

Research Article

Adoption of clean milk production practices by dairy farm women

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SUMMARY : The present investigation was under taken in Anand district of Gujarat State. All the 8 Talukas of the Anand district were covered under study by selecting two villages randomly from each Taluka. From each selected village, 10 dairy farm women were selected by simple random sampling technique. Thus, out of these selected 16 villages, 160 dairy farm women were selected as respondents for this study. The findings of this study revealed that majority (68.13 per cent) of the dairy farm women had medium level of adoption regarding clean milk production practices, followed by 16.25 per cent and 15.62 per cent of the dairy farm women had low and high level of adoption regarding clean milk production practices, respectively.

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Key Words :

Adoption, Clean milk production, Dairy, Dairy farm women

BACKGROUND AND OBJECTIVES

Agriculture is the basic of village life in India. Seventy percent of the Indian population depends on it for their livelihood. In India, keeping milch animals has been never a separate occupation from agriculture. Thus, rural economy is closely tied up with milch animals.

India, the current leader in dairy world, rank 1st in the milk production. Growth in milk production accelerated during the last three decades, coinciding with the implementation of the national dairy development programmes through producer owned cooperative structure.

Per capita consumption of milk and milk products in India were about 252 g per head per day. Livestock sector had among the few growth sectors in rural India over the last five decades and its contribution to the GDP had 4.36 per cent share in 2006-07 (Anonymous, 2008).

Clean milk production is considered as one of the important factors in economy of Gujarat state. The dairy farm women can increase production of milk by adopting clean milk production practices and different recommended package of practices. The recent advances in dairy science technology have demonstrated that scientific management has great potential for

increasing the milk production. The adoption of clean milk production practices has great potential for increasing the quality of milk production.

It was considered that the study of this nature would be fruitful. Keeping this in view the present study was planned.

RESOURCES AND METHODS

The present study was under taken in Anand district of Gujarat State. All the 8 Talukas of the Anand district were covered under study by selecting two villages randomly from each taluka. From each selected village 10 dairy farm women were selected by simple random sampling technique. Thus, out of these selected 16 villages, 160 dairy farm women were selected as respondents for this study. Data were collected in the month of March - April 2011. An interview schedule was developed in accordance with the objective of the study and data were collected with the help of well-structured, pre-tested, Gujarati version interview schedule through personal contact and data were compiled, tabulated and analyzed to get proper answer for objective of the study. The statistical measures such as percentage, mean score and standard deviation were used.

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OBSERVATIONS AND ANALYSIS

The adoption process is the mental process through which an individual passes from first knowledge of an innovation to forming an attitude towards the innovation, to a decision to final adoption. Thus, adoption is a decision to continue full use of an innovation. With a view to find out the level of adoption of clean milk production practices study was conducted. The data in this regard are presented in Table 1.

Table 1: Distribution of dairy farm women according to their extent of adoption of clean milk production practices (n=160)

Sr. No.	Level of adoption	Number	Per cent
1.	Low (below 44.19 score)	26	16.25
2.	Medium (between 44.19 to 65.42 score)	109	68.13
3.	High (above 64.42 score)	25	15.62
Total		160	100.00
Mean = 54.81		S.D. = 10.61	

It is clear from Table 1 that majority (68.13 per cent) of the dairy farm women had medium level of adoption regarding clean milk production practices, followed by 16.25 per cent and 15.62 per cent of the dairy farm women had low and high levels of adoption regarding clean milk production practices, respectively.

From the above results, it can be concluded that nearly two-third (83.75 per cent) of the dairy farm women had medium to high level of adoption regarding clean milk production practices.

Practice wise adoption of clean milk production practices by dairy farm women:

Care of milch animal:

It is evident from Table 1 that majority (83.75 per cent) of the dairy farm women had fully adopted the use of artificial insemination method, followed by use of full hand milking method (56.25 per cent) and providing vaccination to milch animal (37.50 per cent). Whereas 51.25 per cent of the dairy farm women had partially adopted the practice for providing vaccination to milch animal, followed by use of disinfectants or detergent for cleaning of milch animal (38.75 per cent) and cleaning of milch animal twice in a day (16.25 per cent).

