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Karen E. Charlton

University of Wollongong, karenc@uow.edu.au

Krisela Steyn

Medical Research Council, South Africa

Jabuliswe Zulu

University of Western Cape, South Africa

Deborah Jonathan

Medical Research Council, South Africa

Naomi Levitt

University of Cape Town

See next page for additional authors

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Authors

Karen E. Charlton, Krisela Steyn, Jabuliswe Zulu, Deborah Jonathan, Naomi Levitt, J H. Nel, and D Veldman

ASSOCIATION BETWEEN BLOOD PRESSURE AND SODIUM, POTASSIUM AND CALCIUM EXCRETION IN SOUTH AFRICANS

Charlton KE, Steyn K, Zulu J, Jonathan D, Levitt NS, Nel JH and Veldman D¹

¹Nutrition & Dietetics Division and ²Division of Diabetes and Endocrinology, University of Cape Town, ³Chronic Diseases of Lifestyle Programme, MRC, ⁴Private Practising Statistician, Hermanus, ⁵Chemical Pathology, Free State Technikon

Background: African-Americans are more susceptible than Caucasians to hypertension and related target-organ damage. Studies conducted in Johannesburg and Cape Town have suggested diminished activity of the sodium-potassium ATPase pump in black compared to white patients with hypertension. Recent data on habitual dietary intake of electrolytes and other factors known to influence BP among the ethnic groups in South Africa is lacking.

Objectives: To evaluate habitual sodium and potassium intake and its relationship with BP across South African ethnic groups.

Design: A cross-sectional study of 329 black, white and coloured people, conveniently sampled at work in Cape Town. For each group, equal numbers of normotensive (BP < 140/90 mmHg) and hypertensive subjects were selected. 24-hr urine samples were collected on three separate days for urinary electrolyte analyses. On the same days a 24-hour dietary recall administered by trained fieldworkers. Blood pressure and weight were measured. PABA was used as a marker of completeness of urine collection. Blood was sampled for determination of renin and aldosterone concentrations.

Results: In the normotensive group, urinary Na was higher ($P < 0.05$) in white (165 mmol/d), compared to black subjects (130 mmol/d). No ethnic differences were found in the hypertensive groups, for either sodium or potassium excretion. Urinary calcium excretion of white participants in both the normo- and hypertensive groups was almost double that of black subjects ($P < 0.05$). Calcium excretion for hypertensives was lower than for normotensives. In black and coloured subjects, a higher proportion of hypertensives, compared to normotensives, had a low renin status ($p < 0.05$).

Conclusion: Dietary differences, together with a possible predisposition to a low renin status in black and coloured adults, may contribute to ethnic-related differences in blood pressure.

SOURCES OF NUTRITION INFORMATION AND PERCEIVED CREDIBILITY THEREOF IN BLACK URBAN WOMEN IN TWO PROVINCES

K Charlton¹, P Brewitt¹ and L Bourne²

¹Nutrition & Dietetics Division, University of Cape Town; ²Urbanization and Health Programme, MRC

Objectives: (1) To identify the major sources of nutrition information for urban black South African women; (2) To establish those sources perceived to be the most credible; (3) To determine the level of knowledge and the existence of misconceptions about nutrition, with special reference to the issues of obesity, sugar and dental decay.

Design: A cross-sectional descriptive study that was both qualitative and quantitative in nature, using focus groups and individual questionnaires.

Setting: A convenience sample of 194 Xhosa-speaking women from Cape Town and 200 Northern-Sotho-speaking women from Pretoria, aged between 18 and 49 y and having a socioeconomic status in accordance with Living Standard Measures 5 or 6. Prior to the survey, 4 focus group sessions were held with 39 women in order to identify common themes relating to nutrition knowledge. Based on this data, a questionnaire instrument was developed and administered by trained fieldworkers.

Results: The most frequently encountered source of nutrition information was the media, particularly the radio (73 % of subjects had obtained information from this source in the past year), followed by family and friends (64.6 %). Despite only 44 % of subjects having received nutrition information from a health professional, this was reported to be the most highly credible information source. The factors being the most influential in choice of foods were taste, preferences of the rest of the family, and price. Responses to nutrition-related questions showed a lack of knowledge in certain aspects of nutrition and various misconceptions were identified. Although over half of the subjects agreed with the statement that they did not need to change their eating habits because their diets were already healthy enough, 85 % agreed that they would make dietary changes, if advised to for health reasons. Over three-quarters of the women (78.5 %) were overweight, however only 38 % of

subjects perceived themselves to be too large.

