# ROSAIA AS AN EDUCATIONAL TOOL FOR PREVENTING BREAST CANCER IN OLDER WOMEN: POTENTIAL AND CHALLENGES

Luciano Freitas Sales; Maria do Socorro de Lima Silva; Marcos Paulo Serpa Barbosa; Vera Lúcia Teodoro dos Santos Souza; Osmam Brás de Souto; Weverson Garcia Medeiros

**Abstract**

**Background:** Breast cancer is the leading cause of cancer mortality among older women in Brazil, with an estimated 73,610 new cases by 2025 (INCA, 2025). This population faces challenges such as low digital literacy, difficulty accessing the healthcare system, and significant exposure to misinformation, which contributes to late diagnoses. In this context, solutions based on Artificial Intelligence (AI) have the potential to promote preventive health education. In this context, RosaIA was developed, a prototype educational chatbot integrated with WhatsApp, which uses the Gemini model (Google DeepMind) to offer validated information on breast cancer prevention. **Purpose:** To assess the potential of RosaIA as a digital tool to support health education for women aged 60 and over, especially with regard to breast cancer prevention, encouraging mammography screening, and combating misinformation. **Methods:** The qualitative analysis was based on simulated WhatsApp interactions, addressing seven key topics for older women's health: the importance and frequency of self-examination; the recommended age and frequency for mammography; risk factors and how to mitigate them; warning signs; healthy habits; navigating the SUS/health plan; and myths and misinformation. The responses generated by RosaIA were evaluated by a radiology specialist, considering three criteria: technical accuracy, accessibility, and empathy, based on the guidelines of INCA and the Brazilian Society of Mastology. **Results:** RosaIA demonstrated significant potential as a health education resource. The AI presented accurate and clear information (high information accuracy), using accessible language adapted to the cognitive limitations of the elderly population. It also demonstrated sensitivity by empathetically addressing questions and concerns, an essential aspect for vulnerable populations. Furthermore, the choice of WhatsApp as a platform proved strategic, given its widespread use (92%) by elderly Brazilian women. **Conclusion:** RosaIA presents itself as a promising tool for health education and breast cancer prevention in the elderly population. Its empathetic, accessible, and technically reliable interface helps combat misinformation and expand access to mammography screening. We recommend continuing the project with focus group testing, developing a multimodal version (audio/text), and implementing ongoing update strategies to maintain the reliability of the information and expand the tool's social impact. **Implications:** RosaIA is an artificial intelligence tool developed for educational and health support purposes, specifically focused on breast cancer prevention and awareness, with a focus on women—including older women and those in vulnerable situations.

**Keywords:** RosaIA; Breast Cancer; Cancer Prevention; Elderly Women; Chatbot.