Perception of Sheep and Goat Milk Consumption among Rural Dwellers in South-Western Nigeria

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Abstract

A total of 120 respondents were purposively selected to study the perception of sheep and goat milk consumption among rural dwellers in South-Western Nigeria. The study showed that most of the respondents (72.5%) are not aware of the consumption of such milk and as such only few (10, 8%) claimed that they have consumed it. Friends, relatives (14.2%) and health personnel (6.7%) were the sources of information on goat and sheep milk consumption to the respondents. Preference of other sources of milk, lack of awareness, traditional belief, odour of the milk and small quantity of the milk were the factors that discourage people from consuming the milk. Many of the respondents (57.7%) have positive perception of the milk. Among the socio-economic characteristics, age ($r = 0.58417, 0.0001$), educational qualification ($X^2 = 25.584, p < 0.05$), marital status ($X^2 = 131.87, p < 05$) and family size ($r = 0.98751, p < 0.05$) have significant relationships with the perception of the respondents about the milk.

Key: Goat and Sheep milk, consumption, perception, rural dwellers and animal protein

Introduction

Currently, Nigeria is facing an acute shortage of all types of food including milk despite the fact that the Nigerian government is spending huge foreign exchange on importation of various brands of dairy products. Milk has been one of the earliest diets for human beings and other mammals. Its protein represents one of the most important sources of essential amino-acid for human beings (Mohammed and Mohammed, 1989). Over the years, milk consumption is on the decline in Nigeria. The declining production and increasing demand has led to importation of this important protein source. However, it is not all the citizens that can afford the cost of purchasing the imported milk, thus causing the prevalence of various forms of animal Protein and caloric malnutrition diseases such as kwashiorkor and irreversible brain damage leading to intellectual dwarfism which is common among the vulnerable groups such as weaning, pre-school age, expectant mothers and nursing mothers (Aletor, 1983)

The major reason why Nigeria cannot produce her milk requirement is her acceptance of cow as the only dairy animal while sheep and goat are kept for the production of meat, hides and skin. Sheep and goat produce more milk in relation to body weight compared with cows. They are easier to handle and maintain than the large ruminants and the land requirement as well as capital expenditure to produce sheep is low. They produce more offspring and have a

gestation length of 5 months in a single year whereas this is not possible for the cow. Moreover, less is spent on medication as the sheep are resistant to most endemic diseases in the tropics. Wilson (1984) reported that almost every household keeps sheep and goat in most rural areas in Nigeria.

Sheep milk has been found to be of higher nutritive value which contains some important nutrients such as protein, calcium, iron, magnesium, zinc, thiamine, riboflavin, vitamins B_6, B_{12}, D, medium chain fatty acids (which limits cholesterol deposition), monounsaturated acids, linolenic acid and all 10 essential acids than that of human, cattle and goat in all respects except in lactose and is bacteriologically sterile (Bufano *et al.*, 1996, Park *et al.* 2007). The high constituent of Vitamin D and calcium in sheep milk help in fighting against osteoporosis. The milk of sheep has laxative properties and is about 50 percent richer in vitamin B than cow's milk which makes it very useful in the treatment of neurotic indigestion, insomnia and rheumatism. It also has greater digestibility and can be prescribed practically for all cases of dyspepsia, peptic ulcer and pyloric stenosis. It is better tolerated by infants at weaning or children liable to fat intolerance or acidosis due to the easier breakdown of fat globules (Daniluk, 2007). It can be used to treat bedwetting in children and older people. It is also for treatment of asthma, skin, and lung disorders and eczema because of high constituent of calcium and zinc. There is increased flavour in yoghurt and cheese (Park *et al*. 2007) prepared using sheep milk. Sheep are better converters of carotene to vitamin A and the amount of vitamin A in the adult sheep is twice that of cow milk. Riboflavin is higher in small ruminants even when both classes of animals are maintained on comparable diets and are also reported to transfer vitamin E into their milk more readily. Sheep and goat milk have been proposed as a more natural and better tasting alternative, with great nutritional and clinical potential (Adewumi *et al.* 2001). Sheep and goat milk can be processed into cheese, butter and yoghurt.

