

Rural Energy Situation : Consequences for Women's Health - A Comment

Shobha Rao

In recent years there has been a growing awareness among nutritionists and other scientists regarding the problem of undernutrition in our country. Despite the fact that several studies reported in literature come out with diverging opinions and findings, their importance cannot be overlooked since they are likely to influence national nutritional planning. One of the recent studies by Batliwala (SHR 1, 2) is of interest in this context and needs to be critically studied.

The scrutiny is of importance for two reasons. First, while many studies deal with the problem of undernutrition in general, very few have discussed its nature in the case of women. Secondly, the study claims to offer an alternative facet of improving women's nutrition and health which is rather interesting and might have consequences for policy implications.

The main conclusions of the study are given as (i) women contribute the greatest share in human energy expended, but in comparison to this energy output, women get a lower share of food intake and face a nutritional deficit. (ii) In addition to nutritional deficit, women face health hazards due to the village energy system (iii) Reducing energy expenditure..... energy saving-is recommended as an additional facet of improving women's nutrition and health.

Let us start with the central issue i.e. women contribute the greatest in human energy expended. The relevant figures are given in Table 2 (1:2). It should be noted that not only the difference in energy expenditure of men and women is negligible, but the way these estimates are obtained is also questionable. For example, one of the assumptions is that the ratio of caloric costs for any activity for female to that for male is equal to the ratio of female BMR. The author appears to be unaware of the fact that in recent years the notion that the BMR in an individual is constant, has been questioned and evidence is coming up to show that it is not. Therefore, although we doubt very much that this could be so, it would have been better if the author had cited appropriate references. The reason why the author suspects this negligible difference is due to the fact that men on average work for 4 hours a day, whereas women work for 6 hours. However, it cannot be neglected that men are engaged in heavy activities

whereas most of the activities of women are of a sedentary and moderate nature. Considering that the caloric costs of moderate and heavy activities differ significantly, the observation that the difference in energy expenditure is marginal could be well so. In short, the methodology of obtaining the estimate of energy expenditure appears to have a weak basis.

Coming to her estimate of the intake of men, women and children, the situation is even worse. She uses crude ratios such as 2:1.5:1 (balls) based on responses to oral questions put to the local women and applies this ratio to the overall cereal consumption of the family for the day thus obtaining intake estimates. The author gives no information whatsoever on whether this ratio is based on the responses of a sufficiently large sample of women, nor on how the figure 4.24 kg of overall cereal consumption has been arrived at. The conclusion therefore that a man has an intake surplus of 800 calories whereas a woman has an intake deficit of about 100 calories is unacceptable in the light of the weakness of her methodology.

Further, she goes on to claim that this 'calorie gap' suffered by women is not of equal concern to all and brings in Sukhatme's theory. Her criticism of Sukhatme's theory only reveals that she is missing the essence of this theory. It is necessary to understand that it is the nutrition science itself that offers body weight and level of activity as indicators while defining calorie requirements. Thus, according to the current concepts, individuals similar in age-sex, body size, doing similar activities are assumed to have the same energy needs. Alternatively, if an individual maintains his body weight and activity over time, his requirement is assumed to be constant.

Sukhatme is bringing out the fact that these assumptions are not supported by experimental data. For, if the above assumptions were true, we would not witness the large variation in intake (coefficient of variation of the order of 16 percent) of individuals similar in age-sex weight and doing similar activities (Widdowson 1962, Harris 1962). Nor would we observe the coefficient of variation in weekly mean

intakes of the same individual to be as high as 13 to 15 percent. Sukhatme thus brings out the fact that the current definition fails to explain the large variation observed in intake or balance.

His theory on the other hand explains the nature of this variation with the help of the concept of intra-individual variation. Just as the blood glucose concentration in a healthy active man in fasting condition varies between 60 mg and 120 mg per 100 ml of blood, there is evidence to show that a man can do a given amount of work on a range of intakes. Thus, intra-individual variation is the fundamental source of variation and therefore it is hard to obtain a one-to-one relationship in daily intakes and expenditure. Finally, it is worth mentioning here that intra-individual variation is related to short-term fluctuations such as observed over few weeks or months, but cannot be taken when considering long term periods (of several years or a life long period) as the author seems to consider. It would in fact be wrong to visualise this hypothesis in such a way and comment on long term adaptations and so on. Nutrition science has yet to go a long way to study the phenomenon of 'adaptation' which the author is speaking about.

The author seems to assume that undernutrition is the sole cause for the several facts mentioned such as more female deaths, high maternal mortality rates, low birth weight and so on. It is well known that a number of social and environmental factors also contribute to this and it is difficult to show a causal relationship between undernutrition and these facts. Just the same way, it has been shown that although low birth weight could be one of the factors responsible for high infant mortality rate, most infant deaths in developing countries are due to post neonatal causes and diarrhoea is observed to be one of the main causes, thus indicating the influence of poor environment.

Although her concern about women's health is well understood, isn't it a fact that the issue has its roots in the law status of women, both social and economical in our society. There is therefore, no dispute that every effort should be made for proper implementation of current health services to ensure that they reach needy women.

To summarise, the lack of sound methodology in obtaining estimates of intake and expenditure seriously questions the finding that women face greater nutritional deficit. Therefore, her suggestion for reducing energy expenditure or for energy saving are not appealing. Further, there is no reason to consider that physiological responses of the body for increased intake or reduced expenditure could be same. Today in developed countries individuals find ways to spend their energy by means of jogging, bicycling etc. in order to keep their muscles active and to maintain proper body stature. Therefore it is necessary to give a thought for the possible consequences, good or bad, of energy saving.

Finally, it is clear that energy saving in practice will not be achieved without enough technological and economic resources. This is not to deny the role of technology, but at the same time it is important that changes introduced for saving women's energy should fit in the culture of our rural life. For example, replacing traditional chulas by gas stoves to reduce health hazards may not be a wise step. But instead it is necessary to convince villagers that there should be a proper outlet for the smoke to go out and see that every house in fact, has one such outlet. It is our experience that in the past few years, bore-wells have been installed in almost every village but the fact is that women still go for fetching water to the old village well, without realising that that this water is unsafe for drinking. It is therefore a basic minimum education for the women for their own wellbeing that should precede such technological and other advances.

dr. mrs. shobha rao

Scientist,

Maharashtra Association for the Cultivation of Science
Law College Road, PUNE 411 004

Witch Hunting Among The Bhil Meenas of Rajasthan

Narendra Gupta

The problem of witch hunting as reported by Kashtakari Sanghata SHRI (1:2, 1984) is prevalent among all adivasi and primitive societies in varying forms. The problem as envisaged in the report has

no ready solution because the tradition is very old and deeply rooted within the culture. The practice of witchcraft evolved as a system of beliefs to face the unknown supernatural world and its adverse

March 1985