EFFECT OF TRADITIONAL FOOD ON NUTRITION
IMPROVEMENT OF IRANIAN TRIBESWOMEN

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QUERY SHEET

Q1 AU: Verify Year — ‘1989’ in refs
Q2 AU: Spell out on 1st occurrence
Q3 AU: Provide manufacturer & city/state location
Q4 AU: ‘environmental’ what?
Q5 AU: What does ‘Room’ refer to?
Q6 AU: Verify Year — ‘1998’ in text
Q7 AU: Spell out ‘BJN’
Q8 AU: Supply publisher & city location
Q9 AU: Last accessed when?
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IMPROVEMENT OF IRANIAN TRIBESWOMEN

MOOSA SALEHI
Department of Nutrition, School of Public Health, Shiraz University of Medical Sciences, Shiraz, Iran

HARRIET V. KUHNLEIN
Centre for Indigenous Peoples’, Nutrition and Environment (CINE), McGill University, Montreal, Canada

MOHAMMAD SHAHBAZI
Department of Behavioral and Environmental Health School of Public Health, Jackson State University, Mississippi, USA

S. MASOUD KIMIAGAR
Department of Nutrition, School of Nutrition and Food Technology, Shaheed Beheshti University of Medical Sciences, Tehran, Iran

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Address Correspondence to Moosa Salehi, Nutrition Department, School of Public Health, Alzahra Avenue, Shiraz, Iran 71645. E-mail: sinasal2001@yahoo.com; mohammed.shahbazi@jsums.edu
A. ASGHAR KOLAHI AND YADOLLAH MEHRABI
Medical Statistician, Department of Health &
Community Medicine, Shaheed Beheshti
University of Medical Sciences, Tehran, Iran

In most developing countries, women receive less food than men, both in
absolute terms and in relation to their nutritional needs. However, they spend
more time in total productive work than men. One way to supplement
women’s nutritional needs is to use locally accessible and sustainable food
commonly known as “traditional food.” To examine this concept, 481 house-
hold members from 48 subtribes of Iranian tribes in Fars province were
recruited. A simple and low cost package was designed and prepared with
available local foods. The nutrient value of the package was described to
influential members of the community including elders, schoolteachers, for-
mally educated girls and parents. The supplementary package contained
322.6 Kcal, 14.05 g protein, 351.2 mg calcium, 487.2 µg vitamin A, and 42.7 mg
vitamin C. Using the supplementary food package increased the tribes-
women’s body mass index (BMI) significantly (P < 0.01). This finding sug-
gests that use of traditional food can positively improve mothers’ nutritional
status.

KEYWORDS: Traditional foods, Iranian tribeswomen, supplementary
package

In developing countries, women generally consume less than their rec-
ommended daily requirements of most nutrients. During pregnancy and
lactation, their requirements are even greater. Studies of intra-household
food allocations show that women’s food intake is less than men’s while
sometimes their activity and food requirements are greater. Reportedly,
women do spend more time than men in domestic and market production
known as total productive work and they work 10–16 hours daily. It is also
known that women’s prenatal health and nutritional status have an impact
on fetal development, survival, and growth (McGuire and Popkin, 1998). Adequate resources have not been allocated to change women’s nutri-
tional status (Leslie, 1991). A literature review on the nutritional status of
pregnant and lactating women indicates that women in developing countries
consume two-thirds the recommended daily food energy intake. In addi-
tion, average weight for height tends to be below the 50th percentile for
small-framed women in developed countries (Mora and Nestel, 2000).
The Islamic Republic of Iran is a largely agricultural country. As a result of successful programs and population policies and cultural changes during the last decades, the population growth rate has had a descending tendency; the rate is now 1.4% and the population about 66 million. The Human Development Index, which was 0.642 in 1988, is currently 0.715. According to a 1995 survey, the prevalence of moderate and severe underweight, stunting, and wasting in under-5-year old children were 15.7%, 18.9%, and 6.6%, respectively, which decreased to 10.9%, 15.9%, and 4.9% by 1997 (FAO, 2002). Although Iran has a low infant mortality rate, its under-5 malnutrition rate is the third highest in the region (Iraq and Yemen being the first and second, respectively). Such figures are even greater for rural areas (World Bank, 2000). Other reports also indicate that 13–53% of women and girls, 12–30% of children, and 8% of men are anemic. Twenty to 70% of primary school children in various provinces are also stricken with goiter in varying stages of the disease, and on the whole, 3 million people are afflicted with this ailment. The lack of vitamin A and other nutrients have also been observed (Jazayeri, 1994). The Iranian survey in 1995 suggested that, based on weight for age, 15% of boys and 16.3% of girls less than 5 years were moderately or severely malnourished (Malekafzali et al., 2000).