Sheep milk is not produced and utilized on commercial scale in Nigeria (Adewumi *et al.* 2001). Unlike some African countries such as Sudan, Algeria, Mali and Niger where the bulk of their milk production is from goat and sheep, sheep milk remains the most untapped resource in Nigeria livestock industry (FAO, 1998). Considering the low socio-economic status of rural households who cannot afford to consume recommended quantity of animal protein, sheep and goat milk consumption can be used to improve their animal protein intake in a very cost effective manner. This study was designed therefore to examine the awareness and perception of rural households on sheep and goat milk consumption in South-western Nigeria.

Materials and Methods

The study was conducted among sheep and goat farmers in the South-western region of Nigeria. Simple random sampling procedure was used to select two States (Ekiti and Osun) and the rural areas which were purposefully selected. This was based on the prominent involvement in goat and sheep rearing. Sixty respondents each were drawn from each of the two States making a total of one hundred and twenty (120) respondents. Both primary and secondary data were used. The primary data were obtained through a well structured and validated interview schedule and direct

observation. The secondary data were obtained from journal, literature, mimeograph and relevant materials. Data were subjected to frequency count, percentages, mean, median standard deviation and correlation analysis.

Result and Discussion

The result of the analysis (Table1) shows that 32.5% of the respondents are below the ages of 30 years and only 12.5% are above 60 years. The mean age of the respondents was 39.76 years with standard deviation of 16.285. This means that most of the respondents are in their energetic and reproductive age. This is an indication that the respondents are mature and have both home and community responsibilities.

Table1. Frequency Distribution of Socio -economic Characteristics of the Respondents

Socio -economic Characteristics	Frequency	Percentage
Age		
Below 30 years	39	32.5
31 -40	35	29.2
41 -50	23	19.2
51 -60	13	10.8
Above 60	10	8.3
Sex		
Male	65	54.2
Female	55	45.8
Marital status		
Single	32	26.7
married	81	67.5
divorced	3	2.5
widowed	5	3.3
level of education		
no formal education	30	25.0
Primary education	13	10.8
Secondary education	47	39.2
Post secondary education	30	25.0
Primary occupation		
Farming	19	15.8
Trading	39	32.5
Civil service	25	20.8
Artisans	16	13.4
Others	21	17.5
Family size		
1 - 4	47	39.2
5 - 8	52	43.3
Above 8	21	17.5
Religion		
Christianity	80	66.7
Islamic	36	30.0
Traditional	4	3.3
Degree of cosmopolitani sm		
Often		
Once in a month	35	29.2
Once in six months	36	30.0
Once in a year	24	20.0
Don't travel at all	2	1.7
Type of marriage	23	19.1
Polygamous		
Monogamous	44	36.7
Estimated annual income	76	63.3
Below 40,000.00		
40,001 -80,000	47	39.2
80,001 -120,000	10	8.3
120,001 -160,000	16	13.3
Above 160,000.00	8	6.7
	39	32.5

Source: Field survey, 2008

About 54.2% are male while 45.8% are female which is an appreciable number implying that almost equal number of male and female rear sheep and goat in the area. This implies that both male and female should be carried along in the effort to develop the enterprise. About 68.0% of the respondents are married while 26.7% are single. Seventy-five percent of the respondents have formal education, about 64.2% had post primary level of education.

