APPENDIX 7

Step Wise Calculation of Energy Expenditure

Equation for predicting BMR (Kcal/24 hr) proposed by FAO/WHO/UNO 1985) for

Age Group	Males	17.5 W + 651
(10-18 g)	Female	12.2 W + 746

Example : A boy of 10 years, weight 39 kgs, spends 10 hours in sleep, 1 hour 45 minutes in moderate activity and 12 hours 15 minutes in light activity. His per day energy expenditure will be as follows.

BMR (per kg body weight / day) of a 10-year-old male is 52.78 (WHO/FAO,1985)

Reduce by 5 % for Indians (ICMR, 1998)
A comparison by BMR computed from FAO/WHO/UNO equation with actual measured Indians has indicated that the actual measured BMR of Indian is 5 % lower than that predicted by the FAO/WHO/UNO equations proposed for international use. BMR of Indians can thus be computed using this equation of FAO/WHO/UNO but after lowering the values by 5 %.

Energy expenditure of each group of activities is as follows :

1) Sleep BMR 24 hrs. x No. of hours spent for sleep x multiple of BMR i.e. 52.78 x 10x1 = 527.8
2) Light BMR/hr. x No. of hour spent for light activity x multiple of BMR i.e. 52.78 x 12.25 x 1.6 = 1034.48
3) Moderate BMR/24 hr. x No. of hour spent for moderate activity x multiple of BMR i.e. 52.78 x 1.75 x 2.5 = 230.91
4) Total energy expenditure is 527.8 + 1034.48 + 230.91 = 1793.19 k. cal.

Distribution of BMR Factor (WHO 1985)

Activities	BMR Factor	
	Males	Females
Sleep	1.0	1.0
Light	1.6	1.5
Moderate	2.5	2.2
Heavy	6.0	6.0