WHO/RHR/09.13

World Health Organization

Department of Reproductive Health and Research
including the
UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP)

Statement

Photo: WHO

Progestogen-only contraceptive use during lactation

Progestogen-only contraceptive use during lactation and its effects on the neonate

Geneva, Switzerland, 22 October 2008

Contraception after childbirth is a very important health issue, and evidence supports increasing birth intervals to improve both a woman's and her child's health. Among the contraceptive choices in the postpartum period are hormonal methods - combined methods containing an estrogen and a progestogen, and progestogen-only methods.

Combined methods used during lactation may affect breast milk production and therefore may affect infant health and growth; such concerns are the reason why these methods have not been recommended during lactation. Any potential risks from direct hormonal exposure to the infant through breast milk have not been well described.

Progestogen-only contraceptive methods have not been shown to affect milk production negatively; however, the potential effects on the development of the brain or functioning of the liver in newborns exposed to these hormones through breast milk have not been well documented. Therefore, recommending hormonal contraceptives that are safe to use during lactation, and when to initiate their use, has been controversial and the subject of many discussions throughout the creation of guidance for safe contraceptive use.

During the 2008 meeting of the expert Working Group overseeing the evidence-based guidelines for family planning, it was decided that the World Health Organization (WHO) should reconsider its recommendations on the use of progestogen-only contraception during lactation in the first 6 weeks postpartum, but that additional expertise was necessary prior to revising these recommendations. Therefore, a technical consultation to thoroughly evaluate the evidence surrounding hormonal contraceptive use during lactation and its effects on the neonate was convened by WHO in Geneva, Switzerland on 22 October 2008. The consultation brought together international family planning experts, including clinicians, epidemiologists, neurologists, neonatologists, paediatricians, and neuroscientists. All participants in the meeting were asked to declare any conflict of interest. One expert declared a conflict of interest relevant to the subject matter of the meeting*, and was not asked to withdraw from recommendation formulation.

The consultation addressed the unique challenge of considering the safety of contraceptive use in both the mother and her breastfed child. Discussions of safety focused on the importance of balancing the benefits of a mother starting to use contraception during the first 6 weeks postpartum, when breastfeeding women are not at risk for pregnancy, with any potential risks to her infant. The consultation concentrated on the effects of exposure to hormonal contraceptives upon the development of the infant brain, where the theoretical risks to the child are the greatest.

The data considered in the consultation included two systematic reviews of the direct evidence obtained from primary research studies in breastfeeding women, data from the Toxicology Data Network (provided by the United States National Library of Medicine), and expert reviews of the basic science of the effects of estrogens, progesterone and progestogens on the developing central nervous system including the brain.

*Dr. Glasier works at a clinic that receives research support from four companies that manufacture various contraceptive products.

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Summary of the evidence

The direct evidence regarding the use of combined and progestogen-only methods of contraception in women breastfeeding newborns less than 6 weeks of age generally suggests that hormonal contraceptive use does not affect infant health, growth or development. Although this body of evidence appears reassuring, these data are severely limited by the following: short lengths of follow-up and small numbers of exposed infants studied; wide diversity in timing of blood and urine samples collected; the use of varying, insensitive cognitive and development tests; the use of various contraceptive formulations; and the timing of contraceptive initiation. Although evidence addressing the safety or harm to exposed infants is lacking, use of progestogen-only contraception in newly postpartum, breastfeeding women is widely practiced in some geographical areas.

To supplement the direct evidence, for the first time the consultation also examined existing evidence regarding the effects of progesterone on the brain in animal studies. Data primarily from rats indicate that there is an effect of progesterone on the developing brain: the extent to which these models predict effects from exposure to progesterone or progestogens in humans is unclear, but they raise the level of theoretical concern. Given exposure to progesterone, the presence of progesterone receptors in the human brain and their sensitivity at critical periods during development would predict effects of progestogens in humans; however, the clinical implications are unknown. Clinical studies to date have been inadequate to determine whether exposure to progestogens leads to either serious or subtle long-term health effects.

Older, published data substantiate the presence of progestogens in breast milk and in the blood and urine of exposed infants. The extent, however, of absorption into the newborn's bloodstream, metabolism and ultimate exposure of the brain in a breastfed infant are unclear. Neonatal metabolism is poorly described although studies demonstrate that the ability to metabolize drugs matures over time. The infant brain's exposure to progestogens has not been quantified.

Progestogen-only contraceptives are highly effective and widely available methods of family planning, playing an important role in the contraceptive method mix. This is particularly so in regions with a high unmet need for contraception and where maternal morbidity and mortality are high. Any decisions regarding choice of a contraceptive method should also consider these facts.

Recommendations with regard to the use of progestogen-only contraception among postpartum women who are breastfeeding:

- Use of progestogen-only methods, with the exception of the levonorgestrel-bearing IUD, is not usually recommended for women who are less than 6 weeks postpartum and breastfeeding, unless other more appropriate methods are unavailable or unacceptable.
- Beyond 6 weeks postpartum, there is no restriction for the use of progestogen-only contraceptive methods among breastfeeding women.
- The levonorgestrel-bearing IUD is not usually recommended for the first 4 postpartum weeks, unless other more appropriate methods are unavailable or unacceptable. Beyond 4 weeks postpartum, there is no restriction on its use.

The consultation participants noted the lack of data on the impact of progestogens on neonatal metabolism and placed a high value on the outstanding theoretical concerns of potential effects on brain development of the newborn based on new animal data; therefore, the current WHO recommendations for progestogen-only contraceptive use remain unchanged. Although the currently available evidence does not demonstrate harm to exposed human infants, the expert consultation determined that unmeasured negative effects may well exist.

In settings where pregnancy morbidity and mortality risks are high, and access to services is limited, progestogen-only contraceptives may be one of the few types of methods widely available and accessible to breastfeeding women immediately postpartum. Additionally, methods which require a skilled provider for initiation, such as the long-acting progestogen-only implants, may only be accessible at the time of delivery to some women.

It is expected that these recommendations will remain valid until 2011, at which time the Department of Reproductive Health and Research at WHO Headquarters in Geneva will be responsible for initiating a review of the document that contains these recommendations, the *Medical Eligibility Criteria for Contraceptive Use.*

Given the importance of making progestogen-only contraceptives available to women who desire them, and given the outstanding theoretical concerns of potential effects on the newborn, and the lack of data on this subject, WHO encourages further research in this area.

The body of evidence that was reviewed will be published in a complete meeting report and will be accessible on the WHO website at http://www.who.int/reproductive-health.

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