

Full Length Research Paper

Consumers' Perception of Red Meat among Urban Households in Ibadan North Local Government Area of Oyo State

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ABSTRACT: This study examines the consumer's perception on red meat among urban households in Ibadan North Local Government area of Oyo State, Nigeria. Multistage sampling was used to select a total number of one hundred and ten (110) respondents. Data were analyzed using both descriptive and inferential statistics such as PPMC and Chi-square analysis. Data were selected through the use of a well-structured questionnaire, descriptive statistics tools such as frequency distribution table and percentage were used while chi-square and PPMC were used to analyze the hypothesis. The result of the socio-economic analysis shows that the majority of the respondents were married and there is no significant relationship between the marital status, education, religion, household, primary occupation, and secondary occupation per year of experience at $S=(P<0.05)$, also the result shows that there is no significant relationship between religion,

household and secondary occupation per year of experience at $S=(P<0.05)$ while marital status, sex, education, and primary occupation were $S=(P<0.05)$, also relationship between perception and knowledge shows that majority of the respondents choose the appropriate meat-type based on the availability and affordability. From the study, it can be recommended that there should be more awareness from the food nutritionist on the importance of good nutrition and balanced ration also government should make more peoples friendly policy that makes the meat more affordable to the consumer and this will improve their standard of living in the study area.

Keywords: Consumers perception, red meat, urban, households, food

INTRODUCTION

Meat is animal flesh that is eaten as food. Humans have hunted and killed animals for meat since pre-historic times. The advent of civilization allowed the domestication of animals such as chickens, sheep, rabbits, pigs and cattle. This eventually led to their use in meat production on an industrial scale with the aid of slaughter houses. Meat is the most valuable livestock product and for many people it serves as their choice source of animal protein (Tsegay, 2012). It is nutritious and highly attractive in appearance (Akinwumi *et al.*,

2011). There are different kinds of meat depending on the source from which they are obtained e.g. mutton from sheep, chevron from goat, beef from cattle, and pork from pig and chicken from birds (Soniran and Okubanjo, 2002).

Meat is mainly composed of water, protein, and fat. It is edible raw, but is normally eaten after it has been cooked and seasoned or processed in a variety of ways. Unprocessed meat will spoil or rot within hours or days as a result of infection with and decomposition by bacteria

and fungi. Meat can also be classified based on their level of myoglobin content and fat content. Meat are based on myoglobin content are classified into red and white meat.

Red meat have more myoglobin which are the cells that transport oxygen to muscles in the blood stream, red meat contains high level of fat but also contain higher levels of vitamin like iron zinc and vitamins A, D, E and K (fat soluble vitamins). It depends on the concentration of myoglobin in muscle fibre. When myoglobin is exposed to oxygen, reddish ox myoglobin develops, making myoglobin-rich meat appear red.

Generally, the meat of adult mammals such as cows, sheep, goats, and horses is considered red, while chicken and turkey breast meat is considered white. Preferential consumption exists based on the importance of meat as a source of protein with high biological value. Recent reports (Koppert G, Hladik, 1990; Burton and Young, 1992) classified factors that affect the consumption of meat as economic, social and cultural.

Meat is important in economy and culture, even though its mass production and consumption has been determined to pose risks for human health and the environment. Many religions have rules about which meat may or may not be eaten, and vegetarian people abstain from eating meat because of concerns about the ethics of eating meat or about the effects of meat production or consumption. Most often, meat refers to skeletal muscles and associate fat and other tissues but it may also describe other parts such as the offal (Leeward, 2016). Conversely, meat is sometimes used in more restrictive sense of flesh of mammalian species (pigs, cattle, lamb, etc.) Prepared for Human consumption to exclusive of fish, others see foods, poultry or other animal protein.

According to the USDA, all meats obtained from mammals (regardless of cut or age) are red meats because they contain more myoglobin than fish or white meat (but not necessarily dark meat) from chicken. Under the culinary definition, the meat from adult or 'gamey' mammals (for example, beef, horse meat, mutton, venison, boar, hare) is red meat, while that from young mammals (rabbit, veal, lamb) is white. Most poultry is white, but duck and goose are red. Most cuts of pork are red, others are white. Gamey is sometimes put in a separate category altogether. Some meats (lamb, pork) are classified differently by different writers.

