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Egyptians' Perception of Halal Food Requirements Before and After The COVID-19 Pandemic: "Social Media Interactive Research-SMIR": A New Approach

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ABSTRACT

This paper aims at investigating the perception of the Egyptian consumer of halal food requirements before and after COVID-19, utilizing the new "Social Media Interaction Research" (SMIR) approach. A "Google from" questionnaire was designed, and the initial potential respondents were invited via the principal author's Facebook account to file the questionnaire form and join a closed Facebook group to present and discuss the initial results of the study. At the two stages of the study, before and after the COVID-19 pandemic, 302 and 338 questionnaires were filled out. Furthermore, at the first stage of the study, the respondents were allowed to participate with their comments through a focus group interview of 24 experts that was live-streamed online on the study's Facebook group. To our knowledge, this is the first qualitative study of its kind that utilizes the so-called "SMIR" approach in collecting, validating, and processing data, where the majority of the study's respondents have interacted with the authors throughout its stages via social media. The findings of this study reveal that the levels of Egyptian consumer awareness before and after COVID-19 were not affected in the case of four food groups out of seven under study. Furthermore, the consumer's awareness of halal food principles in beverages and meat is higher than in other food groups such as milk, fish, honey, eggs, and cereals.

KEYWORDS: Halal food, Consumer perception, Social Media Interactive Research- SMIR, Covid-19

1. INTRODUCTION

There are various eating patterns and food intakes that are spread geographically worldwide (Song and Cho 2017), which are related to cultures, behaviours, and religions (Grigg, 1995). Muslim consumer lifestyles are Islamic value-driven (Mohamed, N., et al., 2020). Halal is an Arabic term that means legal or authorized. Hence, halal food means the dietary norm, as set out in the Quran (the Muslim scripture), concerning food. On the other hand, "haram," which means forbidden or banned, is the opposite of halal. Halal and haram are common concepts applicable in any field of Muslims' lives. These words are widely used for foodstuffs, meat products, cosmetics, personal care supplies, pharmaceuticals, and food products. Generally, all food is treated as halal in Islam unless the Quran or Hadith expressly forbids it (Selvarajah, K., et al., 2017). Moreover, Halal food is set by food-related Islamic permissibility, fair trade, food safety, and hygiene. (Baharuddin et al., 2015; Sharaai et al., 2012), Therefore, halal food would not be restricted to Muslim consumers only.

In general, Halal Food can be defined as Food permitted under the Islamic Law and should fulfil the following conditions ((FAO), 2001):

- Does not consist of or contain anything which is considered to be unlawful according to Islamic Law;
- Has not been prepared, processed, transported or stored using any appliance or facility that was not free from anything unlawful according to Islamic Law; and
- Has not in the course of preparation, processing, transportation or storage been in direct contact with any food that fails to satisfy 2.1.1 and 2.1.2 above.

Furthermore, FAO definition extended to consider that:

- Halal food can be prepared, processed or stored in different sections or lines within the same premises where non-halal foods are produced, provided that necessary measures are taken to prevent any contact between halal and non-halal foods;
- Halal food can be prepared, processed, transported or stored using facilities which have been previously used for non-halal foods provided that proper cleaning procedures, according to Islamic requirements, have been observed.

The Muslim population in the world is estimated at 1.9 billion in 2020[1], geographically distributed in 187 countries on all continents, and represents 25% of the world population. Moreover, it estimates that by 2050, the Muslim population will be 2.7 billion, which represents 29.7% of the world population[2]. Muslim food spending rose from 1.13 trillion dollars in 2018 to $1.17 trillion in 2019, as well as their spending on travel, from $189 billion in 2018 to $194 billion in 2019 (Shafaki, 2022).

The COVID-19 pandemic has affected the sustainability of food consumption in many ways, some of which are related to the decrease in the quantities of food waste (Principato, L., et al., 2020), with the expectation that the production of household food waste will decrease due to the increase in conscious purchasing (Sharma, HB, et al., 2020). Furthermore, the COVID-19 pandemic directs food consumers towards healthy food, consuming less fast food (Lauren, C., et al., 2020; Romeo-Arroyo, E., et al., 2020), and increasing their demand for safe food (Yang, X., 2020).

Few studies have utilized social media in social research. A literature review (Nagi et al., 2016) indicated that social media has been applied in diverse business areas with the support of various social media tools and technologies. (Mathiasson and Jochumsen, 2019) reported a new approach for researching public library programmes through Facebook events in Denmark. Simões and Gouveia (2012) gathered data about the use of Facebook by higher education students. (Bober., 2014) identified that student research using Twitter can lead to a valuable learning experience. Castro and Marquez (2017) explored the way companies can use Facebook to understand the elements of their target market. (Merrill., 2011) considered Facebook, Twitter, and LinkedIn as new communication tools to distribute a survey to an international higher education audience.

