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Milk Consumption Pattern among Rural Farm Women of District Kapurthala

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ABSTRACT

The present study was conducted in two blocks of district Kapurthala by selecting 5 villages from each block and 15 farming families from each village. Thus, a total of 150 farming families were interviewed with specific objective to know the milk consumption pattern among farm women as well as their health status. It was observed that 45.3 per cent farming families were not keeping any dairy animals and therefore the milk availability was only 0.456 kg/d/family in comparison to those having 1 to 5 animals (1.2 kg/d) and more than 5 animals (1.1kg/d). Thus, the data regarding milk consumption by the farm women followed the same trend as per the availability of the milk in a family. Since, there was no intake of milk or milk products as per recommendations by the farm women in the villages in spite of the fact that they are fully engaged in the farm work which requires more energy. It was also noticed that in the villages, the educational qualification of the farm women was also less which need to be improved in order to improve the living standard of the farming community. The study showed that about 40 per cent of the farm women (having no dairy animal) and 46 per cent (having 1-5 dairy animals) were suffering from lower backache which was a very disturbing phenomenon. Moreover, these women do not know the cause of such type of problems due to ignorance about proper feeding habits as well as occurrence of nutritional diseases.

Key Words: Milk, Consumption Pattern, Farm Women, Rural Women.

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INTRODUCTION

Milk is an excellent source of calcium and provides eight additional essential nutrients, including proteins, potassium, phosphorus, vitamins A, D and B_{12}, riboflavin and niacin. The rate of milk per kilogramme is increasing day by day in the market without any prior information to a common man. As a result, there is only option available with a family is either to purchase little quantity of milk or to stop consumption of milk and milk products like curd, lassi, paneer etc. in order to keep budget within the income. This situation exists not only in the towns and cities but also in the rural areas where farmers are keeping the dairy animals for the milk production purpose. Also, milk consumption is severely affected by soft drink consumption in young adults During last few decades, soft drink consumption has steadily increased while milk intake has decreased. Excess consumption of soft drinks and low milk intake may pose risks of several diseases such as dental caries, obesity and osteoporosis.

The milk is sold to the milk collection centers directly or sold to the citizens living in the nearby cities by the middle men after procuring it from the dairy farmers residing in the villages. It has been observed that procuring and selling the milk to the consumers in cities by the middlemen is giving good margin of profit to the person engaged in this business. On the other hand, the farm woman who is closely associated with the milk production process at the dairy unit is keen to get the maximum revenue by selling the maximum quantity of the milk to the middlemen in order to increase their farm income. At the same time it has also been observed that the farm women who are in the age of 40 to 50 years start suffering from various ailments especially related to the calcium deficiency. Women who consume at least

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three servings of milk every day may increase the availability of folic acid in other foods. Folic acid may help to prevent heart disease and stroke and is especially important for women of childbearing age to reduce the risk of birth defects.

A recent study depicted that 68 per cent females were consuming milk in some form or other whereas 32 per cent female were not consuming milk at all. Out of 68 per cent , 51 per cent females were consuming milk regularly while 17 per cent were consuming milk occasionally (NIN, 2010). It has also been reported that women with low milk intake during childhood and adolescence have less bone mass in adulthood and greater risk of fractures (Heidi *et al* 2003). Hence, it was thought that there is need to study the milk consumption pattern and daily calcium intake from dairy products in the rural areas among the farm women and its correlation with the prevalence of various nutritional diseases so that necessary remedial measures can be taken up in due course of time.

MATERIALS AND METHODS

This study was conducted in the district Kapurthala by selecting two blocks namely Kapurthala and Sultanpur. From both the blocks, 5 villages namely Sheikhupur, Saidowal, Blairkhanpur, Bhagwanpur, Madhojhanda from Kapurthala block and Sawal, Sukhi Nangal, Thatta Nawan, Dariawal, Dolla from Sultanpur were selected. Fifteen farming families from each village were purposeful selected and farm women in the age group 30-60 years were interviewed personally to get the information through interview schedule prepared for this purpose. Thus, a total of 150 farm women were interviewed for this study. The interview schedule was divided into three parts. The first part contained information related to socio-economic indicators while second one had milk and milk consumption patterns whereas the third one focused on the questions regarding health problems, if any. All the respondents were divided into three groups namely: families having no dairy animals (Group 1), families having 1-5 dairy animals (Group 2), families having >5 dairy animals (Group 3). Collected data was analyzed with the help of statistical techniques viz, percentage, arithmetic mean and standard error. Co-efficient of correlation was calculated between independent variables and milk intake, calcium intake and per head availability of milk.

RESULTS AND DISCUSSION

Age and family members of the respondents

The data (Table 1) showed that majority of the respondents (49.3%) were in the age group of 30 to 40 yr, 40.0 and 4.0 per cent were in between 41 to 50 and 51 to 60 yr of age, respectively. This indicates that for carrying out dairy farming practices, farm women should be physically healthy because various routine practices like feeding, watering, milking and cleaning of animals as well as sheds require lot of energy. It was noticed that 64.7 per cent families were having 2 to 5 members whereas in 35.3 per cent families, number of members varied from 6 to 10. This indicates that mostly nuclear family culture system is prevalent in the district because in these days every family member wants liberty and independence.

