

## VALIDATING E-LEARNING INFORMATION MODULE ON TRANSITION PERIOD OF DAIRY ANIMALS FOR ENHANCING KNOWLEDGE OF DAIRY FARMERS

AMIT SINGH\*, B.S. MEENA<sup>1</sup> and MUKESH BHAKAT<sup>1</sup>

Department of Veterinary & Animal Husbandry Extension,

College of Veterinary Science & Animal Husbandry, DUVASU, Mathura-281001, India

<sup>1</sup>Dairy Extension Division, ICAR-National Dairy Research Institute, Karnal-132001, India

Received: 22.12.2020; Accepted: 05.05.2021

### ABSTRACT

Transition period, a period, three weeks before and three weeks after calving of dairy animals plays an important role in the overall reproductive and productive performance of dairy animals. The present study was aimed in validating e-learning information module on transition period of dairy animals in enhancing the knowledge of dairy farmers. The study was conducted in the two randomly selected districts of Uttar Pradesh state. Total 160 farmers along with 40 experts (scientists of ICAR and SAUs) and field officers from line department (Veterinary Officers) were selected as respondents. Based on the knowledge and information need of dairy farmers, an e-learning information module covering various aspects of transition period was designed and developed. Validation of the module revealed that the experts were highly satisfied with the existing characteristics of the module. The effectiveness of this module was assessed on the basis of knowledge gain. The overall mean knowledge gain with regard to transition period through the e-learning information module was found to be 18.08 percent which was highest in case of pre partum and dry period management practices. The perceived feedback was collected in terms of satisfaction. The results indicate that majority of the respondents were highly satisfied with the characteristics like simple in understanding information, relevant information on transition period and effectiveness in enhancing knowledge, respectively.

**Keywords:** E-learning information module, Effectiveness, Knowledge, Transition period, Validation

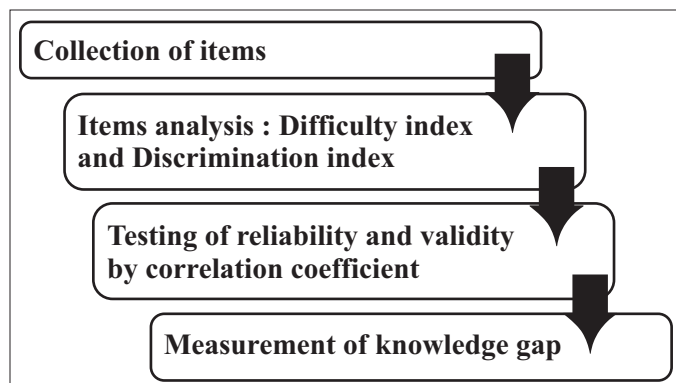
**How to cite:** Singh, A., Meena, B.S. and Bhakat, M. (2021). Validating e-learning information module on transition period of dairy animals for enhancing knowledge of dairy farmers. *Haryana Vet.* 60(2): 271-274.

Learning is a lifelong process and with the existing globalized economy, the focus should not be centered on traditional form of learning but also should embrace the utilization of Information Communication Technology (ICTs) in learning. Among the various forms of ICTs, e-learning is one of effective method of learning, fulfilling the desired need of information with lesser delivery cost and reaching the wider geographically-dispersed target audience in a country like India. The importance of information in agriculture and livestock rearing was revealed by many workers (Ali, 2012; Sasidhar and Sharma, 2006). Information is mainly used by the farming community for making effective decision (Subash *et al.*, 2018). Livestock sector should come up with the need based, location specific and local language contents in the form of digital and other electronic material (Tiwari *et al.*, 2010). Therefore, a digital information module on transition period of dairy animals was prepared having the content related to Dry period management, Pre-partum management, Post-partum management and Calving management. The information module is a product of digital computer-based systems and was well supported by video file/photograph, charts, graphics and sound back to make the learning more effective. Keeping these in view, the present study was designed to validate e-learning information module on transition period of dairy animals in enhancing the knowledge of dairy farmers.