This implies that most of the respondents might likely have access to information on new technology and are likely to adopt such new technology. This was in agreement with the findings of Okunlola (2002) that reported that level of education influence adoption of technology as it gives opportunity for such adopters to be reached through many media. About 69.0% of the respondents who rear sheep and goat are involved in other occupations such as trading, civil service, farming and others. This implies that goat and sheep rearing is a secondary occupation most of the time to most respondents. This confirms Kaufman and Francis (1990) cited by Okunlola, 2002 assertion that structures of ownership of ruminants is very broad, they are kept as adjunct to the main business of cropping. About 67.0% of respondents are Christians while 30.0% practice Islamic religion. The implication of this finding is that goat and sheep rearing is not in conflict with any religion. Thirty-nine percent of the respondents earn N40, 000.00 annually while 31.0 percent of the respondents earn annual income above N160, 000.00. This implies that goat and sheep are not only reared by low income earners.

Table 2: Frequency Distributio n of Awareness and Sources of Awareness among Respondents and Consumption of Goat and Sheep milk

	Frequency	Percentages
Awareness		
Aware	33	27.5
Not aware	87	72.5
Sources of awareness		
Radio / television	3	2.5
Relative / friends	17	14.2
Health personnel	8	6.7
Extension agents	2	1.6
No response	90	75.0
Consumption of goat and sheep milk		
Yes	17	14.2
No	103	85.8

Source: Field survey, 2008

Distribution of respondents by awareness and sources of awareness of sheep and goat milk consumption among the respondents

Agricultural extension functions by disseminating information to clientele and it prepares them to a frame of mind that makes them adopt new technology. From Table 2, majority of the respondents (72.5%) are not aware that sheep and goat milk can be consumed by human beings. Only 27.5% of the respondents are aware that goat and sheep milk can be consumed by human beings. About 14.2% of the respondents got their information about goat and sheep milk consumption from relatives and friends, followed by health personnel (6.7%) probably during health education and during visit to the hospital to treat one of the diseases that goat and sheep milk can cure. Only 2.5% got the information through radio and television. The least was from the extension agents (1.7%). Only 14.2% of the respondent indicated that they have consumed goat and sheep milk before. The low consumption can be traced to their low awareness. This finding is in line with the reports of Ogundiwin, (1997); Adewumi, (2001, 2008); Okeke *et al*, (2007) which reported the readiness of farmers to consume and even market the milk if they are well informed and encouraged.

Reasons for Not Consuming Goat and Sheep Milk by the Respondents.

Respondents (70.8%)identified lack of awareness as the main reason for low consumption of goat and sheep milk. Also 95.8% of the respondents identified preference of other sources of milk as their reason for not consuming goat and sheep milk. Other reasons for low consumption of goat and sheep milk are the small quantity of the milk (14.0%), odour (12.5%), it is abomination (18.3%) and it is not consumable (17.5%). This is in agreement with Adewumi, (2001, 2008); Okeke *et al* (2007) who attributed militating against sheep and goat milk in Akure and Ibadan metropolis as lack of awareness, small quantity of goat milk being produced, lack of technical know how and stubbornness of goat.

Majority of the respondents preferred other sources of milk to sheep and goat milk implying that respondents are

already used to other sources of milk which are well packaged. About 4.0% of the respondents are of the opinion that consumption of sheep and goat milk will make them behave like sheep and goat. The most discouraging factor hindering the consumption of sheep and goat milk is the animal behaviour; sheep are known to be stupid while goats are stubborn. Others are lack of milking technique (15.8%) if information on sheep and goat reaches the farmer, it will increase farmers desire to know more, arouse their interest and motivate them to give a trial to the consumption.

Perception of the respondents on sheep and goat milk

Table 3 shows that many (57.49%) of the respondents have positive perception of sheep and goat milk consumption thus, corroborating Adewumi, 2001 and 2008; Okeke *et al* 2007.

