

Adoption of Indigenous Dairy Management Practices among Tribal Farm Women

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ABSTRACT

The study was conducted among the tribal farm women of West Garo Hills District of Meghalaya, India with the objective to determine the extent of adoption of indigenous dairy management practices. Proportionate random sampling was used in selection of 120 respondents. Practices having rationality for adoption of indigenous dairy management practices were collected and the data were analyzed using percentage analysis. The findings revealed that majority of the respondents adopted care and management of dry and pregnant cows. This was followed by adoption of other practices viz., selection of breed and feeding, care during and after calving and milking technique

Keywords : Adoption, Indigenous Farm practices, Farm women, Dairy Management, Meghalaya

INTRODUCTION

Indigenous knowledge is usually adapted and specific to local ecological conditions and to community members' social and cultural beliefs. This knowledge can be simple or complex. It is not static but evolves in response to changing ecological, economic and socio-political circumstances based on the creativity and innovation of community members and as a result of the influence of other cultures and outside technologies.

Serote (2001) defined indigenous knowledge system as human experience, organized and ordered into accumulated knowledge with the objective to utilize it

to achieve quality of life and to create a livable environment for both human and other forms of life. Indigenous knowledge is a set of perceptions, information and behaviour that guide local community members to use the land and natural resources. Indigenous knowledge is created and sustained by local community members as a means to meet their needs for food, shelter, health, spiritual and savings.

Tribal women constitute half of the work force among tribals in India. Tribal women have very little access to knowledge and skills on modern farm technologies and related resources. In spite of such shortcomings, tribal

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women have contributed lion's share to the family income through agriculture and allied sectors as compared to male counterparts. Meghalaya state is one of the states in India where indigenous knowledge is extensively used for livestock and other allied activity. West Garo Hills is one of the districts of Meghalaya where immense use of indigenous knowledge is widely seen in agricultural and allied activities.

Today many indigenous knowledge systems are at risk of becoming extinct because of rapidly changing natural environments and fast pacing economic, political and cultural changes on a global scale, practices vanish as they become appropriate for new challenges or because they adapt too slowly. Keeping this in view, an attempt has been made to find out the extent of adoption of indigenous dairy management practices among tribal farm women in West Garo Hills District of Meghalaya.

METHODOLOGY

West Garo Hills District in Meghalaya was selected for the study considering the availability of number of tribal women engaged in indigenous dairy management practices. Among the eight blocks, two blocks namely Selsella and Betasing were selected based on the maximum number of tribal farm women engaged in dairy management practices. A list of farm women owning minimum of 5 cattle in each village of the selected blocks was obtained from

the respective village livestock inspectors and accordingly six villages viz., Apalgre, Balachanda, Balanggre, Adugre, Godalgre and Bainapara were selected for the study. Forty six indigenous practices under dairy management were collected from the elderly farm women belonging to West Garo Hills for determining the rationality.

Rationality of the collected indigenous practices was determined based on judges' opinion. Accordingly, forty indigenous dairy management practices were found to be rational and six indigenous practices were found to be irrational. Data were collected from 120 tribal farm women identified based on simple random sampling method. The responses on adoption of forty rational indigenous dairy practices were sought under two categories viz., adopted and not adopted. Simple percentage was used for interpretation of results. A well structured interview schedule was used for collection of data from the respondents.

FINDINGS AND DISCUSSION

In order to have an in depth idea about the adoption of practices, practice wise adoption of indigenous dairy management practices was analysed and the results are presented in Table 1.

Selection of Breed and Feeding

It is noted from the table that 100 per cent of the respondents had adopted the practices viz., feeding dry roughages such as straw and hay to calving cows

and feeding all types of fodder (100.00 % under each). This was followed by giving fresh water (75.00 %) and selection of indigenous breed (79.17 %). The respondents believed that feeding dry

roughages and feeding fodder fulfilled the nutrient and mineral requirement of the animals. Similar finding on feeding dry roughages was reported by Bohra & Samajdar (2015).

Table1.