The Qashqa’i forms approximately half a million of Turkish-speaking, ethnic, nomadic, pastoralist tribespeople, living in the south of Iran. Through an intervention program, the Qashqa’i tribeswomen learned to make soup using cereals, beans, vegetables, and lentil porridge, and also pay more attention to eating breakfast. The education intervention taught them to encourage their children to eat more. Children ate more than before, and the diet was enriched without increasing food cost. Thus, food energy and protein levels, as well as levels of other necessary ingredients, were increased in the diet of the test group, enhancing the quality of their diets (Salehi et al., 2004). The nutritional package that was used to bring about this change in eating habits could be labeled as “Traditional Foods” (TFs). It is because the TFs contain food elements that are available locally and that the study groups have consumed them for centuries. Traditional foods are foods indigenous to an area (Ohiokpehai, 2003).

Traditional foods are appropriate for this population and similar populations for several reasons: (1) the targeted population has access to TFs, (2) TFs are relatively cheap compared to other popular foods, (3) TFs are culturally acceptable, (4) TFs are nutritious, and (5) the population...
possesses the knowledge on how to process TFs. Indigenous knowledge is the knowledge of a group of people living together in a given geographical region (a pattern of shared culture, history, language, technology, dieting practices produced by a group and or by their ancestor’s experience, including knowledge originating from elsewhere which has to be internalized by the local people). Such knowledge of TFs is important for sustaining their development and utilization. For indigenous knowledge to be sustained, people first need to have knowledge of such foods and recognize their potential in the improvement of health. For outsiders to acquire and promote such knowledge, they can conduct studies with the people themselves to learn what foods existed, what are available now, and how the consumption of such foods can be increased (Ohiokpewhi, 2003).

This study is part of the larger study. This article explores the perception of local people on traditional foods—their place in Iran’s culturally based food/dietary systems, and the role that traditional foods may play in assuring food security and providing adequate nutrition.

MATERIALS AND METHODS

IRB-Approved Document

While there are no Institutional Review Board (IRB) requirements in Iran, all research protocols must be approved by provincial government agencies. This research project was reviewed and approved by government officials at the Fars Public Health Centre in Shiraz City. The researcher verbally assured participants that they had the choice not to participate, discontinue participation, or even refuse to answer questions that they did not want to answer. Verbal agreement was used in lieu of written consent for this population which is mostly illiterate.

Preparing the Community

Given the nature of the target population (widespread illiteracy and using mostly local cultural practices), it was essential to involve influential members their families and the community who were deeply respected by tribal families and members. With their prestige, leadership, and close contact with the community, the influential people were effective in establishing close contact between the researchers and the tribal women. Numerous sessions were held to obtain their full support for the program. Some
tribal teachers were also among the influential persons. The influential people were then asked to help the researchers recruit volunteer young women (mostly in their tents), who had at least completed primary school. We refer to these young women as the “daughters.” The particular nature of our target population made it essential for us to transfer some basic health and nutrition information to the people in the study. To achieve this, the authors recruited a group of educated women and girls (usually to the fifth grade) from the community to be assistants. The instructions were first given to the assistants, who also served as guides to the first target population, who could subsequently assist the researchers in disseminating information more effectively to the tribal women through the “daughters.” The volunteers were then brought together and trained on environmental health, personal hygiene, ways of obtaining clean drinking water, appropriate use of daily intake of all food groups as stated in the food pyramid, appropriate use of traditional foods to supplement their diet, food preparations, and essential food during pregnancy and lactation. Among samples from a random selection of 490 households among 48 subtribes of the Iranian tribes in Fars province, 504 women agreed to participate. The rate of participation was 92%. Four hundred and eighty-one women remained in the study until the end. Participants were married and 67% had one or more children.