Education and Occupation

It was noticed that still 12 per cent farm women were illiterate and only 4 per cent were graduate or above. Majority of the respondents (42.7%) were matric or senior secondary whereas 41.3 per cent studied up to primary or middle level. Therefore, it was inferred that there is need to educate the parents that they must give education to the girl child too. Likewise, 5.4 per cent farm women were in service and about half (53.3 %) were engaged in agricultural operations. Contrary to this, 41.3 per cent were serving as labourer in the agricultural fields of other farmers. Therefore, it was revealed that the condition of farm women in the villages was not very good as expected.

Size of dairy herd and milk availability

In Kapurthala district, 48.0 per cent farming families were keeping 1 to 5 dairy animals for milk production purpose (group 2) and only 6.7 per cent were possessing more than 5 dairy animals in comparison (group 3) to 45.3 per cent who were not keeping animals (group 1). This indicates that about 50 per cent population does not see dairy

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farming as profitable enterprise or they may be resource poor farmers and unable to keep animals. In groups 1, 2 and 3 quantity of milk available per day was found to be 2.2 kg, 5.7 kg and 5.2 kg, respectively. This indicated that keeping dairy animals help in milk availability at the household level.

Table 1. Socio economic profile of the respondents.
N=150

Sr. No.	Characteristic	Number (Per cent)
I	Age Group	
	30-40 yr.	74 (49.3)
	41-50 yr.	60 (40.0)
	51-60 yr.	16 (10.7)
II	Family Size	
	2-5 members	97 (64.7)
	6-10 members	53 (35.3)
III	Education	
	Graduate and above	06 (4.0)
	Matric and Sr. Secondary	64 (42.7)
	Primary and Middle	62 (41.3)
	Illiterate	18 (12.0)
IV	Occupation	
	Agriculture	80 (53.3)
	Labour	62 (41.3)
	Service	08 (5.4)
V	No. of Dairy animals	
	No animal	68 (45.3)
	1-5	72 (48.0)
	> 5	10 (6.7)
VI	Quantity of Milk kept for home consumption	
	No animal	2.2 kg
	1-5	5.7 kg
	>5	5.2 kg

Milk and milk products consumption pattern

The data (Table 1) revealed that 45.3 per cent families were nor keeping any dairy animals. Out of these more than half (61.8%) were not consuming milk as shown in Table 2. This may be due to the non availability of the milk for drinking purpose at the domestic level as per head availability of milk was found to be 456 g/d (Table 3). Likewise, 80.5 per cent farm women were taking about 250 g/d (group 2) and all the farm women (100%) were consuming 250g/d (group 3) which were more than the recommended allowance (daily recommendation is 2 servings of 100g each i.e. 200g /d for an adult woman). These figures can be correlated with the number of animals kept and milk availability in group 2, the milk available was found to be 1.2 kg/d/head and in group 3 milk availability was 1.1 kg/d/head. Thus, it was observed that when the milk was available at the domestic level then consumption was found to be good.

Sidhu and Singh (1987) also reported higher intake of milk and milk products than the

Table 2. Sample distribution according to consumption of milk and milk products.

Sr. No.	Characteristic	No dairy animal (N=68)	1-5 dairy animals (N=72)	>5 dairy animals (N=10)
I	**Milk consumption/day**			
	Nil	42 (61.8)	03 (4.2)	0
	250 ml	26 (38.2)	58 (80.5)	10 (100.0)
	>250 ml	Nil	11 (15.3)	0
II	**Other milk product consumption/day**			
	No curd	56 (82.3)	18 (25.0)	02 (20.0)
	Curd once daily	12 (17.7)	46 (63.9)	06 (60.0)
	Curd twice daily	Nil	08 (11.1)	02 (20.0)
III	**Tea consumption/day**			
	Once or twice	33 (48.5)	36 (50.0)	06 (60.0)
	Thrice or >thrice	35 (51.5)	36 (50.0)	04 (40.0)
IV	**No. of times tea taken with meal**			
	Yes	34 (50.0)	36 (50.0)	02 (20.0)
	No	34 (50.0)	36 (50.0)	08 (80.0)

Figures in parenthesis denote percentage.

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Table3 milk consumption, per head availability and average calcium intake from dairy products.

(Mean ± S.E.)

