

Chicken meat consumption by households in Al- Qassim district, Babylon province , Iraq

Bassim Haleem Kshash^{1,*}

Hayat Kadhum Oda²

¹ College of Agriculture, Al-Qasim Green University, Babylon, Iraq

ORCID ID : <https://orcid.org/0000-0002-2553-2762>

² College of Food Science, Al-Qasim Green University, Babylon- Iraq

E-mail: hay1963@fosci.uoqasim.edu.iq

***correspondence:** Bassim Haleem Kshash, College of Agriculture, Al-Qasim Green University, Babylon, Iraq.

E-mail: bassim@agre.uoqasim.edu.iq

Abstract

Consumption of chicken meat increased widely. Studying of chicken meat consumption Provides necessary information to set policies for the production and supply of chicken meat. The study was conducted in Babylon Province, Iraq; to investigate household consumption of chicken meat. Three hundred and fifty families were randomly selected. Most families consumed live chicken, 2-3 times a week, consumed 2-4 kg each time. Chicken meat consumption increased with increasing of family size and monthly income. An effective strategy is needed to increase chicken meat production to meet the increasing demand for live chicken meat.

Keywords: consumer; food; Iraq; poultry meat; preferences.

Introduction

The amount of protein consumed per person per day is more significant in healthy and balanced nutrition (Alparslan and Demirbas, 2020). Poultry meat is an indispensable source of animal protein in human growth and development, so it is in great demand by people all over the world (Wahyono and Utami, 2018). Chickens accounted 94 percent of the world's poultry population, and contribute 90 percent of world poultry meat production (FAO, 2021).

Global chicken meat production for 2022 is forecast at 100.8 million tones (FAO, 2022). Because of its low prices, easy cooking and high nutritional value, the consumption of chicken meat has increased (Escobedo et al., 2021; Neima et al 2021; OECD, 2018).

The consumption of chicken meat has been studied in different regions of the world (Adamski et al., 2017; Min et al., 2017; Sacli,

2018; Ndenga,2019; Ayman, 2020; Baviera et al., 2021; Neima et al., 2021; Setyanovina et al., 2021; Stamatopoulou and Irimi, 2022; Abdalla et al., 2023; Elegbede et al., 2023). These studies have concluded that the consumption of chicken meat (amount and frequency of consumption) is affected by a range of personal, social, economic, cultural and religious factors.

Iraq production from chicken meat for 2021 was 144.7 thousand tones (CSO, 2022). There is a highly demand for chicken meat in Iraq (IOM, 2021). With no official data on the amount of chicken meat consumed in Iraq annually, many studies have shown a high per capita consumption (Mohammad, 2020; Thulfiqar et al., 2020; IOM, 2021).

studying of chicken meat consumption can provide crucial information that help in the formulate and implement of an appropriate strategies for its production and presentation.

However, there are very few studies that dealt with this in Iraq in general and in the research area in particular . Therefore, there is a need to know about household consumption of chicken meat, what type of chicken meat is consumed, what is the amount of meat consumed, what is the frequency of meat consumption, what are the factors affecting their consumption?. The study was undertaken with the following objectives: 1) investigating the type of chicken meat consumed; 2) investigating the amount of meat consumed; 3) investigating the frequency of meat consumption; 4) investigating the factors affecting the consumption of chicken meat.

Materials and Methods

The study was carried out in AL-Qassim District in Babylon Province, located in south central Iraq, between 32.7° and 33.8° N and 43.42° and 45.50° E. Babylon Province is located in the Middle of Euphrates provinces. The population of AL-Qassim district is 165916 ,about 49% of whom (81498) live in urban areas within 8750 family (CSO, 2021). 350 family (4% of total families) were randomly selected , a housewife from each family was chosen to respond to the questionnaire by personal interview from 10-25 February 2023..

The instrument used was a two-part questionnaire comprising socio-economic characteristics and chicken meat consumption. The socio-economic characteristics included age, education level, family size, and monthly income. The consumption of chicken meat included four aspect; Type of chicken consumed, frequency of chicken meat consumption, amount of chicken meat consumed and time that chicken meat consumption increasing.

Content validity of the questionnaire was established by a panel of experts in fields of agricultural marketing, economic and

extension. A pilot study was conducted to establish reliability of the instrument. Cronbach's alpha (a reliability coefficient of 0.93) was established, indicating the instrument used was reliable and valid.

Data were analyzed using frequency, percentage, mean (M), standard deviation (SD), using SPSS ver. 22, (SPSS Inc., Chicago, IL).

