



RESEARCH ARTICLE

The Opinion and Awareness of Citizens on the Commitment of Bakers, Butchers, and Food Sellers to Health Instructions and their Application during COVID-19 Outbreak

Kareem F. Aziz¹, Hazhar T.A. Blbas², Yaseen Galali^{3,4}, Ahmed Aj. Jabbar⁵

¹Department of Nursing, College of Nursing, Hawler Medical University, 44001, Erbil, Iraq, ²Department of Statistics, College of Administration and Economics, Salahaddin University-Erbil, Iraq, ³Department of Food Technology, College of Agricultural Engineering Sciences, Salahaddin University-Erbil, Kurdistan Region, Iraq, ⁴Department of Nutrition and Dietetics, College of Health Technology, Cihan University, Erbil, Iraq, ⁵Department of Medical Laboratory Technology, Erbil Technical Health and Medical College, Erbil Polytechnic University, Erbil, 44001, Iraq

ABSTRACT

Many countries follow the recommendation of the World Health Organization by practicing physical gathering avoidance as one health measure to decrease COVID-19 the spread. The current study identifies the opinions and awareness of citizens about the commitments of workers (bakers, butchers, and food sellers) to health instructions and prevention. This descriptive cross-sectional study was done in different premises in Kurdistan Region-Iraq from September 20 2021 to April 20 2022 using online platforms and printed forms. The study included socio-demographic characteristics, citizens' opinions, and commitment-related questions. A thousand copies were collected and analyzed. The results showed that the majority of citizens have positive opinions and awareness and agreed that workers (bakers, butchers, and food sellers) are committed to COVID-19 regulations. There was a significant correlation between the variables of opinions and awareness of the commitments of workers to the prevention of COVID-19. All professional workers have a good obligation to prevention from COVID-19 so that the population in Erbil city has accepted those workers to deal with food and meat and with complete prevention from COVID-19. These perfect commitments of workers to prevention may help to break down the chain of COVID-19 infection which consequently reduces mortality and morbidity rate.

Keywords: Bakers, COVID-19, food sellers butchers, preventive measurement commitment

INTRODUCTION

China announced a number of unknown cases in December 2019 of what is later known as COVID-19. Later, the origin area of the virus causing COVID-19, SARS-CoV-2 was allegedly belonged to the Wuhan city of China. COVID-19 has been deemed as a novel zoonotic disease that is transmitted to humans from animals.^[1] No other previous communicable disease including, the Spanish Flu, had influenced the market as powerfully as this outbreak. The intake of meals rich in nutrients and purposeful meals can improve the immune system to combat viral diseases.^[2,3] Besides, supple-mentation vitamins D and E can improve the body's immune against COVID-19.^[4] An evaluation of the 2019 historical proof concerning SARS influenza and H1N1 prevention inside the excessive-danger populace suggests that Chinese natural formulation ought to offer a suitable method for the reduction of COVID-19 spread.^[5] The recommendations and the natural formulation used for the supportive care of sufferers with COVID-19 were revised by Cai *et al.*^[6] Herbal Academic researchers and meal zone

specialists will encounter many tremendous obstacles, for example, making sure that meals are safe.^[7] Tremendous studies have shown that food and nutrients can heavenly impact the immune system and the way that the body reacts toward foreign bodies.^[8-12]

Food quality and shelf life; a crowded situation for employees in meat and rooster processing centers ought to bring about the excessive danger of SARS-CoV-2 spread.^[13] Cases of

Corresponding Author:

Yaseen Galali, Department of Food Technology, College of Agricultural Engineering Sciences, Salahaddin University-Erbil, Kurdistan Region, Iraq, E-mail: yaseen.galali@su.edu.krd

Received: February 02, 2023

Accepted: June 23, 2023

Published: July 30, 2023

DOI: 10.24086/cuesj.v7n2y2023.pp11-16

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COVID-19 were located in different congregate settings, such as acute care hospitals, long-time period care centers, shelters for the homeless and correctional centers.^[14] As a part of the countrywide COVID-19 response, the diagnosed danger to meet and rooster operational facility calls for a spark-off motion to lower dangers to workers, keep the facility function, and hold the meals supply. The World Health Organization (WHO) formally called the disease "COVID-19".^[13,15] The world faced an unimaginable threat due to COVID-19. Numerous countries follow WHO recommendations regarding introducing physical distance measures to reduce the diseases transmission. Maintaining all food production and supply chain workers in the safe and healthy environment is crucial to survive during the pandemic.