However, majority (80.00 per cent) of the dairy farm women had not adopted the practice of cleaning of milch animal twice in a day, followed by use of disinfectants or detergents for cleaning of milch animal (56.25 per cent) and practice of use of full hand milking method (38.75 per cent).

More adoption of artificial insemination method by dairy farm women may be due to awareness that it helps in improving the quality of breeds, increasing milk production and avoiding

failure of fertility. Dairy farm women had also awareness about vaccinating their animals for preventing of infectious diseases and renders quality milk production which had increased the adoption of providing vaccination to milk animal by dairy farm women. Further, more than half of dairy farm women had used the full hand milking method because full hand milking method is the recommended method of milking which provides safety to the teats of milch animal.

Care to be taken by the milker:

Observation of Table 1 indicate that majority (95.00 per cent) of the dairy farm women had fully adopted the practice of not engaging persons who have habit of chewing tobacco, smoking or disease infecting the dairy work, followed by no chewing habit of tobacco or smoking at the time of milking (76.25 per cent) and dropping of few strips of milk from each teat before starting of milking (56.25 per cent). Whereas, 26.25 per cent of the dairy farm women had partially adopted the practice of wearing the clean dress and cover head with cap or handkerchiefs, followed by no chewing of tobacco or smoking at the time of milking (23.75 per cent) and dropping of few strips of milk from each teat before starting of milking (20 per cent).

However, majority (86.25 per cent) of the dairy farm women had not adopted use of KMnO_4 (Potassium permanganate) in water for cleaning of udder and teats, followed by wearing the clean dress and cover head with cap or handkerchiefs (70.00 per cent) and complete the milking practice of one animal within 7 to 8 minutes (36.25 per cent).

Adoption regarding care to be taken by the milker, more adoption was observed in case of not engaging of persons who have habit of chewing of tobacco or smoking followed by, no chewing tobacco or smoking at the time of milking and dropping of few strips of milk from each teat before starting milking. This might be due to that dairy farm women have more awareness about hazardous of chewing of tobacco or smoking and knowledge about presence of bacteria in first few strips of milk.

Care of milking utensils:

Two fifth (40.00 per cent) of dairy farm women had fully adopted the use of stainless steel utensils for milking purpose, followed by use of separate utensils for milking of healthy and sick animal (12.50 per cent) and use of clean, dry and hygienic utensils for milking purpose (11.25 per cent). Whereas 39.38 per cent of the dairy farm women had partially adopted the use of the clean, dry and hygienic utensils for milking purpose, followed by use of separate utensils for healthy and sick animal (31.25 per cent) and use of stainless steel utensils (14.37 per cent).

However, majority (56.25 per cent) of dairy farm women had not adopted use of separate utensils for healthy and sick

animal, followed by use of the clean, dry and hygienic utensils for milking (49.37 per cent) and use of stainless steel utensils for milking purpose (45.63 per cent).

Dairy farm women were aware about efficiency of stainless still utensils for clean milk production but due to higher price of stainless steel utensils they mostly preferred use of plastic buckets for milking purpose which is durable and also easy for handling. In case of dry and hygienic utensils and separate utensils for healthy and sick animal milking, dairy farm women had lack of knowledge about such type of practices.

Care of animal shed:

Majority (80.00 per cent) of dairy farm women had fully adopted the practice *i.e.* providing vaccination to prevent the

foot and mouth disease, followed by observation of the milking barn, water tank, and feeding manger regularly (22.50 per cent) and construction of the pucca floor and drainage system in the animal shed (16.25 per cent). Whereas 58.13 per cent of dairy farm women had partially adopted the practice of observation of the milking barn, water tank and feeding manger regularly, followed by washing of the floor, manger and gutter with detergent regularly (20.00 per cent) and cleaning and drying the animal shed and milking barn before and after milking (13.75 per cent).