Result and Discussion

Frequency and Amount of Chicken Meat Consumption

People differ in the number of times they eat chicken meat and the duration between one time and another. Result in table 1 showed that (41.7%) of household indicate that their families consumption chicken meat 2-3 times a week, followed by (36.3%) once a week, 17.1% once in 15 days, 3.2% once a month and 1.7% every day. Aldemir et al., 2021; Adamski et al., 2017 found that 73% , 46% of respondents respectively consume chicken meat 2-3 times a week, Santos and Fernandes, 2022, found that 48% of respondents consume chicken meat 2-4 times a week.

The amount of chicken meat consumed by the family each time is affected by several variables, including: family size, amount of income, the desire of its members, and the time of eating meat (day or evening). The results of the study indicated that rather than half of families consumed 2-4 kg each time, while (38%) consumed less than 2 kg and (10.9%) consumed rather than 4 kg each time. The average consumption of the families included in the study was 2.4 kg of chicken meat each time. Laura and Genaro,2022 found that chicken meat consumption were 35 kg/person/ year, while Sui et al., 2017 noted that chicken meat consumption were 50.8 g/day for males, 39.2 g/day for females.

Table1: frequency and amount of chicken meat consumption

Consumption frequency	meat consumed each time(kg)						Total	
	< 2		2 - 4		> 4		N	%
	N	%	N	%	N	%		
Every day	5	1.4	1	0.3	0	0.0	6	1.7
2-3 times a week	48	13.7	81	23.1	17	4.9	146	41.7
Once a week	38	10.9	75	21.4	14	4.0	127	36.3
Once in 15 days	39	11.1	16	4.6	5	1.4	60	17.1
Once a month	3	0.9	6	1.7	2	0.6	11	3.2
Total	133	38.0	179	51.1	38	10.9	350	100

M= 2.4, SD= 1.7

Type of Chicken Consumed

The chicken meat available in the Iraqi market can be classified into: live chicken meat and frozen chicken meat. Certainly, there are reasons and motives for the Iraqi family's preference for either type. It appears from the results of the study (Table 2) that the vast majority of the families (80%) included in the study consume live chicken meat, compared to 20% who consume frozen chicken meat. this result is in line with Adamski et al., 2017; Ndenga,2019 whom found that 93%, 80% of consumers respectively consume live chicken meat.

The most common types of live chickens sold in Iraqi markets are white chickens (meat chickens raised in chicken farms), red chickens (egg chickens whose ability to lay

eggs has weakened or ended) and local chickens which raised in rural areas. And it found that (70.6%, 6.6%, 2.8%) of families consumption white, red and local chicken respectively. Neima et al., 2021 found that 47% of household consume local chicken.

As for frozen chicken meat, it is available in two types: Iraqi and imported, 11.4% of families consume Iraqi meat, compared to 8.6% who consume imported frozen meat, which means that consumers prefer local frozen chicken meat rather than imported chicken meat. IOM, 2021, pointed that Iraqi consumer prefer local chicken and fresh chicken meat over frozen meat.

The consumption of imported frozen chicken meat increases among household with low income earners (Kayode, 2020; Fosu, 2021).

Table2: Type of chicken consumed

Chicken types		n	%
Live chicken	White	247	70.6
	Red	23	6.6
	Local	10	2.8
Frozen chicken	Iraqi	30	8.6
	Imported	40	11.4
Total		350	100

When Chicken Meat Consumption Increased

With a state of semi-stability or stability in human consumption of many commodities and supplies, this consumption increases in some days, occasions, or seasons than it is in the rest of the days. This applies to the consumption of chicken meat. In this regard, 67.4% of the

respondents indicated that family consumption of chicken meat increases on holidays and special occasions (table3), while 30% said it increased on Friday, followed by 2.6% on every day. Matawork ,2016; Shivachi et al., 2021;Dewantari et al., 2023; they mentioned that the consumption of chicken meat is increasing on holidays.

Table3: time when chicken meat consumption increased

Time	n	%
Every day	9	2.6
Friday	105	30.0
holidays and occasions	236	67.4
Total	350	100

Factors Effecting Chicken Meat Consumption

Result of chi test (table 4) shows a significant differences between consumption of chicken meat according to educational level, family size and monthly income. The largest number of respondents with a large quantity meat consumption was in the third (high) category

of monthly income. The largest number of respondents with a less quantity consumption was in the first (low) category of monthly income. This means that chicken meat consumption increased with increasing of monthly income. Sacli, 2018 found that the household consumption of chicken meat increases with the increase of the family size and the monthly income.

