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PROCEEDINGS OF THE NUTRITION SOCIETY

ABSTRACTS OF COMMUNICATIONS

A Scientific Meeting was held at the University of Southampton on Tuesday–Friday, 2–5 August 1994, when the following papers were presented. These papers arrived too late for inclusion in Volume 54 no. 2.

Body mass index characteristics of elderly slum dwellers in Bombay. By M.C. MARLOW[1], P.S. ANKLESARIA[2], and S. ISMAIL[1], [1] *Human Nutrition Unit, London School of Hygiene and Tropical Medicine, University of London, 2 Taviton Street, WC1H OBT and* [2] *Biomedical Gerontology Centre of HelpAge India, and King Edward VII Memorial Hospital, Parel, Bombay, India*

There are virtually no published data on anthropometric characteristics of free-living elderly people in developing countries. A collaborative study with HelpAge International has recently completed fieldwork in Bombay slums. Preliminary results on body mass index (BMI) are presented here. Slum dwellers (*n* 1390) over 45 years old were measured on their recruitment into the Biomedical Gerontology Centre of HelpAge India based within a Bombay hospital. Mean age for each sex was 58 years, with a range from 45 to 96 years. Mean weight was 53 kgs (SD 11.3) for males (*n* 551) and 46 kgs (SD 11.0) for women (*n* 839). Mean weight declined in both sexes with age, and was less in women at all ages, but especially over 65 years old.

Height declines from middle age onwards due to spinal curvature (kyphosis), as well as postural and osteoporotic changes affecting the spinal column. Thus, height measurement, and hence BMI, can be inaccurate in many elderly people. In our study, 16% men and 23% women had varying degrees of spinal curvature as diagnosed visually by clinicians. Spinal curvature increased with age, especially over 65 years, and was more marked in women than men. In subjects over 65 years only (*n* 318), we took height (HT) as well as 3 stature proxies (armspan AS, demispan DS, and knee height KH) which are all based on long bones that remain stable with age, and have close correlations with maximum adult height. From these, we calculated BMI using various equations (Brown & Wigzell,1964; Bassey,1986; Chumlea *et al.*,1985), and compared how they classified malnutrition using BMI cut-offs (James *et al*,1988) as shown below :

	MALES (*n* 157)				FEMALES (*n* 161)			
% with BMI	HT	AS	DS	KH	HT	AS	DS	KH
< 16	14	27	23	20	23	37	38	36
16-17	5	12	7	8	6	10	8	10
17-18.4	17	23	18	21	15	16	16	15
> 18.5	64	38	52	51	56	37	38	39

Height classifies about 12-25% more men and 18% more women as normal (BMI > 18.5) than the other 3 stature proxies. The 3 stature proxies show similar classification patterns. This is particularly striking in women in whom mean BMI using height was 19.6 whereas for all other stature proxies it was approximately 17.8. Demispan and knee height were the best in terms of most number of successful measurements taken. Demispan is cheap, easy to measure and is acceptable to most subjects. We recommend demispan for nutritional status assessment of free-living elderly people.

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James, W.P.T., Ferro-Luzzi, A. & Waterlow, J.C. (1988). *European Journal of Clinical Nutrition* 42,969-981.

Brown, O.T. & Wigzell, F.W. (1964). in *Current Achievements in Geriatrics*, edited by W.F. Anderson and B. Isaacs. London, Cassell Press,246-251.

Bassey, E. J. (1986). *Annals of Human Biology* 13 (5),499-502.

Chumlea, W.C., Roche, A.F., & Steinbaugh, M.L. (1985). *Journal of the American Geriatrics Society* 33, (2),117-120.

Does iron consumption protect against anaemia in pregnancy? By O.O. EJIDOKUN[1], A.M. TOMKINS[1], I. AKINSETE[2], O.F. GIWA-OSAGIE[3] and B.M. AFOLABI[4], [1]*Centre for International Child Health, Institute of Child Health, University of London, WC1N 1EH,* [2]*Department of Haematology, College of Medicine, University of Lagos, Idiaraba,* [3]*Department of Obstetrics and Gynaecology, College of Medicine, University of Lagos, Idiaraba, Lagos, Nigeria and* [4] *Nigerian Institute of Medical Research, Edmund Crescent, Yaba, Lagos, Nigeria*

Anaemia in pregnancy is a recognized public health problem in developing countries such as Nigeria where it has been attributed to folate deficiency, Fe deficiency and malaria infection (Gilles *et al.* 1969; Oluboyede & Ogunbode, 1977; Fleming, 1989).

This study investigated the prevalence of anaemia in 495 pregnant women and examined the relationship between a history of consumption of Fe, folic acid (FA) and antimalarial (AM) tablets and the haemoglobin (Hb) levels at the first antenatal clinic attendance. Hb was measured using the Hemocue (Sheffield, UK). Women were interviewed to enquire about their use of Fe, FA and AM tablets before attendance at the antenatal clinic. The women were aged 16 - 45 (mean 26.3 (SD 5.2)) years with a mean weight of 60.3 (SD 10.3; range 42-108) kg. The mean gestational age at booking was 24.9 (SD 7.0; range 6-40) weeks. The mean parity was 2.7 (SD 2.0; range 0-10).

The prevalence of anaemia (Hb < 110g/l) was 54.3%, 77.3% and 69.2% among women who booked in the first, second and third trimesters respectively. The Table shows the percentage of pregnant women using haematinics and Hb levels at the first antenatal clinic attendance.

Hb (g/l)	Haematinic Use and Trimester								
	Fe 1st	Fe 2nd	Fe 3rd	FA 1st	FA 2nd	FA 3rd	AM 1st	AM 2nd	AM 3rd
<110	12.5	37.3	29.5	16.7	21.3	3.4	16.7	37.9	30.7
>110	25	8.3	18.2	8.3	2.4	6.8	25	5.9	17

A high proportion of women claimed to consume Fe and AM but there was no significant difference between those who took these haematinics and those who did not. Rather fewer women took FA. This data suggests that consumption of Fe and FA does not necessarily prevent anaemia in this population. The impact of systemic infection on Hb levels requires consideration.

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Gilles, H.M., Lawson, J.B., Sibelas, M., Voller, A. & Allan, N. (1969). *Annals of Tropical Medicine and Parasitology,* **63**, 245-263.
Oluboyede, O.A. & Ogunbode, O. (1977). *International Journal of Gynaecology and Obstetrics* **14**, 529-532.
Fleming, A.F. (1989). *Transactions of the Royal Society of Tropical Medicine and Hygiene,* **83**, 441-448.