The Pharma Innovation Journal 2022; SP-11(9): 16-19

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(9): 16-19

www.thepharmajournal.com
Received: 28-06-2022
Accepted: 30-07-2022

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Knowledge on improved dairy farming practices among youth in Telangana state

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Abstract
Youth of the nation can play a significant role in development of country. Dairying is one of prominent occupation which can provide employment and daily income for the unemployed youth. Improved dairy farming practices are the means to improve quality of milk to the meet the standards of Global milk production. The present study is focused to study the knowledge on improved dairy farming practices among youth in Telangana State. A sample of 220 respondents across four agro-climatic zones of the state was selected through multi stage random sampling for the study. A structured interview schedule was developed for the study. Among the respondents, a significant number (44.55%) of respondents had medium knowledge on improved dairy farming practices. Among breeding practices sixty percent of respondents had medium knowledge, whereas in case of feeding practices more than sixty percent (63.18%) of respondents had medium knowledge. In the case of health care and miscellaneous practices more than forty percent (45.91% and 44.09% respectively) had low knowledge.

Keywords: Knowledge, youth, entrepreneurial avenue, extension methods

1. Introduction
Dairying is perceived as subsidiary occupation for vast majority of farming community, it has acquired independent status as main occupation. It is a classic example of production by masses rather than mass production as millions of rural smallholders dominate India's dairy industry, contributing to 62.00 percent total milk produced in the country (Nargunde, 2013) [7]. In 1970, the Operation Flood (OF) program, one of the World's largest and most successful dairy development program was launched, its main thrust was to organize farmers' cooperatives in rural areas and link them with urban consumers. Operation Flood has led to the modernization of India's dairy sector and has created a strong network for procurement, processing, and distribution of milk by the cooperative sector. The milk production during the year 2015-16 was 155.5 million tonnes with the growth rate of 6.29 percent (NDDB) and the target for the year 2016-2017 is 163.74 million tonnes according to Agriculture Ministry. India has largest youth population in the world which was estimated to be 550 million (GOI, 2011b) [3]. According to World Bank (2007) [12] the youth's attitude towards farming is mostly negative, reason for this is agriculture is said to be non-remunerative. The biggest challenges of India in coming years will be to retain youth in agriculture (Swaminathan, 2011) [11]. The reason that can be sited is the pull factors created in the urban areas and push factors in rural areas. Youth have greater propensity and willingness to adopt new ideas (Lalji, 2010) [5] and hence youth can be potential target in entrepreneurship development in dairying.
There is change in approach to management of dairying as an occupation and it is now primarily considered as an entrepreneurial avenue providing income through sale of milk rather than meeting milk demand of family needs. In this, context there is need to study knowledge among youth regarding improved dairy farming practices as it will unearth the gaps in knowledge.

2. Material and Methods
Telangana State has been purposively selected for the study. It is classified into four agro-climatic zones and 220 respondents were selected through multistage random sampling. 11 mandals were selected from the state and 20 respondents were selected from each mandal making a sample size to 220.
Knowledge on improved dairy farming practices has been operationally defined as the degree of information possessed by the respondents regarding improved dairy management practices. It was studied through the knowledge test developed by Ranuji (2006) [9].

The test included items under knowledge on breeding, feeding, healthcare and miscellaneous practices. The overall knowledge level was classified using formula:

$$\text{Overall Knowledge} = \frac{\text{Obtained score}}{\text{Maximum obtainable score}} \times 100$$

The respondents were classified into low, medium and high based on the overall knowledge score using class interval technique. Knowledge level of the respondents were further categorized into low, medium and high for individual practices viz. feeding, breeding, management, healthcare and miscellaneous practices through mean and standard deviation.

3. Results and Discussion

Knowledge about improved dairy farming practices is pre-requisite for its adoption which shows significant effect and plays an important role in milk production and achieve profits in dairying. The knowledge is discussed in the following aspects:

3.1 Knowledge regarding improved breeding practices

From the Table 1 it could be understood that majority (60.00%) of respondents had medium knowledge regarding breeding practices followed by low (21.36%) and high (18.64%).

