

A COMPARATIVE STUDY OF THE CONSUMERS ATTITUDE ON THE MEAT HYGIENE SLAUGHTERED IN AND OUTSIDETHE SLAUGHTER HOUSEES

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ABSTRACT

The study was conducted to assess the attitude and awareness of a sample of people regarding the indiscriminate slaughter and its effects on health and the environment compared with slaughtering in a slaughterhouse. The sample consisted of 120 persons from six equal professional groups contacted with the butchery labour (livestock keeper, truck driver, butcher, veterinarian, shopkeeper and consumer). The age ranged 22-76 years old, mean 52 ± 10 years, lived ≥ 5 years in the Baghdad city. The results showed that there is a preference for slaughtering inside the slaughterhouse due to the presence of veterinary examination, slaughtering and preparing meat in a healthy, easy-to-clean places, unlike the indiscriminate slaughter that took place on the sidewalks of streets or in front of butchers' shops or at the entrances of their homes in front of people and passers-by. The results also showed that there is a great spread of the indiscriminate slaughter phenomenon throughout Baghdad governorate, coinciding with the lack of health awareness, lack of attention by citizens, weak monitoring authorities, and a great waste of secondary waste resulting from indiscriminate slaughter, such as leather, wool and blood.

Keywords: Slaughterhouses, indiscriminate slaughter, awareness.



دراسة مقارنة لرأي المستهلك في صحة اللحوم المذبوحة في المجازر وخارجها

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الخلاصة:

أجريت الدراسة لتقييم موقف ووعي عينة من الناس بظاهرة الذبح العشوائي وتأثيراته على الصحة والبيئة مقارنة مع الذبح داخل المجزرة، وتكونت العينة من 120 شخصاً من ست مجموعات مهنية متساوية ذات صلة بمهنة القصابة (مربي مواشي، سائق سيارة حمل، جزار، طبيب بيطري، صاحب متجر، مستهلك)، وتراوحت أعمار المشاركين 22-76 سنة بمتوسط 10 ± 52 سنوات يعيشون بمدينة بغداد منذ $5 \leq$ سنوات، وأظهرت النتائج أن هناك تفضيل للذبح داخل المجزرة وذلك لوجود الفحص البيطري وذبح وتجهيز اللحوم في أماكن صحية سهلة التنظيف على عكس الذبح العشوائي الذي كان يحدث على أرصفة الشوارع أو أمام دكاكين الجزارين أو عند مداخيل بيوتهم أمام الناس والمارة، كما أظهرت النتائج أن هناك انتشاراً كبيراً لظاهرة الذبح العشوائي في أنحاء محافظة بغداد، تزامن مع قلة الوعي الصحوي للامبالاة من قبل المواطنين وضعف الجهات الرقابية وإهدار كبير للنفايات الثانوية الناتجة عن الذبح العشوائي مثل الجلود والصفوف والدم.

الكلمات المفتاحية: مسالخ، ذبح عشوائي، توعية.

INTRODUCTION

In the early nineteenth century, the slaughterhouse was known as the largest institution of transition from the agricultural system to the industrial system, accompanied by increased urbanization, technological developments, and attention to hygiene (Brantz, 2008). Meat elements play an important role in the human diet by providing a good source of high-quality protein as well as beneficial fatty acids and a variety of micronutrients for optimal health (Wyness, 2016).

A cholera outbreak in the 1840s eventually brought public health concerns about slaughtering animals in the city which led to the close of the live animal part of the Smithfield Market, it is necessary to build slaughterhouses outside city centers and monitor the impacts on air and water quality in the surrounding area (Kalof, 2007).

