

PREFERENCES OF WOMEN IN JAKARTA ON LEARNING METHODS AND MEDIA RELATING TO HEALTHY EATING DURING PREGNANCY: A QUALITATIVE STUDY

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Received: 08 Oct 2019, Revised and Accepted: 08 Feb 2020

ABSTRACT

Objective: The nutrition of pregnant women and of their child during the first 1,000 d of life is vital, as it affects fetal development and maternal health. Nutrition education is a strategy used to improve the nutritional status of pregnant women by increasing their knowledge, encouraging the practice of diversity, and teaching the proper amounts of food consumed in accordance with the specific requirements of pregnancy. Learning methods should promote the sustainability of good nutritional habits. Educational media is an important component of a quality learning system. This study aims to explore the effectiveness of learning methods and media regarding nutrition and healthy eating during pregnancy.

Methods: The study is exploratory in design with a qualitative approach to data collection. It was conducted between May and September of 2019, with 37 pregnant women living in Jakarta who participated in an online survey by responding to a questionnaire.

Results: Three of findings on nutrition and health emerged: the source of information were individual learning (i.e., internet/social media, and print media) and non-individual learning (i.e., discussing with health workers, family and close friends); preferences expressed for learning materials were interactive books and videos; for learning methods, preferences were role-playing and simulation learning, peer teaching/cooperative learning, and lectures/seminars.

Conclusion: The study concluded that the provision of nutrition education for pregnant women should be presented through direct interaction and discussion using interesting and interactive learning media.

Keywords: Gestational nutrition, Learning media, Learning methods, Qualitative study

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DOI: <http://dx.doi.org/10.22159/ijap.2020.v12s3.39476>

INTRODUCTION

The first 1,000 d of a child's life, from conception to the age of two years, requires that careful attention be paid to nutrition because it affects fetal development and maternal health [1]. Nutrition in pregnant women is a key factor determining the growth and development of a healthy foetus [2]. During pregnancy, women experience changes in metabolism, hormones, and psychology, thus, adequate nutrition is especially needed at this time. The quality and quantity of food to provide adequate nutrition plays an important role in ensuring that the mother's health during pregnancy is not adversely affected, so she can give birth normally with a faster recovery after delivery, and the fetus has normal development and appropriate weight gain [3, 4]. For these reasons, nutritional needs increase during pregnancy and breastfeeding. This is even more important, considering that mothers are carrying the responsibility of raising the next generation [5]. In a study conducted by Lee in Asia and Africa, the relative recommendations stated as a percentage of energy requirement are 10–15% protein, 15–30% fat and 55–75% carbohydrates. In eight of 25 studies, fat intake, as a percentage of energy, did not reach 20%, the low limit recommended by the Food and Agriculture Organization/World Health Organization (FAO/WHO) for women of childbearing age [6].

Important considerations for the health of the mother and baby during pregnancy seek to maintain good nutrition and healthy eating patterns [7]. A study conducted by McGowan found that up to 45% of pregnant women may not report daily energy intake. Educational attainment was also an important predictor because women who report their energy intake were less likely to comply with current dietary recommendations for pregnancy. These datum highlight the necessity for intervention and education for pregnant women in order to reach acceptable dietary guidelines [8]. Nutrition education is one of the strategies used to improve the nutritional status of pregnant women, which focuses on improving the quality of maternal intake by increasing the diversity and amount of food

consumed, ensuring appropriate and balanced body weight, and consuming micronutrient supplements or food supplements wisely, consistently, and sustainably [7], thereby increasing the knowledge and practice of healthy eating during pregnancy. Another study observed a positive impact on prenatal health among pregnant adolescents who had nutrition education and counseling interventions, which led to increased pregnancy weight and birth weight. Learning media are helpful components in conducting and achieving learning objectives, essential in developing the quality of the learning system [9]. The objective of this qualitative study was to explore pregnant women's needs with regard to the learning methods and media concerning healthy eating habits during pregnancy.

MATERIALS AND METHODS

Design and study population

This research used an exploratory study design with a qualitative approach for data collection. The study was conducted from April to September 2019 and took place in Jakarta, Indonesia, including Central, East, South, and North Jakarta. Due to limited resources, the study could not include West Jakarta and *Kepulauan Seribu* [10]. The study population consisted of 37 pregnant women living in Jakarta. The sampling procedure was done using a consecutive sampling method through a questionnaire with open-ended questions via an online Google form. Questions included in the questionnaire covered various potential information sources for pregnant women to get information on nutrition and health, and the most convenient ways pregnant women can learn about these topics. Sampling procedure included explaining the background, aims, and procedures of the study to the women who agreed to participate in the survey. The criteria were: (1) normal pregnancy without complication; (2) ages 20–40 y; (3) willingness to participate (agreeing to give signed informed consent following explanation of the research); (4) familiarity with communications media and electronic applications;

and (5) no difficulty in oral and written communication. Participants were recruited consecutively from the population until the designated number of samples was achieved.

Statistical analysis

The characteristics of the survey were presented as mean±standard deviation for normal distribution data, and median (min-max) for data that were not normally distributed. Data were analyzed using SPSS version 20.0. A Kolmogorov-Smirnov test was used to determine the distribution of data.