Practice-wise Adoption of Indigenous Dairy Management Practices

(n=120)

Sl. No.	Indigenous practices	Adopted		Not Adopted	
		Number	Percentage	Number	Percentage
I	Selection of Breed and Feeding				
1.	Selection of indigenous breed	95	79.17	25	20.83
2.	Feeding dry roughages such as straw and hay to calving cows	120	100.00	-	-
3.	Feeding all types of fodder to cows	120	100.00	-	-
4.	Giving fresh drinking water to the cattle	90	75.00	30	25.00
	Mean Percentage	-	88.54	-	11.46
II	Milking Techniques				
1.	Washing the animals and udder properly before every milking	65	54.17	55	45.83
2.	Full hand method of milking	120	100.00	-	-
3.	Tying feet and feeding fodder during milking to enhance work without disturbance	120	100.00	-	-

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Sl. No.	Indigenous practices	Adopted		Not Adopted	
		Number	Percentage	Number	Percentage
4.	Maintaining 8 to 12 hours of milking interval	89	74.17	31	25.83
5.	Keeping bamboo leaves submerged in milk to preserve good quality of milk	49	40.83	71	59.17
	Mean Percentage	-	73.83	-	26.17
III	Care and Management of Dry and Pregnant Cows				
1.	Isolation of pregnant cows from the rest	120	100.00	-	-
2.	Stopping milking 50 to 60 days before expected date of calving	93	77.50	27	22.50
3.	Feeding roughages to pregnant cows	120	100.00	-	-
	Mean Percentage	-	92.50	-	7.50
IV	Care during and after Calving				
1.	Feeding colostrum to the new-born calves within 30 minutes of calving	120	100.00	-	-
2.	Applying turmeric paste to the naval cord of the new born calves as an antiseptic agent	120	100.00	-	-
3.	Within 2 hours after delivery, jackfruit leaves and rice bran with salt is fed to the cow to induce high milk secretion	85	70.83	35	29.17
4.	Feeding rice bran with salt to increase milk	86	71.67	34	28.33

Sl. No.	Indigenous practices	Adopted		Not Adopted	
		Number	Percentage	Number	Percentage
	Mean Percentage	-	85.62	-	14.38
V	Treatment of Ailments				
1.	Local sword is heated and pressed against the teeth for toothache	88	73.33	32	26.67
2.	Smearing neem leaf paste on the affected parts to control foot and mouth disease	89	74.17	31	25.83
3.	Making animals walk on the mud to control foot and mouth disease	120	100	-	-
4.	Feeding country plantain and little amount of cumin seeds for gastroenteritis problem	88	73.33	32	26.67
5.	The leaves, flowers and bark of the neem tree are ground well and fed to the cows for deworming	76	63.33	44	36.67
6.	To control tympany, water mixed with salt is given	91	75.84	29	24.16
7.	For dropping of placenta, additional quantity of bamboo leaves are fed to the animals	88	73.33	32	26.67
8.	Cactus (<i>Carnegiea gigantea</i>) fluid is applied on the eyelids for eye disease	76	63.33	44	36.67

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Sl. No.	Indigenous practices	Adopted		Not Adopted	
		Number	Percentage	Number	Percentage
9.	Salt added with banana leaves are fed to control parasites	71	59.17	49	40.83
10.	Banana stem juice for treating all types of stomach disorders	85	70.83	35	29.17
11.	Using bamboo leaves for treatment of diarrhoea	84	70.00	36	30.00
12.	Feeding rice husk with banana to control diarrhoea	95	79.17	25	20.83
13.	Feeding tamarind leaves and mustard seeds to control bleeding dysentery	59	49.17	61	50.83
14.	Feeding of arjun bark (<i>Terminalia arjuna</i>) and black pepper (<i>Piper nigrum</i>) to control loose motion	80	66.67	40	33.33
15.	Feeding tea liquid in case of blood in urine	46	38.33	74	61.67
16.	Treating animals with turmeric against bloat	95	79.17	25	20.83
17.	Treating open wounds with lime, garlic and turmeric	70	58.33	50	41.67
18.	Applying warm coconut oil mixed with garlic extract to open wounds	89	74.17	31	25.83