Ojewole and Onwuka, (2001) specially highlighted religion, sex, age, socio-economic factors, individual variation and income as major factors in Nigeria. For instance, pork is unpopular in Muslim northern part of the country (Ikeme, 1990) chevron is popular in the southern east (Obanu, 1975) cow meat and chicken appears to predominate all over Nigeria.

Ogunwole *et al.* (2009) earlier reported that white broiler meat was most preferred among the meats by employees of the University of Ibadan while Akinwunmi *et al.* (2011) indicated that beef (red meat) was the most

preferred meat in Ogbomosho, Nigeria.

Meat consumption varies worldwide, depending on cultural or religious preferences, as well as economic conditions. Vegetarians choose not to eat meat because of ethical, economic, environmental, and religious or health concerns that are associated with meat production and consumption. According to the analysis of the FAO (1990) the overall consumption for white meat between 1990 and 2009 has dramatically increased. For example, poultry meat has increased by 76.6% per kilo per capita and pig meat by 19.7%. However, on the contrary, bovine meat has decreased from 10.4 kilograms (23 lb)/capita in 1990 to 9.6 kilograms (21 lb)/capita in 2009. Therefore, this study is to determine consumers' perception of red meat among urban households in Ibadan North local government area of Oyo state.

MATERIALS AND METHODS

The study area is located in the south west geographical zone of Nigeria. Oyo State popularly referred to as "Pacesetter" is one of the 36 states of the federal republic of Nigeria carved out of the former western state in 1976. The state consists of 33 Local Government Areas. Oyo State is located at an elevation of 1,219 above sea level and its population amounts to 5,591,589 according to 2006 census. It covers approximately an area of 28,454 square kilometers, the landscape consist of old hard rocks and dome shaped hills, which rise gently from about 500 meters in the southern part, it's coordinates are 8.000 4.00 and 8.000°N 4.000 ° E weather condition is equatorial, notably with dry and wet season with relatively high humidity. Average daily temperature ranges between 25°C (77.0°F) and 35°C (95.0F) almost throughout the year. The notable towns are Oyo, Ogbomosho, Iseyin, Kishi, Okeho, Saki, Lanlate, Ilora, Awe, Iloro, Igbeti, Igboho, and Igbo-Ora. The population of the study comprise household in Ibadan north local government in Oyo state. The target population of this study was selected household in Ibadan North Local Government in Oyo state. Structured questionnaire and personal interview were used to collect information from the respondents. Multi-stage sampling was used to select the respondents for this study.

Stage 1: Selection of Local Government. Oyo state has thirty-three local government areas. Ibadan north local government area was randomly selected for this study.

Stage 2: Selection of wards four wards were randomly selected out of 12 wards in the local government which are, ward 5 (Post office, Dugbe), ward 9 (Ago-Tapa, Mokola), ward 12 (Agbowo, Bodija, Iso-pako), ward 7(Oke-itunu, Sango).

Stage 3: Selection of communities and respondents. Identification of areas in selected ward, these include

ward 5(post office, Dugbe), ward 9(Ago-Tapa, Mokola), ward 12 (Agbowo, Bodija, Iso-Pako), ward 7(Oke-Itunu, Sango).

Stage 4; Maximum of 28 questionnaires was administered in each of the selected wards to give a total of 110 questionnaires for the study.

Descriptive statistics tools such as frequency distribution table and percentage were used while chi square and Pearson product moment correlation (PPMC) were used to analyze results of the study.

