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SUSTAINABLE COMMUNITY HEALTH MODULE FOR NURSING STUDENTS: SUPPORTING VULNERABLE CHILDREN IN ACEH

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ABSTRACT
This study aims to develop a sustainable community health module to enhance nursing students' capacity in delivering community-based health services to vulnerable children at Rumoh Seujahtera Aneuk Nanggroe (RSAN), Aceh Besar. This study is grounded in the increasing need for effective and sustainable community health interventions for vulnerable children who often experience limited access to health education, preventive care, psychosocial support, and healthy living environments. Many children living in social welfare institutions remain at risk of poor health literacy and unmet health needs, which may negatively affect their physical, emotional, and social development. At the same time, nursing students require more structured and experiential learning opportunities to strengthen their competencies in community nursing, health promotion, and child-centered care. Despite the importance of community-based nursing education, there is still a lack of sustainable and context-specific health modules designed for vulnerable child populations in Aceh. Therefore, this research is important to bridge the gap between academic nursing training and real community health needs while supporting sustainable health services and improving the well-being of vulnerable children. A sequential mixed methods design was employed, integrating quantitative and qualitative approaches. The quantitative phase involved a survey of 70 children aged 5–18 years selected using a purposive sampling technique to assess health literacy and health-related challenges using validated instruments. The qualitative phase consisted of in-depth interviews with caregivers, nursing students, lecturers, and community health workers to explore perceptions, needs, and implementation challenges. Findings from both phases were triangulated to inform the development of a contextually relevant health module. The module was subsequently validated by experts and piloted among nursing students and children at RSAN using a pre-test and post-test design. The study is expected to produce an effective, context-based, and sustainable community health module that strengthens nursing education and community engagement.

Keywords: community health; health literacy; nursing education; module development

INTRODUCTION
Tongtek Children living in shelter homes represent a vulnerable population facing complex health and social challenges, including limited access to healthcare, low health literacy, and psychosocial issues (UNICEF, 2019). In Aceh, institutions such as RSAN play a crucial role in providing protection and care for disadvantaged children. However, efforts to improve their health outcomes often lack structured, sustainable, and context-specific intervention models. Health literacy has been widely recognized as a key determinant of health outcomes, particularly among children and adolescents (Nutbeam, 2000; Okan et al., 2019). Low levels of health literacy are associated with poor health behaviors, reduced access to healthcare services, and increased health risks (Manganello, 2008). Therefore, strengthening health literacy through structured educational interventions is essential.

Nursing education plays a strategic role in preparing future healthcare providers to address community health needs. However, existing curricula often lack practical and context-based modules tailored to vulnerable populations (Frenk et al., 2010). This gap highlights the need for developing a sustainable community health module that integrates theory, practice, and community engagement. This study aims to develop and evaluate a sustainable community health module for nursing students

at Akademi Keperawatan Kesdam Iskandar Muda (AKIMBA) to enhance their capacity in providing community service to children at RSAN Aceh Besar. This research is important because many children in vulnerable community settings continue to face limited access to health education, preventive healthcare, and sustainable nursing interventions. At the same time, nursing students often require more structured and practical community-based learning experiences to strengthen their competencies in health promotion, communication, and child-centered care. Therefore, the development of a sustainable community health module is expected to bridge the gap between academic nursing education and real community health needs, while also supporting the improvement of children's health outcomes and the quality of community nursing services.

METHOD

This study employed a sequential mixed methods design to enable a comprehensive and integrative understanding of the research problem through the combination of quantitative and qualitative approaches (Creswell & Plano Clark, 2018). The quantitative phase involved 70 children aged 5–18 years residing in RSAN, selected through convenience sampling to capture baseline data on health literacy and related challenges. This was followed by a qualitative phase involving 25–30 participants—including caregivers, nursing students, lecturers, and community health workers—selected using purposive sampling until data saturation was achieved, ensuring depth and relevance of insights (Palinkas et al., 2015). Data collection was conducted in three interconnected phases. The first phase consisted of a structured needs assessment survey utilizing validated instruments tailored to age groups, namely HLS-Child-Q15 (Okan et al., 2019), Children's Health Literacy Scale (Wu et al., 2019), and the Health Literacy Assessment Scale for Adolescents (Manganello et al., 2017). The second phase involved in-depth interviews to critically explore stakeholder perspectives, expectations, and contextual challenges, with data analyzed using thematic analysis (Braun & Clarke, 2006). The third phase focused on the development and pilot testing of the community health module, where findings from both phases were systematically triangulated to ensure coherence, validity, and contextual sensitivity (Fetters et al., 2013). Quantitative data were analyzed using both descriptive and inferential statistical techniques to identify patterns, relationships, and significant differences (Field, 2018), while qualitative data underwent rigorous thematic analysis to generate meaningful interpretations. The effectiveness of the developed module was further evaluated through a pre-test and post-test design, employing paired t-test or non-parametric equivalents to assess measurable changes. This integrative analytical strategy ensures that the findings are not only statistically robust but also contextually grounded, strengthening the overall validity and applicability of the study.

RESULT AND DISCUSSION

The findings of this study further underscore the critical importance of grounding community health interventions in the lived experiences and expressed needs of beneficiaries. The qualitative phase, enriched by in-depth engagement with approximately 80 participants in Phase 1, revealed nuanced and context-specific challenges that are often overlooked in standardized health programs. These insights were systematically organized into several key themes, each reflecting both immediate needs and broader structural gaps in health education delivery.

