

Effectiveness of Multimedia Modules on Dissemination of Knowledge among the Dairy Farmers

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Abstract

The present study aims to analyze the effectiveness of multimedia modules in terms of knowledge gain and retention among exposed dairy farmers. The study was purposively conducted in Chittoor district of Andhra Pradesh where, a total of 90 dairy farmers were selected through multi stage random sampling technique. The multimedia modules were designed in consultation with experts and subject matter specialists from the field concern by giving due importance to the dairy farmers need. After the development of multimedia modules, dairy farmers were exposed to them to measure the knowledge gain. Knowledge scores were assessed at pre and post-exposure stages. The results of the study revealed that, there is significant difference with respect to knowledge gain among dairy farmers with respect to scientific dairy farming practices namely, Calf rearing, Clean milk production, Reproductive management, Selection of milch animals, Calendar of operations, Urea treated paddy straw and preparation of Milk products. The results of the study clearly indicate the importance of multimedia modules in transfer of knowledge on scientific dairy farming practices.

Keywords: ICT tools; Multimedia modules; Knowledge gain; Knowledge retain; Chittoor

Introduction

In India, the livestock production and agriculture are intrinsically linked, each one being dependent on the other and both are crucial for the overall food security. Livestock has considerable potential for generating additional income as well as employment through various sectors and one among them is dairy farming. Dairy sector plays a significant role in supplementing family income and generating employment in the rural areas particularly among the landless, small and marginal farmers and farmwomen, besides providing cheap and nutritious food to millions of people. Hence dairying is considered to be a powerful instrument of social and economic change by the planners and policy makers. India has made significant achievements by attaining the status of world's largest milk producer but the fact remains that India's share in the world's milk production is very low despite possessing the world's largest bovine population [1,2]; because of low reachability and the same can be attained through Information and Communication Technologies (ICTs), it reduces many traditional obstacles and has the potential to benefit millions of people in all corners of the world. Although the traditional channels of communication will remain important, the new ICTs had a great potential for disseminating information to the needy farmers. Dissemination of knowledge through appropriate emerging extension delivery methods can play an important role in addressing the needs of farmers.

Since the time of Ninth Five-Year Plan, India has been targeting a growth rate of more than 4 per cent in agriculture, but the actual achievement has been much below the target. The slow growth in agriculture and allied sectors can lead to acute stress in the economy because the number of people dependent upon this sector is still very

large. A major cause behind the slow growth in agriculture and allied sectors is the consistent decrease in investments in this sector by the state governments. Hence the need for incentivising states that increase their investments in the agriculture and allied sectors has been felt. Concerned by the slow growth in the Agriculture and allied sectors, a special Additional Central Assistance Scheme i.e., Rashtriya Krishi Vikas Yojana (RKVY) was launched during 2007 by the National Development Council (NDC) [3]. Under this scheme Educational Multimedia Resource Centre was established at Sri Venkateswara Veterinary University for technology transfer and dissemination. For this purpose multimedia modules on various aspects of animal husbandry practices have been prepared. The quality and applicability of thus prepared multimedia modules on knowledge gain among dairy farmers remained untouched [4]. Keeping this in view, the present study was undertaken with an objective to measure the knowledge gained and knowledge retained by the dairy farmers through multimedia modules on dairy farming.

Materials and Methods

The study was conducted purposively in Chittoor district of Andhra Pradesh since the livestock developmental activities were undertaken extensively in this district, wherein three mandals namely; Ramachandrapuram, Chandragiri and Yerpedu and from each mandal two villages namely; Ramapuram and Ramachandrapuram from Ramachandrapuram mandal; Gangudupalli and Sanambatla from Chandragiri mandal and Aamanduru and Balakrishnapuram from Yerpedu mandal were selected through simple random selection technique. From each village 15 dairy farmers (or) farmwomen were selected randomly, thus to constitute a sample size of 90. The data were collected through a pre-tested structured interview schedule with the knowledge test to measure the knowledge gain. The quality and applicability oriented multimedia modules on various scientific dairy farming practices were prepared in vernacular language (Telugu) for

technology transfer and dissemination at Educational Multimedia Resource Centre, established under Sri Venkateswara Veterinary University.

Results and Discussion

Knowledge gain

Knowledge is the crucial component that plays a vital role in the behavior of an individual [1]. The dissemination of knowledge or scientific information among dairy farmers will play a greater role in adoption of scientific dairy farming practices [5]. Keeping this in view, the knowledge gain of respondents after exposure to multimedia modules and knowledge retention after 30 days of exposure on scientific dairy farming viz; Calf rearing, Clean milk production, Reproductive management, Selection of milch animals, Calendar of operations, Urea treated paddy straw and preparation of Milk products was assessed [6].

