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Study of the relationship between habitual beverage intake with energy intake and bmi among adolescent in Kuala Terengganu / C'hua Tong Eng.

PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

1100090142		

Lihat Sebelah

HAK MILIK
PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH

**STUDY OF THE RELATIONSHIP BETWEEN HABITUAL BEVERAGE INTAKE
WITH ENERGY INTAKE AND BMI AMONG ADOLESCENT IN KUALA
TERENGGANU**

**By
Chua Tong Eng**

**Research Report submitted in fulfillment of
the requirements for the degree of
Bachelor of Food Science (Food Service and Nutrition)**

**DEPARTMENT OF FOOD SCIENCE
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2012**

ENDORSEMENT

The project report entitled **study of the relationship between habitual beverage intake with energy intake and BMI among adolescent in Kuala Terengganu** by **Chua Tong Eng**, Matric No. **UK16540** has been reviewed and corrections have been made according to the recommendations by examiners. This reports is submitted to the Department of Food Science in partial fulfillment of the requirement of the degree of Bachelor of Food Science (Food Service and Nutrition), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu.




Dr. Hayati Mohd Binti Yusof

Date: 29/1/2012

DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which been duly acknowledged.

Signature : 

Name : Chuq Tong Eng

Matric No. : UK16540

Date : 29 / 1 / 2012

ACKNOWLEDGEMENT

First of all, I would like to special thank my supervisor, Dr. Hayati Mohd Yusof for guiding me throughout this project. She tried to teach me and give me some ideas when i had some difficulties in doing my project. She help me to apply the permisson letter for carry out my survey at the secondary schools. She also help me to correct my mistakes that i did in my thesis and give me some suggestions to improve my thesis writing. I would also like to thank my friends who teach me in my data analysis. They help me to solve some of the problems that i had faced during doing my results. Not forgotten to my family also who providing me money that are spend in everythings related to this project. Lastly, all of them were helpful in completing my project.

ABSTRACT

The goal of this study was to correlate habitual beverage intake with energy intake and BMI among adolescents. Respondents (58 boys and 42 girls) were chosen from 4 secondary schools in Kuala Terengganu. Socio demographic information of each respondent was reviewed, a single 24 hour dietary recall and food frequency questionnaire (FFQ) were evaluated, body weight and height were measured, and BMI were calculated. Results showed that there were significant moderate positive correlation between energy intake and BMI ($r = 0.509$, $p < 0.001$). Significant low positive correlation were found between intake of syrup ($r = 0.230$, $p = 0.021$) and soft drinks ($r = 0.283$, $p = 0.004$) with energy intake, and significant low positive correlation were found between ice tea ($r = 0.282$, $p = 0.004$), cordial ($r = 0.307$, $p = 0.002$), syrup ($r = 0.252$, $p = 0.012$) and soft drinks ($r = 0.230$, $p = 0.022$) with BMI. Not significant difference was found in mean BMI, energy intake and calcium intake for adolescent boys and girl except in body fat percentage. Besides, consumption of plain water (93.1%) and white rice (82.6%) was high and consumption of milks (low fat milks: 33.6%, high fat milks: 20.9%, flavored milks: 25.5%), dairy products (high fat yogurt: 19.6%, low fat yogurt: 28%) and legume products (tofu: 26.5%, tempeh: 24.1%) was low among adolescents. The energy intake of 15 years and 16-17 years old boys (74% and 69% of RNI respectively) and calcium intake of boys (38% of RNI), and calcium intake (39% of RNI) and iron intake (69% of RNI) of girls did not meet the RNI recommendation. 8.6% of boys and 9.5% of girls were found to be overweight, and 3.5% of boys and 4.8% of girls were found to be obesity. 62% of respondents self-perceived themselves as healthy, 83% concerns their body weight, 57% limit buying of foods because financial constraints, 22.4% of boys and 4.8% of girls were smoking. Significant low negative correlation were observed between bike cycling ($r = -0.200$, $p = 0.046$) and cycling to school ($r = -0.214$, $p = 0.032$) with BMI. 63% of adolescents spend their daily activities in walking. 49% of adolescents spend <30 minutes in their physical activity. 64% of respondents spend >2 hours in watching TV and playing games. 42% of respondents not involved in any outdoor activities after school time. Limitation of this study is the use of a single 24-hour dietary recall. Further studies should include different variables and longitudinal studies to evaluate more accurately the relationship between beverage intake with energy intake and BMI in adolescents.

