

ABSTRACT

Ovarian cancer is one of the most difficult types of cancer to detect early because its initial symptoms are often imperceptible or resemble minor disorders. Many new cases are only discovered when the cancer has already reached an advanced stage, making treatment more difficult and reducing the chances of recovery. In addition, examination methods such as ultrasound or CT scans are expensive and may not be available in all areas. Therefore, an alternative approach is needed to facilitate earlier detection in a simpler and more efficient manner.

This study was conducted to analyse and compare several models that can be used in the pre-screening process for ovarian cancer. Symptom data was collected from 185 female respondents through a questionnaire obtained from Hasan Sadikin Hospital (RSHS) in Bandung. The models used in this study were the Statistical Weighting Model (STW), STW with data balancing using SMOTE, and Gaussian Naive Bayes (GNB). Evaluation was conducted using accuracy as the primary measure to determine the best model.

The final results of this study indicate that the Statistical Weighting Model (STW) provides the best results in the ovarian cancer pre-screening process. This method uses weighting on each symptom to determine the risk level. In testing using the median threshold, this model achieved an accuracy of 87.03%. With a relatively simple approach, the STW model can detect risk with sufficient accuracy. Based on these results, this model can be one of the effective methods for supporting early detection of ovarian cancer.

Keywords: ovarian cancer, pre-screening, symptom weighting, SMOTE, Gaussian Naive Bayes, accuracy.