

Using Focus Groups to Assess Nutrition Education Needs for Pregnant and Lactating Women in Korea

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Although nutrition education for pregnant women is important, few such programs have been carefully examined from the participants' perspective in Korea. Focus groups were used to identify 1) perceived eating behaviors during pregnancy and lactation, 2) factors associated with healthy eating behaviors, and 3) needs for nutrition education programs. Using a trained moderator, we conducted 7 focus group interviews with 44 pregnant women over a four-month period. Focus group discussions were video- and audio-taped, transcribed and categorized by major themes. Participants expressed interest in receiving nutrition education regarding healthy eating, weight control after delivery, weaning foods and health management, yet they showed little interest in breastfeeding. The majority of them said that meal balance and meal regularity were the most important components of good health during pregnancy. They were less likely to be confident about taking dietary supplements, including Oriental medicines. Life stress and poor appetite associated with pregnancy were major barriers to healthy eating habits during pregnancy. The most important sources of nutrition and health information were friends and family members, especially those who had become pregnant recently. Qualified educators and reliable information appeared to be the most important aspects of program development. Regarding types of nutrition education, participants tended to prefer a combination of individual counseling and small group education with hands-on materials and interactive formats. The use of Web-based nutrition education was well received. Major concerns about Web-based nutrition education were authenticity, tailored messages and interactive formats for sharing information. These results offer useful information for designing nutrition education programs for pregnant and lactating women in Korea for health promotion.

Key words: Needs assessment, Nutrition education program, Pregnancy, Lactation, Focus group interview

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INTRODUCTION

Nutrition during pregnancy plays a key role in ensuring the well being of the mother and her baby, and further influences the latter's health as he or she grows up. During pregnancy, nutritional requirements increase and food selection patterns are altered due to physiological changes and maternal stress.¹⁾ Maternal stress was reported to correlate negatively with the food and nutrient intake of mothers and, in turn, with low weight gain during pregnancy and with low birth weight of their babies.²⁻⁶⁾

It was reported that there was an increasing trend towards undesirable eating habits among pregnant women in Korea.⁵⁾ Nutrition education has been suggested as a useful intervention tool to promote better nutrition.^{7,8)} There are a

number of Korean-developed nutrition education materials available for pregnant and lactating women, however, only a few of them appear in the literature.^{9,10)} Most of the materials were not reported to have been validated and were available on websites developed by hospitals, health centers and companies. Moreover, these nutrition education materials were mainly produced from the perspective of the professional. It is very important to consider the needs not only of the professional but also of the learner and the society in the development of educational programs, as has been suggested elsewhere.¹¹⁾ To this day, few nutrition education programs are developed in full consideration of the needs of the learner in Korea.

Focus group interviews stimulated the respondents to talk freely and provide valuable insights.⁴⁾ For this reason, focus group interviews have been widely used for program development in health education areas.^{2,3,12-14)} Yet, they have rarely been employed in nutrition education for pregnant women in Korea. This study was conducted using

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focus group interviews in order to identify needs that are not being met by existing nutrition education programs for pregnant and lactating women.

METHODS

1. Participants

For this study, 44 women who were in the third trimester of pregnancy were recruited from two public health centers in Seoul by convenience sampling. Using a trained moderator, we conducted seven focus group interviews (involving two to eleven participants). Attendance was low at one site despite the fact that more than ten clients had signed up for the session and reminder calls were made the day before the interview. This situation might be associated with the fact that our participants were expecting babies around the date of the interview. Even though the minimum number of participants recommended for holding a focus group was four,¹³⁾ we decided to include the two-member group in the data analyses since the results were comparable to those from the other groups.

2. Data Collection

Focus group interviews were held at the public health center or at nearby facilities familiar to the participants. Interviews were conducted in rooms with comfortable chairs or using mats and cushions, taking into consideration the physical status of the participants. A dietitian with a master's degree in nutrition acted as a moderator. A semistructured discussion guide was developed and pre-tested in a pilot focus group of pregnant women. Three major topics were included in the interview schedule. The topics were 1) healthy eating behaviors for pregnant and lactating women, 2) factors associated with healthy eating behaviors, and 3) the needs of nutrition education programs (Table 1). These topics emerged from reviews of the literature.¹⁵⁻¹⁸⁾

