Research Article

Indian Journal of Extension Education
Vol. 59, No. 1 (January–March), 2023, (28-31)

ISSN 0537-1996 (Print)
ISSN 2454-552X (Online)

Effectiveness of an Educational Module on Diet and Nutrition: A Farm Women Perspective from Aspirational Districts

Ditty Maria Dominic[1]*, H. R. Meena[2] and D. Alagu Niranjan[3]

[1,3]PhD Research Scholar, [2]Principal Scientist, ICAR-National Dairy Research Institute, Karnal-132001, Haryana, India
*Corresponding author email id: ditty794@gmail.com

ARTICLE INFO

Keywords: Farm women, Diet, Nutrition education, Educational module, Effectiveness, Aspirational districts

http://doi.org/10.48165/IJEE.2023.59106

Conflict of Interest: None

ABSTRACT

Farm women, although they play a significant role in food and nutritional security of their households, are very much deprived of knowledge and information on food and nutrition. Only few studies have focused on nutrition of farm women and no studies have been found on farm women in aspirational districts in particular. Hence, in the present cross-sectional study conducted in 2021, an educational module (folder) entitled "Diet and Nutrition of Farm Women: A Short Guide" was developed in Tamil, Malayalam and English. The module's contents were subjected to relevancy test by 30 experts. The module's effectiveness as perceived by the respondents on six characteristics were measured using a 19 item scale developed based on *Guidelines for Pretesting and Evaluating Communication Materials* given by Ministry of Health, Zambia. Responses were taken from 60 farm women to assess their perception on effectiveness of the module. Nearly 70 per cent of the farm women perceived that the educational module was useful. Majority perceived that the contents were interesting and they will follow the suggestions in the module. Hence, perceived effectiveness of the developed educational module was high and it can be used to impart behavioural change among farm women under similar circumstances.

INTRODUCTION

Ignorance and lack of knowledge on dietary diversification and alternative consumptions has led to the menace of categorizing many rural families among the malnourished (Odefadehan, 2021). Education is one of the most reliable ways to improve levels of food and nutritional security (Olumakaiye and Ajayi, 2017), unhealthy food behaviours (Farell, 2013) and reduce the vulnerability of rural communities in developing countries (Mustiya et al., 2016). There is significant evidence that the mother's educational status directly influences her own as well as her children's nutritional and health status. Higher nutrition knowledge is associated with better practice and diet quality (Saeidlou et al., 2016). A positive relation is found between knowledge level and nutritional status of Indian women, where unsatisfactory body mass index (BMI) of half of the respondents is accompanied with low knowledge level on nutritional anaemia (Upadhyay et al., 2011). Other study on Indian farm women (Jyoshna et al., 2017) indicates that after implementation of nutritional education programme on balanced diet, food groups and its functions and the importance of correct diet to meet the body requirements, the food consumption of farm women changed and nutrient intake along with work participation increased. According to Landavarde (2019), educational intervention positively influenced farmers to adopt the concepts on family nutrition, drinking water treatments, and agricultural production practices. Various studies have also suggested that education is necessary on nutritional front where the dietary intake of farm women does not meet the recommended dietary intake (Aparna et al., 2019; Thakar & Rajpura, 2021; Vij & Mann, 2022). Nutrition education is an essential consideration to optimize

Received 24-11-2022; Accepted 13-12-2022

health status of farm women that can enhance not only their own dietary diversity but also that of their children (Kumari & Kumari, 2015; Rani, 2018; Singh et al., 2020; Singh & Bisht, 2021). Hence education and behaviour change communication need to be integrated in interventions so as to bring out significant improvements in nutritional status (Shankar et al., 2017). Very few studies are found particularly pertaining to nutritional education of farm women and its impact on their nutritional status. On this backdrop, the study aimed at imparting nutrition education to farm women as educational materials are lacking particularly for women in nutrition. Face-to-face approaches have been evaluated as being more effective in generating changes in nutritional behaviours (Kaur et al., 2021) and considering the ease of accessibility of print media over other approaches, the present study developed an educational module in the format of a folder entitled "Diet and Nutrition of Farm Women: A Short Guide" and tested its content relevancy and perceived effectiveness.

