice, solid foods, or milk from a cup) was 6.3 months (SD, 1.99 months), with four of them not supplemented until 12 months of age.

The data were first analyzed for the 121 respondents as a whole (Table 1), then for the two main groups, designated ANs and MNs. Compared with the prepregnancy period, 27 of the ANs (23.4 percent) and 25 of the MNs (21.7 percent) reported less or no sexual desire while amenorrheic and nursing; 10 of the ANs (8.7 percent) and 14 of the MNs (12.2 percent) stated that they had the same sexual desire; and four of the ANs (3.5 percent) and six of the MNs (5.2 percent) said they had more sexual desire. The amenorrheic nursers were referring to their present physiological state, whereas the menorrheic nursers were responding retrospectively.

To a question asking about response "during your most recent sexual relations," compared with prepregnancy, 26 of the ANs (22.8 percent) and ten of the MNs (8.8 percent) replied that response was better before pregnancy, four of the ANs (3.5 percent) and 11 of the MNs (9.6 percent) said it was better now, and 12 of the ANs (10.5 percent) and 25 of the MNs (21.9 percent) reported no difference. The differences between the two groups are significant at $P < .001$ (Table 2).

For data generated by another question comparing present sexual response to response during pregnancy, the differences are significant at $P < .05$. Twenty ANs (19.2 percent) and 9 MNs (8.7 percent) reported response was better during pregnancy, 12 ANs (11.5 percent) and 17 MNs (16.3 percent) replied better now, and nine ANs (8.7 percent) and 18 MNs (17.3 percent) reported no difference. Parity was not shown to be related to either prepregnancy or during-pregnancy responses. The specificity of questions requesting comparison of present state or lactational amenorrheic state response with response during preg-

nancy was limited because subjects were asked to respond to "during your pregnancy," rather than during first, second, or third trimester of the pregnancy. It is interesting, however, that 48.8 percent of the ANs, compared with 20.4 percent of the MNs, replied that sexual response was better during pregnancy than it was at the present time.

The subjects were questioned in several ways regarding sexual response, with the result that the replies reinforced one another. In comparing lactational amenorrheic response to prepregnancy response, there was no significant difference between the AN and MN groups. Almost as many MNs as ANs reported less or no sexual desire while amenorrheic and lactating (Table 1). However, when asked to compare their most recent sexual relations with prepregnancy response, the differences between the two groups became significant at $P < .001$, with those who were still amenorrheic and lactating much preferring their prepregnancy state (Table 2). To a third question requesting comparison of the subjects' most recent sexual relations with their response during pregnancy, the ANs' preference was significant at $P < .05$, with over twice as many of them preferring the during-pregnancy state.

Though the subjects were not asked specifically whether they experienced vaginal dryness during sexual relations while amenorrheic and lactating, many of them volunteered the information in open-ended questions. Of the entire group of 121 women, 39 (32.2 percent) said that they experienced vaginal dryness; 28.9 percent of the primiparas and 33.7 percent of the multiparas reported this experience. Nineteen of the ANs and 11 of the MNs reported vaginal dryness, a difference significant at $P = .0265$ (Fisher's Exact Test).

Discussion

Low libido and vaginal dryness have not been widely publicized aspects of lactation, possibly because any sexual connection with breast-feeding has been taboo. Also, the precipitous decline in breast-feeding in this century has reduced the need for this information to be made available to large numbers of women. It has been found, however, that low sex drive is not unique to breast-feeding women. Masters and Johnson reported that 47 of 101 women interviewed throughout pregnancy and at three months postpartum for a subjective investigation of sexual response described postpartum levels of sexuality as low or essentially negligible. These 47 women were all bottle-feeding.[3]

There are many variables other than lactation that may affect a woman's sexual response postpartum. A possible physiological reason, loss of breast sensitivity, has been acknowledged by some women.[15,16] Only five of the women in the present study reported sexually desensitized breasts. This desensitization was mentioned in an open-ended question asking for physical effects of nursing, and as this information was not specifically requested, it possibly did occur in more of the respondents. Fatigue (reported by 13 women in this study in response to the same question described above) has also been implicated as a contributor to low levels of postpartum sexual response.[15-17] Other possible inhibitors of sexual response may be fear of pregnancy,[17] poor communication, which may have existed before the pregnancy,[15] and saturation of the woman's need for intimate touching,[17] ie, a "touched-out"[18] feeling.

Though there may be many reasons for low levels of postpartum sexual desire, the physiology of the amenorrheic, lactating woman, who has low levels of ovarian estrogen production,[19,20] would seem to make her a prime candidate for this effect. Her vagina has been described as almost senile as a result of steroid starvation, and she has been called essentially a castrate from lack of ovarian function.[3] An atrophic endometrium, comparable to the postmenopausal endometrium, has also been described as occurring in lactational anovulation exceeding six months.[13]

A comparison of the lactational amenorrheic state with pathologic conditions indicates that there are hormonal and symptom similarities to be noted. In hyperprolactinemic amenorrhea there is a typical estrogen deficiency comparable to the postmenopausal level, as well as elevation in prolactin concentration and vaginal dryness during intercourse.[21] Male hyperprolactinemia is characterized by raised serum prolactin levels, impaired libido or lack of libido, and impaired sexual potency or impotence.[22]

The highly variable nature of the human organism is undisputed. The complicated series of hormonal, physiologic, and psychologic changes that women undergo during pregnancy and lactation elicit quite variable and individualistic responses. Though the results of this study cannot be generalized to the entire population of all women who are

breast-feeding, it appears that for certain populations, eg, women experiencing extended periods of lactational amenorrhea, some generalizations can be made. The deliberate bias of this sample was intended as a means of investigating effects that have remained largely esoteric information, ie, known only in the medical domain or to a select few. To document these effects, it was necessary to confine the sample to a select population of women who were unrestricted nursers.

The dramatic differences between the findings in this study and those of Masters and Johnson and others indicate that before conclusions are drawn, such factors as length of postpartum amenorrhea and type of breast-feeding practiced should be taken into consideration. With this in mind, it may be generalized that many women who are amenorrheic and lactating will remain in this physiologic state longer if they are breast-feeding unrestrictedly than will bottle-feeding women. Further, during the lactational amenorrheic period, possibly because of the accompanying hormonal changes, many women will experience lower levels of sexual desire than they did in their prepregnancy state. Some women may also experience vaginal dryness during sexual arousal, also possibly attributable to the accompanying hormonal changes of lactational amenorrhea. Which women will be so affected is not predictable without hormonal assays. Longer lactational amenorrhea, however, may be correlated with increasing parity or increasing maternal age.

Unfortunately, this study raises more questions than it answers. Why do some women resume menstruation when they are breast-feeding unrestrictedly? Who do some remain amenorrheic for as long as two years, even though they are regularly giving food supplements? What is it about some women that increases sexual desire during the lactational amenorrheic period? Why are many women, whether breast- or bottle-feeding, uninterested in sex in the immediate postpartum period? Further study along evolutionary, physiologic, and psychologic lines is necessary to increase an understanding of the lactational amenorrheic period.

Conclusions

Libidinal and physical effects of lactational amenorrhea discussed in this study do not appear to be detrimental to either breast-feeding or the sexual relationship of the woman and her partner. These effects should be interpreted as natural, normal aspects of the reproductive cycle. Information and understanding should enable the partners to effectively manage whatever situation arises.

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