

## Bridging the 'missing middle': classroom-based breastfeeding education for adolescents

Extensive research demonstrates that breastfeeding confers significant benefits across numerous infant and child health outcomes, underscoring its critical role in early-life nutrition.<sup>1</sup> Although the health benefits of breastfeeding for mothers, infants, families, communities and countries are well established, long-term breastfeeding targets remain unmet.<sup>2</sup> This is because of many documented barriers to breastfeeding, with the most persistent hurdle being the impact of commercial milk formula (CMF). Aggressive promotion has normalised CMF feeding in many cultures, and misleading marketing portrays CMF as healthy and convenient, despite evidence to the contrary.<sup>2</sup> Workforce challenges for women in employment further lead to a lack of adequate support for breastfeeding through paid maternity leave, workplace accommodations and job security.<sup>2</sup> Healthcare system limitations that fail breastfeeding include many health workers who are insufficiently trained to assess, manage and support breastfeeding. This also includes hospital practices such as mother–infant separation and delayed initiation that disrupt critical early breastfeeding behaviours. Skilled counselling and consistent support require financial and policy investment, which is often lacking. Also, quality of care for breastfeeding support in maternity and primary health care settings is frequently substandard, inconsistent or ineffective.<sup>2</sup> Priority interventions to increase breastfeeding have therefore been set to at least integrate the Ten Steps to Successful Breastfeeding as the standard of care in all maternity facilities, provide skilled breastfeeding counselling during antenatal care and throughout the first two years of life, eliminate the inappropriate promotion of CMF and enact paid maternity leave and family-friendly workplace policies.<sup>2</sup>

Prenatal breastfeeding education, whether standard or model-based (breastfeeding education based on a model or theory), improves a pregnant mother's confidence in their breastfeeding skills. The addition of counselling further amplifies these effects, indicating a clear relationship between intervention type and confidence in breastfeeding.<sup>3</sup> Most of these recommendations and interventions, however, remain concentrated on mothers already pregnant or in the postpartum period,<sup>4</sup> which, from a life-course perspective, may require some rethinking.

Adolescence constitutes a pivotal stage in the life course during which health-related knowledge, attitudes and social norms are established and consolidated.<sup>4, 5</sup> Often overlooked, the adolescent years have been labelled the 'missing middle'.<sup>6</sup> This gap means adolescents are excluded from early education and support, which leaves them inadequately informed and underserved in relation to their specific developmental and health needs. This group is at risk of early pregnancy and, in the current context, is also left vulnerable to future breastfeeding challenges.<sup>6</sup> A randomised controlled trial, conducted in eastern Turkey, examined whether structured prenatal breastfeeding education influences adolescent mothers' postnatal breastfeeding outcomes. Among participants, those who received two educational sessions demonstrated significantly greater breastfeeding self-efficacy, higher success scores in the immediate postpartum period, and more frequent adoption

of recommended practices, such as early initiation, regular feeding intervals and alternating breasts. The findings indicate that targeted prenatal education can substantially enhance breastfeeding confidence, effectiveness and behaviours in adolescent mothers.<sup>7</sup>

A study from a low-income community in Cape Town, South Africa, explored breastfeeding knowledge, attitudes and practices among adolescent mothers (aged 16–19) attending the Crossroads Community Day Centre in Mitchell's Plain. Most mothers acknowledged key infant benefits, including protection against respiratory infections and allergies, and enhanced cognitive development, as well as maternal benefits, such as reduced breast engorgement and a lower breast cancer risk. However, knowledge gaps persisted regarding breastfeeding's role in child spacing and maternal weight regulation. While all participants reported initiating breastfeeding, nearly one-third had discontinued at the time of interview when their babies were younger than 19 weeks old, and only about half practised exclusive breastfeeding. Knowledge alone thus did not lead to appropriate breastfeeding practices, making the case for targeted educational and promotional interventions to strengthen awareness and support exclusive breastfeeding in adolescent mothers.<sup>8</sup>