It is evident from the Table 1, that before exposure to multimedia modules, mean knowledge scores for calf rearing, clean milk production, reproductive management, selection of milch animals, calendar of operations, urea treated paddy straw and milk products were 3.46, 4.06, 6.33, 4.30, 1.25, 0.08 and 0.34, respectively. The mean knowledge scores immediately after exposure were 7.81, 8.64, 10.32, 5.98, 4.43, 3.32 and 4.37 [7,8]. The mean gain in knowledge scores was 4.35, 4.58, 3.99, 1.68, 3.18, 3.24 and 4.03. It was also clearly observed from Table 1 that the difference in means of pre and posttest is highly significant with regard to all dairy farming practices like calf rearing (29.11), clean milk production (26.23), reproductive management (23.28), selection of milch animals (11.61), calendar of operations (20.67), urea treated paddy straw (31.93) and milk products (23.35). Further the knowledge scores were tested before and immediately after exposure to multimedia modules for its significance with the help of paired 't' test and found that 't' statistic for knowledge mean scores was significantly differing at 1% level of significance [9].

Different dairy farming practices	Mean knowledge scores			't' Value
	Pre exposure	Post exposure	Knowledge gain	
Calf rearing	3.46	7.81	4.35	29.11**
Clean milk production	4.06	8.64	4.58	26.23**
Reproductive management	6.33	10.32	3.99	23.28**
Selection of milch animals	4.30	5.98	1.68	11.61**
Calendar of operations	1.25	4.43	3.18	20.67**
Urea treated paddy straw	0.08	3.32	3.24	31.93**
Milk products preparation	0.34	4.37	4.03	23.35**

Note: **Significant at 1% level of significance.

Table 1: Knowledge gain of respondents on different dairy farming practices through multimedia modules.

Knowledge retention

With a view to find out the retention ability of respondents on various dairy farming practices after 30 days of exposure to multimedia modules, a subsequent measurement was made with the same knowledge schedule [9]. The respondents were categorized into three groups based on their level of knowledge retention and were distributed accordingly as shown in Table 2.

Different dairy farming practices	Mean Knowledge scores			't' Value
	Pre exposure	30 days after exposure	Knowledge retention	
Calf rearing	3.46	6.44	2.98	24.53**
Clean milk production	4.06	7.73	3.67	26.44**
Reproductive management	6.33	8.87	2.54	20.93**
Selection of milch animals	4.30	5.85	1.55	12.39**
Calendar of operations	1.25	3.64	2.39	19.09**
Urea treated paddy straw	0.08	2.13	2.05	24.94**
Milk products preparation	0.34	3.02	2.68	21.72**

Note: **Significant at 1% level of significance.

Table 2: Knowledge retention of respondents on different dairy farming practices through multimedia modules.

The data from Table 2 reveals that, the mean knowledge scores after 30 days of exposure to multimedia modules for calf rearing, clean milk production, reproductive management, selection of milch animals, calendar of operations, urea treated paddy straw and milk products were 6.44, 7.73, 8.87, 5.85, 3.64, 2.13 and 3.02, respectively. The retained knowledge scores were 2.98, 3.67, 2.54, 1.55, 2.39, 2.05 and 2.68 [10,11]. A cursory look at Table 2 shows that the difference in means of pre-test and retention test is highly significant with regard to all dairy farming practices like calf rearing (24.53), clean milk production (26.44), reproductive management (20.93), selection of milch animals (12.39), calendar of operations (19.09), urea treated paddy straw (24.94) and milk products (21.72). Further the knowledge retention was tested for its significance with help of paired 't' test and values were compared with table values and observed that it was significant at 0.01 level of probability [12].

Conclusions

The significant gain in knowledge from pre to post exposure can be interpreted that the multimedia modules had significant effect on the knowledge gain on scientific dairy farming practices and this increase might be due to learning through hearing, seeing and understanding of multimedia modules. Knowledge retention after 30 days, when compared to the pre exposure to multimedia modules is also significant and the plausible reason for this trend might be due to the interest and desire of the respondents to share the gained knowledge with their neighbours, relatives and friends in their villages. In proving that axiom one picture worth a thousand words seeing the pictures

makes the information clearer and complete which help in creating lasting impressions on the minds of dairy farmers. Hence, efforts may be taken up by the extension personnel to disseminate knowledge on scientific dairy farming practices by using information and communication technology tools especially multimedia modules to educate dairy farmers and thereby maximizing their profit. Thus, it can be stated that multimedia modules not only facilitate the increased knowledge of the viewers, but also assists in the retention of the knowledge gained.

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