ABSTRACT

Family Planning (KB) is a government program designed to improve family welfare and control population growth. Participants in the Family Planning program are fertile couples who use contraceptive methods. The aim of this study is to classify regencies/cities in East Java based on contraceptive methods using K-Means and K-Medoids Clustering. The data source used is the number of active participants in the family planning program in East Java in 2022, obtained from the East Java Central Statistics Agency. The research variables in this study are 7 types of contraceptive methods, namely IUD, MOW, MOP, Condom, Implant, Injection, and Pill. This study uses silhouette coefficient validation to obtain the best cluster from each method, namely 6 clusters for K-means Clustering and 7 clusters for K-Medoids Clustering. The comparison results between the K-Means Clustering and K-Medoids Clustering methods produced the best method, namely K-Medoids with 7 clusters. The results of the 7-cluster study divide the regencies/cities in East Java based on the high and low use of contraceptives. The results of this study show that cluster 1 consists of 8 regencies/cities, cluster 2 consists of 5 regencies/cities, cluster 3 consists of 4 regencies/cities, cluster 4 consists of 4 regencies/cities, cluster 5 consists of 6 regencies/cities, cluster 6 consists of 4 regencies/cities, and cluster 7 consists of 7 regencies/cities. Factors affecting the high and low use of contraceptives in an area include the large population in an area, access to health services, economic level, and others.

Keywords : *Contraceptive, K-Means, K-Medoids, Family Planning*