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Research Paper

Knowledge of rural women regarding improved dairy cattle management practices

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■ **ABSTRACT :** Rural women besides performing household and agriculture work have been traditionally and predominantly engaged in animal husbandry and dairy activities. Animal husbandry in rural areas is generally the job of women. Therefore, it is important to equip them with scientific knowledge regarding dairy cattle management practices to enable rural women to adopt required technologies for increasing milk production. For this, it is essential to assess the existing knowledge and practices of rural women with respect to recommended animal husbandry practices. Therefore, the present study entitled "Knowledge of rural women regarding improved dairy cattle management practices" was taken with the objectives to find out the knowledge of improved dairy cattle management practices by rural women. The study was conducted in Girwa tehsil of Udaipur district of Rajasthan. The sample consisted of 100 rural women from four villages of Girwa tehsil. Personal interview technique was used for collecting data from the respondents. Frequency, percentage and mean per cent score were used for analysis of data. Findings of the study revealed that the respondents had average knowledge about improved dairy cattle management practices as overall MPS was found to be 46.94. The respondents scored highest in the management component (64.0 MPS) followed by breeding (41.68MPS), feeding (52.57MPS) and least in health care with 28.44MPS.

■ **KEY WORDS:** Dairy cattle, Breeding, Feeding, Health care, Management

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Livestock development has always been a major concern in the Indian economy along with agriculture. The credit of growth in the livestock sector goes to women. Rural women besides performing household and agriculture work have been traditionally and predominantly engaged in animal husbandry and dairy activities. Therefore, it is important to equip them with scientific knowledge regarding dairy cattle management practices to enable rural women to adopt required technologies for increasing milk production. For this, it is essential to assess the existing knowledge of rural women with respect to recommended animal husbandry practices. The present study attempt to highlight existing knowledge of rural women regarding improved dairy cattle management practice.

Dairy cattle management practices cover a broad area of activities like breeding, feeding, healthcare and management. Contribution of women in these dairy cattle

management practices is very significant, however due to illiteracy and lack of knowledge about improved practices. They are still using traditional practices in dairy cattle management. So it is important to educate women regarding improved dairy cattle management practices to enable them to adopt required technologies for increasing milk production. For this, it is essential to assess the existing knowledge of rural women with respect to recommended improved dairy cattle management practices. Therefore, the present study has been taken up with the objective to find out the knowledge of rural women regarding improved dairy cattle management practices.

The credit of growth in the livestock sector goes to women. Rural women besides performing household and agriculture work have been traditionally and predominantly engaged in animal husbandry and dairy activities. Animal husbandry in rural areas is generally the job of women. There are a number of animal husbandry activities performed by women *viz*., chopping of fodder, feeding animals, milking, preparation of milk products, cleaning of cattle shed, disposal of garbage to compost pit, making cow dung cakes, carrying manure to field, watering cattle, bathing and cleaning cattle, preparing compost, etc. According to Saini (2002) in milk management activities, women's prominent participation was found in processing, boiling and churning of milk. The amount of work done in these activities ranged from 75-100 per cent. Regarding fodder and cattle shed management activities, findings revealed that activities like cutting, collection and making bundles of fodder, preparation of feed and offering it to the animals, collection and disposal of dung and cleaning of cattle shed were done frequently by majority of the rural women. Their contribution in these activities ranged from 80 to 90 per cent. Inspite of active involvement of women in different animal husbandry activities, lack of exposure and assess to new technology has restricted women to show their full potential for the growth of livestock sector.

In India, Rajasthan ranks third in animal wealth after Punjab and Haryana of the total milk production in the country, 11 per cent is produced in Rajasthan. Udaipur district had 10.38 lakh cattle and 5.30 lakh buffalos (Livestock census, 2003). Inspite of large number of animal population, milk production is very low and per capita availability of milk is too less as compared to the State averages. This is due to the non-adoption of improved dairy cattle management practices by rural women, who hold the key responsibility in management of cattle. Therefore, it is important to equip them with scientific knowledge regarding dairy cattle management practices to enable rural women to adopt required technologies for increasing milk production. For this, it is essential to assess the existing knowledge and practices of rural women with respect to recommended animal husbandry practices.