Keeping the food chain is an important role in which all stakeholders along with the food chain need to involve. It is also necessary to sustain and consumer confidence and trust in food safety and availability.^[16] The new COVID-19 is an easily communicable and transmissible disease among the community through sneeze, cough, and respiratory droplets. The signs and symptoms of COVID-19 are noticed after a few from the infection which include flu (e.g., coughing and headache) and others such as muscle aches and sore throat^[17] and loss of taste as well as smell. COVID-19 has close clinical characteristics and symptoms to two other familiar lower respiratory tract diseases; severe acute respiratory syndrome: "SARS-CoV" "MERS".^[18]

The outbreak of COVID-19, in relation to the onset of suddenness, the disease communicability, and its straight pressure on the market and infrastructure of health, is the main community health issue.^[19] Slaughterhouses as well as meatpacking factories are the main risk factors for COVID-19 transmission during the pandemic. They influence the entire population, have far-reaching implications, and need significant interventions by public.^[20] Among the initial symptoms that are known about coronavirus by countries in the West were quick stockpile of different consumer stuff: masks, sanitizer, and microbial wipes went first. Canadian fruit and vegetable markets were significantly impacted by the spread of the novel coronavirus SARS-CoV-2 (and COVID-19 disease), beginning in March 2020.^[21] Indonesia has been more impacted the outbreak of the virus, with the mortality rate case being 8.9% by the end of March 2020.^[22] The closure of the restaurants, cafes, and others imposed further pressure on food supply and retailing and made people work at home.

It is believed that just more than 30% of Canada's expenditures of food typically occur in restaurants.^[23] This makes necessary to create novel policy to improve education and train supervisors and employees in relation to health and safety information.^[24] The food sector and stakeholders are also at the target since food is crucial for the survival of the community and impossible to avoid. Health authorities have to take quick actions and pinpoint the most dangerous threats to the food chain during viral outbreaks to proceed preventive measures.^[7] In the Kurdistan Region of Iraq, bakers, butchers, and food sellers must commit to health instructions and precautionary prevention in time of

COVID-19. The pandemic curve in Iraq and Kurdistan Region increased on 1st June, and the mortality and morbidity rates increased. The current study aims to identify citizens' perception and awareness about the baker, butchers, and food sellers' commitments to health instructions and prevention from COVID-19, and to identify associations between socio-demographic information of citizens and their opinions of commitments during COVID-19.

MATERIALS AND METHODS

Study Design

The descriptive cross-sectional research was conducted in different cities in Erbil city/Iraq via an online application form, beginning from September 20 2021 to April 20 2022. The sample size included 1000 participants in different settings through an online and interview form. The inclusion criteria were anyone who can use computers and the internet and can fill out the online survey and work in the food supply chain.

Tools and Data Collection Methods

Data were collected based on the probability sampling techniques, and the questionnaire format through the online application. The tool has three main parts. Part one was about the socio-demographic characteristic of the volunteers including (age, gender, family status, education level, family number, address, and occupation). The second part consisted of items related to citizens' opinions and perceptions regarding commitments to health guidelines for prevention from COVID-19 depending on the scoring system (1 for agree, 2 for neutral, and 3 for disagree). Part three included items related to citizens' awareness and commitments about preventive measures (for agree was 1, neutral was 2, and disagree was 3). A panel of experts before commencement assessed the validation of questions.

Ethical Approval

The research was ethically by the college of nursing-ethical and the scientific committee.

Data Analysis

Row data were analyzed statistically utilizing the SPSS package program version 23. (Statistical Package for Social Science), descriptive analysis, frequency, and Chi-square tests were employed. The problems of this study included opinions and awareness of citizens about the commitments of workers to health guidelines for of (COVID-19) prevention.

RESULTS

The characteristics of the socio-demographic of the sample are shown in Table 1. The data revealed that the majority of them were females representing 51% whose most of them were above 55 years old. 40%, of the participants, were graduated from secondary school representing 39.8%, and married representing 65.4%. The majority of them were

nuclear families with 65.4%, most of them from the urban area 69%, while most of them were employed by 41.3% [Table 1].