In a typical slaughterhouse, carcasses are slaughtered, prepared, stored and classified under safe conditions and in a sanitary environment (Kayikci et al., 2019). On the contrary of that, the indiscriminate slaughter is an unacceptable health violation and a source of danger to public health, the meat is unknown source and the slaughtered animal isn't examined by the veterinarian, as well as displaying meat and hanging it on irregular and unhealthy places, the animal may have had a communicable disease and contact with harmful insects. These places certainly not healthy or designated for slaughtering as what occur in the official slaughterhouses. In Iraq the indiscriminate slaughterer is considered a person who is not officially authorized and does not have a health certificate from the Ministry of Health confirm free from diseases (Federal Office of Supreme Audit, 2017)

In the slaughterhouse, large quantities of by-products, such as skin, bones, internal organs, fat tissue, horns and hooves, are disposed of which can be converted into useful products for use in other sectors such as in the manufacture of animal feed, fertilizers, leather and wool industries etc. (Al-Saffar & Abdul Hussein, 2020)

Indiscriminate slaughter produces many materials containing nitrogen and phosphorus that can be extremely hazardous to the environment and human health when they enter water systems in large quantities. For this reason global environmental laws have defined the presence of animals in rural areas and stayed away from the urban communities (Matchawet

al.,2019). This study aimed to estimate the consumers' attitudes towards meat slaughtered inside and outside the slaughterhouse, and to evaluate the role of the authorities, and the consumer interaction with this uncivilized behaviour.

METHODOLOGY

Design of the study: Descriptive analytical study.

Sample of the study: 120 of six equal occupational groups (livestock breeder, truck driver, butcher, veterinarian, shop owner and consumer citizen).

The setting of the study: The data were collected from June to September 2020. The mean age of the sample was 52 years, range 22-76±10 SD, lived ≥ 5 years in Baghdad. Consent was obtained from all the participants before conducting the questionnaire.

Place of interviewing: Participants were interviewed in several areas in Baghdad, such as near the slaughterhouses, street, Animal selling places, the butcher shop, workers in this sector. Performing a questionnaire which included two parts:

Part 1: Demographic questionnaire: Information collected from each participant included: gender, age, educational level, occupational status, residence as shown in (Table, 1)

Part 2: Questionnaire: Information was utilized about the reality of the situation of indiscriminate slaughter in Baghdad city and how the authorities dealt with it and the extent of the citizen's interaction and awareness with this situation involve rejection or acceptance as shown in (Table 2).

Statistics: The data were analyzed in SPSS software version 22, for comparison between variables used the chi-square test at a level of significantly lower than 0.05 (*Wuet al.,2016*).

Table (1): Characteristics of the study sample.

Characteristics of the Study Sample	No of Cases	(%)
Gender		
Male	89	74
Female	31	26
Age (years)		
	Mean: 52, (22-76) yrs., ±10 SD	
20-29	3	
30-39	18	15
40 -49	33	27.5
50-59	34	28.5
60-69	21	17.5
≤ 70	11	9
Total	120	100
Education		
Illiterate	10	8
Learner	14	12
Primary	26	22
Secondary	38	31
Collectors	32	27
Total	120	100
Residencies		
Al-Karkh	81	67
Rusafa	39	33
Total	120	100



RESULTS AND DISCUSSION

Demographic characteristic of those included in the questionnaire were 74% males and 26% female their ages ranged between 20-70 years, and from different educational levels, the highest was secondary graduates 38%, followed by a university graduate 32% and the lowest rate of illiteracy 8%. As for residence, the majority were from the Karkh area 67%, then from Rusafa 33% as shown in (Table 1). Meat is a meal that the human being cannot dispense with since the beginning of creation and up to the present day, as the demand has become more and more, spatially are guaranteed and developments in the food industries. Beef and sheep meats were and still the favorite of everyone's human in most religions due to their delicious and favorite taste (Wyness, 2016). This was in agreement with the results of this study when the majority of the sample preferred eating the red meat 70%, and the rest preferred eating white meat 30%. About the red meat the majority of people prefer sheep meat 65% the other prefers the beef 35%. According to participants' opinion, most of the animals slaughtered in the butcher shops are sheep 46% as for poultry 41 and 13% for cattle. The butchers is slaughtering, hanging and processing the carcass on public roads, sidewalks, squares, and gardens. Most of the sample lives far from the slaughterhouse site, on the other hand, most of them live near the butcher's shops, and most of these shops contrary to environmental laws and the conditions of complete safety, although the butchers wash their stores constantly and use the sterilizers, the insecticides spray and rat poisons as shown in (Figure 1). This is contrary to what previous studies indicated about the environmental laws which undertake, the butcher's shops are designed to sell meat only and prevent the slaughter in it or the near because this has great health risk. What encouraged the increase in the situation was the failure to apply the fines imposed by law, as indicated by 72% of the sample (Broadway, 2000)