Conclusion: The findings suggest that greater access of the media as a vehicle for nutrition education may be effective in reaching this target audience who appear to be receptive to obtaining knowledge. In addition, health professionals need to become more involved in providing accurate nutrition messages, since they are perceived to be the most trusted source of nutrition information.

FACTORS THAT INFLUENCE THE PRESCRIPTION OF ENTERAL PRODUCTS BY DOCTORS AND DIETITIANS IN SOUTH AFRICA

N Conradie, M Ellmer, A Pieters, R Blaauw and M De Villiers

Department of Human Nutrition, University of Stellenbosch and Tygerberg Hospital

Doctors and dietitians use enteral products on a daily basis as part of dietary treatment. This study was undertaken to investigate the factors that influence dietitians and doctors in the decision-making process of purchasing and prescribing enteral products.

Data was collected from a randomly selected sample ($n=1373$) consisting of 50% of all registered dietitians, surgeons and internists in South Africa by means of a validated postal questionnaire.

Twenty three percent ($n=318$) of the questionnaires were returned. Eighty one percent of the dietitians and 43% of the internists and surgeons indicated that knowledge of the characteristics and composition of different enteral products has a great impact on choice. More than 60% of the dietitians, surgeons and internists stated that availability played a significant role in choosing products. The majority (84%) of the study group had no preference for a specific company and 71% claimed that the presentation and promotion of a product by a representative do not affect their choice. Price plays a role in choosing products where the majority of the study group (89%) stated that they purchase products exclusively because of price. The majority of the dietitians (60%) prescribed a combination of both powder and ready to hang products, mainly because of patient needs. Surgeons (47%) and internists (60%) prescribed ready to hang products more often and convenience and hygiene were given as the main reasons.

Knowledge of the characteristics and composition of a product appears to influence choice greatly. Of the marketing-related factors, availability and price was valued the highest. The results of this study could be most helpful to the manufacturers of enteral products.

UNIAXIAL ACCELEROMETRY AND HEART RATE MONITORING IN RURAL AND URBAN NORTHERN SOTHO-SPEAKING AFRICANS

J Cook¹ and E.V. Lambert²

¹Exercise and Sports Sciences, Medical Sciences, University of the North; ²MRC/UCT Research Unit for Exercise Science and Sports Medicine, University of Cape Town

We present movement monitor data describing physical activity (PA) levels, inter-day PA variability, inter-instrument reliability and extraneous sources of error, collected during the validity trial of the interview-based WHO/CDC International Physical Activity Questionnaire.

Heart rate monitors (HRM) and hip-mounted uniaxial accelerometers (ACC) were worn for 3 (weekdays) - and 6 (4 weekdays, 2 weekend days) consecutive days, respectively. Seven rural subjects wore two ACC each. We mounted ACC in the cabs of 4 trucks used to transport the rural subjects. We analysed ACC data (6 days, $n = 59$) and simultaneous ACC and HRM data (24 hours, $n = 28$; 48 hours, $n = 16$). The total counts and the minutes of light (< 3 METs, $< 50\%$ HR_{max}), moderate (3-6 METs, 50-70% HR_{max}) activity were used to determine PA levels. Compliance with CDC-ACSM PA guidelines was also evaluated. Rural subjects were almost twice as active and spent 11.5% less time in sedentary and light activities (ACC 6 day). Inter-day variability was lower for weekdays (ICC > 0.75). Inter-instrument reliability was high (ICC > 0.8). Transport by truck was a source of error (8.0% to 18.6% of ACC 4- and 6-day totals) in rural subjects. The movement monitor type affected evaluation of the time spent at the different intensity levels and CDC-ACSM guideline compliance.

ACC and HRM provided a culturally acceptable and robust means to obtain PA data and can be used to validate PA Questionnaires in diverse ethnic and socio-economic groups.