Reviewer's report

Title: Prevention of non-communicable disease in a population in nutrition transition: Tehran Lipid and Glucose Study Phase II (Study Protocols & Design)

Version: 2 Date: 18 June 2008

Reviewer: Patricia Risica

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Overall design:
There is still very little information about the comparison communities. Table 2 should include other demographic characteristics besides age, and should include the community information about the comparison communities. This is currently shown in Table 3. It is also appropriate to show a map of District 13 (intervention community), in comparison to the geographic location of the comparison communities. This is important to determine the likelihood of contamination of interventions into the comparison communities, especially based on public site interventions. Contamination is not well described in the paper except for the brief mention of the distance between the communities in the first sentence of page 12.

Separation of individual level recruitment v. household recruitment is still not described. I assume that interventions may include many or all family members. However, are individuals from within the same household (who do not have independent risk factors or lifestyles) included simultaneously in the data? How is this degree of covariance planned for in the analyses?

Were the staff members who delivered the interventions (e.g. dietitians in the clinic, pg 12, last paragraph) the same or different from those who collected the data. The potential for biased data collection, including responses of the participants, should be addressed if the staff were the same for both tasks, and should be described as separate if that is the case.

Statistical Considerations:
It is not clear what observable differences in what outcome variables are anticipated from this study. Especially, among children and a population of mixed healthy and less healthy adults, it will take a very intensive intervention to detect a difference in the prevalence of dislipidemia, which is sited as a consideration in the sample size estimates.

Intervention:
As mentioned previously, the development of interventions themselves are not well described. While the information sounds very reasonable, the specific nature of the interventions and likelihood of success require more detail. The authors mentioned dietary interventions, which sound like individual level counseling or
educational classes, but little detail is given as to the nature of the messaging in the interventions (the authors stated “healthy nutrition behavior” on page 12, and more information is given for in schools on page 13, but the content seems broad and without focus.)

Protocols of DASH, and other available American nutrition texts or guidelines are listed. How were messages derived from these resources made appropriate for an Iranian community? KAP is listed, but it is not clear what specific ways in which messages were developed and tested among Iranians? The variety of foods in Iran is mentioned by the authors, but other communication techniques or barriers (such as language or literacy) are not discussed. The acceptance of the look and feel of the written materials or other visuals should have been described. Also, the use of behavioral theory to plan the interventions was not mentioned nor how was it employed.

The way that public, clinical, and school sessions were administered is also not clear. A description of the classes, for example, would include the number of sessions in each class, the frequency and length of meetings. In schools, the intervention was listed as three 30 minute nutrition classes per semester with two 45 minute classes for parents. What age children were included? What likelihood of success is placed upon 90 minutes of programming for the children and parents?

Process data should be given to estimate how many students (adult or adolescent) were enrolled (out of what target), and how many sessions each attended. The “reach” of the intervention is not described. Of the overall target intervention community, the proportion that were exposed to the messages being given, and the anticipated outcome of these messages (e.g. was the focus on lowering calories?, fat?, saturated fat?, cholesterol? Increasing fruits and vegetables?)—What effects were anticipated in changes in diet, lipids or weight? Also, the response of participants to the messaging is not described.

In sum, this project seems to be extensive and to have many compelling aspects. Further description of the intervention development would make this paper more interesting and would lead the reader to anticipate changes in the outcomes of interest.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.