[1] https://worldpopulationreview.com/country-rankings/muslim-population-by-country.

[2] https://www.pewforum.org/2015/04/02/religious-projections-2010-2050/

(Rauniar, R., et al., 2014) stated that in the current business world, marketers and businesses are rushing to online social media sites because that is where customers are to be found.

This study aims to assess to what extent Egyptian consumer awareness of halal food requirements changed before and after the COVID-19 pandemic through an innovative research methodology that uses social media in continuous interaction with the investigators during the various research stages. Hence, this study will help food producers design tailored food-marketing strategies. Moreover, this study is considered one of the first to deeply analyze the requirements of halal food, combining the technical expertise of the food manufacturers with the jurisprudential opinion, which will help in updating the global food supply chain, food producers, and marketers with the requirements of a large food consumer segment.

2. MATERIALS AND METHODS

As in figure (1), the "Social Media Interactive Research" or SMIR approach as introduced by this study consists of three main stages: the first is the designing of a self-administrated Google form questionnaire. The second stage is the creation of a closed Facebook group to invite and interact with the respondents that are interested in knowing the studies' preliminary results. The third stage is the validation of the study's preliminary results by organizing a focus group interview between a representative of Dar Al-Ifta (who represents the jurisprudential opinion) and scientists and manufacturing experts to scientifically match religious principles, scientific facts, and manufacturing practices.

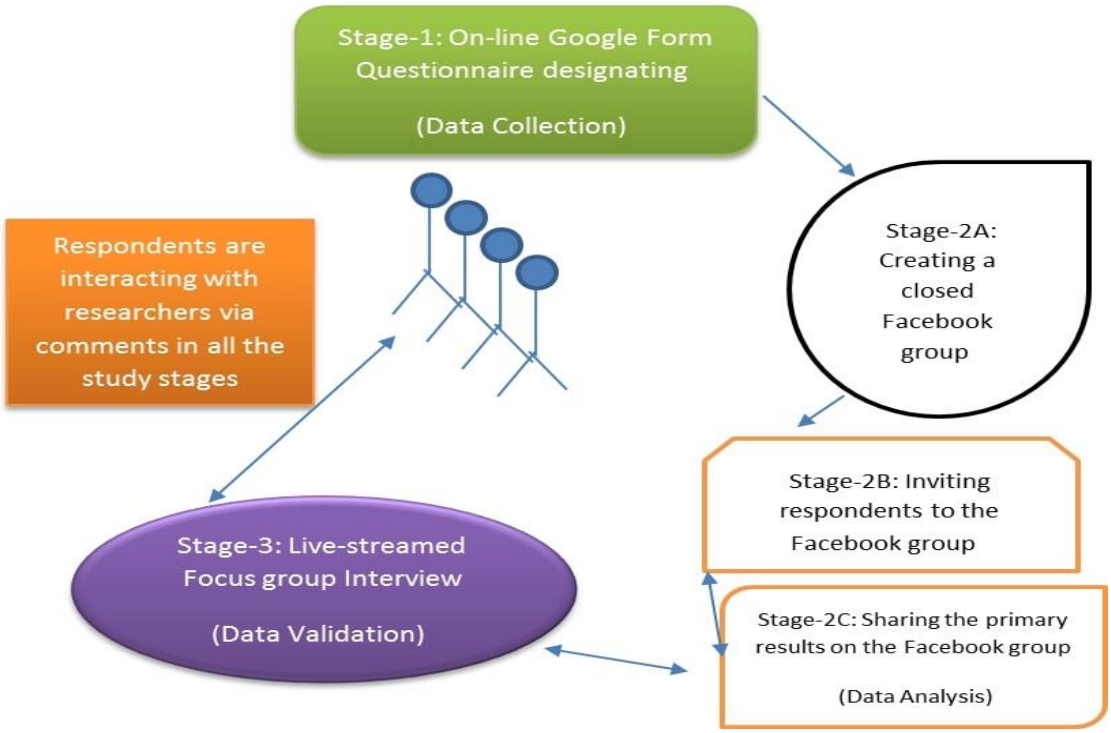

Figure 1. The "Social Media Interactive Research" or SMIR approach as introduced by this study

A fourth stage can be added to further research by evaluating the improvement in respondents' awareness related to the subject under study after their active participation in the research. This research method is characterized by creating a state of continuous interaction between researchers and respondents all over the study stages, instead of just obtaining information from them, as was the case with traditional methods. Moreover, informing the respondents of the preliminary results of the research may allow the researcher to assess the extent of the respondents' understanding of the subject under study. As well, the final phase of the study, which is the live broadcast of the focus group interview, enables the respondents to identify and correct their perceptions. Hence,

this would be considered a social responsibility for social research.

