

UNIVERSITI TEKNOLOGI MARA

**DESCRIPTIVE ANALYSIS OF
PATIENT DIET TRENDS AT PANTAI
HOSPITAL AYER KEROH**

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ABSTRACT

Due to the rapid evolution of technologies, business intelligence has become one of the daily tools for organizations by improving decision-making and achieving the company's objectives. Pantai Hospital Ayer Keroh is a medical center located in Melaka. This research focuses on Pantai Hospital Ayer Keroh, aiming to develop a patient dietary pattern through descriptive analysis. Three problems have been identified for this business: inefficient dietary meal planning, inconsistent decision-making in meal options, and a lack of a structured approach to analyzing dietary data. Without effective data analysis, it is challenging to track dietary trends, assess patient preferences, and optimize meal preparation. To address this problem, this project focuses on enhancing various aspects of healthcare dietary operations by employing CRISP-DM as the methodology to structure the data mining process. The experiments were conducted using descriptive analysis and the K-Medoids clustering algorithm. Among the k-medoids clustering discoveries, the best result was clustering for experiment age, diet type, category, and therapeutic diet for Pantai Hospital Ayer Keroh, which shows the number of values of k clustering is $k=5$, and the Davies-Bouldin Index (DBI) score is 0.032, indicating that the clusters are well-distinguished and more separate. Identifying the clustering results enables targeted meal planning based on patient group characteristics and helps optimize resources by understanding dietary demand within each cluster. One of the limitations of this project is the lack of comprehensive demographic data, which currently includes only race and age. To address this, including additional demographics would enhance the accuracy of clustering and allow more personalized dietary recommendations.

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