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Longer Breastfeeding Linked to Lower Risk for Future MS

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Women who breastfeed their babies for longer durations may be at lower subsequent risk of developing multiple sclerosis (MS), a new study suggests.

"Our results showed that women — those who had breastfed for a cumulative duration of 15 months or more — were half as likely to go on to develop MS compared to those who had breastfed for a total of 4 months or less," lead author, Annette Langer-Gould, MD, Southern California Permanente Medical Group, Los Angeles Medical Center, commented to *Medscape Medical News*.

"This result was a surprise for us. No one has looked at this before. We didn't find any association between MS risk and total ovulatory years or use of hormonal contraception, so we don't think the mechanism involves sex hormones. It could be something to do with breast feeding inducing immune changes — it may be doing something to the immune system to help it to behave better."

Dr Langer-Gould said, "This opens up a whole new realm of possibilities for the prevention of autoimmune disease as breastfeeding is a modifiable behavior. It would be interesting to see if the same thing is seen with other autoimmune diseases, such as rheumatoid arthritis or inflammatory bowel disease."

She added: "There are many well known health benefits of breastfeeding for the baby — including a reduced risk of MS — and this study adds to the emerging literature supporting benefits of breastfeeding for the mother as well. Other studies have suggested that longer breastfeeding is associated with a reduced risk of metabolic syndrome, type 2 diabetes, and coronary heart disease, so there could be a link with metabolic pathways affecting cholesterol and inflammation. Therefore, our results add more support for a woman to breastfeed and to continue breastfeeding longer term."

The study is published in the July 12 issue of *Neurology*.

The researchers note that reproductive factors are known to influence the disease course of MS. Women already diagnosed with the condition have fewer symptoms when pregnant and a reduced risk for relapse postpartum if they breastfeed. However, the effect of these factors on the risk of developing MS later in life has not been studied before.

While many experts have attributed the diminished relapse during pregnancy and exclusive breastfeeding to sex hormone levels, Dr Langer-Gould and colleagues have previously postulated that anovulation may be the unifying explanation.

The primary objective of the current study was therefore to determine whether a longer duration of breastfeeding or fewer total ovulatory years was associated with a reduced risk for MS.

The researchers recruited 397 women with newly diagnosed MS or its precursor, clinically isolated syndrome (CIS), and 433 matched controls from the membership of Kaiser Permanente Southern California.

A structured in-person questionnaire was administered to collect the behavioral (pregnancies, breastfeeding, hormonal contraceptive use) and biological (age at menarche and menopause, amenorrhea) factors to make up ovulatory years.

Results showed that among women who had live births, those in the highest tertile for duration of breastfeeding (a cumulative duration of 15 months or more) had a reduced risk for MS/CIS compared with those in the lowest tertile (a total duration of 0 to 4 months), for an adjusted odds ratio of 0.47 (95% confidence interval [CI], 0.28 - 0.77).

Being 15 years of age or older at menarche was also associated with a lower risk for MS/CIS, for an adjusted odds ratio of 0.56 (95% CI, 0.33 - 0.96).

Total ovulatory years; the remaining factors that determine it, including gravidity, parity, episodes of amenorrhea, and hormonal contraceptive use; and age at first birth showed no significant association with the risk for MS/CIS.

Dr Langer-Gould commented: "We did see an association with a lower risk of MS in women who were older when they started menses. This has been reported in several studies before, so there appears to be something going on in terms of ovulation, but we do not understand exactly what as there was no link between total years of ovulation and MS risk in our study. Is it related to sex hormones or to other hormonal changes, of which there are a lot during puberty?"

The researchers point out that they have previously reported that prolonged breastfeeding results in a decrease in proinflammatory CD41 tumor necrosis factor-α–producing cells in both healthy women and women with MS, but cell counts increased again after menses resumed.

Dr Langer-Gould added: "This was an observational study, so it does need confirmation, but if these results are confirmed in other studies, we will have to think harder about how we can encourage women to breastfeed for longer. In the US this is hard at present — there is very limited paid maternity leave, which acts as a barrier to prolonged breastfeeding. It is really quite hard to keep it going if you return to full-time work."

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