However, majority (90.00 per cent) of the dairy farm women had not adopted practices *i.e.* providing vaccination to prevent rinder pest, followed by cleaning and drying of the animal shed and milking barn before and after milking (80.00 per cent) and washing of the floor, manger and gutter with detergent

Table 2 : Distribution of dairy farm women according to their practice wise adoption of clean milk production practices

Sr. No.	Practices	Fully adopted	Partially adopted	Not adopted	Mean score	Rank
Care of milch animal					1.977	
1.	Cleaning of milch animal twice in a day	06 (3.75)	26(16.25)	128 (80.00)	1.237	V
2.	Use of full hand milking method	90 (56.25)	8 (5.00)	62 (38.75)	2.175	III
3.	Providing vaccination to milch animal	60 (37.50)	82 (51.25)	18 (11.25)	2.262	II
4.	Use of disinfectants or detergents for cleaning of milch animal	08 (5.00)	62 (38.75)	90 (56.25)	1.487	IV
5.	Use of artificial insemination method	134 (83.75)	08 (5.00)	18 (11.25)	2.725	I
Care to be taken by the milker					2.106	
1.	Wearing the clean dress and cover head with cap or handkerchiefs	06 (3.75)	42 (26.25)	112 (70.00)	1.337	V
2.	No chewing of tobacco or smoking at the time of milking	122 (76.25)	38 (23.75)	0 (0.00)	2.762	II
3.	Not engaging persons who have habit of chewing tobacco, smoking or disease infected	152 (95.00)	08 (5.00)	0 (0.00)	2.950	I
4.	Dropping of few strips of milk from each teat before starting milking	90 (56.25)	32 (20.00)	38 (23.75)	2.325	III
5.	Use of KMnO ₄ in water for cleaning of udder and teats	02 (1.25)	20 (12.50)	138 (86.25)	1.150	VI
6.	Complete the milking of one animal in 7 to 8 minutes	76 (47.50)	26 (16.25)	58 (36.25)	2.112	IV
Care of milking utensils					1.707	
1.	Use of clean, dry and hygienic utensils for milking purpose	18 (11.25)	63 (39.38)	79 (49.37)	1.618	II
2.	Use of separate utensils for milking of healthy and sick animal	20 (12.50)	50 (31.25)	90 (56.25)	1.562	III
3.	Use of stainless steel utensils	64 (40.00)	23 (14.37)	73 (45.63)	1.943	I
Care of animal shed					1.632	
1.	Cleaning and drying of the animal shed and milking barn before and after milking	10 (6.25)	22 (13.75)	128 (80.00)	1.262	V
2.	Washing of the floor, manger and gutter with detergent regularly	06 (3.75)	32 (20.00)	122 (76.25)	1.275	IV
3.	Observation of the milking barn, water tank and feeding manger regularly	36 (22.50)	93 (58.13)	31 (19.37)	2.031	II
4.	Providing vaccination to prevent the foot and mouth disease	128 (80.00)	14 (8.75)	18 (11.25)	2.687	I
5.	Providing vaccination to prevent the rinder pest	04 (2.5)	12 (7.5)	144 (90.00)	1.125	VI
6.	Construction of pucca floor and drainage system in the animal shed	26 (16.25)	14 (8.75)	120 (75.00)	1.412	III
Care after milking					1.631	
1.	Filtering of milk with a sieve or muslin cloth for removal of the dirt	30 (18.75)	48 (30.00)	82 (51.25)	1.675	I
2.	Transferring the milk at dairy immediately after milking	28 (17.50)	38 (23.75)	94 (58.75)	1.587	II

Note: Figures in parentheses shows percentage

regularly (76.25 per cent).

The probable reason behind not adoption of cleaning and drying of the animal shed might be due to farming is a main occupation of dairy farm women so they may not give much time for cleaning and washing of animal shed, regularly.

Care after milking:

About 18.75 per cent of the dairy farm women had fully adopted filtering of milk with sieve or muslin cloth for removal of dirt, followed by transferring of the milk at dairy immediately after milking (17.50 per cent). Whereas 30.00 per cent of dairy farm women had partially adopted practice *i.e.* filtering of milk with sieve or muslin cloth for removal of dirt, followed by transferring milk at dairy immediately after milking (23.75 per cent).

However, 58.75 per cent of the dairy farm women had not adopted transferring of milk at dairy immediately after milking, followed by filtering of milk with a sieve or muslin cloth for removal of the dirt (51.25 per cent).

In case of care after milking, most of the dairy farm women had not adopted the practice of filtering of milk with sieve or muslin cloth for removal of dirt due to lack of knowledge. Whereas due to belief that if they immediate transfer milk from farm to dairy, milk records low fat percentage and therefore they might have not adopted the practice of immediately transfer of milk at dairy.

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