METHODOLOGY

Aspirational districts were chosen for the study considering the fact that these are the most underdeveloped areas of a state and the government aims to uplift these districts. As listed by NITI Aayog in January 2018, Kerala has one aspirational district namely Wayanad and Tamil Nadu have two aspirational districts namely Virudhunagar and Ramnathapuram. The educational module (folder) was developed in English (for judges rating), Malayalam and Tamil as a part of the study entitled "Nutritional Status of Farm Women in Aspirational Districts of Kerala and Tamil Nadu". Before distributing the module to the farm women, its content relevancy and quality was measured using a five-point scale by 38 nutrition experts from State Agricultural universities, Home Science department, ICAR Institutes and private institutes and 30 persons responded. The perceived effectiveness of the module was measured using the scale developed based on *Guidelines for Pretesting and Evaluating Communication Materials* given by Ministry of Health, Zambia. It was anticipated that better the perception of respondents on the various components of information module, greater is its effectiveness. A sample of 60 farm women participated in evaluating the effectiveness of the module. The responses of the farm women were collected in Likert type summated rating scale of five-point continuum from strongly agree to strongly disagree and weighted mean scores (WMS) were calculated, for ranking the characteristics. Reliability of the scale was high with Cronbach alpha scores of 0.95.

RESULTS AND DISCUSSION

Content relevancy and content quality assessment was done by the experts for validating the educational module as given in Tables 1 and 2, respectively. Image on Annadata model nutri-garden, contents related to nutri-garden, sample meal plan and balanced diet was ranked as the most relevant content in educational module by the experts. Organisation, readability, comprehensibility, suitability and translation quality of the contents were ranked as the first five characteristics in content quality assessment of the module by the experts. Hence in total, the module's information content was relevant and content quality was good as judged by the experts.

Perceived effectiveness of the module was measured using a scale consisting of 7 characteristic features and 19 statements from 20 respondents each, from the three selected districts i.e., a total of 60 farm women, as shown in Table 3. A large majority of the respondents perceived the folder as very useful (WMS: 91.67) and it was ranked first. The statement under "Attractiveness" feature *viz.*, "The contents are interesting" was ranked second with WMS

Table 1. Content relevancy assessment of educational module by experts

S.No.	Characteristics of the Educational Module	Weighted Mean Score (%)	Rank
1.	The given title of the educational module, "Diet and Nutrition of Farm Women: A Short Guide" is relevant	85.8	7
2.	Contents related to Balanced Diet in the Module	89.4	5
3.	Contents related to Sample Meal Plan in the Module	91.32	3
4.	Contents related to Local Super Foods in the Module	84.68	8
5.	Contents related to Nutri-Garden in the Module	92.94	2
6.	Image on Food Pyramid given in the Module	83.88	9
7.	Image on Balanced Meal Plate given in the Module	85.94	6
8.	Image on Annadata Model Layout of Nutri-Garden given in the Module	93.02	1
9.	Image on Circular Model Layout of Nutri-Garden given in the Module	90.58	4

Table 2. Content validation assessment of educational module by experts

S.No.	Characteristics of the Educational Module	Weighted Mean Score (%)	Rank
1.	Readability and Text Quality of the Content	88.24	2
2.	Comprehensibility of the Content	88.22	3
3.	Organisation of the Content / The Scheme of the presentation of the Contents	91.76	1
4.	Presence of Grammatical and Typological Errors	58.8	7
5.	Suitability of the contents to the target audience (Farm Women)	86.98	4
6.	Practicality of the contents to the target audience (Farm Women)	76.46	6
7.	Translation Quality	85.96	5

Table 3. Perceived effectiveness of the educational module's characteristics and respective statements

