Energy balance among tribal females of reproductive age group in Naugarh block, Chandauli District of U.P.

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ABSTRACT

The percentage of moderate workers was low, constituting 19.65% of the total study subjects. However, more than one -third (37.06 %) of women in the study area were heavy workers. The percentage of women spending <1700 Kcal per day was 15.2%. The mean energy expenditure was found to be 2326.5 Kcal per day. The vast majority of tribal women (84.6%) had energy expenditure more than their energy intake. The mean energy balance of the tribal women in the study area was 683.4 Kcal/day. Majority of study subjects (84.3 %) had negative energy balance and only 15.6% had positive energy balance. Nearly 58.2% women had energy balance as low as less than – 500 Kcal per day. The mean energy balance was highest (200.79 kcal) among sedentary worker, followed by moderate worker (-583.91 kcals) and heavy worker (-1299.80 kcals). The maximum negative energy balance (-1299.80 kcal) was found in heavy worker group, though they were taking 54.96% of estimated mean RDA which was higher than the 51.86 % of estimated mean RDA, taken by sedentary worker. The negative energy balance among moderate worker group was only -583.91 kcal.

In India, tribals are neglected a lot and discriminated in terms of income distribution and social status. Most of them are desperately poor, backward, generally uneducated and lead a hard and miserable life (Thakur *et al.*, 1991). Apparently, they are the worst victims of food and nutrition imbalance and starvation deaths are reported in these groups (Bagchi, 1994). The body needs energy for maintaining body temperature, metabolic activity, supporting growth and for physical work (ICMR, 1990). Currently, it is recommended that energy requirement must be assessed in terms of energy expenditure rather than in terms of energy intakes. The assessment of energy expenditure is therefore a more logical approach where one can specify the energy requirements in terms of energy out put for productive work and leisure activity (ICMR, 1990). By calculating energy expenditure, we can easily classify population under study according to their life style category *viz.* sedentary, moderate and heavy work (Satynarayana *et al.,* 1987).

From the available literature on the health status of the tribal women in India, it was observed that comprehensive, area specific, health related studies are limited. Most studies are isolated, fragmentary and did not cover the various dimensions of health affecting the tribal women. There is a need for sympathetic comprehensive study of tribal women encompassing urgent issue like energy expenditure pattern, actual energy balance and nutritional status. With this background, this study was conducted on tribal women of reproductive age group to know about energy expenditure pattern,

energy balance of tribal females and to find out the effect of various demographic factors on energy expenditure, energy intake and energy balance.

METHODOLOGY

It consisted of a cross-sectional study. Four hundred two females from 342 selected households were included for assessment of energy balance. In the first stage, seven villages were selected by stratified random sampling methods. Stratification was done based on distance from the block head quarters. In the selected villages, families were selected by using P.P.S. (Probability Proportion to Size) sampling technique. Since this study was centered on females of reproductive age group, all the females belonging to the age group of 15-49 years were defined as eligible females.

The primary tool in this study were predesigned and pretested interview schedule. Data were collected in the year of 1999-2000. Relevant data on various aspects on the schedule were obtained by personal interview method by the researcher herself. Activity pattern was determined by 24-hour recall method. Appropriate statistical analysis namely per cent, mean, range, SD and scores chi-square, ANOVA, t-test, z-test etc. were incorporated wherever necessary. For analysis Microsoft excel and SPSS software programmes were mainly used.

Recording of physical activity:

In order to calculate energy expenditure of the study subject, physical activity record on the previous day of