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Probiotics in the management of bacterial vaginosis

Bacterial vaginosis (BV) is a common condition that affects most women at some stage. BV is characterised by reduced levels of vaginal *lactobacilli* and an over growth of e.g. *Gardnerella vaginalis* and *Atopobium vaginae*. This imbalance is used in diagnosis with the so-called Nugent-score. Probiotic *lactobacilli* have been investigated as an adjunct to antibiotic treatment and shown to be successful. However, most studies have investigated the effect of vaginally applied probiotics. Here, I report on the oral use of probiotics in BV. Two-week consumption of a combination of *Lactobacillus rhamnosus* HN001 and *Lactobacillus acidophilus* La-14 by healthy women, resulted in vaginal colonisation in 85% of the women. Interestingly, colonisation still increased in the week after consumption was stopped. *In vitro* studies have shown that both strains and in particular *L. acidophilus* La-14 produce hydrogen peroxide; an important antimicrobial involved in the stabilisation of a healthy vaginal microbiota. Both strains were also shown to inhibit the growth of *G. vaginalis* and *A. vaginae* *in vitro* and prevented experimental vaginosis in mice. In a subsequent human study, 40 women with borderline BV, as judged by Nugent-score of 4-6 and vaginal symptoms were randomised to receive either probiotic treatment or placebo for 15 days. In the probiotic group, Nugent-score improved to below 3 (no BV) with no change in the placebo group. Symptoms of itching and vaginal discharge also improved significantly in the probiotic group. The combination of *L. acidophilus* La-14 and *L. rhamnosus* HN001 is beneficial in the management of BV.

Biography

Arthur C Ouwehand received his B.Sc. in Biology and Chemistry in Utrecht (the Netherlands) 1987, his M.Sc. degree (1992) in cell biology from Wageningen University (the Netherlands) and his Ph.D. degree (1996) in Microbiology from Göteborg University (Sweden). Since 1999 he is Adjunct Professor in Applied Microbiology at the Turku University (Finland) and since 2004 he has been working for Danisco; now DuPont Nutrition and Health. He is the author of more than 250 journal articles and book chapters; he is the Editor of four books on lactic acid bacteria and the intestinal microbiota and co-inventor on 15 approved patents.

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