Participants signed an informed consent form and received a small gift. A moderator who was a member of the research team and had been trained in data collection and interview techniques led the discussions. Focus groups lasted about 60~80 minutes. At the end of each discussion, the moderator verified the data collected by summarizing themes that had been identified throughout the discussion and asking participants if any key points had been missed. Based on the methods of Krueger,⁴⁾ each session was video- and audio taped, transcribed and categorized by major themes, according to coding categories cited and coding instructions developed by the researchers. The

Table 1. Healthy eating behaviors

1. Perceived healthy eating habits
- No overeating or no picky eating
- Having balanced diet (more vegetables, less fat, salt and added sugar)
- Having regular meals
- Having traditional and (or) natural foods
- Pleasant mealtime
2. Eating habits after pregnancy
- Considered nutritionally better than before pregnancy
• Tried to have more various foods
• Tried to have meals regularly
3. Ways for better eating during pregnancy
- Having meals regularly
- Having variety of foods
- Keeping body weight as suggested
- Having natural foods
- Being independent of dietary supplements (i.e. indigenous health foods, oriental medicines) as much as possible

numbers of themes and sub-themes mentioned were counted only to check if they were themes or sub-themes, rather than to show quantitative information. Actual quotes reflecting participants' views are provided in italicized print in the following section.

RESULTS AND DISCUSSION

1. General Characteristics

Mean age of the participants was 30.3 ± 3.02 . Most of the participants were housewives (84.1%) who had at least a high school education (97.7%). Among those, 51% were university graduates. In terms of household monthly income, 30% indicated incomes of higher than 2 million won. Considering mean urban household monthly income was 2.94 million won in 2003,¹⁹⁾ our participants appeared to belong to the lower middle class.

2. Healthy Eating Ways and Nutrition Information Source

Table 1 provides major themes and sub-themes of healthy eating behaviors. The most important factor in good health was seen to be desirable eating habits. Moreover, moderation, balance and regularity were referred to as the most important aspects of healthy eating, which corresponded to dietary guidelines for Koreans.²⁰⁾ In addition, consumption of natural foods and psychological satisfaction were mentioned as significant components of healthy eating.

The most important source of nutrition information was

friends and family members, in particular, friends who had been pregnant recently or were pregnant at the same time as the mothers. *"My mother and other pregnant friends (or those who had been pregnant recently) kept telling me that I should have a healthy diet, and now I can see that a little bit."* They cited women's magazines as another important nutrition information source. Participants, however, said that they were disappointed with the contents since less reliable dieting information was overemphasized in those magazines. *"Look at the magazines: there are lots of pages on dieting. They say women should always be thin and losing weight. But how could we?"*

3. Factors Related to Healthy Eating Behaviors

Motivators

Being pregnant was considered as the momentum pushing them to a full realization of the importance of nutrition (Table 2). *"When I realized that one or more of my friends or neighbors had become pregnant, I started paying more attention to nutrition."* After becoming pregnant, most of participants said that they tried to eat more regularly and consume a wider variety of foods. Accordingly, they considered themselves nutritionally better off after becoming pregnant (Table 2).

Another significant motivator was the responsibility as a mother. *"I continuously try to eat well because of my own child to be born."* The majority of participants expressed concerns as to their babies' health, citing factors such as obesity, immunity and brain development. They mentioned that their own health was very important for sake of their babies' health. Social support from friends and family members was also noted as an important motivator, as indicated in Table 2.

Table 2. Factors related to healthy eating behaviors

1. Motivators for healthy eating during pregnancy
- For sake of newborn's health
- Sense of responsibility
- Supportive significant others
2. Barriers to healthy eating during pregnancy
- Physical changes
- Lack of time- Lack of knowledge and skills on cooking, shopping and nutritional management
- Availability and frequent use of instant food
- Misleading information by significant others
3. Important Nutrition information source by order of importance
- Significant others: friends, families, health professionals
- Books written by professionals
- Mass communication (from TV, internet) and printed materials by formula companies

Barriers

The most frequently cited barrier to healthy eating during pregnancy was poor appetite or a diminished sense of taste due to pregnancy. A lack of time for meal preparation was also mentioned as an important barrier, particularly among working women, although they accounted for only 16% of the participants. *"It always seems like the race is on at our house during meal time, especially in the morning..."* Most working women expressed in time-saving cooking methods. *"If somebody said she had made some delicious food, I used to ask: what was it, what was in it, how did you make it and, most importantly, how long did it take?"*