Sl. No.	Indigenous practices	Adopted		Not Adopted	
		Number	Percentage	Number	Percentage
19.	Treating the wounds of udder with neem leaf paste	78	65.00	42	35.00
20.	Application of ghee in case of cracking of udder	85	70.83	35	29.17
21.	Control of intestinal parasites with pineapple leaves	75	62.50	45	37.50
22.	Feeding sugarcane to the animals suffering from jaundice	55	45.83	65	54.17
23.	Applying Doorva (<i>Cynodon dactylon</i> Linn.) leaves paste for bleeding from any injury	57	47.50	63	52.50
24.	Applying marigold (<i>Calendula officinalis</i>) paste in case of bleeding from any injury	45	37.50	75	62.50
25.	To prevent tick, lice and bovine flies, powder of calamus (<i>Acorus calamus</i>) is mixed with the leaf extract of Tulsi (<i>Ocimum sanctum</i>) is smeared on the body	70	58.33	50	41.67
	Mean Percentage	-	65.17	-	34.83

Milking Technique

Hundred per cent of the respondents had adopted full hand method of milking, Tying feet and feeding fodder during milking to enhance work without disturbance. This was followed by other practices viz., maintaining 8 to 12 hours of milking interval (74.17 %) and washing the animals and udder properly before every milking (54.17 %), while only about two-fifth of the respondents (40.83 %) kept bamboo leaves submerged in milk to preserve the quality of milk. Full hand method of milking is perceived as easy and comfortable method by the farm women and hence all of them might have fully adopted. Similar finding on washing the animals and udder properly before every milking was reported by Gnanasekar & John Christy (2013).

Care and Management of Dry and Pregnant Cows

Hundred per cent of the respondents had isolated pregnant cows from the rest and fed dry roughages in the shed to pregnant cows. Stopping milking 50 to 60 days before calving was followed by 77.50 per cent of the respondents. Majority of the respondents expressed that pregnant cows cannot be taken out to the field as it needed extra care. Hence, they might have fed dry roughages in the shed itself. The finding on isolation of pregnant cows is in line with the findings of Saha (2014).

Care during and after Calving

It could be further observed that 100 per cent of the respondents had fed colostrum to the new born calves within 30 minutes of calving and applied turmeric paste to the naval cord of the new born calves as an antiseptic agent. The other practices adopted by them to a greater extent were feeding rice bran with salt to increase milk (71.67 %) and feeding jackfruit leaves and rice bran with salt within 2 hours after delivery to induce high milk secretion (70.83 %).

All the respondents would have fed colostrum to the new-born calves to ensure the good health of the calves and might have applied turmeric paste to the naval cord of the new born calves as they perceived it to be an effective antiseptic agent. Similar finding on feeding colostrum was reported by Bohra & Samajdar (2015).

Treatment of Ailments

It is observed from the table that 100 per cent of the respondents made animals walk on the mud to control foot and mouth disease. Adoption ranged from 80.00 to 70.00 per cent for the practices viz., feeding rice husk with banana to control diarrhoea and treating cows with turmeric against bloat (79.17 %), provided water mixed with salt to control tympany (75.84 %), smeared neem leaf paste on the affected parts to control foot and mouth disease and applied warm coconut oil mixed with garlic extract to open

wounds (74.17 %), pressed heated local sword against the teeth for toothache, fed country plantain and little amount of cumin seeds for the gastroenteritis problem, additional quantity of bamboo leaves was fed to the animals for dropping of placenta (73.33 %), banana stem juice was provided for all types of stomach disorders, bamboo leaves were given for treatment of diarrhoea and ghee was applied for cracking of udder (70.83 %). Making animals walk on the mud to control foot and mouth disease was perceived as highly effective and easy method of treating the foot and mouth disease. Turmeric was utilized to a greater extent by majority of the respondents to control bloat as it is perceived to be very effective. Similarly, water mixed with salt was mentioned as very effective to control tympany compared to other methods. The finding on treating wounds of udder is reported by Saha et al. (2010). Treating open wounds with lime, garlic and turmeric had been also reported by Mishra (2013).

CONCLUSION

Within the tribal populations, women traditionally have greater responsibility both in agriculture and livestock sectors, which drives them to interact more with the surroundings. As observed adoption of indigenous dairy management practices results with eco-friendly environment and is necessary to make promotional efforts for the preservation and spread of these practices.

The findings of the study reveal that majority of the tribal farm women had adopted the indigenous dairy management practices to a higher extent. This shows the conviction of farm women in the adoption of indigenous dairy management practices. Therefore extension workers should identify and include them in the technology transmission process for effectiveness.

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