Rank order analysis of regarding knowledge of breeding aspects from Table 2 revealed that respondents "What are the cross or improved breeds of cow/ buffalo you know?" Ranked-I, "How do you select a good milch breed?" Ranked-II, "What are the symptoms of animal in heat?" Ranked-III, "After how many days of A.I., a cow / buffalo should be tested for pregnancy" Ranked-IV, "After how many days of calving a cow / buffalo should be inseminated, if it comes in regular and normal heat" Ranked-V and "What is the right time of Artificial Insemination (AI) when a cow is in normal heat?" Ranked-VI.

Critical analysis of question regarding knowledge of breeding aspects reveal that youth in dairying possess significant knowledge regarding improved breeds, selection of milch breeds and symptoms of animal in heat whereas respondents lacked technical knowledge regarding testing of pregnancy, time of AI and number days of calving cow/buffalo should be inseminated. Level of awareness regarding improved breeds and characteristics of good milch breeds is higher in young dairy farmers whereas lower regarding technical aspects. Increased assistance from Veterinary Assistant Surgeons must be enhanced and also training programmes must be organized in order to enhance the technical aspects in breeding. Similar observations were reported by Patil *et al.*, (2009) [8].

3.2 Knowledge regarding improved feeding practices

From Table 1 it could be understood that feeding knowledge of majority (63.18%) of respondents had was medium level knowledge followed by low (21.82%) and high (15.00%). Similar observations were also reported by Meena *et al.*, (2009) [6].

Rank order analysis regarding improved feeding practices from the Table 2 revealed that "After birth within how many hours a newly born calf should be fed with colostrum?" Ranked-I followed by "What should be fed to a crossbred cow / buffalo daily proportion of feed prepared at home?" Ranked-II, "How much additional concentrate feed should be given to a pregnant cow / buffalo in the advance stage (7-8 months) of pregnancy?" Ranked-III and "What practices should be followed to feed the newborn calf?" Ranked-IV.

Critical analysis of questions regarding feeding indicated that youth in dairying were aware of importance of feeding calf immediately after it is born as it provides immunity to newly born calf. Whereas awareness of practices to be followed to feed newly born calf ranked low, the reason was due to lack of knowledge about scientific calf rearing and awareness how it is important in future.

3.3 Knowledge regarding improved health care practices

From Table 1 it could be illustrated that significant percentage (45.91%) of respondents had low level of knowledge followed by medium (42.27%) and notable percentage of respondents had high (11.82%) regarding health care practices. These findings are in accordance to the findings of Bardhan *et al.*, (2005) [2] and Sabapara *et al.*, (2013) [10].

Rank order analysis regarding improved health care practices from Table 2 revealed that "What are the main contagious / infectious diseases of cattle and buffaloes against which vaccinations should be done?" Ranked-I followed by "What are the important symptoms of foot and mouth disease?" Ranked-II, "What are the important symptoms of mastitis?" Ranked-III, "What are the important symptoms of *Hemorrhagic septicemia* disease?" Ranked-IV and "What is the right time of vaccination against the contagious/infectious diseases?" Ranked-V.

Table 1: Distribution of respondents according to knowledge regarding various practices of improved dairy farming

(n=220)

Variable	Categories	Frequency	Percentage
Breeding	Low (<7.63)	47	21.36
	Medium (7.63-11.03)	132	60.00
	High (>11.03)	34	15.46
		Mean=8.33	SD=1.7
Feeding	Low (<3.33)	48	21.82
	Medium (3.33-6.87)	139	63.18
	High (> 6.87)	33	15.00
		Mean=5.10	SD=1.77
Health care	Low (<4.06)	101	45.91
	Medium (4.06-7.53)	93	42.27
	High (>7.53)	26	11.82
		Mean=5.80	SD=1.73
Miscellaneous practices	Low (<4.04)	97	44.09
	Medium (4.04-6.66)	83	37.73
	High (>6.66)	40	18.18
		Mean=5.35	SD=1.31

Table 2: Rank order analysis of Knowledge on improved dairy farming practices

(n=220)

