

**ANDROID-BASED APPLICATION FOR CALCULATING
COMMERCIAL ENTERAL FORMULA SERVINGS TO IMPROVE THE
ACCURACY OF DIET MANAGEMENT FOR CANCER PATIENTS AT
DR. SARDJITO GENERAL HOSPITAL IN YOGYAKARTA**

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ABSTRACT

Background: Adequate dietary management through enteral nutrition is a critical component in the management of cancer patients to prevent malnutrition. However, incorrect dilution is still found which affecting the effectiveness of nutritional interventions. The development of digitalization shows alternative solutions through the use of Android-based technology.

Objective: This study aims to develop a smartphone-based application to accurately calculate enteral formula servings and evaluate its acceptance by waiters.

Methods: The research design was a quasi-experimental design without a control group, using a one-group pre-test post-test design. The study was conducted in the pantry of the bougenfile cancer room at Dr Sardjito General Hospital in Yogyakarta, from February to May 2025. The variables observed included accuracy (formula weight and final volume) and application acceptance using the TAM (Technology Acceptance Model) questionnaire. Data collection was conducted through observation before (manual) and after the use of the application. Data were analyzed statistically using the Mann-Whitney test.

Results: The measurement of formula weight showed a significant difference (p-value=0.001), with the application demonstrating superior accuracy. However, there was no significant difference in final volume (p-value=0.347). The majority of respondents strongly agreed that the application is easy to use (PEU:81.5%), beneficial (POU:80.0%), and well-accepted (AOT:82.0%).

Conclusion: The Android-based commercial enteral formula serving calculation application improves the accuracy of formula weight measurements and is very well received. The application can be used as a tool to assist in the dilution of enteral formulas, especially at Dr. Sardjito General Hospital.

Keywords: Application, enteral formula, dilution. accuracy

**APLIKASI PERHITUNGAN TAKARAN SAJI FORMULA ENTERAL
KOMERSIAL BERBASIS ANDROID UNTUK MENINGKATKAN
AKURASI PEMBERIAN DIET PADA PASIEN KANKER DI RSUP DR
SARDJITO YOGYAKARTA**

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ABSTRAK

Latar Belakang: Penatalaksanaan diet yang adekuat melalui nutrisi enteral merupakan komponen kritis dalam tata laksana pasien kanker untuk mencegah malnutrisi. Namun, masih ditemukan kesalahan pengenceran yang berpengaruh terhadap efektivitas intervensi gizi. Perkembangan digitalisasi menunjukkan peluang alternatif solusi melalui pemanfaatan teknologi berbasis android.

Tujuan: Penelitian ini bertujuan mengembangkan aplikasi berbasis *smartphone* untuk menghitung takaran saji formula enteral secara akurat dan mengevaluasi penerimaannya oleh pramusaji.

Metode: Desain penelitian *quasi experiment without control group desain* dengan rancangan *one-group pre-test post-test design*. Penelitian dilaksanakan di pantry bangsal kanker bougenfile RSUP Dr Sardjito Yogyakarta, pada bulan Februari hingga Mei 2025. Variabel yang diamati meliputi akurasi (berat formula dan volume akhir) dan penerimaan aplikasi menggunakan kuisioner TAM (*Technology Acceptance Model*). Pengumpulan data dilakukan melalui observasi sebelum (manual) dan setelah penggunaan aplikasi. Data dianalisis secara statistik menggunakan uji *Man-whitney*.

Hasil: Pengukuran berat formula menunjukkan perbedaan signifikan ($p\text{-value}=0,001$), dengan akurasi aplikasi yang lebih unggul. Namun, pada volume akhir tidak terdapat perbedaan signifikan ($p\text{-value}=0,347$). Mayoritas responden sangat setuju bahwa aplikasi mudah digunakan (PEU:81,5%), bermanfaat (POU:80,0%), dan dapat diterima (AOT:82,0%) dengan baik.

Kesimpulan: Aplikasi perhitungan takaran saji formula enteral komersial berbasis android meningkatkan akurasi pengukuran berat formula dan dapat diterima dengan sangat baik. Aplikasi dapat dimanfaatkan sebagai alat bantu dalam pengenceran formula enteral yang akurat terutama di RSUP Dr Sardjito.

Kata Kunci: Aplikasi, formula enteral, pengenceran, akurasi