The current study shows that the majority of participants agreed with the commitments of butchers, bakers, and food

Table 1: Socio-demographic characteristics of the participants

Variables	Frequency	Percent
Sex		
Male	490	49.0
Female	510	51.0
Total	1000	100.0
Age group		
18–27	201	20.1
28–38	216	21.6
39–49	180	18.0
55 and above	403	40.3
Total	1000	100.0
Educational level		
Secondary	398	39.8
Institute	290	29.0
College	235	23.5
MSc	51	5.1
PhD	21	2.1
Total	1000	100.0
Family status		
Marriage	654	65.4
Single	307	30.7
Divorce	21	2.1
Widow	18	1.8
Total	1000	100.0
Type of family		
Nuclear	654	65.4
Extended	346	34.6
Total	300	100.0
Residency		
Urban	690	69.0
suburban	295	29.5
Rural	12	1.2
Refugee	3	0.3
Total	1000	100.0
Occupation		
Employee	413	41.3
Private	277	27.7
Retired	40	4.0
Student	270	27.0
Total	1000	100.0

sellers about COVID-19 preventive measures, represented 40.5% and 32.5% of them, have neutral opinions about that, while 27% of citizens were not happy about commitments of butchers, bakers, and food sellers for COVID-19 preventive instructions [Table 2].

Data outcomes indicated an association between citizens' perceptions of the commitments of butchers, bakers, and food sellers about COVID-19 preventive measures. The results indicated the presence statistically significant ($P = 0.001$). The correlation between participants' socio-demographic characteristics to the perceptions of the COVID-19 preventive measure commitment of butchers, bakers, and food sellers is presented in Table 3.

The results also indicated that the majority of the citizen's awareness agreed with the commitments of butchers, bakers, and food sellers about COVID-19 prevention, which represented 47.7%, and 25.6 % of them have neutral awareness of that, while 26.7% of citizens have not agreed with awareness about commitments of butchers, bakers, and food sellers for COVID-19 prevention [Table 4].

The data analysis showed a significant association between citizens' awareness for commitments of butchers, bakers, and food sellers about COVID-19 and their

Table 2: Participants (butchers, bakers, and food sellers) opinion in relation to commitments to COVID-19 preventive measures

Items	Frequency	Percentage
Agree	405	40.5
Neutral	325	32.5
Disagree	270	27.0
Total	1000	100.0

Table 3: The association between participants (butchers, bakers, and food sellers) commitments about COVID-19 and their variables

Variable	Value	df	P-value
Sex	715.579 ^a	2	0.001
Age	1559.088 ^a	8	0.001
Education Level	660.797 ^a	8	0.001
Family Status	581.426 ^a	6	0.001
Type of family	742.679 ^a	2	0.001
Address	837.792 ^a	6	0.001
Occupation	1905.360 ^a	6	0.001

Table 4: Levels of participants' awareness with COVID-19 prevention measures

Item	Frequency	Percentage
Agree	477	47.7
Neutral	256	25.6
Disagree	267	26.7
Total	1000	100.0

variables. These commitments were significant for the prevention and breakdown of the chain of infection for COVID-19 [Table 5].

The present data analyzed that the percentage of satisfaction from workers committed among participants was higher than that of non-satisfied groups [Table 6].

The current study found that the percentage of satisfaction from workers' awareness among participants was higher than that of non-satisfied groups [Table 7].

DISCUSSION

The outcome of the work unrevealed that the majority of citizens' opinions agreed with the commitments of butchers, bakers, and food sellers about COVID-19 prevention, representing 40.5%, and 32.5% of them have neutral opinions. While nearly 27% of participants have not agreed with opinions about the commitments of butchers, bakers, and food sellers for COVID-19 prevention. Their commitments to COVID-19 prevention were significant

to discontinue the COVID-19 infection chain and hence positively affect mortality and morbidity among the community in the Kurdistan Region of Iraq. The current results are in agreement with the previous study stating that prevention is not just a concern about the screening, but it will also consider monitoring the prevention.^[18] Previous studies indicated that most of the Kurdish population has a good awareness of the commitments of butchers, bakers, and food sellers during the pandemic of COVID-19, which was very decisive for preventing and encouraging those workers to apply precautionary measures properly including online shopping. These findings were similar to studies done in Canada, so most people in this country also applied online shopping to decrease the outbreak of COVID-19.^[21] The study's other findings indicated a significant association between the citizen's variables and their opinion and awareness of these workers (bakers, butchers, and food sellers). This was that all of these workers have to apply all health instructions and guidelines of the profession during their daily work to limit the outbreak of COVID-19 among the Kurdish population in the Kurdistan Region of Iraq. The local government in this Region has an active role in educating citizens about precautionary prevention, so we have seen the outcome of that, so the number of death is less than in other countries near Iraq as Iran, Jordan, and Turkey. These findings agreed with a study done in Indonesia that recommended the prevention of COVID-19 and early detection.^[22] It is necessary for all workers dealing with food and meat, they have to apply personal and public prevention by social distancing and wearing Personal Protective Equipment (PPE) as mentioned in the study by Jonathan *et al.*^[24] Workers in markets must have sufficient knowledge about prevention from COVID-19 in the workplace to break the chain of infection as mentioned by Usman *et al.*^[25] Accordingly, several studies have shown that long-term infrastructure commitments of population to the COVID-19 regulations are considered as one of the