RESULTS AND DISCUSSION

Table 1 revealed that 27.3% were single 63.6% were married, 4.5% were divorced and 4.5% were widow. Majority 63.6% of the respondents were married. This implies that the sense of responsibility of married people is capable of being affected by the perception of red and white meat, because they are mostly devoted and committed to their work and this enhances their mode of productivity towards meeting their family needs. This result collaborate the result of Makita *et al.*, 2008 which reported that majority were married and also that respondents have more commitment to their family. The distribution of respondents based on their age group indicate that, 46.3% fall within the age of 20 -30 years, 28.9% fall within the range of 31- 40 years of age, 18.0% fall within the age of 41-50 years, 6.3% fall within the age of 51-60 years and 0% falls above 61 years of age. This implies that majority 46.3% of the respondents were in their most active years. The result revealed that 40.0% of the respondents were trader, while 36.4% were civil servant and 16.4% were artisan. This implies that most of the respondents engaged in trading and Government work as their primary occupation. Distribution of respondents according to their educational level, out of the 110 respondents selected 3.6% had no formal education, 40.9% had tertiary education, 39.1% had secondary education and 16.4% had primary education. This result implies that most of the respondents do not lack education at all they are semi educated either at the primary, secondary and tertiary levels. This also shows that with the level of education of the respondents they have little or lack the basic knowledge of education. This result agrees with the result of Meinzen-Dick, (2002) who submitted that the respondents are semi educated and this aid their lack of knowledge of the meat to consume. Furthermore this result show that majority of the respondents fall within the range of 1-5 which is 79.1% while 5-6 falls within 20.9% and those above 10 falls within 0%. This result implies that the household size is fairly large and these enable them to get a better understanding on the type of meat to consume This result

is supported by the result of Simmons (2009) that the household is fairly large also distribution of respondents according to their abilities.

Table 2 shows that 50.0% of the respondents strongly agreed that increase intake of red meat lower blood pressure, 20.9% agreed and 10.0% disagreed and only 3.6% strongly disagreed that increase intake of red meat lower blood pressure This result implies that majority of the respondents agreed that increase intake of red meet lower blood pressure. Also, 36.4% of the respondents agreed that intake of red meat limit the risk of heart disease, 33.6% strongly agreed, and only 13.6% disagreed that intake of red meat limit the risk of heart disease. This result shows that majority of the respondents agreed that red meat consumption limit the risk of heart disease. More so, 33.6% of the respondents strongly agreed that avoiding red meat in the diet is not a protective strategy against cancer, 32.7% agreed while 9.1% disagreed that avoiding red meat in the diet is not a protective strategy against cancer. Although majority of the respondents agreed that avoiding red meat in the diet is not a protective strategy against cancer but this result also shows that some of respondents do not agree at all that avoiding red meat in the diet is not a protective strategy against cancer. This result support the result of Kramer, (2009) which show that majority of them do have the understanding but also some percentage of them do not have the understanding of the information. Most 35.5% of the respondents agreed that red meat is capable of raising the blood cholesterol in the long term, 30.0% of the respondents strongly agreed while 22.7% are undecided and 10.0% disagreed that agreed that red meat is capable of raising the blood cholesterol in the long term. This result also show that 30.0% of the respondents agreed that red meat contains higher level of fat, 26.4% strongly agreed, 35.5% are undecided and 4.5% disagreed the fact that red meat contains higher level of fat. The result of this analysis shows that majority of the respondents agreed that red meat contains higher level of vitamins. This result reviled that 34.5% of the respondents agreed that red meat contains many essential nutrients, 23.6% are undecided and 9.1% disagreed that red meat contains many essential nutrients. Table 3 revealed that majority 52.7% of the respondents had unfavorable perception towards red meat consumption while 47.3% of the respondents had favorable perception toward red meat consumption.

Table 4 shows that 64.5% of the respondent agreed with large extent while 27.3% agreed with lesser extent 6.4% are rarely and 1.8% not at all that the availability of the meat influence the consumption of red meat this was consistent with the report of (Tsegal, 2012) that the high degree of variation in meat consumption could be due to availability, cost, sensory value, income level, religion and socio cultural factors. The result of Cholesterol content of the meat shows that 40.9% with large extent, 41.8% with lesser extent, 14.5% are rarely while 2.7% not

Table 1: Socio-economic characteristics of the respondent in the study area.

Variables	Frequency	Percent
Marital status		
Single	30	27.3
Married	70	63.6
Divorce	5	4.5
Widow	5	4.5
Total	110	100.0
Age		
20-30 years	51	46.3
31-40 years	32	28.9
41-50 years	20	18.0
51-60 years	7	6.3
Above 61 years	0	0
Total	110	100.0
Primary occupation		
Trading	44	40.0
Artisan	18	16.4
Security	8	7.3
Civil servant	40	36.4
Total	110	100.0
Education		
Primary	18	16.4
Secondary	43	39.1
Tertiary	45	40.9
No formal education	4	3.6
Total	110	100.0
Religion		
Christianity	77	70.0
Muslim	30	27.3
Traditional	3	2.7
Total	110	100.0
Household size		
1-5	87	79.1
6-10	23	20.9
Above 10	0	0
Total	110	100.0

Table 2: Consumer perception for red meat in the study area.