Other important barriers included a lack of knowledge and the skills required for meal preparation and food shopping, nutrition management during pregnancy and lactation. *"I am afraid that I don't know exactly what to eat and how to exercise..."*, *"In addition, they cited a lack of social support from friends and family members and the mass media, which often involved the provision of incorrect information, as a factor limiting their ability to maintain healthy eating habits."* *"My mother said that if I ate chicken, my baby would have skin problems, which I don't really believe."*

Healthy Eating During Pregnancy

For the most part, participants agreed that eating balanced meals was the most important thing to ensure a healthy pregnancy, as suggested above. Some participants also noted a preference for natural foods intake in order to avoid the pitfalls associated with food allergies and additives. Concerning this matter, participants cited the need for more information on nutrition labels. *"I have heard many things about allergies. So I buy as few canned foods as possible. Like many of my friends, I want to know what's in it."*

Many participants appeared to realize the importance of taking iron supplements during pregnancy, yet they were less likely to be confident about taking other dietary supplements, including Oriental medicines. *"Even though my mother buys Oriental medicines for me, I don't take them since I don't know what's in them... I simply don't like them."* These findings suggest that scientific evidence might be needed for pregnant mothers to perceive a certain food as healthy. This could be associated with the fact that pregnancy is a critical period not just for women themselves but also for their babies in terms of nutrition and health. In addition, the relatively high educational levels of our participants, which implies the use of rational food selection methods, likely contributed to the findings.

Our results support the findings of previous studies. Hartman *et al.*²¹⁾ found health concerns were the key motivator for changing eating habits. They also reported a lack of knowledge as to food purchasing and preparation and a lack of time and money as key barriers. Moreover, inadequate parenting skills, a lack of knowledge, time and social support and unhealthy social environments were suggested as key barriers while the responsibility as a mother, fetus health and positive social support were reported to be key motivators.¹⁷⁾

4. Needs for Nutrition Education Program

Reliability of information was said to be the most important component of a nutrition education program (Table 3). *"There are many sayings regarding what to eat...; however I don't know which one is right."* *"I tried to make healthy weaning food as suggested by... website... But it didn't work out."* *"I prefer to read books written by doctors since I can trust them."*

Table 3. Needs for nutrition education programs for pregnant and lactating women

1. Preferred topics
- Healthy eating
- Weight control
- Weaning foods
- Health management for preventing from unwanted side effects
2. Types of nutrition education
- Individual or small group education with personal care.
- Hands-on, interactive formats of materials.
- Reliable books/ other various printed materials
3. Online education
- Reliable professionals as advisory members
- Tailored website
- Email service
- Proper update
- Immediate response

Topics of Nutrition Education

The majority of participants said that they were most interested in healthy eating and weight control after delivery. *"I cannot think of nutrition without thinking of eating."* *"You can easily find information on health management during pregnancy, but no practical nutrition information. I mean foods, meals, menus, but not nutrients."* *"I'm very concerned with weight reduction after delivery"* Other frequently mentioned subjects were weaning food and health management, such as the prevention of pregnancy toxemia, abortion and miscarriage.

Topics suggested by our participants tended to be

associated with individual level nutrition management. Leviton *et al.*²²⁾ emphasized that social issues should be considered in designing health promotion programs, particularly for urban dwellers. One of the reasons for the selection of individual-level topics in our study is that nutrition education programs dealing with issues at a social level such as food insecurity and nutrition labeling are not well established in Korea. Therefore, consumers have little exposure to such issues. Concerning this matter, the recent development of nutrition labeling education programs is encouraging.²³⁾ Another point that drew our attention was that few of the participants addressed topics related to breastfeeding. This finding reflected a very low rate of breastfeeding in Korea (16.5% in 2003).²⁴⁾ It goes without saying that topics like breastfeeding, considered very important by professionals, but less so by consumers, are also strong candidates for inclusion in nutrition education programs.