Table 3: Frequency Distribution of Reasons for Not Consuming Goat and Sheep Milk

	Frequency	Percentages
Reasons for not consuming goat and sheep milk		
Not aware	85	70.8
No production technique	2	1.7
Not consumable	21	17.5
Abomination	22	18.3
Against religion	1	0.8
Small quantity	18	14.0
It can cause animal behaviour in human	5	4.2
Preference of other sources of milk	115	95.8
Odour	15	12.5
Colour	2	1.7
Traditional belief	64	52.5
No belief	115	95.8
Make people behave like goat and sheep	5	4.2

Source: Field survey, 2008 (Note: N is not equal to 120 due multiple responses from the respondents)

Table 4: Perception of the Respondents about Sheep and Goat Milk Consumption

Perceptional score	Frequency	Percent
Negative (14-20)	1	0.8
Indifferent (21-28)	50	41.7
Positive (above 28)	69	57.5

Source: Field Survey, 2008

Table 5a: Relationship between Socio-Economic Characteristics and Perception of the Respondents (PPMC test)

Independent variables	Dependent variable	r-value	p-value	Decision
Age	perception	0.58417	0.0001	Significant
Family size	Perception	0.98751	0.0001	Significant
Income	perception	-0.08011	0.3844	Not significant

Source: Field survey, 2008

Table 5b: Relationship between Socio-economic Characteristics and Perception the Respondents (Chi-square test)

Independent variables	Chi-square value	DF	p-value	Decision
Marital status	131.87	3	0.0003	Significant
Education	25.584	4	0.0001	Significant
Cosmopolitanism	50.30	5	0.0001	Significant

Source: Field survey, 2008

While only 0.8% of the respondents have negative perception of the milk. About 41.7% of the respondents are indifferent about the milk. This implies that if respondents are well informed, they may likely have positive perception about the consumption of the milk.

There was significant ($p<0.05$) relationship (Tables 5a and b) between the socio-economic characteristics such as age ($r = 0.58417$, $p < 0.05$), family size ($r = 0.98751$, $p < 0.05$) marital status ($X^2 = 131.87$, $p <0.05$) education ($X^2 = 25.584$, $p < 0.05$) and cosmopolitanism ($X^2 = 50.300$, 0.05) and perception of the rural dwellers about sheep and goat milk consumption. However, no significant ($p>0.05$) relationship exist between income and perception of the respondents. This implies that the perception is not ruled or controlled by socio-economic status of the respondents. This implies that if people are properly informed about the milk, it can be consumed by the rich, the poor and even the people with average socio-economic status.

Conclusion

In conclusion, sheep and goat milk is an important animal protein source which contains almost all the minerals that the body needs to grow and function well. Most households in the rural area have at least one member rearing either goat or sheep or both. This means goat and sheep milk can be a cheap source of animal protein to the rural dwellers. The result of the study showed that most of the rural dwellers are not aware of consumption of goat and sheep milk. Information about the consumption of goat and sheep milk reached the respondents through friends, relatives and health personnel. Many of the respondents have never consumed goat and sheep milk. The factors that discourage people from consuming goat and sheep milk are the lack of awareness, the odour of the milk, traditional belief, preference of other sources of milk and its small quantity. Many of the respondents have positive perception about the milk and many feel indifferent due to their lack of awareness of the consumption of the milk. Of all the socio-economic characteristics considered in the study,

age, family size, cosmopolitanisms and educational qualification have significant relationship with the perception of goat and sheep milk consumption. On the other hand, income of the respondents does not have significant relationship with their perception. This implies that if the milk is properly packaged, both the rich and the poor can consume it.

Recommendation

From the forgone study, the following recommendations emanate; there should be vigorous awareness campaign by stakeholders on the consumption of goat and sheep milk using mass media such as radio, television and news paper as respondents in this study are willing and ready to consume sheep and goat milk. Also, there should be workshops organized at each of the Local Government areas to train the participants on how to manually milk the animals and the processing of the milk to various products like cheese, yoghurt and butter. Government should make a policy to provide conducive atmosphere to the introduction of locally produced cheap substitutes of sheep and goat milk and change people's orientation to accept and consume sheep and goat milk as done in many other parts of the world.

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