

Red Meat Consumption by Rural Households in Al- Taleea District, Babylon Province, Iraq

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Abstract

This study investigates the patterns and determinants of red meat consumption among rural households in Al-Taleea District, Babylon Province, Iraq. Red meat, derived from mammals such as beef, lamb, and pork, plays a vital role in the nutritional intake of rural populations. Understanding consumption habits is essential for informing agricultural policy and production strategies. A sample of 250 rural households was randomly selected, and data were collected through structured interviews using a validated questionnaire. Results revealed that the vast majority of households preferred locally produced red meat, particularly beef. Approximately 50% of respondents consumed red meat 2–3 times per week, typically in quantities ranging from 0.5 to 1 kg per occasion. Furthermore, red meat consumption was positively associated with higher levels of education, larger family size, and greater monthly income. The findings underscore the need to enhance local red meat production to meet growing rural demand.

Keywords: Red meat, consumption, rural households, Iraq, dietary patterns, socioeconomic factors.

Introduction

Meat is a fundamental component of the human diet, offering high-quality protein, essential micronutrients, and energy-rich value. Among various types, red meat—derived from mammals such as cattle, sheep, and pigs—constitutes a significant portion of global meat consumption (Stadnik, 2024; Leroy et al., 2023). Globally, pork accounts for approximately 59.4% of red meat consumption, followed by beef and lamb (Ayyildiz & Cicek, 2022).

Numerous studies have analyzed household red meat consumption patterns, examining variables such as consumption frequency, quantity, preferences, and socio-economic determinants (e.g., (Brahim et al., 2024; Isahak et al., 2024; Choi and Lee, 2023; Ozkan et al., 2023; Setiani, 2023; Turnes et al., 2023; Ayyıldız et al., 2022; Dewi et al., 2022; Li et al., 2022; Stoś et al., 2022; Ueland et al., 2022; Zhu et al., 2021; Zuhud et al., 2021; Alhassan et al., 2021; Fazly et al., 2019; Sacli, 2018),

However, despite Iraq's production of over 192,000 tons of red meat in 2022 (CSO, 2024), there is a notable lack of data regarding household-level consumption—particularly in rural contexts. This knowledge gap limits the formulation of targeted agricultural and food security policies.

The current study addresses this gap by examining the red meat consumption behaviors of rural households in Al-Taleea District, Babylon Province. The study aims to:

1. identify the types and quantities of red meat consumed;
2. assess the frequency of consumption;
3. determine key socio-demographic factors influencing consumption.

Insights from this research are expected to inform policy development aimed at improving red meat production and dietary planning in rural Iraq.

Materials and Methods

The study was conducted in Al-Taleea District, located in Babylon Province, south-central Iraq (latitude 32.7°–33.8° N, longitude 43.42°–45.50° E). The district has a population of 40,567, of whom approximately 78.73% (31,941 individuals) reside in rural areas comprising around 4,000 households (CSO, 2021).

A stratified random sampling method was employed to select a representative sample of 250 rural households (6.25% of the total). One housewife from each household was interviewed face-to-face between October 10–25, 2024, using a structured questionnaire.

The questionnaire was divided into two main sections. The first captured socio-demographic variables, including respondent's age, educational attainment, family size, and monthly income. The second focused on red meat consumption behavior, including:

- Type of red meat consumed (local vs. imported; beef vs. lamb)
- Frequency of consumption
- Quantity consumed per occasion
- Specific occasions/days when red meat consumption increases

Content validity of the instrument was confirmed by a panel of subject-matter experts in agricultural marketing, economics, and rural extension. Reliability was assessed through a pilot study, yielding a Cronbach's alpha coefficient of 0.91, indicating high internal consistency.

Data were analyzed using descriptive statistics (frequencies, percentages, means, and standard deviations), and inferential analysis using ANOVA (F-test) to examine the influence of socio-demographic variables on red meat consumption. All analyses were conducted using SPSS version 22 (SPSS Inc., Chicago, IL, USA).

Result and Discussion

Frequency and Amount of Red Meat Consumption

There is a clear distinction between households in terms of the number of times red meat is consumed and the amount of red meat consumed each time. Result in table 1 showed that (56 %) of rural households

consumed red meat once a week, followed by (24%) 2-3 times a week, 16.8% once in 15 days, 2% every day and 1.2% once a month. Turnes et al., 2023 found that 44% of consumer in Portugal consume red meat 4-6 times a week, Magalhaes et al., 2023 found that 43% of consumers in Spain and Turkey consumed beef meat once a week, 73% in Brazil consumed twice a week, Ozkan et al., 2023; Neef et al., 2018 found that 42% of respondents consume red meat 2-3 times a week, while Stos et al., 2022, found that consumer in Poland consume red meat as; 29% less than once a month, 18% once a week, 0.2% once a day.

There are several of personal, social, economic and health factors that affect the amount of red meat that a family consumes each time. The results of the study indicated that 48.4% of families consumed 0.5 - 1 kg each time, while (26.8%) consumed > 1 kg

and (24.8%) consumed < 0.5 kg each time. The average red meat that consumed by rural households in the study area was 0.761 kg of red meat each time.

