Designing a Mobile-Based Nutrition Education Application Platform for Obese Sub-Fertile Women of Childbearing Age in Sri Lanka

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According to the research expertise, obesity has a significant negative impact on the subfertility of women of childbearing age. Mobile applications have developed and proven their success in the dissemination of evidence-based scientifically derived knowledge. Sri Lanka has a higher prevalence of subfertility due to obesity and Poly-Cystic Ovary Syndrome (PCOS). Furthermore, within the Sri Lankan context, there is a gap in the dissemination of scientifically proven knowledge to the target population. The incapacity to monitor their dietary patterns and behavioral changes regularly and methodically is a concern. Due to the aforementioned reasons, the awareness among obese women of childbearing age on the effect of nutrition and lifestyle on subfertility is low in Sri Lanka. However, user-friendly communication tools have yet to be developed on dietary behavior, cultural practices, and lifestyle targeting Sri Lankans. Therefore, this research was conducted to address the void in projecting scientific information to the target population. The mobile application: 'Aarya' was developed in two phases. The first phase involved developing the educational content, validation, and verification. Educational content was developed through a literature review, expert consultation, and interviewing thirty women with a history of obesity, subfertility, and successful pregnancy. The second phase involved designing, developing, and evaluating the usability and effectiveness of the application. Evaluation of effectiveness had two stages; pre-evaluation and post-evaluation. 'Aarya' focused on four goals; Body Mass Index (BMI) and Weight, Diet, Physical Activity, and Mindfulness under the categories: Dashboard, Assessment, Diary, Journal, and Reminders. There is a 'Guide' feature to provide the required knowledge. 'Aarya' integrated and disseminated evidence-based scientific information in the digital era sustainably. It has increased knowledge and awareness among selected participants and guided them in self-improvement and self-reflection integrating into daily life.

Keywords: Lifestyle, Mobile application, Nutrition education, Obesity, Subfertility

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