Table 4: Characteristics of respondents and meat consumption

Variable	Categories	N	%	meat consumption(kg)				
				< 2	2 - 4	> 4	M	F test
Age M= 41.8, SD= 9.3	< 30	70	20.0	26	34	10	2.49	5.31 N.S
	30 – 50	180	51.4	75	85	20	2.39	
	> 50	100	28.6	32	60	8	2.46	
Education	<Secondary	68	19.4	12	46	10	2.79	22.899*
	Secondary	118	33.7	59	44	15	2.20	
	University	164	46.9	62	89	13	2.34	
Family size M= 5.9, SD= 3.8	< 4	40	11.4	36	4	0	1.65	90.108*
	4 – 7	224	64.0	86	125	13	2.34	
	> 7	86	24.6	11	50	25	3.35	
Monthly income (IQD) M= 2.47, SD= 1.7	< 2	170	48.6	91	78	1	1.82	47.641*
	2 – 4	102	29.1	21	70	11	2.68	
	> 4	78	22.3	21	31	26	2.90	

Conclusion and Recommendation

There is a clear increase in household consumption of chicken meat, both in terms of the number of consumption times or the amount of meat consumed each time. The live white chicken is the most consumed compared to the other available types of chicken. This consumption increases with the number of family members and monthly income. An effective strategy is needed to increase chicken meat production to meet the increasing demand for chicken meat.

References

- Abdalla Rzgar, Miroslava Bavorova and Sven Gruener.2023. Meat consumption in Transition: the case of Crisis Region of Iraqi Kurdistan. *Journal of International Food & Agribusiness Marketing*, 35(1): 45-65. DOI: 10.1080/08974438.2021.1936332
- Adamski M.,J. Kuźniacka, and N. Milczewska. 2017. Preferences of consumers for choosing poultry meat. *Polish Journal of Natural Science*, 32(2):261-271. <http://www.uwm.edu.pl/polish-journal/issues/no-3222017>
- Aldemir R., Ahmet T. and Suna A. 2021. Chicken meat consumption habits and preferences of a State University Vocational school's students . *Journal of Agricultural Sciences*,5(4), 991–1002. <https://doi.org/10.46291/ISPECJASvol5iss4pp985-996>
- Alparslan, O.S.and Demirbas, N.2020. Red meat and processed red meat consumption behaviour of healthcare professionals: Do they participate in the World Health Organization's view of red meat carcasses and red meat carcinogens? *Public Health Nutrition*, 23(2): 214-220. doi:10.1017/S1368980019002453.
- Ayman N., Hamdani S., Sheikh S., Asma A., Sanober R. and Akand A. 2020. Poultry meat consumption patterns in Srinagar city of Jammu and Kashmir. *Journal of Entomology and Zoology Studies*, 8(3): 1984-1987. <https://www.entomoljournal.com/archives/2020/vol8issue3/PartAE/8-3-223-646.pdf>
- Baviera A., Montero L., Escribá C., and Buitrago J. 2021. Analysis of chicken

- and turkey meat consumption by segmentation of Spanish consumers using food-related lifestyle. *Spanish Journal of Agricultural Research*, 19(1), e0101. <https://doi.org/10.5424/sjar/2021191-16419>.
- CSO (Central Statistical Organization).2022.Survey of poultry projects for the year 2021. https://www.cosit.gov.iq/documents/agriculture/agre_anim/full%20reports
- CSO(Central Statistical Organization).2021.Population estimation of Iraq2020. <https://cosit.gov.iq/documents/population/projection2020.pdf>.
- Dewantari, R., Nyoman S., and Budi R.2023. Analysis of supply and demand of broiler chicken meat in Bali province. *Agricultural Socio-Economics Journal*,23(1):1-9. DOI:[10.21776/ub.agrise.2023.023.1.1](https://doi.org/10.21776/ub.agrise.2023.023.1.1)
- Elegbede V., Afolami C. and Oyedepo O. 2023. Consumers' perception about meat types among students of the University of Agriculture Abeokuta, Ogun state. *Fudma Journal of Sciences*, 2(1), 164 - 170.<https://fjs.fudutsinma.edu.ng/index.php/fjs/article/view/1285>
- Escobedo CI, Risius A, Spiller A and Busch G.2021. Consumers' opinions and expectations of an "ideal chicken farm" and their willingness to purchase a whole chicken from this farm. *Frontiers in Animal Science*. 2:682477. doi: 10.3389/fanim.2021.682477
- FAO. 2022. Meat Market Review: Emerging trends and outlook. 2022. Rome <https://www.fao.org/3/cc3164en/cc3164en.pdf>
- FAO, 2021. Gateway to poultry production and products. <https://www.fao.org/poultry-production-products/production/poultry-species/en/>
- Fosu, P. 2021. Frozen chicken import, domestic chicken production, and real exchange rates in Ghana: A Trivariate causality analysis. *Journal of International Studies*, 14(4), 113-130. doi:10.14254/2071-8330.2021/14-4/8
- International Organization for Migration (IOM).2021. In search of economic opportunities for agribusinesses in Iraq. <https://edf.iom.int/publications/67/In-Search-of-Economic-Opportunities-for-Agribusinesses-in-Iraq---VCA-SAD-&-Diyala---11102021.pdf>
- Kayode, O. T. 2020. Comparative study of imported and local chicken meat consumed in Ota, Ogun State. *Asian Science Bulletin*,1(1): 19-20.DOI: 10.21124/asb.2020.19.20
- Laura X. and Genaro L.2022. Meat consumption and consumer attitudes in Mexico: Can persistence lead to change?. *Meat Science*, 193, 108943. <https://doi.org/10.1016/j.meatsci.2022.108943>
- Matawork Milkias.2016. Chicken meat production, consumption and constraints in Ethiopia. *Food Science and Quality Management*,54:1-12. <https://iiste.org/Journals/index.php/FSQM/article/view/32475>
- Min L., Yoojin J., Cheorun J., Ji P. and Ki N.2017. Analysis of consumers' preferences and price sensitivity to native chickens. *Korean Journal for Food Science of Animal Resource*, 37(3): 469-476. doi: [10.5851/kosfa.2017.37.3.469](https://doi.org/10.5851/kosfa.2017.37.3.469)