S.No.	Module Characteristics and Statements	Statements		Characteristics	
		WMS (%)	Rank	WMS (%)	Rank
1.	Identification			91.67	I
1.1.	I see this brochure as very useful	91.67	1		
2.	Comprehension			72.50	VI
2.1.	The contents in the brochure are easy to understand	88.00	4		
2.2.	The images and picture are supporting the content	83.67	15		
2.3.	Language used in this material is easy to understand	84.00	14		
2.4.	Information in this material is causing confusion to me	34.33	18		
3.	Clarity			74.42	V
3.1.	Some words in this material are complex to understand	44.67	17		
3.2.	This material tells me to eat healthy	84.67	12		
3.3.	This material guides me to improve my health	86.00	9		
3.4.	I will be remembering this material to remind myself about healthy eating	82.33	16		
4.	Acceptability			85.18	IV
4.1.	I find the contents in this material acceptable	86.34	6		
4.2.	I like the colors used in the materials	84.01	13		
5.	Motivation			72.01	VII
5.1.	This material motivates me to eat healthy	86.01	8		
5.2.	I am going to follow the suggestions in the module	88.67	3		
5.3.	I can adopt these practices in my diet	85.34	11		
5.4.	I cannot follow these practices because they are unrealistic	28.00	19		
6.	Attractiveness			88.83	II
6.1.	This material looks nice/ beautiful	86.33	7		
6.2.	The contents are interesting	91.33	2		
7.	Production Quality			86.34	III
7.1.	The print quality of this material is neat	85.67	10		
7.2.	The layout and arrangement of contents and images are appropriate to me	87.01	5		

of 91.33. The statement "I will follow the suggestions in the folder" under the "Motivation" feature had WMS value of 88.67 and was ranked third. The statement under Comprehensibility feature *viz.,* "The contents in the brochure are easy to understand" was ranked fourth as a grater majority of the respondents strongly agreed to the statement whereas the statement under the "Production Quality" feature *viz.,* "The layout and arrangement of contents and images are appropriate to me" was ranked fifth with WMS of 87.01. The statement regarding acceptability of the contents in this material was ranked sixth. More than half of the respondents strongly agreed that the module looks nice/ beautiful and was ranked seventh. Nearly half of the respondents strongly agreed that the module motivates them to eat healthy as well as the module guides them to improve their health. Both of these statements were ranked eighth and ninth with WMS of 86.33 and 86.01 respectively. The statements regarding neatness of the print material was ranked tenth.

The least WMS values were obtained for statements under comprehension and motivation characteristic, viz., "The information in this material is causing confusion to me" and "I cannot follow these practices because it is unrealistic", ranking these statements in nineteenth and twentieth position, respectively. The results of the study is in line with Verma et al., (2019), who reported that the perceived effectiveness of the educational module on Brucellosis developed for farmers were high with high satisfaction for information function, subject Quality and functionality of the educational module. Similar results were presented by Nain (2003) in case of farm readers. Overall, identification, attractiveness, production quality, motivation and comprehension features of the education module was ranked as top five by the farm women. Hence the current study ensured to develop a relevant and valid educational module to impart nutrition education to farm women as suggested by previous studies (Jung et al., 2017; Nain et al., 2019; Thakar & Rajpura, 2021).

CONCLUSION

After evaluating the effectiveness of the developed folder on diet and nutrition, this study concludes that majority of the respondents were highly satisfied with Identification, Attractiveness, Production Quality and Motivation feature of the developed folder. The present study suggests initiating nutritional educational interventions and programs, especially to low income farm women to increase awareness regarding healthy eating and other nutritional aspects. Women in the households being the gatekeepers in ensuring food and nutritional security of the entire household should be targeted as their behavioural change can ensure improved dietary and nutritional habits of the households. Since, an educational module exclusively for farm women on diet and nutrition is scanty; the current educational module can be used with or without modification by extension professionals for improving farm women's nutritional knowledge and changing their dietary habits.

REFERENCES

Aparna Meenakshi, K. G., Krishnan, A., Gayathri, K. V., & Balan, S. (2019). Improving food and nutritional security of rural women: action study. *Indian Journal of Extension Education, 55*(2), 97-100.

Farrell, J. (2013). The impact of nutrition education on food security status and food related behaviors (Master's Thesis, University of Massachusetts Amherst). Retrieved from https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=2204&context=theses

Jung, S. E., Shin, Y. H., Kim, S., Hermann, J., & Bice, C. (2017). Identifying underlying beliefs about fruit and vegetable consumption among low-income older adults: an elicitation study based on the theory of planned behavior. *Journal of Nutrition Education and Behaviour, 49*(9), 717-723.