\*Corresponding author: dr25amitsingh@gmail.com

### MATERIALS AND METHOD

The study was conducted in the two randomly selected districts of Uttar Pradesh state. The experimental research design pre and post without control group was used to test the effectiveness of the prepared module. A total of 160 dairy farmers (20 from each village) having at least an experience of one transition period of dairy animals were selected as respondents from eight randomly selected villages to get first-hand information. Apart from this, validation and perceived feedback was collected from 40 experts (scientists of ICAR and SAUs) and field officers from line department (Veterinary Officers) through questionnaires. An information module (Fig. 1) was developed containing the details about the transition period and was thoroughly validated by the experts in the concerned field to check its relevancy. After validation, the selected farmers were exposed to the module. Knowledge gain, which is the information acquired through exposure to information module on transition period and the extent to which the module brings about increase in knowledge among the dairy farmers was recorded in pre and post transition stage of transit period. The knowledge was measured by developing a knowledge test consisting of 40 items covering Dry period management, Pre partum management, Postpartum management and Calving management areas. The steps adopted to construct the knowledge test are as follows :



The developed knowledge test was used at two stages i.e. in pre exposure and post exposure treatment of dairy farmers. The scores assigned were 3, 2, 1 and 0 to accurate, somewhat accurate, least accurate and wrong/no reply respectively and then the total score for each respondent was calculated by summing of his/her scores for all the items and difference between the pre and post exposure scores was taken as knowledge gain. The knowledge was measured by using following formula :

$$\text{Knowledge index} = \frac{\text{Score obtained}}{\text{Maximum obtainable score}} \times 100$$

Perceived feedback as the person's opinion was taken through a schedule from dairy farmers and field officers. The response of the respondents was obtained on three point continuum i.e. highly satisfied, satisfied and not satisfied and scores of 3, 2 and 1 were assigned, respectively. The responses were ranked after calculation of weighted mean score.

## RESULTS AND DISCUSSION

**Validation of Information Module on Transition Period:** Validation of the information module was under eight different characteristics. The results of Validation of Information Module on Transition Period (Table 1) indicates that the experts were highly satisfied (cent percent) with the characteristics like relevancy of information, preciseness of content, simplicity of content in enhancing knowledge, suitability of transition module to field conditions and ease in obtaining desired information. The experts indicated that there is scope of improvement in certain characteristics like content presentation and information coverage by adding graphic related visual on transition period of dairy animals and synchronization of audio with the running video content. Sukanya *et al.* (2015), validating a module revealed that the respondents had shown ease of understanding, its utility and the ability to satisfy the felt need as important features of the module.

**Knowledge of the Dairy Farmers about Transition period:** The existing knowledge of respondents about

transition period, viz., dry period management, pre partum management, postpartum management and calving management were measured by administering the knowledge test. The results from Table 2 indicates that majority of the respondents were benefitted by information module on transition period. The overall mean knowledge gain with regard to transition period through the module was found to be 18.08 per cent which could be due to their need of information on transition period. The knowledge gain was highest in case of pre partum (21.93) and dry period management (21.17) aspects as they may possess very low information in these aspects and they could acquire more knowledge about these phases of transition period as most of the respondents do not take enough care during the postpartum stage (Meena *et al.*, 2015). The data on knowledge scores for before and after the exposure of information module on transition period subjected to Z test inferred that the exposure to the module was effective in improving the knowledge of the respondents as 'z' values significant at 1 percent level. Meena *et al.* (2014) also revealed that majority of the respondents were benefitted by educational DVD on Improved Dairy Farming Practices (IDFPs). Subash *et al.*, (2018) after studying the

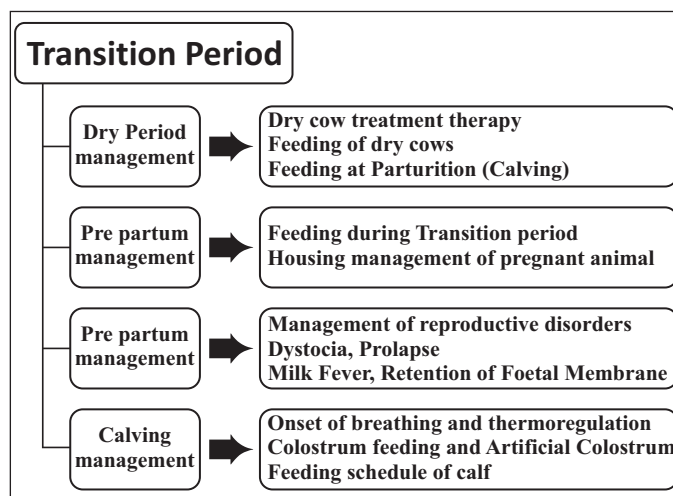


Fig. 1. Component of E-learning information module on Transition Period

**Table 1**  
**Validation of information module on transition period of dairy animals (n=40)**

S. No.	Characteristic for validation	Weighted score (%)
1.	Relevancy of information on transition period of dairy animals	100.00
2.	Preciseness of content about transition period of dairy animals	100.00
3.	Simplicity of content in enhancing knowledge	100.00
4.	Content presentation and information coverage on transition period	98.33
5.	Related visual on transition period of dairy animals	96.67
6.	Suitability of transition module to field conditions	100.00
7.	Synchronization of audio with the running video content	95.00
8.	Easy in obtaining desired information	100.00

**Table 2**  
**Knowledge gain amongst respondent post E-learning information module (n=160)**

Practices	Knowledge (%)		Mean Knowledge Gain	Z Values
	Pre-exposure	Post-exposure		
Dry period management	47.97	69.14	21.17	22.84**
Pre partum management	44.77	66.70	21.93	18.25**
Post-partum management	42.78	58.41	15.63	24.92**
Calving management	47.43	64.03	16.60	12.86**
Pooled	44.89	62.96	18.08	31.09**

effect of web based module for dairy farmers also reported similar findings.