- Mohammad, M. J, Akbay, C., 2020. An econometric analysis of urban households' meat consumption in Erbil-Iraq, *Tarım Ekonomisi Araştırmaları Dergisi*, 6(2): 65-73.
<https://dergipark.org.tr/pub/tead/issue/58252/841209>
- Ndenga, Charles. 2019. Analysis of consumer preference for product attributes: a case of indigenous chicken in Makueni And Nairobi Counties, Kenya. MSC Thesis, Kenyatta University. <http://ir-library.ku.ac.ke/handle/123456789/19801>
- Neima Hemin , Kawan Sirwan and Khansa Hameed.2021. Consumers choice and preference for chicken meat in Sulaymaniyah. *IOP Conference Series: Earth and Environmental Science*, Volume 910, *Fourth International Conference for Agricultural and Sustainability Sciences 4-5 October 2021, Babil, Iraq*. DOI 10.1088/1755-1315/910/1/012028
- OECD (The Organization for Economic Co-operation and Development).2018. Market examinations in Mexico: Case study of the chicken meat market. <https://www.oecd.org/daf/competition/ENG-WEB-REPORT-Chicken-MeatMarket Mexico 2018.pdf>
- Saçlı Yurdakul. 2018. Evaluation of socio-economic factors affecting chicken meat consumption in Turkey. *Journal of Poultry Research*,15(2): 47-52. <https://dergipark.org.tr/en/pub/jpr/issue/40835/451582?publisher=http-arastirma-tarim-gov-tr-tavukculuk%3B>
- Santos JC and Fernandes P.2022. Perception of Portuguese consumers regarding the consumption of cultured meat. *International Journal of Nutritional Sciences*, 7(1): 1065. DOI: [10.26420/intjnutrsci.2022.1065](https://doi.org/10.26420/intjnutrsci.2022.1065)
- Setyanovina S., Any S. and Masyhuri M. 2021. Characteristics and preferences of chicken meat consumers before and during Covid-19 Pandemic in Sleman Regency. *AGRO EKONOM*, 23(1):12-25. <https://doi.org/10.22146/ae.60713>
- Shivachi B ., Abong G., Karuri G., and Likami S.2021. Consumption patterns and characteristics of free-range chicken consumers in Embakasi Sub-County, Nairobi County, Kenya. *East African Journal of Science Technology and Innovation*, 2 (Special issue). <https://ejajsti.org/index.php/EAJSTI/article/view/335>
- Stamatopoulou M. and Irimi T. 2022. Consumers' profile analysis for chicken meat, during the first wave of COVID-19 pandemic: Case of Northern Greece. *Journal of Agricultural Science*, 33(1): 162- 175. <https://dx.doi.org/10.15159/jas.22.01>
- Sui, Z., Raubenheimer, D. and Rangan, A. 2017. Consumption patterns of meat, poultry, and fish after disaggregation of mixed dishes: secondary analysis of the Australian National Nutrition and Physical Activity Survey 2011–12. *BMC Nutrition*, 3, 52. <https://doi.org/10.1186/s40795-017-0171-1>
- Thulfiqar Ahmed, Yusuf Celik , and Ahmed Altalb.2020. Chicken meat consumption status of households in Iraq, example of Mosul Province. *Kirkuk University Journal For Agricultural Sciences*, 11(1), 156-165. doi: 10.58928/ku20.11113
- Wahyono N D and Utami M D .2018. A review of the poultry meat production industry for food safety in Indonesia. *The 2nd International Joint Conference on Science and Technology (IJCST)*

2017. IOP Conf. Series: Journal of
Physics: Conf. Series, 953 (2018)
012125 doi:10.1088/1742-
6596/953/1/012125.