■ RESEARCH METHODS

The present study was conducted in Udaipur district of Rajasthan state. The district has total 10 tehsils, out of which one tehsil *i.e*. Girwa was selected purposively. From the identified tehsil, 4 villages falling within a radius of 20 kms from each direction of the tehsil headquarter were selected. Four practices were considered for study *i.e*. breeding, feeding, healthcare and management of cattle. Sample consisted of 100 rural women (25 from each village) having at least 2 cows. Personal interview technique was used to collect the data from the respondents. Frequency distribution, percentage and mean per cent scores were used to arrive at conclusion.

■ RESEARCH FINDINGS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Background information of the respondents:

Nearly half of the respondents (49%) belonged to the age group of 25 to 40 years and 39 per cent were below 25 years of age. More than 60 per cent respondents were under general caste category (Brahmin and Rajput). Regarding education, 29 per cent respondents were illiterate, 24 per cent could just read and write and 22 per cent respondents were educated upto primary standard. Agriculture was the main occupation of 98 per cent respondents however, majority of them were involved in some, subsidiary occupations like animal husbandry, caste occupation, agriculture labourer business, etc.

Knowledge of the respondents regarding improved dairy cattle management practices :

Knowledge is most important component of behaviour and it plays a major role in the covert and overt behaviour of human beings. In the present study

an efforts was made to find out knowledge of the respondents regarding different components related to improved dairy cattle management practices *i.e.* breeding, feeding healthcare and management.

Overall knowledge of respondents about improved dairy cattle management practices :

Perusal of Table 1 reveals that the respondents had average knowledge of recommended improved dairy cattle management practices, as overall mean per cent score of knowledge was found to be 46.94. The result is in line with the studies of Sharma (1995) and Intodia (1990) concluded that majority of the respondents had medium level of knowledge regarding improved animal husbandry practices. Distribution of the respondents in different knowledge categories depict that in case of management and feeding, 48 and 56 per cent respondents belonged to average knowledge category. In health care component, 54 per cent respondents belonged to poor knowledge category. With respect to breeding, almost

Table 1 : Distribution of respondents by their overall knowledge about improved dairy cattle management practices (n= 100)

Sr. No.	Practices	Knowledge level			Mean per cent score
		Poor	Average	Good	
1.	Breeding	29	36	35	41.68
2.	Feeding	21	56	23	52.57
3.	Healthcare	54	28	18	28.44
4.	Management	21	48	31	64

Overall mean per cent score 46.94

Table 2 : Component-wise knowledge of the respondents about improved breeding practices (n=100)

Sr. No.	Practices	f / %
1.	Improved local breed of cows	
	Gir	14
	Tharparkar	12
	Rathi	18
	Kankraj	23
2.	Improved exotic breed of cow	
	Holestein	25
	Jersey	46
	Reddane	8
3.	Heat detection	
	Bellowing	62
	Mucous discharge from vagina	35
	Restless and frequent urination	49
	Allow other animals to mount	60
4.	Cow repeats its heat cycle in 21 days	13
5.	Medical treatment for regular heat period	52
6.	Time of insemination of cow in heat period (12-18 hours)	45
	Insemination of cow within 60 – 90 days after calving	
7.	Artificial insemination	22
8.	Pregnancy diagnose	60
9.	Observing signs of next heat cycle	35
	Pregnancy test	19
	Maximum time of placenta separation (24 Hrs.)	72
10.	Correct age of castration (6 to 12 months)	31
11.	Advantages of castration	
	Help in improving health of bull	68
12.	Preventions from unwanted reproduction	23

equal percentage of respondents belonged to average and good knowledge categories.