Ethical considerations

This study was conducted with approval from the Health Research Ethics Committee of the Faculty of Medicine of Universitas Indonesia with the ethical clearance no. 1129/UN2.F1/ETIK/2018.

Verbal informed consent to take part in the study was obtained from the pregnant women in our sample. The purpose of the study was explained to the women prior to their consent. They were assured of their anonymity, the confidentiality of the data, and their right to withdraw from the study at any time with no penalty.

RESULTS

Characteristics of respondents

In this study, a total of 37 pregnant women with a median age of 29 (20–40) years, living in Jakarta, Indonesia, in Central (13.5%), East (37.8%), South (29.7%), and North Jakarta (18.9%), participated in a short survey by filling out the online Google form. The stage of pregnancy of women who participated was predominantly third trimester (48.6%), 10.8% were in their first trimester, and the rest (40.5%) were in the second trimester.

Preferences of learning methods and media regarding healthy eating among pregnant women in Jakarta

The data analysis of a quick survey conducted on pregnant women showed that there are three types of platforms that are most commonly used for getting information on nutrition and health. The most widely used platform for individual or independent learning is direct contact on the internet and social media, such as internet/social media, Google, Instagram, YouTube, group chats and social media forums, web courses, and online literature. Another platform commonly used for self-learning through printed media included books, magazines, articles, and the *Kesehatan Ibu dan Anak* book published by the government. Some pregnant women stated that they obtained information about nutrition and health from non-individual learning through discussions; the pregnant women often visited health facilities, such as hospitals, Posyandu, and pharmacies, where they had discussions with health professionals, such as doctors, obstetricians, midwives, nutritionists, and pharmacists. Another fraction of the participants stated that they often had discussions with family and close friends, parents, women who had been pregnant before, husbands, and other relatives.

This research acquired data on pregnant women's preferences of the type of learning media to get information on healthy eating. They preferred videos, interactive books, electronic applications, and booklets, infographics, articles, and leaflets. They reported that such learning media should possess the qualities of being simple, attractive, clear, complete, and compact, in addition to being trusted, applicable, and achievable. They mentioned that the information should focus on the need for healthy eating during pregnancy, citing trusted and accurate sources that it should use practical language which is easily understood, and be attractively presented with illustrations (table 1).

Table 1: Preferences of learning media and methods on healthy eating among pregnant women in Jakarta

Themes	Findings	n
Information sources on nutrition and health	Individual learning	
	• Internet and social media (Internet, Google, Instagram, YouTube, group chat and social media forums, web courses, and online literature)	36
	• Print media (books, magazines, KIA book, and articles)	12
	Non-individual learning	
	• Family and close associates (friends, parents, women who have been pregnant, husband, relatives)	28
Preferences of learning media on healthy eating during pregnancy	• Health workers (doctors, obstetricians, midwives, nutritionists, and pharmacists)	28
	• Health facilities (hospitals, <i>Posyandu</i> , and pharmacies)	3
	Media of learning	
	• Videos, interactive books, electronic applications, booklets, infographics, articles, and leaflets	17
	General design of learning media	
	• Simple, attractive, clear, complete, compact, as well as trusted, applicable and achievable	12
	Full information of learning media	
	• Information mentioned consisted of the need for nutrition and health during pregnancy from trusted and accurate sources	8
	Language of learning media	
	• Use of practical, easily-understood language	3
Preferences of learning methods on healthy eating during pregnancy	Design, the content of learning media	
	• Attractive displays, illustrations	2
	Learning method through role-play and simulation learning	
	• Direct practice	15
	• Watching an audio-visual or short video	12
	• Can be done while relaxing and other activities	12
	Learning method through lecture	
	• Listening to explanation/information/direct interaction with experts, resource persons, practitioners, or doctors	9
	• Attending a seminar or talk show	9
	Learning method through peer teaching/cooperative learning	
• Discuss/listen/share experience with friends or fellow pregnant women	8	
Learning method through discovery learning		
• Reading on website, browsing, Googling, or Instagram forums		
Learning method through self-directed learning/global		
• Reading information, books, articles		
Learning method through small group discussion		
• Chat, discuss, exchange opinions, consult, socialize		
• Using chat group applications or facilities		