**Perceived feedback about information module on transition period by respondents:** The perceived feedback was collected in terms of satisfaction that they derived after exposure to the information module. The feedback about module was presented in Table 3 and the results of farmer feedback indicate that majority of the

respondents were satisfied with all the characteristics of the information module. The farmers were highly satisfied with the characteristics like ‘simple in understanding information’ (76.88%), ‘relevant information on transition period’ (76.25%), ‘effectiveness in enhancing knowledge’ (75.83 %) and overall visual quality (75.62%). Meena *et al.* (2014) and Ranjith *et al.* (2015) revealed that majority of the respondents were satisfied with the usefulness in enhancing knowledge, suitability of the information to the field situation, improves self-confidence, arousal of curiosity and interest and completeness of the information. While the field officers perceived that among all the characteristics, relevant information on transition period, navigation in getting information and rational content presentation and credibility of information were ranked as first, second and third, respectively. From the weighted mean score, it was seen that more than 70.00 percent of the respondents agreed that the developed information module was effective and useful in enhancing their knowledge. Similar observations have been reported by Subash *et al.* (2018).

The developed information module on transition period facilitated the improvement of knowledge of

**Table 3**  
**Perceived satisfaction about E-learning information module on transition period**

Perceived feedback characteristics	Farmers		Field officers	
	Weighted score	Rank	Weighted score	Rank
Simple in understanding information	76.88	I	77.50	IV
Relevant information on transition period	76.25	II	81.67	I
Effectiveness in enhancing knowledge	75.83	III	75.83	VI
Overall visual quality	75.62	IV	75.00	VII
Overall Audio quality	73.54	V	76.67	V
Arousal of interest and curiosity	72.71	VI	73.33	VIII
Rational content presentation	72.29	VII	78.33	III
Credibility of the information	71.70	VIII	78.33	III
Suitability to field condition	71.46	IX	71.67	IX
Navigation in getting information	70.20	X	79.17	II

farmers about the transition period in bovines. The overall mean knowledge gain with regard to transition period through the module was significant. The respondents were highly satisfied with the characteristics like simple in understanding information, relevant information on transition period and effectiveness in enhancing knowledge, respectively.

### REFERENCES

- Ali, J. (2012). Factors affecting the adoption of information and communication technologies for farming decisions. *J. Agric. Food Inf.* **13(1)**: 78-96.
- Meena, B.S., Ranjith, Kumar and Amit, Singh. (2014). Effectiveness of multimedia digital video disk on knowledge gain of improved dairy farming practices. *Indian J. Dairy Sci.* **67(5)**: 441-445.
- Meena, B.S., Verma, H.C., Meena, H.R., Singh, Amit and Meena, D.K. (2015). Field level study on productive and reproductive parameters of dairy animals in Uttar Pradesh, India. *Indian J. Anim. Res.* **49(1)**: 118-122.
- Ranjith, K., Meena, B.S. and Amit, Singh (2015). Symbolic adoption of improved dairy farming practices by farmers through multimedia module. *Indian J. Dairy Sci.* **68(6)**: 42-46.
- Sasidhar, P.V.K. and Sharma, V.P. (2006). Cyber livestock outreach services in India: a model framework. *Livest. Res. Rural. Dev.* **18(1)**. <http://www.lrrd.org/lrrd18/1/sasi18002.htm>.
- Subash, S., Gupta, J. and Gereketi, P.B. (2018). Effectiveness of the interactive web-module on knowledge empowerment of dairy farmers. *J. Anim. Health Prod.* **6(1)**: 13-17.
- Sukanya, Som., Burman. R. Roy., Sharma, J.P., Sangeetha, V., Lenin, V. and Iquebal, M.A. (2015). Designing and validating e-learning module on Good Agricultural Practices for grape. *Indian J. Horticulture.* **72(4)**: 489-493.
- Tiwari, R., Shahaji, P. and Sharma, M.C. (2010). Status and scope of information and communication technology for livestock and poultry production in India– A review. *Indian J. Anim. Sci.* **80(12)**: 1235–1242.