The results of the questionnaire showed the percentage of community rejection of random slaughter is 61 for those who do not believe that there is an effect of random slaughter on the health of the consumer as shown in Table 2. Furthermore, the community rejection of the indiscriminate slaughter was compared in this study with the occupational and the educational level groups as shown in (Table 3) there was no significant value for rejection this situation and this indicates the lack of societal awareness of this condition, which is culturally unacceptable. So, it's very important to raise the community awareness and the knowledge about the dangers of indiscriminate slaughter on the physical and psychological health (Cadmus, 2010).

About the slaughterhouses, approximately three quarters of the sample agreed that there are no solid waste incinerators, no recycling of this waste in any way and no treatment of heavy water resulting from the slaughtering, these matters pose major health and economic problems. In countries with an economic outlook this large quantity of by-products, such as skin, bones, internal organs, fat tissue, horns and hooves, are disposed of which can be converted into useful products in other sectors such as the manufacture of animal feed, fertilizers, leather and wool industries etc. (Sabri, 2013).

From the beginning at the farm to the ending on the consumer's table, the meat passes through many stages that are in contact with environmental effects, which are either microscopic and macroscopic organisms or non-organisms substances such as toxins and other chemicals (Matchawet *al.*, 2019). By meats, many zoonotic diseases pose a threat to human health, such as emerging bacterial diseases (Colibacillosis, Listeriosis and Salmonellosis) or by viruses such as Hepatitis type E, Rift Valley fever or parasitic disease such as worms include a large group of flatworms and roundworms like hookworm and codfish, also, there is a belief that cancerous bovine leukosis may be transmitted to humans through the meat and dairy products. So the risks of contamination are high in the peri-urban environment, especially where high densities of humans and livestock (Alabbody, 2018).



In Iraq among the legal violations, as shown by previous studies, 63% of the red meat slaughterhouses are within the basic design of the municipal borders. The Iraqi laws on massacres stipulated that the location of the slaughterhouses must be outside the basic design of cities and far from the municipal borders of cities with a distance not less than one kilometer from the population centers where the number of houses exceeds 20. But because the expansion of Baghdad city and the extension of the horizontal building, the slaughterhouse became inter the municipal borders of the city and this is a big problem resulting from poor planning officials (Aldoskyet *al.*, 2015). Some problems and obstacles prevented the development of government slaughterhouses, such as failure to provide the sustainability and maintenance of the slaughterhouses, the use of slaughterhouses by terrorists in hot spots, building a slaughterhouses in the others ownership, lack of training courses for slaughterhouse workers and a lack of monetary portion.(Al-Anbariet *al.*, 2014)

The study appeared there was a veterinary examination of the animal in the slaughterhouses to make sure it's healthy before and after slaughtering, the veterinarian puts a health stamp on the meat (Figure 1). While the indiscriminate slaughter had been lack of control and they are illegal which cause many problems, as the meat may not be suitable for human consumption, or some livestock may be sick or dead, in addition to the residues and unpleasant odors that cause many health problems (Federal Office of Supreme Audit, 2017).

Every profession has rights and duties, the duties must be obeyed , as indicated by the International Labour Organization (ILO). This labor should not cause any physiological and psychological problems (Alabbody, 2021). In this study, 68% of the sample confirmed that indiscriminate slaughtering causes psychological harm to children and women. Many studies have indicated to the excessive psychological damage on children and some adults in minute of appearance the blood when these animals are slaughtered, it causes fear or refuses to eat the meat, and it may push the person when scenes of violence are repeated, the behavior may become hostile to others, eventually becoming an aggressive character who is not afraid to see blood (Muller, 2018).