A comparative look at the component-wise knowledge score indicates that the respondents scored highest in management component (64MPS), followed by feeding (52.57MPS) and breeding (41.68MPS). The knowledge of the respondents was found to be poor in health care as the mean per cent score of knowledge was only 28.44. The result get decisive support from the findings of Singh (1993), who found that maximum farm women had low to medium level of knowledge about various animal rearing activities but it was high in management activities.

Component wise knowledge :

Breeding:

The data presented in Table 2 reveal that majority of the respondents had no knowledge about improved local breeds of cow, as only 23 and 18 per cent respondents could tell the name of improved local breeds like Kankraj and Rathi. Similarly only 12 and 14 per cent respondents knew about Tharparkar and Gir breeds of cow. A good number of respondents (46%) knew about Jersey breed. Likewise one fourth of the respondents had knowledge about Holestein breed of cow. However, majority of the respondents (92%) were unaware about Redden breed.

Regarding heat detection in cow, majority of the respondents (60-62%) knew about the symptoms like bellowing and allowing other animals to mount on. Nearly half of the respondents knew that when the cattle come in heat they become restless and frequent urination occurs. Mucus discharge from vagina as a symptom of heat was known to 35 per cent respondents. The findings are in conformity with the findings of Kokate and Tyagi (1991) reported that majority of the respondents (76%) could identify a cow in heat by observing the symptoms like bellowing, mounting on other animals and frequent urination. The table further reveals that only 13 per cent respondents knew about heat cycle in cow (21 days) and majority of the respondents reported one to two months of heat cycle in cow. More then 50 per cent respondents knew that medical treatment should be given to cow for regular heat period.

It was further observed that though 45 per cent respondents had knowledge about time of insemination of cow in heat (12-18 hours), however, only 22 per cent respondents knew that insemination in cow should be done within 60-90 days after calving. It was encouraging to note that 60 per cent respondents knew about artificial insemination in cow. With respect to ways of confirming conception in cow or pregnancy diagnosis, data presented in Table 2 shows that 35 per cent respondents knew that conception in cow could be confirmed by observing next heat cycle. Only 19 per cent respondents knew about pregnancy diagnosis by Veterinary doctor. Analysis of Table 2 further shows that a good number of respondents (72%) had knowledge about maximum time of placenta separation (24 hours). In case of castration, it was found that 68 per cent respondents knew that it help in improving

Table 3 : Distribution of respondents by their knowledge regarding improved feeding practices (n=100)

Sr. No.	Practices	f / %
1.	Feeding of balanced rations (3kg concentrate, 4-6 kg. dry fodder, 20-30 kg green fodder)	22
2.	Requirement of extra ration for pregnant cow	88
3.	Requirement of extra ration for cow after calving	98
4.	Importance of green fodder for improving milk production	70
5.	Importance of mineral mixture	68
6.	Two time feeding ration to milking cow	86
7.	Chaffing of fodder	66
8.	Enrichment of fodder by urea	2
9.	Feeding colostrum to calf within one hour after birth	48
10.	Advantages of colostrum	
	Increased body resistance	56
	Increased milk production	44
11.	Necessity of supplementary feed to calf	28
12.	Right time to provide supplementary feed (after 2 months)	15
13.	Drinking water requirement of adult cow (30-40 lit.)	45

health of bull however, only 23 per cent respondents knew that it prevent from unwanted reproduction. With regard to castration, only 31 per cent knew correct age of castration (6-12 months).

Feeding :

Feeding involves supply of cattle feed, fodder and nutrition as per requirement of the body at various stages of growth and development. A proper knowledge regarding feeding is helpful in improving the yield of milk and performance of animal.