Findings from a study featured in the current issue of the *South African Journal of Clinical Nutrition* (SAJCN), conducted in two rural South African schools in Limpopo province,<sup>9</sup> assessed the impact of a brief classroom-based breastfeeding education intervention among Grade 11 and 12 learners. A standardised 40-minute session, informed by WHO guidelines and the Developmental Origins of Health and Disease (DOHaD) framework, was delivered in English and Tshivenda. Breastfeeding knowledge was measured pre- and post-intervention, and preferences for benefits were ranked thereafter. Findings revealed a significant improvement in knowledge scores, with notable gains in awareness of fathers' roles and the benefits of fatherhood. Adolescents expressed particular interest in maternal and paternal advantages, and female learners were more likely to demonstrate high engagement. The authors of the study concluded that the intervention enhanced adolescents' understanding of breastfeeding and highlighted the importance of parental involvement, suggesting that integrating this DOHaD-based education into secondary school curricula may strengthen family and community support for breastfeeding in rural contexts.<sup>9</sup>

This school-based approach aligns strongly with the World Health Organization's (WHO) Global School Health Initiative of Health Promoting Schools (HPS), launched in 1995.<sup>10</sup> The school setting provides an ideal opportunity to mobilise and strengthen health promotion and education, given its accessibility to large populations of children over extended periods. As established institutions of learning, they provide structured opportunities to integrate new knowledge and skills into the curriculum in both acceptable and cost-effective ways. Beyond the formal curriculum, the school's informal or 'hidden' curriculum can strongly shape learners' attitudes and

behaviours. Schools also offer the potential to reach nearly all young people, including minority and disadvantaged groups, at influential stages of development such as childhood and adolescence, within a relatively protected environment. Moreover, schools can extend their impact to the wider community by influencing staff, families and community members.<sup>11</sup> A well-designed school health programme represents one of the most cost-effective national investments, simultaneously advancing education and health outcomes. The WHO advocates such programmes as a strategic approach to reducing major health risks among young people while mobilising the education sector to address the broader social, economic and political determinants of risk.<sup>12</sup>


South Africa released its Integrated School Health Policy (ISHP) in 2012. One of the specific objectives of the policy is 'to provide preventive and promotive services that address the health needs of school-going children and youth with regard to both their immediate and future health'.<sup>13</sup> Breastfeeding education and promotion meet this objective. It should be acknowledged that introducing breastfeeding education into South African classrooms must navigate the sociocultural landscape delicately. The ISHP has incurred an ethical dilemma in teaching sexual and reproductive health in schools because of its sensitivity in most societies.<sup>14,15</sup> Sexual and reproductive health is underscored by South Africa's historical context with the human immunodeficiency virus/acquired immune-deficiency syndrome (HIV/AIDS) epidemic, which cannot be overstated in the discussion of breastfeeding practices in the country. By fostering an environment that promotes accurate knowledge concerning breastfeeding and its relation to HIV, schools can play a transformative role in public health by reshaping perceptions. The national implementation of the human papilloma-virus (HPV) vaccination through school-based delivery is another example of a programme with high potential for increased vaccine coverage among adolescents, if well integrated into the ISHP.<sup>16,17</sup> Similar to the HPV vaccination, educational initiatives around breastfeeding, particularly when intertwined with discussions on reproductive health, may inadvertently be misinterpreted by communities as promoting sexual activity among children. Therefore, ethically sound breastfeeding education relies on clear policy guidelines, robust teacher training, effective curriculum integration and a unified ethical framework for multidisciplinary stakeholders. With strategic planning and community engagement, the potential benefits of breastfeeding education in the classroom will far outweigh the barriers. Ultimately, providing adolescents with the health information they need in the safety of the classroom environment and destigmatising breastfeeding constitute a vital investment in the health and well-being of both present and future families, as they foster a foundation for healthier parenting practices.

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