S. No	Breeding	TS	MS	Rank
1	How do you select a good milch breed?	350	1.59	I
2	What are the cross or improved breeds of cow/ buffalo you know?	323	1.47	II
3	What are the symptoms of animal in heat?	301	1.37	III
4	After how many days of A.I., a cow / buffalo should be tested for pregnancy?	266	1.21	IV
5	After how many days of calving a cow / buffalo should be inseminated, if it comes in regular and normal heat?	252	1.15	V
6	What is the right time of Artificial Insemination (AI) when a cow is in normal heat?	227	1.03	VI
II.	**Feeding**			
1	After birth within how many hours a newly born calf should be fed with colostrum?	380	1.73	I
2	What should be fed to a crossbred cow / buffalo daily proportion of feed prepared at home?	363	1.65	II
3	How much additional concentrate feed should be given to a pregnant cow / buffalo in the advance stage (7-8 months) of pregnancy?	330	1.50	III
4	What practices should be followed to feed the newborn calf?	271	1.23	IV
III.	**Health care**			
1	What are the main contagious / infectious diseases of cattle and buffaloes against which vaccinations should be done?	398	1.81	I
2	What are the important symptoms of foot and mouth disease?	335	1.52	II
3	What are the important symptoms of mastitis?	273	1.24	III
4	What are the important symptoms of Hemorrhagic Septicemia disease?	261	1.19	IV
5	What is the right time of vaccination against the contagious/infectious diseases?	233	1.06	V
IV	**Miscellaneous practices**			
1	What practices should be followed to get the clean milk production?	440	2.00	I
2	What should be done to maintain the cleanliness of pucca cattle shed/ house?	389	1.77	II
3	At what stage, one should get his calves dehorned?	358	1.63	III
4	How much dry period one should allow for a lactating pregnant cow / buffalo?	260	1.18	IV
5	Mention the records to be maintained by a dairy farmer.	134	0.61	V

Critical analysis of questions revealed that awareness of diseases caused to cattle and buffaloes was higher as because it is one of the important to prevent the diseases. Symptoms of diseases and vaccination schedule was ranked lower because there is not strict adherence schedule provided to youth in dairying about vaccination of animals. In order to improve adherence schedule of vaccination of animals through distribution of pamphlets, posters and advertisements in mass media.

3.4 Knowledge regarding miscellaneous practices

From the Table 1 it can revealed in the case of miscellaneous practices that more than half (44.09%) of respondents had low level of knowledge followed by medium (37.73%) and high (18.18%). The findings are in accordance to the findings of Bardhan *et al*., (2005) [2] and Kumar and Chandawat (2011) [4].

Rank order analysis from Table 2 regarding miscellaneous practices revealed that "What practices should be followed to get the clean milk production?" Ranked-I followed by "What should be done to maintain the cleanliness of pucca cattle shed/ house?" Ranked-II, "How much dry period one should allow for a lactating pregnant cow / buffalo?" Ranked-III, "At what stage, one should get his calves dehorned?" Ranked-IV and "Mention the records to be maintained by a dairy farmer" Ranked-V.

Critical analysis indicate that the youth were aware of importance of quality milk production and it is helpful in fetching higher prices. Whereas knowledge regarding maintenance of records ranked lower as the farmers are not aware of importance in maintaining the records.

3.5 Overall knowledge on improved dairy farming practices

From Table 3 it is revealed that significant number (44.55%) of respondents had medium knowledge on improved dairy farming followed by high (29.09%) and low (26.36%). The results are in accordance to the findings of Patil *et al.*, (2009) [8] and Aulakh *et al.*, (2011) [1].

Table 3: Distribution of respondents according to knowledge on improved dairy farming practices

(n=220)

Variable	Categories	Frequency	Percentage
Knowledge about improved dairy farming practices	Low (20-23)	58	26.36
	Medium (24-27)	98	44.55
	High (28-32)	64	29.09

4. Conclusion

Based on findings of present study, it can be concluded that significant number of the respondents had medium level of knowledge regarding improved dairy farming practices. So there is lot of scope for improvement in dairy husbandry practices through increasing the existing level of knowledge of youth in dairying. Particularly in the area of breeding, feeding, healthcare and miscellaneous practices which can be improved through extension teaching methods such as training programmes, demonstrations, Kisanmela, exposure visits and camps organized by various government organizations and NGOs.

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