KAJIAN TENTANG HUBUNGAN ANTARA TABIAT PENGAMBILAN MINUMAN DENGAN PENGAMBILAN TENAGA DAN INDEKS JISIM TUBUH (IJT) DI KALANGAN REMAJA DI KUALA TERENGGANU

ABSTRAK

Matlamat kajian ini adalah untuk mengaitkan antara tabiat pengambilan minuman dengan pengambilan tenaga dan Indeks Jisim Tubuh (IJT) di kalangan remaja. Responden (58 remaja lelaki dan 42 remaja perempuan) telah dipilih daripada 4 buah sekolah menengah di Kuala Terengganu. Setiap maklumat sosio demografi responden telah dikaji, borang ingatan diet 24 jam dan borang kekerapan pengambilan makanan telah dinilai, berat badan dan ketinggian diukur, dan IJT dikira. Hasil kajian menunjukkan terdapat kolerasi positif yang signifikan sederhana dalam pengambilan tenaga dan IJT ($r = 0.509$, $p < 0.001$). Kolerasi positif yang signifikan rendah terdapat dalam sirap ($r = 0.230$, $p = 0.021$) dan minuman ringan ($r = 0.283$, $p = 0.004$) dengan pengambilan tenaga. Kolerasi positif yang signifikan rendah juga terdapat dalam teh ais ($r = 0.282$, $p = 0.004$), kordial ($r = 0.307$, $p = 0.002$), sirap ($r = 0.252$, $p = 0.012$) dan minuman ringan ($r = 0.230$, $p = 0.022$) dengan IJT. Tiada perbezaan yang signifikan terdapat dalam min IJT, pengambilan tenaga dan pengambilan kalsium untuk remaja lelaki dan perempuan kecuali dalam peratusan lemak badan. Pengambilan air kosong (93.1%), nasi putih (82.6%) adalah tinggi dan pengambilan susu (susu rendah lemak: 33.6%, susu tinggi lemak: 20.9%, susu berperisa: 25.5%), produk tenusu (yogurt tinggi lemak: 19.6%, yogurt rendah lemak: 28%) dan produk kekacang (tauhu: 26.5%, tempeh: 24.1%) adalah rendah di kalangan remaja. Pengambilan tenaga di kalangan remaja lelaki 15 tahun dan 16-17 tahun (74% dan 69% daripada RNI) dan pengambilan kalsium di kalangan remaja lelaki (39% daripada RNI) dan pengambilan kalsium (39% daripada RNI) dan zat besi (69% daripada RNI) di kalangan perempuan tidak memenuhi syor RNI. 8.6% daripada kalangan lelaki dan 9.5% daripada kalangan perempuan adalah berlebihan berat badan dan 3.5% daripada kalangan lelaki dan 4.8% daripada kalangan perempuan adalah obesiti. 62% daripada responden menilai diri sebagai sihat, 83% mengambil berat terhadap berat badan mereka, 57% mengurangkan pembelian makanan disebabkan oleh masalah kewangan, 22.4% daripada kalangan remaja lelaki dan 4.8% daripada kalangan remaja perempuan adalah merokok. Kolerasi positif yang signifikan rendah diantara menunggang basikal ($r = -0.200$, $p = 0.046$) dan menunggang basikal ke sekolah ($r = -0.214$, $p = 0.032$) dengan IJT. 63% daripada aktiviti seharian responden adalah berjalan. 49% daripada masa responden terlibat dalam aktiviti fizikal adalah kurang daripada 30 minit. 64% daripada responden menghabiskan lebih daripada dua jam sehari dalam menonton TV dan bermain permainan komputer. 42% daripada responden tidak terlibat dalam aktiviti luar selepas persekolahan. Pengehadan kajian ini adalah penggunaan sehari borang ingatan diet 24 jam. Perlanjutan kajian haruslah memasukkan pembolehubah yang berbeza dan kajian longitudinal untuk menilai dengan lebih tepat tentang hubungan antara tabiat pengambilan minuman dengan pengambilan tenaga dan Indeks Jisim Tubuh (IJT) di kalangan remaja.