STATEMENT BY
WORLD ALLIANCE FOR BREASTFEEDING ACTION

World Alliance for Breastfeeding Action

Norwegian Research on Androgens and Breastfeeding
WABA's response to misleading information and unfounded claims

Norway is known as the industrialised country which turned around the anti-breastfeeding trend: 90% of Norwegian mothers now breastfeed at 3 months compared with 30% some 40 years ago. The increase was due to a major educational effort initiated by mothers themselves, and then taken up by concerned health workers and by health authorities. The earlier decline had followed the increase of delivery practices which separated mothers from infants; widespread promotion of infant formula; and loss of breastfeeding traditions. In the 1970s, the importance of breastfeeding for a child's immunity and psychological development were recognized, and in the 1980s, the role of efficient suckling for avoiding or overcoming most difficulties were demonstrated. The tide turned, and evidence of the adverse health effects of artificial feeding in all populations steadily accumulated. Globally, WHO estimates that poor breastfeeding practices are responsible for 1.4 million child deaths per year, with the youngest infants at greatest risk. But there are always those who are keen to deny the truth of these insights, and to justify the continued promotion and casual use of breastmilk substitutes.

Now researchers at The Norwegian University of Science and Technology (NTNU), in a small study of 181 women (1), have found an association between high levels of male hormones, testosterones, during pregnancy and a reduced likelihood of breastfeeding at 3 months of age. Their observation is interesting, and open to several theoretical interpretations, including possible differences in mammary function or in motivation of women with different endocrine profiles. In an earlier study, the authors found an association between high maternal androgen levels and low birth weight. They speculate that androgens in pregnancy might be responsible for both reduced breastfeeding and impaired infant health; and therefore that the illnesses of non-breastfed babies might not be due to artificial feeding, but to an adverse antenatal environment. They go on to claim that "baby formula is as good as breastmilk" (2). This conclusion is both unjustified and dangerous. The authors produce no new evidence about the health effects of breastmilk substitutes, and support their point by misrepresenting the studies of others.

It is plausible that testosterones could affect mammary development and milk production in view of the many endocrine influences on the process at all stages. Without the hormones that are produced during pregnancy, lactation would not take place at all, and lactation can be induced by hormones either medicinally or through breast stimulation in women who have not been pregnant. Testosterone was used in the past to suppress lactation in women who did not breastfeed. Some media reports claimed that high androgen levels result in a smaller volume of milk, but there are no measures of milk volume in the research article.

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In any case, it would be difficult to explain how high androgen levels in mid pregnancy could reduce breastmilk production 3 months after delivery, when the effect observed at 6 weeks was much less. The volume of milk produced at 3 months depends more on the amount that is removed by suckling than on hormone levels, which by then play a mainly permissive role. To remove milk efficiently requires the baby to be well attached at the breast. The majority of breastfeeding difficulties, including apparent insufficiency of milk, which is the commonest, can be overcome if the mother receives skilled help with attachment. Such help is still not available in many maternity facilities, and the researchers did not evaluate it as a factor.

Small or sick babies often have difficulty breastfeeding, partly because of immature or weak suckling, and partly because their mothers do not receive effective help. The evidence is very clear that breastmilk is preferable for small babies, but their mothers need skilled assistance to express milk from the first hours after birth to establish adequate milk production. If raised maternal testosterone levels increase the risk of low birth weight, this might reduce a baby's ability to stimulate breastmilk production by suckling, but it does not mean that the androgens are directly responsible either for the low volume, or for the harmful effects of the infant formula given instead.

Breastfeeding rates vary widely in different countries, from over 80% to less than 10% at 6 months. The common factors which affect women's decisions and ability to breastfeed have been shown to be the practices in maternity facilities, the practical guidance and counselling they receive before and after delivery, the attitudes of their families and the communities in which they live, employment outside the home, and the promotion of breastmilk substitutes. There is no evidence that maternal androgens vary according to whether a hospital is baby-friendly or not; whether there are peer counsellors in the neighbourhood; or as a result of the activities of the formula companies. The Norwegian researchers make no attempt to explain in terms of their hypothesis, either global variations in breastfeeding rates, which are much wider than between their study groups, or the rapid increase in successful breastfeeding among Norwegian women in the last 50 years.

The authors quote selectively from four papers by Michael Kramer, to justify casting doubt on the many positive health effects of breastfeeding shown in observational studies. Kramer reports the results of a large randomised controlled study in Belarus, comparing children born in baby-friendly hospitals with those born in other hospitals (3,4). They provide some of the most robust evidence of the benefits of breastfeeding available, yet they have been misinterpreted and misreported. Kramer publicly rebutted earlier claims that he questioned the benefits of breastfeeding stating that the "press twisted my words" (5). "Our results have been misrepresented. We found that children randomized to the breastfeeding promotion intervention were protected against gastrointestinal infections and atopic eczema during the first year of life, and that they had significantly higher IQ scores at age 6.5 years."

The Norwegian researchers issued an international press release about their ideas, which has unfortunately received attention all over the world. Their unfounded assertion that "new research shows that breast milk is not

as important for either the mother or the child's health" (2) can do a great deal of damage. Such statements fuel cynical views about the value of breastfeeding, they justify continued poor practices, and reduce women's confidence. They undermine efforts in countries where national governments, UN organisations such as WHO and UNICEF, and non-governmental organisations such as WABA are working hard to promote evidence-based practice to support breastfeeding and to reduce illness and death among children. They play directly into the hands of the formula industry.

Breastfeeding is not just a matter of women choosing or being advised to do it. They need accurate information and sensitive support. It has been shown many times that if they receive this, even women who lack confidence in their ability to breastfeed are able to do so. Those who lack support and fail may cling to straws of misinformation to assuage their feelings of disappointment and guilt. The Norwegian pronouncement on androgens is just such misinformation.

What we need instead is wider publicity about the role of another hormone, oxytocin, a subject of research at the Karolinska Institute in neighbouring Sweden. Oxytocin generates the emotions of motherhood, and is responsible both for the physical flow of milk from the breast to the baby, and for the associated feeling of love. It reduces a mother's response to stress, helping her to feel calm and confident. Oxytocin, and the hormone prolactin, which is responsible for the secretion of milk, are produced in response to suckling and skin-to-skin contact with the baby. They are more important determinants of effective breastfeeding than testosterone.

WABA asks the Norwegian authors and fellow Norwegian scientists to censure and rebut the misleading information and false claims that are being made, which put the health of all infants at risk; and to assist the families of the world to understand the astounding science and biological truth about breastfeeding, and to resist commercial manipulation.

WABA Steering Committee and International Advisory Council Co-Chairs.

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