Baseline Data Collection

The study began during July and August of 2001, and was conducted for 2 years. The final data collection was started 3 months after the end of the intervention program.

Baseline dietary, socio-economic, and anthropometric data were collected from participating household members. Primary data collection was conducted during July-August 2001. In this period, the pregnant subject and the subject who had a child less than 6 months that didn’t know her exact weight before pregnancy were omitted from the study, so we have the subjects with known weights before their last pregnancy. Some women became pregnant during the program, and their weight was taken 6 months after delivery. Characteristics of the sample are given in Table 1. Structured interviews were used to collect data. Information obtained included aspects of food acquisition, food preparation methods and facilities, and meal patterns. Information on food consumption patterns on special occasions was obtained to establish whether traditional
beliefs and customs were still practiced. A food frequency list was compiled as a crosscheck for meal patterns, to determine how familiar these women were with traditional and purchased foods and how often these foods were consumed. Women’s heights were measured using a portable standing meter named SECA 208, and the weights were recorded using a portable SECA Scale. Four 24-h food recalls were taken (once in summer and one time in winter) before intervention and after intervention. The volume of the vessels commonly used by the tribe members and the amount of food in grams that could be served in these vessels was also measured. These values were then used to estimate each woman’s intake. Food energy, protein, and fat from available foods were computed by averaging the final four recalls based on the National Nutrition and Food Technology Research Institute Food Composition Table (Movahedi, 2000) and Food Composition and Nutrition Tables (Souci et al., 2000) (Table 2).

**Intervention**

With this information a simple and inexpensive recipe using foods, that were available throughout the year, was designed. It consisted of cereals, pulses, and vegetables (Table 3). The nutrient value of the recipe was described to influential members of the target population, including the

<table>
<thead>
<tr>
<th>Table 1. Characteristics of Sample Women and Their Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 504 mean ± SD</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Women’s age (Y.) 23.4 ± 5.3</td>
</tr>
<tr>
<td>Household members 8.3 ± 3.5</td>
</tr>
<tr>
<td>Household children number 4.2 ± 1.7</td>
</tr>
<tr>
<td>Women’s education (%)</td>
</tr>
<tr>
<td>None 61</td>
</tr>
<tr>
<td>Some and completed primary 27</td>
</tr>
<tr>
<td>Some and completed secondary 12</td>
</tr>
<tr>
<td>Household hygienic latrine (%)</td>
</tr>
<tr>
<td>Hygienic latrine 7</td>
</tr>
<tr>
<td>Nonhygienic latrine 93</td>
</tr>
<tr>
<td>Major source of family income (%)</td>
</tr>
<tr>
<td>Shepherd 88</td>
</tr>
<tr>
<td>Agricultural/skilled labor 10</td>
</tr>
<tr>
<td>Others 2</td>
</tr>
</tbody>
</table>
Table 2. Daily Food Energy and Nutrient Intake at Baseline (Using four 24-hour recalls)

