

ABSTRACT

Fertility problems caused by disruption of the reproductive system in women and decreasing quality of sperm in men. A study stating that fertility problems occurred in 40% as a result of women, 40% as a result of men, and 20% due to both. Therefore, early fertility examination is necessary, especially for women who want to do early prevention of the things that cause fertility. One that is highly recommended is USG (Ultrasonography) examination. USG (ultrasonography) is an examination of the rules of the body using sound waves at high frequencies.

This research aims to produce system application that can diagnose and classify the USG image of the uterus into the normal class or detected PCOS (Polycystic Ovary Syndrome). Detection process begins with the initial processing of the image of uterus, the process of feature extraction using Linear Discriminant Analysis (LDA), and the classification process using Fuzzy C-Mean Clustering. Initial processing is done to get rid of unneeded information in image processing.

Overall the data used in this thesis amounts to 167 images. System testing is done by taking the value of determining w (weighting), and the amount of training data detected normal and PCOS (Polycystic Ovary Syndrome). Of test results obtained by the best test results with 94,44% accuracy for image data members of the class.

Keyword : Polycystic Ovary Syndrome, Fertile, Ultrasonography, Linear Discriminant Analysis, Fuzzy C-Mean Clustering.