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Paper Title:	Analyzing Reported Home-Use Medical Device Patterns in ASEAN during COVID-19: An Apriori-Driven Narrative Review
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Abstract

This study investigated the patterns and features of home-use medical device (HUMD) utilization in ASEAN nations, with a spatial focus, during the COVID-19 pandemic. Through the use of a novel methodology that integrated the Apriori algorithm for association rule mining with narrative review, this study also investigated the impact of economic diversity on the attributes of HUMD usage. All rules were generated by the Apriori algorithm on the basis of 20% support, 60% confidence, and lift greater than 1. Findings revealed a consistent emphasis on digital health technologies, with telemedicine receiving high support ratings (80%) across all income levels. While cutting-edge surveillance technologies such as contact tracing applications and IoT (70% support value) were publicly reported to be implemented for various purposes in almost all ASEAN nations, oxygen concentrators received less support in lower-middle (0.33) compared to upper-middle (1.0) income countries. Moreover, the availability of low-technology devices varied according to economic status. This insight can inform future policies and strategies for enhancing both existing and potentially needed home-based medical equipment. The novel evidence gathered will convince biomedical engineers, medical device technicians, and other healthcare workers in the study region to expand and contribute to the knowledge base of medical devices preserved at home, in anticipation of potential future health crises similar to this one.
