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VALIDITY OF GERIATRIC NUTRITION RISK INDEX (GNRI) IN THE ASSESSMENT OF NUTRITIONAL RISK AMONG HOSPITALIZED ELDERLY PATIENTS IN SELECTED HOSPITAL IN SELANGOR, MALAYSIA

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ABSTRACT

Malnutrition is common among hospitalized elderly patients, and the prevalence is increasing not only in Malaysia but also in the rest of the world. The Geriatric Nutrition Risk Index (GNRI) and the Mini Nutritional Assessment (MNA) were developed to identify malnourished individuals among this group. The MNA was validated as a nutritional assessment tool for the elderly. The GNRI is simpler and more efficient than the MNA, but studies on the use of the GNRI and its validity among the Malaysian population are absent. Thus, this research aims to assess the criterion validity of the GNRI among geriatric Malaysian population against the two reference standards for malnutrition, Subjective Global Assessment (SGA) and Global Indicator of Malnutrition (GIM), to determine the optimal cut-off value of GNRI suitable for Malaysian population, and to determine which tool is suitable to be used among the population. A cross-sectional study was conducted among 134 geriatric patients with a mean age of 68.9 ± 8.4 who stayed at acute care wards in Hospital Tengku Ampuan Rahimah, Klang from July 2017 to August 2017. The SGA, MNA, and GNRI were administered through face-to-face interviews with all the participants who gave their consent. Meanwhile, biochemical indicators were obtained from the participants' medical records. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of the GNRI and MNA were analyzed against the GIM and SGA. Receiver-operating characteristic (ROC) curve analysis was used to obtain the area under the curve (AUC) for both the GNRI and MNA and to obtain suitable GNRI optimal cut-off values. This study has found that the prevalence of malnutrition remains high among hospitalized elderly. According to the SGA, GIM, MNA, and GNRI, 26.9%, 35%, 42.5%, and 44.0% of the participants were malnourished, respectively. The validity of the GNRI is comparable to that of the MNA and use of the GNRI to assess the nutritional status of this group is proposed with the new suggested cut-off value (GNRI $\leq$ 89.6 for malnourished and GNRI $\leq$ 94.95 for severely malnourished). Moreover, GNRI is a very simple, less time consuming, and more efficient nutritional assessment tool compared to MNA. This research has proven that GNRI is a validated nutritional assessment tool and it is believed that malnutrition among this group can be identified quickly and correctly by using this tool. Thus, underdiagnosis of malnutrition can be prevented as well as it may indirectly help in reducing the prevalence of malnourished hospitalized elderly and improve the quality of nutritional care process practiced in Malaysia.

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