Types of Nutrition Education

With respect to the format of nutrition education programs, many subjects cited a need for personalized care. *"I want them to know my own situation... and to teach me what I need."* For this purpose, a combination of individual counseling and small group education was thought to be most appropriate. *"I think individual counseling is better because I could find out what I need in detail."* *"Group discussion is good because we could share more information... However, the group has to be small."* Moreover, an interactive education format was thought to be important in developing nutrition education programs. *"I am so bored with didactic instruction, with little or no open discussion."*

Regarding types of educational materials, books were the most preferred since they are easy to refer to. *"I like to have simple book-type materials because I can keep them better than others such as papers and leaflets..."* Various types of printed materials such as leaflets, calendars and diaries were also cited. Above all, a need to develop hands-on educational materials was emphasized. *"I want to have educational materials that are easily understood and used."* *"I want to be able to find the information I need right away, whenever and wherever I want."* *"A lot of books are too heavy and provide too much information."*

It was emphasized in this study that nutrition education should provide easily understandable and practical information on food that includes interactive activities, which supported previous research.²¹⁾ Client-centered and appropriate feedback were cited as other important

components of successful programs elsewhere.⁸⁾

Online Nutrition Education

The Internet was seen as an important information source. *"When something happens, I search on the Internet to get more information about it."* The majority of participants said that they tended to seek online information since computers were easily available in their homes or workplaces. *"I think education through the Internet is good. We don't have to meet at a specific time."* *"I don't have time to attend nutrition education classes. But through the Internet, I can get information anytime I want."*

Participants preferred to have a tailored website for pregnancy and lactation. Moreover, they cited a need for the provision of tailored nutrition information keyed to the stages of pregnancy and lactation. *"There are some websites that provide nutrition information. But they are the same."* *"It would be better to have a website just for those interested in pregnancy and lactation."* *"Booklets from companies give information by stages. I think that is good because I can follow it easily."*

Up-to-date, immediate responses and professional input were also cited as important considerations in the development of online nutrition education programs. *"There are several websites. But they are rarely updated. I simply can't trust those sites."* *"I sent email to them. No response! Many website are like that. If I see names of some professionals, I would go for that site."* *"Verification of websites by a group of professionals would be helpful."*

During the past few decades, the quantity of nutrition information from the media has grown enormously, helping make the media, particularly TV and magazines, the most frequently encountered sources of nutrition information, followed by family members and friends.^{7,8,25)} Recently, the Internet has become a very significant source of nutrition information, probably a more important source for younger people. As with offline nutrition education programs, the developers of online programs must focus on the reliability of the information provided. Therefore, the involvement of reliable and qualified people is a critical concern in the development of nutrition education programs. Moreover, a nutrition information verification system needs to be established in the near future for the sake of consumers.

SUMMARY AND CONCLUSION

This study was intended to identify healthy eating behaviors, related factors and the needs of nutrition

education programs for pregnant and lactating women in Korea. For this purpose, seven focus group interviews were conducted with 44 pregnant women from the lower-middle social class in Seoul. The major results of this study are as follows.

- 1) The most important factor for good health was identified as having desirable eating habits, emphasizing moderation, balance and regular meals. Other important factors included eating natural foods and deriving psychological satisfaction from eating.
- 2) Important sources of nutrition information were friends and family members, followed by women's magazines, although participants were less satisfied with that information due to a lack of scientific grounds.
- 3) Significant motivators for better eating during pregnancy were pregnancy itself and the responsibility as a mother, while barriers included poor appetite, diminished sense of taste and a lack of time, knowledge and required skills.
- 4) As important ways to improve eating behaviors during pregnancy, meal balance and regularity as well as limited consumption of processed food were cited, yet there was less confidence in the use of dietary supplements including Oriental medicines.
- 5) The reliability of information was cited as the most important factor in the development of nutrition education programs. The most interesting topics for nutrition education included advice on healthy eating, weight control, weaning food and health management at the individual level.
- 6) With respect to types of nutrition education, participants preferred tailored education having an interactive format. They tend to prefer to have both individual counseling and small group discussions. Regarding preferred types of educational materials, hands-on book-type materials were the most preferred.
- 7) The use of the Internet appears to hold promise for nutrition education. In terms of the development of a website, important considerations include targeting specific groups, providing tailored nutrition information, offering regular information updates and prompt responses to enquiries, and relying on professional input.

These results on nutrition education strategies and methods targeting pregnant and lactating Korean women provide useful information for designing nutrition education programs to promote better nutrition and health. Further research may be necessary to explore the efficacy of these approaches to nutrition education.

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