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Vitamin D intakes and food sources in breastfeeding women in Ireland: findings from the WellFed study

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Limited sunshine and dietary vitamin D make vitamin D deficiency very common in Ireland. Breastfeeding is the universal recommendation and supplies the best combination of nutrients and bioactive factors for all infants[(1)]. However, maternal diet and nutrition status impacts concentrations of certain nutrients in breastmilk and therefore vitamin D concentrations can be lower than recommended for infants[(2,3)]. This study aimed to determine the vitamin D intakes and food sources of breastfeeding mothers in Ireland.

Data was collected as part of the WellFed study, a 4-week randomised control trial investigating the effectiveness of a food supplement containing a protein hydrolysate and beta glucan (Wellmune®) during lactation on immune and gut health (LS-23-07-OSullivan). Participant vitamin D intakes were assessed using FoodBook24 self-completed 24-hour recalls. Foods were grouped into food groups to determine their contribution to intake as well as the contribution from natural and added vitamin D foods. Data was analysed using IBM SPSS Statistics (version 27).

Dietary analysis of 45 participants indicated that maternal vitamin D intakes were low (6.4 ± 4.6μg/day). Most participants (96%) did not meet the 15μg/day recommendation, despite 56% of participants reporting they consumed some form of vitamin D supplement. Natural vitamin D foods like eggs and egg dishes, fish and fish products, meat and meat products and foods with added vitamin D including breakfast cereals, beverages, and milk and yoghurt were the key food groups contributing to intake, with the majority coming from natural food sources.

Low dietary vitamin D intake is common among breastfeeding women and diet alone is insufficient to achieve the daily vitamin D requirements even when supplements are consumed. As natural food sources of vitamin D are limited and infrequently consumed, recommendations to consume more vitamin D foods may not be successful as a standalone strategy to improve vitamin D status. A combination of approaches including the promotion of vitamin D rich food consumption, supplementation strategies, and the introduction of food fortification policies may be a feasible method for improving vitamin D across the population.

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