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Nutritional status among the hemodialysis patients in Kuala
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NUTRITIONAL STATUS AMONG THE HEMODIALYSIS PATIENTS IN KUALA TERENGGANU

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DECLARATION

I hereby declare that this research project is based on my original work except for quotations and summaries, which have been duly acknowledged.

20th JUNE 2007

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NUTRITIONAL STATUS AMONG THE HEMODIALYSIS PATIENTS IN KUALA TERENGGANU

ABSTRACT

This study was carried out to determine the nutritional status among 49 hemodialysis patients in Kuala Terengganu. Respondents' age ranged from 29-76 years. Questionnaire forms have been used to collect respondents' background information. Anthropometric measurements taken were weight, height, skinfold thickness of triceps, biceps, subscapular and suprailiac. Body mass index (BMI) and percentage of body fat were then determined based on anthropometric measurements. Result from the respondents characteristic, there were 23 male respondents and 26 female respondents. Majority of them were Malays, and minority were Chinese. From the anthropometry measurement data, generally shown that there were increasing for measurement of biceps, subscapula, suprailiak and wrist circumference measurements, decreasing in measurements of weight, BMI, triceps and midarm skinfold measurement, for the measurements post- and pre-treatment. By using paired T test, it shows a significant in BMI ($p = 0.043$, $p < 0.05$). Beside, the energy intake by total respondents were 1339.5 409.0 kcal/ day or 22.3 ± 8.0 kcal/ kg /day, protein intake by total respondents was 50.1 ± 19.8 gm/ day or 0.8 ± 0.4 gm/kg/day. Both of the energy intake and protein intake by total respondents were lower than the recommended amount and it showing that protein energy malnutrition has occurred. The intake of fluid, calcium, phosphorus, sodium and potassium were in the safety level. For the food frequency questionnaire (FFQ), Indian mackerel fish, palm oil (olein), cooked rice, coconut milk, soya sauce, UHT milk with chocolate flavour, carrot and orange were the most frequently intake by total respondents for protein, oils and fats, legumes and legumes product, cereal and grain products, milk and milk products, vegetables products, and fruit and fruits products. By using Pearson correlation coefficient and Spearman rank coefficient test (non-parametric testing with Spearman rho), it shows that significant correlation between age and fluid intake ($r = -0.284$, $p < 0.05$), monthly income and fluid intake ($r = -0.351$, $p < 0.05$), monthly income and potassium intake ($r = -0.291$, $p < 0.05$), educational level and fluid intake ($r = 0.312$, $p < 0.05$). After this, hopefully more effort will perform to increase the nutritional status of the hemodialysis patients especially to increase the health status and their quality of life.

STATUS PEMAKANAN DI KALANGAN PESAKIT HEMODIALISIS DI KUALA TERENGGANU

ABSTRAK

Kajian ini telah dijalankan untuk menentukan status pemakanan antara 49 pesakit hemodialisis di Kuala Terengganu. Umur pesakit adalah di antara 29-76 tahun. Borang soal selidik digunakan untuk mengumpulkan maklumat pesakit. Pengukuran anthropometri yang digunakan adalah berat, tinggi, lipatan kulit triseps, biseps, subskapula dan supraliak. Index jisim tubuh (IJT) dan peratusan lemak tubuh ditentukan berdasarkan pengukuran anthropometri. Keputusan daripada data demografi responden, terdapat 23 pesakit lelaki dan 26 pesakit perempuan. Kebanyakkan daripada pesakit merupakan kaum Melayu, dan minoriti adalah kaum Cina. Daripada data pengukuran anthropometri menunjukkan bahawa terdapat peningkatan dalam pengukuran biseps, subskapula, suprailiak dan ukurlilit pergelangan tangan, terdapat penurunan pada pengukuran berat, IJT, triseps dan lilitan lengan, pada post dan pre rawatan. Dengan menggunakan Ujian T-berpasangan, didapati terdapat perbezaan singnifikan pada indeks jisim tubuh (IJT) ($p = 0.043$, $p < 0.05$). Selain itu, pengambilan tenaga oleh semua responden adalah 1339.5 409.0 kcal/ hari atau 22.3 ± 8.0 kcal/ kg /hari, pengambilan protein oleh responden adalah 50.1 ± 19.8 gm/hari atau 0.8 ± 0.4 gm/kg/hari. Kedua-dua penggunaan tenaga dan protein adalah kurang daripada kuanti yang diperlukan oleh pesakit hemodialysis dan ia menunjukkan berlakunya kekurangan pada protein dan tenaga pada pesakit. Pengambilan kandungan air, kalsium, fosforus, sodium dan potassium adalah pada tahap yang selamat. Untuk borang soal kekerapan pengambilan makanan, pengambilan ikan kembung goreng, minyak sawit mentah, nasi putih, santan kelapa, kicap, susu UHT berperisa coklat, karot and oren merupakan makanan yang paling kerap diambil oleh pesakit untuk memenuhi keperluan protein, minyak dan lemak, kekacang, bijiran, produk sus, sayur-sayuran, dan buah-buahan seharian. Dengan menggunakan Ujian korelasi Pearson dan *Spearman rank coefficient test* (*non-parametric testing with Spearman rho*), didapati bahawa terdapat hubungan korelasi yang signifikan pada umur dan kandungan cecair ($r = -0.284$, $p < 0.05$), gaji bulanan dan pengambilan kandungan cecair ($r = -0.351$, $p < 0.05$), gaji bulanan dan pengambilan pottasium ($r = -0.291$, $p < 0.05$), tahap pembelajaran dan pengambilan kandungan cecair ($r = 0.312$, $p < 0.05$). Selepas ini diharapkan lebih banyak usaha dilakukan untuk meningkatkan status pemakanan pesakit hemodialisis khususnya untuk meningkatkan tahap kesihatan dan kualiti hidup.