In recent times, many meat eaters have experienced pressure to reduce meat consumption (Choi and Lee, 2023), the most common motives for reducing meat consumption were cost and health (Neff et al, 2018). In Poland red meat consumption was 1.75 kg/person/ month (Stos et al., 2022), in Malaysia it is 2.44 kg/capita/year (Setiane, 2023), 48.2% of households consumed 1- 2 kg /month (Fazly et al., 2019), in Turkey the household consume 3.96 kg/month (Saclı, 2018), 13.8 kg/capita/year (Ayidiz ana Cicek, 2022), in rural China it is 1.1 kg/capita/year (Zhu et al., 2021), while it is below 1 kg/capita/year in Congo, Mozambique and Liberia (Maria, 2023).

Table1. Frequency and amount of red meat consumption

Consumption frequency	meat consumed each time(kg)						Total	
	< 0.5		0.5 - 1		> 1			
	N	%	N	%	N	%	N	%
Every day	5	2	0	0	0	0	5	2
2-3 times a week	35	14	15	6	10	4	60	24
Once a week	14	5.6	86	34.4	40	16	140	56
Once in 15 days	8	3.2	20	8	14	5.6	42	16.8
Once a month	0	0	0	0	3	1.2	3	1.2
Total	62	24.8	121	48.4	67	26.8	250	100

M= 0.761, SD= 1.7

Type of Red Meat Consumed

The red meat available in the Iraqi market can be classified into: Iraqi and imported red meat, Iraqi red meat classified in two major types: cattle and sheep. Table 2 indicates that the vast majorities of the households in the study area (92%) consume Iraqi red meat

(72% cattle, 8% sheep, 12% both cattle and sheep), while 8% consume imported red meat. Consumers prefer local meat because its freshness, better quality, more palatable, and slaughtered in accordance with Islamic law.

In China, 70.0% of consumer consume local lamb meat rather than imported (Li et al., 2022), Fazly et al., 2019 found that 78.5% of consumers in Malaysia consume local red meat compared to the imported, Uzman and Cinar, 2017 found that 71% of respondents consume local red meat.

In Malaysia 90% of consumers consume cattle meat, 10% consumed sheep meat (Isahak et al., 2024), in Turkey 80% of consumers consume cattle meat, 20% consumed sheep meat (Kızılaslan, 2022), in Nigeria 41% consume cattle meat and 34% sheep meat (Alhassan et al., 2020).

Table2. Type of red meat consumed

Chicken types		% (n=250)
Iraqi	Cattle	72
	Sheep	8
	Both	12
Imported		8
Total		100

When Red Meat Consumption Increased

Household meat consumption increased in some days rather than the rest days (Kshash and Oda, 2023; Horgan et al., 2019). Result in table 3 indicate that most rural households in study area(48%) increase their consumption of red meat on holidays and occasions, due to family members gathering or exchange of

visits between relatives, 32% increase on Friday and 20% not increase but still the same every day. Brahim et al., 2024; Ayyıldız and Çiçek, 2022; Ueland et al., 2022; Gultekin and Soro, 2020; Mandolesi et al., 2020, found that red meat consumption increase during special occasions and holidays.

Table3. Time when red meat consumption increased

Time	% (n=250)
holidays and occasions	48
Friday	32
The same every day	20
Total	100

Factors Effecting Red Meat Consumption

The amount of red meat consumed by household is affected by several socio-demographic factors. Result study (table 4) showed that a significant effect of age , educational attainment, family size and monthly income on the amount of red meat consumed by households in the study area..

The largest amount of red meat consumption was found in the third (high) category for both family size and monthly income. The less amount of red meat consumption was found in the first (low) category of family size. Red meat consumption increased with increasing in

educational attainment, family size and monthly income of rural household.

Ayyildiz and Cicek, 2022; Kizilaslan, 2022; Akinsulu et al.,2019; AMustafa and Nihat,

2018; pointed that socio- economic characteristic of household effect on the amount of red meat consumed.

Table 4. Characteristics of respondents and red meat consumption

Variable	Categories	%(n=250)	meat consumption(kg)				F test
			< 0.5	0.5 - 1	> 1	M	
Age M= 33.3, SD= 7.4	< 25	20.0	12	33	5	0.67	28.3*
	25 – 40	51.6	35	42	52	0.82	
	> 40	28.4	15	46	10	0.71	
Education	<Secondary	19.2	19	25	4	0.58	35.7*
	Secondary	46.8	22	78	17	0.73	
	University	34.0	21	18	46	0.92	
Family size M= 7.2, SD= 3.6	< 5	11.2	13	14	1	0.51	91.1*
	5 – 8	58.8	44	86	17	0.65	
	> 8	30.0	5	21	49	1.10	
Monthly income (IQD) M= 1.75, SD= 1.5	< 1.5	52.0	41	76	13	0.63	60.2*
	1.5 – 2.5	29.2	18	33	22	0.78	
	> 2.5	18.8	3	12	32	1.10	

Conclusion and Recommendation

Rural households showed a clear decline in red meat consumption in terms of quantity of meat and frequency of consumption. The vast majorities of the households consume Iraqi red meat, cattle meat constituted a high percentage of that. Red meat consumption increased with increasing in educational attainment, family size and monthly income of rural household.

Develop a comprehensive national strategy to boost local red meat production, particularly beef, including support for small farmers and

improving local supply chains. Implement nutritional awareness programs targeting rural households on the health benefits of animal protein and how to select and store it safely. Incentivize agricultural and veterinary investment in rural areas by providing financial and technical incentives to local meat producers. Conduct future studies that include other rural areas in Iraq to compare governorates and update the national database on food consumption

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