The role of BIRADS in predicting histopathology outcomes: A retrospective study of breast cancer screening at NCSM

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ABSTRACT

Introduction: Breast cancer is a significant public health concern in Malaysia, with an incidence rate of 1 in 19 women. Early detection through screening programs, such as those offered by the National Cancer Society of Malaysia (NCSM), has been shown to improve survival rates and alleviate treatment burdens. NCSM provides breast biopsy services at an affordable and accessible cost, ensuring equitable access for women across all socioeconomic backgrounds. **Objectives:** This study aims to evaluate the diagnostic performance of the Breast Imaging Reporting and Data System (BIRADS) in predicting histopathology results, as well as to explore the sociodemographic factors influencing breast cancer detection, based on a single-center experience. **Materials and Methods:** A retrospective analysis was conducted on 108 patients who sought breast imaging at NCSM, with recommendations for breast biopsy based on the radiologist's clinical judgment. The BIRADS category and histopathological examination (HPE) result were retrieved from NCSM database. **Results:** The study identified a wide age range of patients who undergo breast biopsy, with the majority aged between 41-60 years. Chinese ethnicity was the most represented group. Of the 108 biopsy cases, 50 were confirmed positive by HPE. The majority of positive cases were in patients aged 41-80 years. The study found a statistically significant positive correlation between BIRADS category and HPE results ($p<0.05$), as determined by the chi-square test. **Conclusion:** The findings of this study demonstrate that the BIRADS system reliably predicts histopathological outcomes in breast cancer screening with a significant corelation. The need for increased screening efforts, particularly among women in key age groups and ethnic communities, should also be emphasized, aligning with NCSM's goal of improving breast cancer detection and ensuring equitable access to screening services.

Keywords: Breast cancer, breast screening, BIRADS, histopathological result, sociodemographic factors