STATEMENT	SA	A	U	D	SD
Increase in intakes of red meat lower blood pressure.	55 (50.0)	23 (20.9)	17 (15.5)	11 (10.0)	4(3.6)
Red meat is perceived to be limited with risk of heart disease.	37 (33.6)	40 (36.4)	17 (15.5)	15 (13.6)	1 (0.9)
Avoiding red meat in diet is not a protective strategy against cancer.	37 (33.6)	36 (32.7)	25 (22.7)	10 (9.1)	2 (1.8)
Red meat is capable of raising the blood cholesterol in the long term.	33 (30.0)	39 (35.5)	25 (22.7)	10 (10.0)	2 (1.8)
Moderate amount of red meat should be eaten for healthy balanced diet	26 (23.6)	44 (40.0)	28 (25.5)	4 (3.6)	8 (7.3)
Consumption of red meat is mostly linked to risk of development of cancer.	25 (22.7)	38 (34.5)	31 (28.2)	4 (3.6)	8 (7.3)
Consumption of local skewered red meat (suya) increases the risk of cancer	32 (29.1)	33 (30.0)	32 (29.1)	8 (7.3)	5 (4.5)
Red meat usually appear red before cooking	32 (29.1)	41 (37.3)	29 (26.4)	4 (3.6)	3 (2.7)
Red meat contain higher level of fat	29 (26.4)	33 (30.0)	39 (35.5)	5 (4.5)	4 (3.6)
Red meat contains higher level of vitamins	18 (16.4)	32 (29.1)	13 (11.8)	7 (6.4)	
Red meat may have negative impact on our long term health	22 (20.0)	36 (32.7)	37 (33.6)	10 (9.1)	5 (4.5)
Red meat contains many essential nutrients	26 (23.6)	38 (34.5)	29 (26.4)	10 (9.1)	7 (6.4)
Higher consumption of red meat had no effects on blood pressure	26 (23.6)	25 (22.7)	32 (29.1)	17 (15.5)	10 (9.1)
Red meat is superior to white meat in terms of nutritional value	26 (23.6)	35 (31.8)	24 (21.8)	21 (19.1)	4 (3.6)
It is a good practice to include required quantity of red meat in diet	19 (17.3)	38 (34.5)	32 (29.1)	10 (9.1)	11 (10.0)

at all that the cholesterol content of the meat had influence the meat consumption. Table 4 also shows that 31.8% of the respondents with large extent 40.9% with lesser extent, 21.8% are rarely while 5.5% not at all that

cholesterol quality of meat had influence the consumption of meat, the result shows that 40.9% with large extent 43.6% with lesser extent, 8.2% are rarely while also 8.2% not at all that price influence the consumption of preferred

Table 3: Categorization of consumer perception for red meat in the study area.

Category	Frequency	Percentage
High(Mean and above)	52	47.3
Low (Below mean)	58	52.7
Total	110	100

Table 4: Factor influencing consumption of red meat.

Factors	Large extent	Lesser extent	Rarely	Not at all
Availability of the meat	71 (64.5)	30 (27.3)	7 (6.4)	2 (1.8)
Cholesterol content of the meat	45 (40.9)	46 (41.8)	16 (14.5)	3 (2.7)
Cholesterol quality of the meat	35 (31.8)	45 (40.9)	24 (21.8)	6 (5.5)
Price of the meat	44 (40.0)	48 (43.6)	9 (8.2)	9 (8.2)
Color of the meat	36 (32.7)	44 (44.0)	23 (20.9)	7 (6.4)
Taste of the meat	46 (41.8)	44 (44.0)	16 (14.5)	4 (3.4)
Health risk associated with the meat	37 (33.6)	42 (38.2)	22 (20.0)	9 (8.2)
Religion	38 (34.6)	42 (38.2)	17 (15.5)	13 (11.8)
Socio cultural	33 (30.0)	42 (38.2)	20 (18.2)	15 (13.6)
Family income	36 (32.7)	37 (33.6)	25 (22.7)	12 (10.9)
Your age	33 (30.0)	37 (33.6)	23 (20.9)	17 (15.5)

Table 5: Perceived benefits of red meat consumption.