<table>
<thead>
<tr>
<th>Food Sources</th>
<th>Nutrient Foods</th>
<th>Amount G (mean±SD)</th>
<th>Energy Kcal (range)</th>
<th>Protein G (range)</th>
<th>Ca. mg</th>
<th>Fe mg</th>
<th>Vita. A RE</th>
<th>Vita. C mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td>Bread</td>
<td>150 ± 39</td>
<td>519 (380–650)</td>
<td>10 (7.4–12.6)</td>
<td>139</td>
<td>3.2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Rice</td>
<td>100 ± 19</td>
<td>370 (300–440)</td>
<td>5 (4–5)</td>
<td>25</td>
<td>0.6</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Pulses</td>
<td>22 ± 11</td>
<td>253 (12–38)</td>
<td>1.76 (1–3)</td>
<td>10</td>
<td>0.4</td>
<td>—</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Potato Turnip</td>
<td>45 ± 23</td>
<td>86 (21–150)</td>
<td>1 (0.5–1.5)</td>
<td>30</td>
<td>0.33</td>
<td>—</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Oil</td>
<td>30 ± 8</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Sugar</td>
<td>40 ± 6</td>
<td>152 (129–175)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Animal</td>
<td>Yoghurt Milk</td>
<td>75 ± 13</td>
<td>49 (30–65)</td>
<td>2.5 (2–3)</td>
<td>90</td>
<td>0.06</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Egg</td>
<td>30 ± 11</td>
<td>47 (31–65)</td>
<td>3.75 (3.2–5.2)</td>
<td>15</td>
<td>0.34</td>
<td>49</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Chicken</td>
<td>20 ± 16</td>
<td>76 (20–150)</td>
<td>4 (1.5–6.5)</td>
<td>2.2</td>
<td>0.8</td>
<td>9</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Meat</td>
<td>30 ± 19</td>
<td>105 (35–160)</td>
<td>7.5 (3–10)</td>
<td>3</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total (mean ± SD)</td>
<td>—</td>
<td>—</td>
<td>1697 ± 176</td>
<td>35.5 ± 4.8</td>
<td>314 ± 97</td>
<td>6.73 ± 1.7</td>
<td>58 ± 11</td>
<td>3.3 ± 0.9</td>
</tr>
</tbody>
</table>
Table 3. Supplement Food, Energy and Nutrients of Tribeswomen

<table>
<thead>
<tr>
<th>Food Source</th>
<th>Nutrient Foods</th>
<th>Amount g</th>
<th>Energy Kcal</th>
<th>Protein g</th>
<th>Ca. mg</th>
<th>Fe. mg</th>
<th>Vita. A RE</th>
<th>Vita. C mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td>Bread</td>
<td>50</td>
<td>173</td>
<td>3.3</td>
<td>46</td>
<td>1.1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Lentil flour</td>
<td>30</td>
<td>94.5</td>
<td>5.8</td>
<td>34</td>
<td>5.2</td>
<td>19</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Other pulses*</td>
<td>30</td>
<td>34.5</td>
<td>2.4</td>
<td>14</td>
<td>0.6</td>
<td>—</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Thyme-fresh ground</td>
<td>10**</td>
<td>7</td>
<td>1</td>
<td>185</td>
<td>12</td>
<td>179</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Parsley-raw-chopped</td>
<td>10***</td>
<td>5</td>
<td>0.4</td>
<td>17.9</td>
<td>0.3</td>
<td>87</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Cress raw</td>
<td>10</td>
<td>3.3</td>
<td>0.4</td>
<td>21.4</td>
<td>0.3</td>
<td>36.5</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>Kale</td>
<td>10</td>
<td>3.7</td>
<td>0.5</td>
<td>21.2</td>
<td>—</td>
<td>86.2</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td>Spinach-raw-chopped</td>
<td>10</td>
<td>1.6</td>
<td>0.25</td>
<td>11.7</td>
<td>0.4</td>
<td>79.5</td>
<td>5.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>322.6</td>
<td>14.05</td>
<td>351.2</td>
<td>19.9</td>
<td>487.2</td>
<td>42.7</td>
</tr>
</tbody>
</table>

*including beans, peas and vetch.
**or 5 gr. of thyme (dried).
***or 5 gr. of parsley (dried).
schoolteachers, formally educated girls, and the parents. This approach was meant to be an education intervention with the intention to teach the preparation method of the recipe, so that families could prepare the foods themselves at a low cost. For quality control purposes, the authors supervised these activities and provided feedback as needed. Given that these families purchased items such as cereals, sugar, and tea (commonly used merchandise) from the Rural Cooperatives (RC), arrangements were made with RC officials so that they also started supplying bean and pulses (pea, lentil, and vetch).

Some of the foods that were prepared using the education intervention recipe included *dampokht* and *ush-e ju*. The *dampokht* contains rice, lentil, fresh or dried vegetables, oil, and onion. The *ush-e-ju* has rice, barley, peas, bean, lentil, fresh or dried vegetables, turmeric, pepper mint, and dried whey.