Table 2: The questionnaire to the sample regarding slaughter and meat hygiene.

The questions	No of Cases	(%)
Which the most types of meat you prefer?		
Red	70	84
White	30	36
Total	100	120
Which types of red meat you prefer?		
65	78	Sheep
35	42	Beef
100	120	Total
Do you prefer slaughtering in the slaughterhouse or outside it?		
75	90	Slaughterhouse
25	30	Outside the slaughterhouse
100	120	Total
Are butcher's shops available in your district?		
92	110	Yes
8	10	No
100	120	Total
Is indiscriminate slaughter residues close to your home?		
31	37	Yes
69	83	No
100	120	Total
What are the most types of animals slaughtered in your area?		

41	50	Poultry
46	55	Sheep
13	15	cattle
100	120	Total
Do you think there is community interest to reduce indiscriminate slaughter?		
39	47	Interested
61	73	Careless
100	120	Total
Do you think there are a healthy incinerators of the solid waste of the massacre?		
35	42	Yes
65	78	No
100	120	Total
Do you think there are liquid waste treatment units for the massacre?		
20	24	Yes
80	96	No
100	120	Total
Do you think there is a usage of carot accessories like leather and viscera?		
29	35	Yes
71	85	No
100	120	Total
Do you think there are fines for the offending butchers?		
28	34	Yes
72	86	No
100	120	Total
Is indiscriminate slaughter cause psychological harm to children and women ?		
68	82	Yes
32	38	No
100	120	Total



Figure (1):Some unhealthy cases and practices 1,2,3 from indiscriminate slaughter and others from slaughtering in slaughterhouse which are somewhat healthy and correct with some indicators 3,4,5.

- 1: Slaughter at the entrance of the house.
- 2: Slaughter in the butcher shop in the market, as seen by the sellers and shoppers.
- 3: Slaughter on the street.
- 4: Slaughter sheep in the slaughterhouse.
- 5: The carcass is hanging in the slaughterhouse for the processing.
- 6: The suspended carcasses are examined by a veterinarian.

Table (3): Indicates the level of acceptance or rejection of the sample for slaughter outside the slaughterhouse, depending on the level of education and occupation by the Chi-square test.

The society rejection of indiscriminate slaughter	Education	Rejection No. & (%)	X^2 test: P value (df) Asymp. Sig. (2-sided)	Occupation	Rejection No.& (%)	X^2 test P value (df) Asymp. Sig. (2-sided)
		Illiterate	5(50)	10.080a (12) 0.60	Livestock owners	8(40)
	Reads & writes	4(29)	Truck drivers		5(25)	
	Primary	10(39)	Butchers		8(40)	
	Secondary	14(60)	Veterinarians		8(40)	
	Collectors	14(47)	Shop owners		10(50)	
			Citizens		8(40)	

The results showed that the educational level and the type of the occupation did not have a significant impact on the extent to which people accept or reject the case of random slaughter. This coincided with the fact that consumers were not concerned with the sources of processing and marketing of meat, while the percentage of the sample was 61% indifferent to this issue.

CONCLUSION

In Iraq, the behaviour of the indiscriminate slaughter is scattering until it became the rule and the other is exceptions because of the weakness of the state's policy in planning by the relevant authorities in activating and developing the work of slaughterhouse model and the lack of awareness of the community and the impact on health and the environment. Non-use of carrot waste such as tanning and leather processing and the use of waste as fertilizer. The recommendation is to establish several modern slaughterhouse in Baghdad outside the basic design of the city at a distance of not less than one kilometer from the nearest gathering and to activate the work of the massacres by facilitating the process of carcasses reaching the slaughterhouse and taking advantage of the attachments of slaughtering and pursuing the violators who carried out the indiscriminate slaughter and imposing a fine on them.

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