Perceived benefits	Large extent	Lesser extent	Rarely	Not at all
It has lower calorie content	72 (65.5)	21 (19.1)	16 (14.5)	1 (0.9)
It has lower fat content	59 (53.6)	32 (29.1)	15 (13.6)	4 (3.6)
It has better cholesterol content	52 (47.3)	35 (31.8)	19 (17.3)	4 (3.6)
It is a rich sources of essential minerals	47 (42.7)	45 (40.9)	14 (12.7)	4 (3.6)
It reduces health risk associated with meat consumption	57 (51.8)	37 (33.6)	13 (11.8)	3 (2.7)
It is cheaper	35 (31.8)	48 (41.6)	17 (15.5)	10 (9.1)
It is more palatable	42 (38.2)	46 (41.8)	16 (14.5)	6 (5.5)
It is more accessible	41 (37.3)	41 (37.3)	20 (18.2)	8 (7.3)
It has no religion taboo	29 (26.4)	40 (36.4)	22 (20.0)	19 (17.3)

meat. The result shows that 32.7% with large extent, 44.0% with lesser extent and 20.9% are rarely that the color of meat also influence the consumption of meat type, the result shows that 41.8% with large extent, 44.0% with lesser extent, 14.5 are rarely while 3.4% not at all that taste of the meat influence in the consumption of preferred meat type, also the result shows that 33.6% with large extent 38.2% with lesser extent, 15.5 are rarely and 11.8% not at all that religion had influence in consumption of preferred meat type, the table further shows that 30.0% of the respondents with large extent, 38.2% with lesser extent, 18.2% are rarely that socio cultural also had influence in the factors that influence consumption of meat, furthermore result also shows that 32.7% with large extent, 33.6% with lesser extent, 22.7% are rarely and 10.9% not at all that family income contribute to the factor influencing consumption of preferred meat in the study area. Lastly the result also shows that 30.0% of the respondents with large extent, 33.6% with lesser extent, 20.9% are rarely while 15.5% not at all that age also had influence in consumption of

meat type in the study area the explanation for this could be because meat has a relatively low fat content, moderate in cholesterol (Williams *et al.*, 2006) and also the fact that consumers of meat are becoming more health conscious as excess meat consumption has been attributed to cause cardiovascular diseases.

From the (Table 5), 65.5% of the respondents agree with large extent while 19.1% with lesser extent and 14.5% are rarely that lower calorie content contributes to the perceived benefits of red meat. The table further shows that 3.6% of the respondents not at all 13.6% rarely 29.1% with lesser extent and 53.6% with large extent that lower fat content also contribute to the perceived benefits of red meat. The table also shows that 47.3% of the respondents with large extent 31.8% lesser extent 17.3% are rarely and 3.6% not at all that better cholesterol content contribute to perceived benefits of red meat. The table shows that 42.7% of the respondents with large extent 40.9% with lesser extent and 3.6% not at all that perceived benefits of red meat is a rich source of essential minerals. The table further shows that 51.8%

Table 6: Constraints to red meat consumption.

Constraints	Major constraints	Minor constraints	Not a constraints
Inadequate information about the meat	67 (60.9)	26 (23.6)	17 (15.5)
Cost of the meat	47 (42.7)	52 (47.3)	11 (10.0)
My family size	40 (36.4)	48 (43.6)	22 (20.0)
Scarcity of the meat	34 (30.9)	54 (49.1)	22 (20.0)
Low family income	39 (35.5)	50 (45.5)	21 (19.1)
My health status	40 (36.4)	46 (41.8)	24 (21.8)
Health status of family members	32 (29.1)	51 (46.4)	27 (24.5)
Religion belief	37 (33.6)	40 (36.4)	33 (30.0)
My age	26 (23.6)	48 (43.6)	36 (32.7)
Age (s) of family members	27 (24.5)	55 (50.0)	28 (25.5)

Source: Field survey, 2018.

Table 7: Categorization of Constraints to red meat consumption.

Category	Frequency	Percentage	Mean
High (Mean and above)	56	51.1	11.34
Low (Below man)	54	48.9	
Total	110	100	

Source: Field survey, 2018

Table 8: Chi-square analysis of socio-economic characteristics of the respondents and their perception towards red meat consumption.