Parameter	No dairy animal (N=68)	1-5 dairy animals (N=72)	>5 dairy animals (N=10)
Milk consumption (g/d)	96 ± 14.8	257 ± 19.1	250 ± 0
Per head availability of milk (kg/d)	0.456 ± 0.023	1.2 ± 0.09	1.0 ± 0.05
Ca intake (mg/d)	240.1± 33.9	735.2± 46.8	748.5 ± 47.1

recommended allowances. The per capita food intake of rural Punjabi families showed that consumption of milk and milk products in winters of low income group was 525g, while middle income group consumed 527g. Similarly, the average daily milk and milk products consumption was 245ml by rural women of Ludhiana city and was more than ICMR's recommended intake (Ahuja *et al* 2000). The consumption of milk and milk products and fats and oils by rural pregnant women of Haryana was significantly higher than that of RDI (recommended dietary intake) as reported by Jood *et al* (2001)

Similarly, the values for milk products viz. curd consumption revealed that 82.3 per cent farm women from group 1 were not taking it while one-fourth and one-fifth of farm women from groups 2 and 3, respectively were not consuming curd. Similarly, respondents consuming curd once daily were 17.7, 63.9 and 60.0 per cent from group 1, group 2 and group 3, respectively. This trend was found similar to the liquid milk consumption by the farm women. From the data about tea consumption per day, it was inferred that the farm women were habitual to use milk in the form of tea as consumption was found to be once or twice a day (48.5%) and thrice or more than thrice (51.5%) in case of group 1. Similar trend was found in farm women of group 2 while in third group it was 60 and 40 per cent, respectively.

Table 3 showed the mean values for milk consumption, per head availability of milk and calcium intake from dairy products. Mean milk consumption in groups 2 and 3 was almost same (257 and 250 g/d) and more than recommended by ICMR. Ahuja (1997) has also reported higher mean consumption of milk (250-575g). Per head availability of milk was also same in groups 2 and 3 (1.2 and 1.1kg/d, respectively). Calcium intake from dairy products was lower than Recommended Dietary Allowances (600 mg/d for adult woman) in case of group 1 (240.1 mg/d) because their milk intake was very less (96 g/d). The reason might be due to the fact that subjects in this group did not own milch animals. Respondents from group 2 and 3 consumed 735.2 and 748.5 mg of calcium per day which was more than recommended. Various authors (Mann *et al* 1997 and Ahuja, 1997) have reported higher intake (605-1685 mg) by Punjabi men and women.

Health Status

Data in (Table 4) showed that only 5.9 per cent farm women go for walking from group 1 whereas 91.2 per cent did not do any exercise. Similarly, 83.4 and 100 per cent farm women from

Table 4. Health Status of the respondents.

Sr.No.	Parameter	No dairy animal (N=68)	1-5 dairy animals (N=72)	>5 dairy animals (N=10)
I	Do exercise			
	Yes	04 (5.9)	10 (13.9)	0
	No	62 (91.2)	60 (83.4)	10 (100.0)
	Occasionally	02 (2.9)	02 (2.7)	0
II	Lower back ache			
	Yes	40 (58.8)	46 (63.8)	02 (20.0)
	No	28 (41.2)	26 (36.2)	08 (80.0)

Figures in parenthesis denote percentage.

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Table 5. Relationship between independent variables and milk intake, calcium intake and per head availability.

Parameters	Milk intake/d	Calcium intake/d	Per head availability
Age	-0.212	-0.215	0.073
Family Size	-0.153	-0.126	-0.391
Education	0.325	0.347	0.075
Number of dairy animals	0.379	0.350	0.417

group 2 and group 3, respectively did not perform any type of exercise except household chores. This might be due to the reason that most of them were fully occupied either with the agricultural operations or working as labourer. Exercising daily has been considered most important in order to keep fit physically. Hence, it was noticed that due to lack of this phenomenon, 58.8 and 63.8 per cent farm women from group 1 and 2, respectively, were facing problem of lower backache. There may be other reasons such as age, obesity, low calcium intake, stress both physical as well as mental etc.

Relationship between independent variables and milk intake, Calcium intake and per head availability.

As shown in Table 5, there was a negative correlation of age with milk and calcium intake i.e. with increase in age intake of milk decreased as a result less calcium from dairy products. There was no correlation between age and per head availability of milk. There was no significant relation of family with milk and calcium intake but there was negative correlation between family size and per head availability which means as number of family members increases per head availability of milk decreases. It was also inferred that education level had a positive correlation with milk as well as calcium intake. It means educated people were aware of the importance of milk in diet. There was no correlation between education and per head availability of milk. A positive correlation of number of dairy animals with milk and calcium intake as well as with per head availability had been found which means as the number of dairy animals increases quantity of milk available for all the family members increases. As a result milk intake increases and so the calcium intake from dairy products also increases.

CONCLUSION

The present study indicated that only 4.0 per cent farm women were graduate and only 5.8 per cent were in the government or private sector service. Remaining about 94.6 per cent of farm women were engaged themselves in agricultural operations in order to earn the livelihood for the family. It was also found that about 50 per cent farm women were suffering from lower backache which is another undesired feature because all the family welfare is totally dependent on a lady in an Indian home. Per head availability of milk was very good in case of families who kept dairy animals but not in the case that didn't have dairy animals. Due to high cost of milk these days they couldn't afford to buy large quantities of milk. The calcium intake from dairy products was also found to be low in group 1. Low levels of dietary calcium and dairy products increase the risk of hypertension, coronary heart disease. Hence, health benefits of milk should be emphasized to the children from early ages for their long term effects in adulthood. It could be possible only when the price of milk and milk products is low which in turn could be possible only if Govt. take up steps to reduce the selling price of milk.

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