Table 5: The association of participants' awareness with COVID-19 commitments

Variable	Value	df	P-value
Sex	884.970 ^a	2	0.001
Age	1300.208 ^a	8	0.001
Education Level	292.358 ^a	8	0.001
Family Status	567.969 ^a	6	0.001
Type of family	618.272 ^a	2	0.001
Address	617.024 ^a	6	0.001
Occupation	1244.119 ^a	6	0.001

Values with the same superscript with the same column refer to statistically non-significant at $P < 0.001$.

Table 6: The percentage of opinion and commitment response to health guidelines preventive measures COVID-2019

No.	Criteria	Satisfy	Neutral	No satisfied
Opinion 1	I feel that bakers were committed to health authority guidelines and precautionary guidance	40.5%	40.6%	18.9%
Opinion 2	In my opinion bakers have good knowledge about health instruction	47.1%	31.1%	21.8%
Opinion 3	I agree that bakers depending on personal sanitary guidelines to protect themselves and others	41.7%	39.4%	18.9%
Opinion 4	I am satisfied with butchers' behaviors to deal with complete personal and environmental sanitation	51.0%	30.4%	18.6%
Opinion 5	When I go to buy meat, I am satisfied with clean and personal sanitation of them	44.9%	28.8%	26.3%
Opinion 6	I am sure butchers are dealing with animals properly with complete prevention	52.8%	27.4%	19.8%
Opinion 7	In my opinion food sellers in mall are committed with the local guideline for prevention	44.5%	32.0%	23.5%
Opinion 8	I am satisfied with food sellers in my location and have clean behaviors	49.2%	28.7%	22.1%
Opinion 9	Food sellers have good information of COVID-19 so that they do their best	44.9%	32.5%	22.6%
Opinion 10	I am satisfied with the cleanness of the food sellers in my location	52.5%	28.0%	19.5%

Table 7: Percentage of awareness and commitment response to health guidelines preventive measures COVID 2019.

No.	Criteria	Satisfy	Neutral	Not satisfy
Awareness 1	Butchers usually apply personal protective equipment during working	49.6%	31.5%	18.9%
Awareness 2	I see butchers' commitments about precautionary guidance in their shop	52.2%	25.7%	22.1%
Awareness 3	When I buy meat from butchers I satisfy with personal and environmental sanitation	50.4%	31.0%	18.6%
Awareness 4	I see always bakers wearing protective uniform to prevent themselves and others from COVID-19	48.6%	32.1%	19.3%
Awareness 5	Always bakers use clean technic in preparing bread every day	51.9%	27.6%	20.5%
Awareness 6	Always bakers order clients to be a distance between two people more than 2 meters for prevention	47.7%	31.2%	21.1%
Awareness 7	I satisfy with food sellers in mall or shops at my location so they deal properly with prevention measures	54.6%	31.3%	14.1%
Awareness 8	Usually, food sellers clean items and surfaces in the mall	47.7%	35.5%	16.8%
Awareness 9	I satisfy with food sellers because they bring excellent items to their mall or shops	53.1%	29.5%	17.4%
Awareness 10	As general I satisfy with bakers, butchers, and food sellers in my location because they are commitments with all health recommendation and other precautionary measures	50.4%	31.6%	18.0%

valuable on-going and maintained actions to back up the resilience of physicians and healthcare against the ongoing pandemic.^[25-28]

CONCLUSION

The opinions and awareness of citizens were satisfied and agreed with workers' commitments as (butchers, bakers, and food sellers) about COVID-19 prevention. There was a significant correlation between their variables, opinions, and awareness about workers' commitments to prevention from COVID-19. The proper commitment of workers to prevention may help to break down the chain of COVID-19 infection which consequently reduces mortality and morbidity rate. The limitation of this study includes moving limitations due to the confinement. Therefore, the authors suggest future studies in that regard including more participants from different countries around the globe and direct interviews.

ACKNOWLEDGMENTS

The authors would like to thank all participants for their contribution.

AUTHORS' CONTRIBUTIONS

All the authors contributed to data analysis, explanation, writing original draft, and final review.

CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

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