Variable	X ² -value	P-value	Decision
Marital status	13.445	0.143	NS
Sex	3.213	0.036	S
Education	10.165	0.337	NS
Religion	3.757	0.710	NS
Household	27.774	0.270	NS
Primary occupation	14.707	0.099	NS
Secondary occupation	9.485	0.661	NS

Source: field survey, 2018 S= (P<0.05)

Table 9: PPMC analysis shows relationship between constraint and perception for red meat.

Variable	r-value	p-value	Decision
Constraint & Perception	0.124	0.196	NS

Source: Field survey, 2018

of the respondents to a large extent and 33.6% with lesser extent that perceived benefits of red meat reduces health risk associated with meat consumption. The result shows that 41.8% of the respondents to a lesser extent perceived benefits of red meat for its palatability. Lastly the result shows that 36.4% of the respondents to a lesser extent said that it has no religion taboo.

Table 6 shows the constraint facing the respondents in consuming their preferred meat type in the study area. The result revealed that 60.9% of the respondents agreed that inadequate information about meat is a major constraint while 23.6% of the respondents agreed that is a minor constraint and 15.5% agreed that is not a

constraint. The result shows that 10.0% of the respondents believe that cost of meat is not a constraint while 47.3% of the respondents agreed are a minor constraint and 42.7% agreed is a major constraint. The result also shows that 36.4% of the respondents agreed that family size in the study area is a major constraint while 43.6% agreed that is a minor constraint and 20.0% agreed is not a constraint. The result shows that 20.0% of the respondents agreed that scarcity of meat is not a constraint while 49.1% agreed is a minor constraint and 30.9% agreed that is a major constraint. Furthermore the result shows that 19.1% of the respondents agreed that low family income is not a constraint while 45.5% agreed

that is a minor constraint and 35.5% agreed that is a major constraint. Result also shows that 36.4% of the respondents agreed that health status is a major constraint while 41.8% agreed is a minor constraint and 21.8% agreed that health status is not a constraint. However the result also revealed that 33.6% of the respondents agreed that religion believes is a major constraint while 36.4% agreed is a minor constraint and 30.0% agreed is not a constraint. The result also shows that 23.6% of the respondents agreed that age is a major constraint while 43.6% agreed is a minor constraint and 32.7% agreed that is not a constraint. Lastly the result shows that 24.5% of the respondents agreed that age of family members is a major constraint while 50.0% agreed that is a minor constraint and 25.5% agreed that the age of the family is not a constraint.

In summary, the result of analysis in (Table 7) shows that 51.1% of the respondents had high response based on the information on constraints facing the respondents while 48.9% of the respondents had low response in the study area.

The chi-square test revealed that there was no significant relationship between socio-economic characteristics of the respondents and their perception towards red meat consumption except sex ($X^2 = 213$, $P = 0.036$) which had significant relationship with the perception (Table 8).

Table 9 shows that there is no significant relationship between constraint and perception. This study further shows that inadequate information is a major constraint due to the respondents with primary education 16.4%, secondary education 39.1% and 3.6% has no formal education this result is collaborated with result of (Ojewole and Onwuka, 2001) specifically highlighted religion, age, sex, socio economic factor, individual variation and income as a major factor that affect meat in Nigeria.

Conclusion

From this study it was revealed that majority of the respondents are married in their active age and engaged in trading and civil service work as their primary occupation. In addition, majority had education up to secondary school level with household size of between 1 and 5. Most of the respondents considered reduced health risk as benefits they derived to a larger extent for consuming red meat type in the study area. The result on constraint to consumption of red meat revealed considered their constraints as high. Some of the constraints identified were inadequate information and high cost of red meat in the market. The study further shows that red meat was perceived as healthy component of the diet. Consumers also consider some factors such as availability, income, price and taste as factors influencing their consumption of red meat.

Recommendations

Based on the findings from this study, the following recommendations were made:

- (i) Government should endeavor to improve our abattoir design, location, management and operation in the study area.
- (ii) Government should make policy to improve standard of living of the consumers as these will influence the quality and quantity of the meat they consumed in the study area.
- (iii) Stakeholders in meat industry should make more of red meat available and affordable in the study area.
- (iv) Stakeholders should ensure that the right quality of red meat is supplied to consumers in a safe and stable form.

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