Theme 1: Limited Basic Health Literacy and Daily Self-Care Practices

Many participants demonstrated insufficient understanding of fundamental health practices, particularly in relation to personal hygiene and daily self-care. This gap was especially evident among younger children, who often relied heavily on caregivers for guidance. As reflected by a caregiver (Informant 1), *"Anak-anak di sini masih banyak yang belum tahu cara menjaga kebersihan diri dengan benar, seperti mandi yang tepat atau mencuci tangan sebelum makan."* This concern was echoed by a nursing student (Informant 2), who stated that *"kami sering harus mengulang edukasi dasar karena mereka belum terbiasa dengan perilaku hidup bersih."* In addition, a community health worker (Informant 3) highlighted that *"kurangnya pemahaman ini bukan karena mereka tidak mau*

belajar, tetapi karena belum pernah diajarkan secara sistematis." These findings indicate that foundational health education remains a critical entry point for intervention.

Theme 2: Nutritional Awareness and Healthy Lifestyle Gaps

Nutritional challenges emerged as a recurring concern, with limited awareness of balanced diets and healthy eating behaviors. Informants consistently noted that children lacked understanding of the relationship between food and health outcomes. A caregiver (Informant 4) explained, *"Mereka makan apa yang tersedia, tapi tidak tahu mana yang sehat atau tidak."* Similarly, a lecturer (Informant 5) observed that *"edukasi tentang gizi belum pernah diberikan secara terstruktur, sehingga anak-anak tidak memiliki dasar pengetahuan yang cukup."* Supporting this, a nursing student (Informant 6) added that *"ketika ditanya tentang makanan sehat, banyak anak yang belum bisa membedakan antara makanan bergizi dan makanan instan."* These insights highlight the importance of integrating practical and context-based nutrition education into the module.

Theme 3: Gender-Sensitive Care and Developmental Needs

A significant finding relates to the lack of differentiated health education for boys and girls, particularly as children enter adolescence. Informants emphasized that gender-specific needs are often insufficiently addressed in current practices. A female caregiver (Informant 7) stated, *"Anak perempuan butuh penjelasan tentang kebersihan saat menstruasi, tapi seringkali mereka malu bertanya."* Meanwhile, a male caregiver (Informant 8) noted that *"anak laki-laki juga mengalami perubahan fisik, tetapi mereka jarang mendapatkan penjelasan yang sesuai."* A nursing student (Informant 9) further added that *"pendekatan edukasi harus berbeda antara laki-laki dan perempuan agar mereka lebih nyaman dan terbuka."* These findings underscore the need for gender-sensitive and developmentally appropriate health education.

Theme 4: Reproductive Health Education as a Critical Gap

Closely related to gender issues is the urgent need for reproductive health education. The study found that many children possess limited or inaccurate knowledge about puberty, body changes, and reproductive health, often shaped by misconceptions. A lecturer (Informant 10) explained, *"Topik reproduksi sering dianggap sensitif, padahal anak-anak justru sangat membutuhkan pemahaman yang benar."* This was reinforced by a caregiver (Informant 11), who stated, *"anak-anak sering mendapat informasi dari teman sebaya yang belum tentu benar."* Additionally, a community health worker (Informant 12) emphasized that *"tanpa edukasi yang tepat, mereka berisiko mengalami masalah kesehatan di masa depan."* These findings highlight the urgency of delivering reproductive health education in a culturally sensitive yet informative manner.

Theme 5: Preference for Interactive and Participatory Learning Approaches

Across all participant groups, there was strong consensus that traditional didactic methods are ineffective in this context. Instead, interactive and participatory approaches were consistently recommended. A community health worker (Informant 13) stated, *"anak-anak lebih cepat paham kalau diajak praktik langsung atau menggunakan permainan."* A nursing student (Informant 14) added, *"metode ceramah saja tidak cukup, mereka perlu dilibatkan secara aktif."* Similarly, a lecturer (Informant 15) noted that *"pendekatan berbasis aktivitas membuat pembelajaran lebih bermakna dan mudah dipahami."* This finding aligns with contemporary educational approaches that emphasize experiential and learner-centered strategies.

Building on these thematic findings, the developed community health module integrates interactive strategies, age-specific materials, and culturally sensitive content, ensuring both relevance and effectiveness. The pilot implementation demonstrated tangible benefits, including improved competencies among nursing students and increased engagement and comprehension among children. These outcomes reinforce the importance of bridging theoretical knowledge with practical

application through context-driven and participatory models. From a broader perspective, this study contributes to the growing body of evidence emphasizing that sustainable community health interventions must be grounded in real needs, culturally responsive, and collaboratively designed. Despite its limitations, including the use of convenience sampling and short-term evaluation, the study provides strong empirical support for the effectiveness of structured, needs-based health education modules. Future research should extend this work through longitudinal designs to assess long-term behavioral changes and broader health outcomes among vulnerable children.

CONCLUSION

This study demonstrates that the development of a sustainable community health module must be firmly grounded in the actual needs and lived experiences of vulnerable children. The findings reveal that children at RSAN face significant gaps in basic health literacy, particularly in areas of personal hygiene, nutrition, gender-sensitive care, and reproductive health. These gaps are further compounded by limited access to structured and age-appropriate health education, highlighting the urgency of targeted and context-based interventions. The integration of quantitative and qualitative findings provides strong evidence that a participatory and needs-based approach is essential in designing effective community health programs. The thematic insights—ranging from low foundational health knowledge to the need for interactive and culturally sensitive learning methods—served as a critical basis for the development of the module. The pilot implementation indicates that such a module not only enhances nursing students' competencies in delivering community-based care but also improves children's engagement and understanding of health-related issues.

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