Jyoshna, E., Kumar, J. H., Kumar, N. K., & Reddy, P. (2017). Impact of nutritional education on nutritional status and work participation of farm women in Khammam district. *Journal of Pharmacognosy and Phytochemistry, 6*(4), 48-51.

Kaur, S., Mann, S. K., & Kaur, M. (2021). Factors affecting adoption of home science practices disseminated through rural awareness work experience (RAWE). *Indian Journal of Extension Education, 57*(4), 143-146.

Kumari, A. R., & Kumari, B. (2015). Impact of nutrition education on knowledge of rural women. *Indian Journal of Extension Education, 51*(3&4), 54-57.

Landaverde, R. A. Q. (2019). *Measuring food security and evaluating the impact of an educational intervention on food security and nutrition among rural farmers in El Salvador: A mixed method study*, Maters' thesis, Texas Tech University. https://hdl.handle.net/2346/85368

Ministry of Health (n.d). *Guidelines for pretesting and evaluating communication materials.* https://www.nac.org.zm/sites/default/files/publications/Guidelines%20for%20pretesting%20and%20evaluating%20communication%20materials%20.pdf

Mustiya, M., Ngware, M., Kabiru, c., Kandala, N. (2016). The effect of education on household food security in two informal urban settlements in Kenya: a longitudinal analysis. *Food Security, 8*(4), 743-756.

Nain, M. S. (2003). Effectiveness of farm magazine: A comparative analysis of various components as viewed by the readers. *Rajasthan Journal of Extension Education, 11*, 9-15.

Nain, M. S., Singh, R., Sharma, J. P., Mishra, J. R. (2019). Filling the information gap through Developing and Validating Entrepreneurial Technical Information Packages (ETIPs) for Potential Agricultural Entrepreneurs. *Journal of Community Mobilization and Sustainable Development, 14*(1), 44-48.

Odefadehan, O. O., Omoyungbo, T., Owolabi, A. O., & Akinbobola, T. (2021) Assessment of rural women farmers' knowledge on selected soya bean products and accessibility to nutrition education sources in Ekiti State, Nigeria. *Library Philosophy and Practice*, pp 1-22.

Olumakaiye, M., & Ajayi, A. (2017). Women's empowerment for household food security: the place of education. *Journal of Human Ecology, 19*(1), 51-55.

Rani, J. A. (2018). Dissemination of nutrition knowledge among rural women and children for the nutritional security and assessing perceived socio-economic impact. *Indian Journal of Extension Education, 54*(1), 1-5.

Saeidlou, S. N., Babaei, F., & Ayremlou, P. (2016). Nutritional knowledge, attitude and practice of north west households in Iran: is knowledge likely to become practice. *Maedica, 11*(4), 286.

Shankar, B., Agrawal, S., Beaudreault, A. R., Avula, L., Martorell, R., Osendarp, S., & Mclean, M. S. (2017). Dietary and nutritional change in India: implications for strategies, policies, and interventions. *Annals of the New York Academy of Sciences, 1395*(1), 49-59.

Singh, R., & Bisht, N. (2021). Intervention on knowledge, attitude and practices of maternal and child health among rural women of Uttarakhand. *Indian Journal of Extension Education, 57*(3), 20-23.

Singh, R.**,** Nain, M. S., & Manju (2020) Nutrient analysis and acceptability of different ratio pearl millet (*Pennisetum glaccum* (L.) R. Br.) based biscuits. *Indian Journal of Agricultural Sciences, 90*(2), 428-430.

Thakar, D. S., & Rajpura, M. R. (2021). Nutritional status of farm women in India and Gujarat: An overview. *The Pharma Journal, 10*(5), 374-377.

Upadhyay, S., Kumar, A. R., Raghuvanshi, R. S., & Singh, B. B. (2011). Nutritional status and knowledge of hill women on anaemia: effect of various socio-demographic factors. *Journal of Human Ecology, 33*(1), 29-34.

Verma, A. P., Meena, H. R., & Patel, D. (2019). Perceived effectiveness of educational module on brucellosis in dairy animals. *Indian Journal of Extension Education, 55*(2), 43-47.

Vij, A., & Mann, S. K. (2022). Food consumption pattern of farming families in Punjab. *Indian Journal of Extension Education, 58*(2), 21-25.