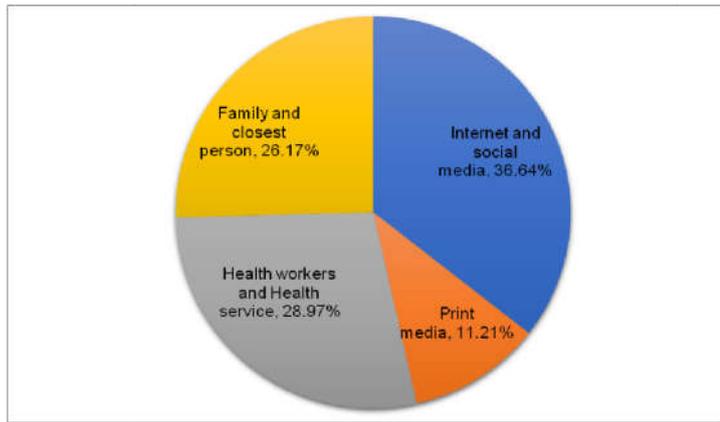


Fig. 1: Source of nutrition and health information obtained by pregnant women

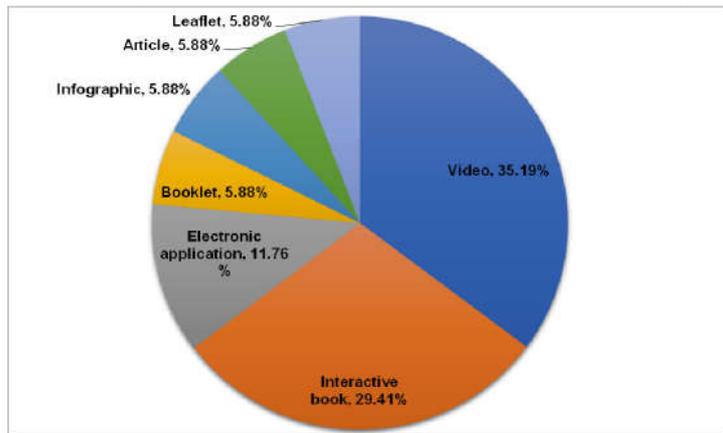


Fig. 2: Pregnant women's preferences of learning media on healthy eating

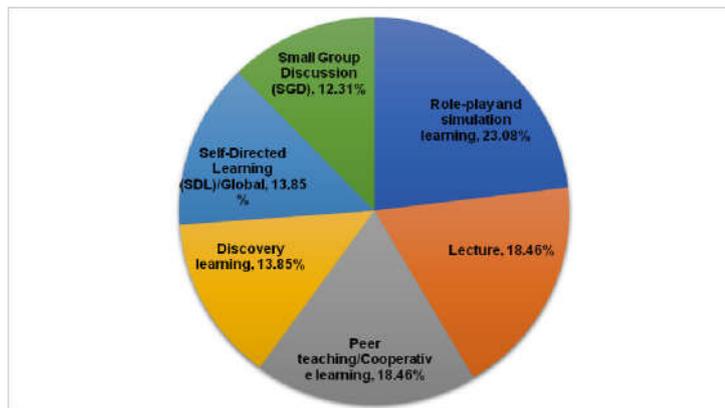


Fig. 3: Pregnant women's preference of learning method on healthy eating

DISCUSSION

This qualitative study on pregnant women revealed three sources of information that were noted in the open-ended questions. The first was that pregnant women gained information about nutrition and health mostly from the internet or social and printed media, indicating that pregnant women prefer to do independent information-gathering. The number of pregnant women who conducted independent learning through social and printed media

was also significant. This was in line with the trend in the U. S., showing an increase in the number of adults looking for health information online after having a discussion with health professionals [11–14].

The second source was that pregnant women mostly preferred videos and interactive books as learning media to learn about healthy eating. As for the learning method, they preferred to learn about healthy eating through role-play and simulation learning,

where pregnant women could directly practice the information they obtained from learning media. Another study found that an increase in pregnant women's knowledge and interest in accessing information about nutrition corresponded with the amount of counseling they had received [15, 16]. This could be due to differences in the personal background of the women and to differences between pregnant women's needs in various places.

Benefits and limitations of the research

Limitations of this research worth noting are that this research did not collect information on race/ethnicity of participants; the control was conducted only in age and obstetrical stage of samples. Another limitation was that all research samples were pregnant women who live in Jakarta and who actively use electronic devices that were used to perform the questionnaire. Further research is needed to ascertain whether the results of this study can apply to broader populations. Since the target area of the survey was Jakarta, the results cannot be generalized to other geographic areas.

To the best of the researchers' knowledge, this is the first research exploring the ways pregnant women seek information on nutrition and health and their preferences on learning media and methods to get information about healthy eating during pregnancy. Data shown here may provide useful information for experts on health promotions and can be used in designing interactive programs and/or nutrition interventions for pregnant women in the future.

CONCLUSION

This research concluded that educational programs on nutrition for pregnant women should be in line with their preferences for interaction and discussions with other people; learning methods should focus on role-playing and simulation learning, lectures, and peer-to-peer teaching/cooperative learning, with attractive and interactive learning media, such as videos and books.

ACKNOWLEDGEMENT

The study was supported by Department of Nutrition and Department of Community Medicine, Faculty of Medicine, Universitas Indonesia, which facilitated this study.

The study was supported by the Ministry of Research and Technology/Research and Innovation Agency National, as a funder of this study.

This article was presented in the 4th International Conference and Exhibition on Indonesian Medical Education and Research Institute (ICE on IMERI 2019), Faculty of Medicine, Universitas Indonesia. We thank the 4th ICE on IMERI committee, who had supported the peer review and manuscript preparation before submitting to the journal.

AUTHORS CONTRIBUTIONS

All authors have contributed equally.

CONFLICT OF INTERESTS

All authors have none to declare.

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