Tribal high school kitchens equipped with a minimum of essential utensils were established at the center of the province. A nutritionist and some health workers began training volunteers on appropriate nutritional practices by way of demonstrations, after having received an instructional course themselves. The training process called for mothers to bring ingredients and watch the volunteer prepare their family food at the tent kitchen, supervised by a health worker and a nutritionist. The nutritional value of locally available foodstuffs, how to incorporate them into a family meal, proper cooking techniques, the pregnant and nursing mother feeding, and the importance of children’s growth monitoring were among the subjects discussed at these training sessions. Girls were trained at the school kitchen by their teacher and by a nutritionist.

**Educational Program Content Outline**

“Daughters” and other volunteers, through program activities, conducted environmental (inside and outside tents) that included dealing with waste disposal, personal hygiene (particularly concerning mother and child), water supply, and sanitation. Mothers were encouraged to wash their hands before and after feedings. Other activities included creating awareness about the proper use of child vaccination charts, explanation of the concepts “food pyramid” and “food groups,” food storage and preservation. The group members were shown the baking method for fermented bread, cooking method (straining and cooking over a low fire by adding pulses or herbs), and ways of gaining access to fruit and vegetables.
They were informed as to why consumption of butter and oil should be altered with respect to age and physical activities. The importance of adequate and appropriate nutritiously rich food intake during pregnancy and lactation were emphasized. Traditional food plant uses, as sources of supplementary vitamins, and minerals, were strongly encouraged.

RESULTS

Diet at Baseline

Characteristics of sample women and their families are shown in Table 1. Daily energy and nutrient intake is described in Table 2. Bread consumption was common in all seasons. Mixing of wheat flour with water for fermentation is not customary; therefore, the bread has a high phytate content, which can inhibit micro-nutrient absorption (Seibl and Brummer, 1991). Households mainly consumed rice and bread made with wheat flour. Rice was eaten one or more times a day with side dishes prepared with vegetables and sometimes food of animal origin such as sheep, goat, chicken, or egg. Rice was rinsed, boiled with water, drained and then cooked with steam. The number of side dishes recorded during the 4 days of dietary recall ranged from 1 to 3. Consumption of pulses such as lentils, peas, beans, and vetch that played a vital role in the food system of the tribal people in the past, has fallen dramatically. The mean intake of whole pulses in their diet was 22 g/day/person, while 40% of families used pulses once per week. Roots and tubers were prepared as part of a stew eaten with rice. The mean amount of roots and tubers (including potato and turnip) in the diet was 45 grams/day/person and the frequency of consumption of potato and turnip in 33% of the households was limited to one or two times per week. Women did not recognize fruits (especially vitamin C sources) as important foods so they rarely spent money on them. Women from 47% of households ate fruits less than three times per month. Plant oil was widely used in the preparation of rice and stew, and for frying potato, eggplant, squash, and pumpkin.

Black tea with sugar was consumed more than 6 times per day. A cup of tea usually has 2 or 3 pieces of cube sugar (every piece of cube sugar is 4 ± 2 grams). Breakfast consisted of one or two pieces of bread and two cups of tea. For breakfast, the mean food energy content was 150 kcal and the mean protein was 7 grams. Lunch, including bread and vegetables, is consumed every day and by everyone; the most important meal
is dinner, including a large portion of rice, bread, potato, eggplant, squash, pumpkin, yoghurt and sometimes meat, chicken, and vegetable stew.

After intervention, participants were willing to learn about and use the recipe. As shown in Table 4, dietary intake of energy, protein, calcium, iron, vitamin A, and vitamin C were significantly improved (P < 0.01).

The differences for body mass index (BMI) of women at the baseline and final measurements are shown in Table 5. The differences were statistically significant (p < 0.01).

**DISCUSSION**

Results of the study show a significant change in diet and an increase in BMI of tribeswomen and confirm the efficacy of food and nutrition education interventions when administered through established communication with influential persons in the family and community, along with plans to
improve the provision of sanitation and the social position of women. The results suggest that if proper messages are presented through appropriate channels, changes in household feeding practices resulting in improved women’s weight are possible. Families should be encouraged to consume foods that are affordable, energy- and protein-enriched, and hygienically acceptable as inexpensive practice can ensure sustained compliance.

