CASE STUDY RESPONSES

The study was unjustified and fallacious

GD RAVINDRAN

Professor of medicine and medical ethics, St John's Medical College Bangalore 560 005 INDIA e-mail: gd_ravindran@yahoo.co.in

It would be unethical to judge research done in the 1960s and 70s with standards that are used in the year 2007. To assess this study we need to use the then prevailing ethical norms. The Nuremberg Code (1) was enunciated in 1947 and the Helsinki Declaration (2) was adopted in 1964. We must evaluate the study using these frameworks.

In my opinion, a control group was not necessary for this study. The clusters were selected on the basis of a high incidence of malnutrition and infections. Each of the control villages had to have a health worker who had to document the health status of the children. If the health worker identified malnutrition or an infection, it had to be treated. If the condition was treated, then the village could no longer be a control village.

The explanation that only severe conditions would be treated is not justifiable. Not treating anyone, even by the standards of the 1960s, is not acceptable because it puts the subjects at undue risk. The argument that the study did not entitle additional risk is fallacious. Before the study, infections and malnutrition were not detected due to a lack of health facilities. During the study, the health facilities in the control village had improved. If a condition is identified it needs to be treated. The lack of treatment itself adds to additional risk. Hiding under the argument that the condition anyway would not have been treated is unacceptable.

The 1960s had established the relationship between malnutrition and infections. Reviews on the association between deficiencies of vitamins and infection in the late 50s and early 60s prompted the WHO to constitute an expert committee to study the problem. The committee published a monogram in 1968 (3). In 1963 Gordon and others established the link between malnutrition and acute diarrhoea in Punjab **(**4). The result of the INCAP study conducted in Guatemala were available in 1964 and indicated that nutrition supplementation reduced the incidence of infections **(**5**)**. If the study we are discussing was undertaken after 1965 there is no ethical justification for a study to establish the relationship between malnutrition and infection.

The study was conducted in four clusters that had little, if any, communication among themselves. The services provided to each of the clusters was different, but the services provided to each village in a cluster were uniform and, according to the study, there was no need for one cluster to know about the facilities being provided in the other clusters. Is this acceptable? The investigators contacted community leaders after selecting the cluster, not before. The ethical principle of randomisation demands that each group has a fair chance of being selected for the study. If this condition were to be fulfilled, the community leaders had to be informed of the study design and the method of randomisation, which was not done. Perhaps the fear that the community leaders may refuse to be the part of the control group prompted the investigators to act in this manner. The investigators should have called the community leaders from the village s that were participating in the study and explained the details in advance. The randomisation of the clusters should have been done in their presence. This is essential to fulfil the first condition of the Nuremberg Code on consent (1).

The study investigated if nutrition supplementation reduced the incidence of infections. Presuming that this scientific question has not been answered to this date, if I were doing the study, I would have a single study group. There is no point in having a separate nutrition or health intervention group, and certainly not a control group. The study group would receive both nutrition supplements as well as treatment for infections. Treating only the infections or only the malnutrition would not be in the best interests of the subjects. The incidence of malnutrition and infections in the community would be documented from preliminary findings. The incidence of malnutrition and infections after the intervention could be studied to answer the question of nutritional supplementation and infections. I would involve the community leaders from the preliminary study stage. The selection of the villages for the preliminary study would be based on reports that are available with the health department. After the preliminary data is generated I would select the villages based on the sample size that is needed for the study.

References

1. Nuremberg Code. Directives for human experimentation. [cited 2007 Mar 1]. Available from: http://ohsr.od.nih.gov/guidelines/nuremberg.html
2. World Medical Association Declaration of Helsinki. Ethical Principles for Medical Research Involving Human Subjects. Adopted by the 18th World Medical Assembly, June 1964, amended in 1975, 1983, 1989, 1996 and 2000 with notes of clarification added in 2002 and 2004. [cited 2007 Mar 1]. Available from: http://www.wma.net/e/policy/b3.htm
3. Scrimshaw NS, Taylor CE, Gordon JE. *Interactions of nutrition and infection*. Geneva: World Health Organization (WHO Monograph Series No. 57); 1968.
4. Gordon JE, Chitakara ID, Wyon JB. Weanling diarrhoea *American Journal of Medical Sciences* 1963; 245: 345.
5. Scrinshaw NS, Guzman MA, Flores M, Gordon JE. Nutrition and infection field study in Guatemalan villages, 1959-64. V. Disease incidence among preschool children under natural village conditions, with improved diet and with medical and public health services. *Arch Environ Health* 1968 Feb;16(2):223-4.

Ravindran GD. Case study response: the study was unjustified and fallacious. *Ind J Med Ethics* 2007; 4: 81.