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Data pertaining to feeding reveals that majority of the respondents had knowledge about requirement of extra ration for pregnant cow (88%) and cow after calving (98%), importance of green fodder for improving milk production (70%), importance of mineral mixture (68%), two times feeding of ration to milking cow (86%) and chaffing of fodder (66%). But almost all the respondents were unaware about enrichment of fodder by urea. Regarding advantages of colostrum feeding to new born calf, 56 per cent respondents knew that colostrum increase body resistance and 44 per cent replied that it helps in increasing milk production of cow (Table 3).

Nearly half of the respondents know right time of feeding colostrum to calf *i.e.* within one hour after birth. With regard to supplementary feeding to calf, it was found that only 28 per cent respondents knew about necessity of providing supplementary feed to the calf after two months of birth. It was further found that only 22 per cent respondents had knowledge about ratio of different ingredients (concentrate, dry and green fodder) in preparing balanced ration.Drinking water requirement of cow was known to only 45 per cent respondents. The above findings are in line with the study conducted by Sharma (1990) who found that the respondents had poor

Table 4 : Distribution of respondents by their knowledge regarding improved healthcare practices (n=100)

Sr. No.	Practices	f / %
1.	Vaccination	
	Foot and mouth diseases (FMD)	32
	Hemorrhagic septicemia (HS)	23
	Black quarter	28
	Rinderpest	18
2.	Prevention from external parasites by	
	Medicine	26
	DDT powder	52
3.	Deworming of cow in every six month	21
4.	Deworming of calf in every three month	4
5.	Stop milking of pregnant cow before two month of calving	52

Table 5 : Distribution of respondents by their knowledge regarding improved management practices (n=100)

Sr. No.	Practices	f / %
1.	Facilities in ideal cattle shade	
	Manger	58
	Pucca canal	38
	Ventilators	100
	Ratio of open and covered space is 3:1	59
	Pucca flooring of the shade	40
2.	Regular cleaning of cattle shade	100
3.	Washing hand before milking	96
4.	Washing udder before milking	78
5.	Full hand method of milking	19
6.	Boiling of milk for protection from bacteria	100
7.	Burning of carcass of dead cattle	16

knowledge about artificial insemination, improved fodder crops, hay and silage making, balanced diet, colostrums feeding, improved cattle shed, vaccination, control of diseases and method of milking was low.

Healthcare :

Table 4 presents information regarding knowledge of the respondents about improved healthcare practices. Critical examination of data reveal that respondents had poor knowledge about vaccination in cattle as only 32 and 23 per cent respondents could tell about Foot and Mouth diseases and Hemorrhagic Septicemia. Similarly Black quarter and Rinderpest were known to only 28 and 18 per cent respondents, respectively. The results in are line with the study of Sharma (1990) revealed that overall knowledge of the respondents regarding health care was inadequate.

It was found that the respondents had poor knowledge and practices about vaccination and control of diseases. Regarding prevention of external parasites, majority of the respondents (52%) were aware about DDT powder. However, most of them (74%) did not know about the medicine prescribed by veterinary doctor. The women also had poor knowledge regarding time of deworming in calf (4%) as well as cow (21%). More than half of the respondents knew that, for maintaining proper health, milking of pregnant cow should be stopped before two month of calving.

Management :

Table 5 reveals that majority of the respondents possessed knowledge of clean milk production by washing hands before milking (96%) and washing udder at the same time (78%). Only 19 per cent respondents knew about full hand method of milking. Likewise, they were also unaware about correct method of disposal of carcasses of dead cattle *i.e.* burning (16%). All the respondents knew that boiling of milk is the best method for protection of milk from bacteria.

Conclusion:

The knowledge profile of the respondents clearly revealed that respondents had average knowledge about improved dairy cattle management practices. The average knowledge of the women might be due to lack of exposure to different information soureses *viz*., radio, T.V., film, exhibition, related literature, etc. Similarly, the women also reported that they have limited access to the extension services. Hence, there is a need to educate women regarding improved dairy cattle management practices. For these specialized training programmes should be organized for them at village level.

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