The problem for women in this population is not only lack of adequate food but also that they have their meal after men and family guests. Some studies show a similar position for women in other parts of the world. Several authors have discussed women’s “sacrificing role” in intra-household food distribution. Girls in many cultures learn from puberty onward, to become the least demanding in the family and that priority is given to the needs of the male members of the household when food is scarce. Rizvi reports such an observation in Bangladesh (Rizvi, 1983), and studies from Tanzania report similar data (Maletnlema and Ngowi, 1974). Sociological fieldwork in Pakistan also indicates women’s subordinate position with regard to intrafamilial distribution of food. It is an interesting observation that an even greater proportion of women indicated that men needed the available food the most, and that the food needs of infants were ranked lower than those of men and the elders. In this study, husbands or wives never mention wives as the ones needing the most healthful foods (Anwar and Kishwar, 1984).

In the target population, work is distributed between men and women. Sheep herding, family security against thieves and enemies, and hunting are men’s work, while all other household chores are those of women—such as washing clothes and dishes, cooking, child care, gathering wood, gathering herbs for food or medicine, milking sheep and goats, making dairy products (yoghurt, cheese, sour milk, butter, dried whey), and packing the tent and furniture for seasonal moves. Women also weave carpets and rugs from the hair of sheep and make tents from the hair of goat. Studies have shown that women’s workload is heavy, and that it varies with seasons. The workload is especially high in peak agricultural seasons for women who participate in fieldwork. The total time women allocated to work on a yearly basis averages between 8 to 10 hours a day (Berio, 1984).

Like the findings in this study, reports from other studies indicate that girls do not have the same opportunities to study as boys do, leading to increased illiteracy among the women (ibid). Due to the existence of a literacy program for the tribespeople, there are a few women who have
5th grade-level literacy skills (reading and writing). As Berio reports, women spend less time on education than males. This pattern holds true both for school-age children and for adults in this population. The main reason for keeping girls out of school does not seem to be the cost of education or conservatism, but rather the family’s dependence on the girl’s labor at home and in the fields. Daughters from an early age on (often from as young as 5 years old) help in the home, look after small children, and assist women in the field. Girls are usually assigned responsibilities much earlier and work longer hours than boys (ibid). Also, the long working hours of the women allow little time for educational activities. Such observations are applied in the case under study as well.

CONCLUSION

Nutritional deficiencies and dietary changes have been major health problems in the 21st century. The settled lifestyle in urban settings is believed to be some of contributing factors; however, such problems have also affected tribal and rural settings. It is believed that a combination of nutritional analyses and a socio-cultural understanding of traditional systems and resources can help determine solutions to dietary and health problems that are associated with dietary change and adaptive strategies. Clearly, stating the nutritional need offers ways to preserve traditional knowledge and perhaps the lifestyles associated with such an environment (Johns and Pablo, 1999). Within this framework, the study attempted to create and test an intervention program combined with a behavioral change effort that may be replicated in populations with traditional knowledge and TFs systems.

At the beginning of the intervention program, it was observed that the tribeswomen were unwilling to change their customs and dietary habits. The authors, therefore, first contacted the influential persons, the tribal teachers, and the educated daughters, instructing them of the necessity of changing some food habits for achieving better health and growth of their children. The influential persons and educated daughters in turn took care that the instructions given by the research team concerning the preparation of soup and the increased use of eggs, vegetables, and legumes were carried out and the matter taken seriously. Therefore, first the literate daughters were taught; these then helped the researchers to maintain good communication with the women in the study. The researchers devised
communication programs to modify beliefs and food habits of families, established communication with influential persons in the family and community, and made plans to improve the provision of sanitation and the social position of women.

The study was carried out under conditions of poor growth and high mortality of domestic animals due to lasting drought and water shortages. The observed findings are interesting because under the prevailing conditions, education in food preparation and complementary food proved to be especially important and had a significant impact on the health and diet of women. The results suggest that if proper messages are marketed through appropriate channels, changes in women’s diet practices resulting in improved BMI are possible. Despite their poverty, families should be encouraged to use low-cost, energy- and protein-enriched, and hygienically acceptable foods as more expensive practices are not likely to be achievable or sustainable.

REFERENCES