This study's questionnaire contains two main parts; the first part consists of seven questions that test the respondents' knowledge. The respondents were asked to mention the reasons for the prohibition of food if they knew what would prohibit the seven food groups under study. Respondents answered the survey questions on a five-point Likert scale. When point (1) is chosen, that means that the respondents do not have any knowledge of the reasons for the prohibition of the food group. If the respondent claims full awareness of the prohibition reasons, then point (5) should be chosen. The second part of the questionnaire investigated some of the respondents' related characteristics to the study, namely: age, educational level, food-related specialty, occupation, residential area (rural, urban), income level, and gender (male, female). The questionnaire was administered twice, before and after COVID-19. The first time, the survey was conducted during the period from July 27 to August 18, 2019, and the second time, during the period from December 10 to December 21, 2020. The number of respondents the first time reached 302, and the second time, 338 respondents.

The invitation and interaction with respondents have been started by creating a closed Facebook group named Halal Food in Arabic on July 25th, 2019 to invite its members to fill out a word-based questionnaire. The group members were initially a group of friends of the principal investigator on Facebook. On July 27, a suggestion was received from one of the survey participants to convert the word-based questionnaire into a Google questionnaire, and the research team responded by implementing this suggestion. At the same time, both the Facebook group and the Google Form questionnaire were promoted on the page of the corresponding author of this study, which bears his name in Arabic, by a funded publicity campaign. The campaign targeted the 18–65-year-old segment of Egyptian citizens across all of Egypt. As well, the principal investigator also shared the form with a number of his friends on his WhatsApp account. Furthermore, the questionnaire was filled out for some people with low income and low education levels that do not allow them to use social media. Once the targeted number of respondents was completed on August 18th, 2019, the preliminary results of the study were disseminated to them in a closed Facebook group without any interpretation and urged them to interact more with each other in the group and discuss their answers together.

Thematic analysis, or the inductive content analysis method developed by *Braun and Clarke (2006)* was the most common data analysis tool for analyzing the focus group interview and discussion data (Hada, Jack, & Coyer, 2019; Duerlund, Andersen, Grønbeck, & Byrne, 2019). (Hamdy, Neal, Nicholson, Ansusinha, & King, 2019) Applied first-level codes to key phrases (Charmaz, 2006), the codes were grouped with overlapping meaning and co-occurrence into themes and subthemes (Krippendorff, 2013; Kuper, Reeves, & Levinson, 2008). (Jung & Ro, 2019) used conversation analysis techniques according to Sacks (1995). This study utilizes the thematic analysis, or inductive content analysis, method for analyzing the focus group interview.

a. Data Validation and Analysis

In this study, the estimates of self-rated consumer perception were validated. The validation process depended on reviewing the reasons mentioned by the respondents to demonstrate their knowledge. The respondent’s answer was omitted when no evidence was mentioned, as well as if the answer was an incorrect or suspicious answer. This results in what we call "initial consumer perception." It is considered after refining the data as mentioned to up- or down-grade the respondent's scores as follows: the respondents who cite more than one reason are considered "fully aware," and whoever cites one reason is considered “knowing about the requirements," which results in what we call "revised consumer perception." The non-parametric Spearman correlation coefficient (rho) was used to test if there was a significant difference between the initial and revised consumer perceptions. These processes were applied to data before and after the COVID-19 pandemic. As well, the Spearman correlation coefficient was again used to estimate the correlation coefficients between the consumer perception estimates and the factors expected to affect the level of this

perception. Moreover, the statistical t-test was used to compare the averages of consumer perception estimates for each food group before and after the COVID-19 pandemic, assuming unequal variances. IBM SPSS Statistics version 27.0, 2020, was utilized to perform the statistical analysis.

In this study, two main hypotheses were formulated as follows:

H0: There are no differences in the Egyptian consumer perception of halal food requirements before and after COVID-19.

H1: There are differences in the Egyptian consumer perception of halal food requirements before and after COVID-19.

Finally, in the second phase of this study, after COVID-19, the study discussed its findings with a representative of jurisprudence and the head of the Egyptian Halal Food Unit via a zoom meeting link that was shared in the study group on Facebook, where the Facebook group members were invited to attend the meeting. The interview videos were also uploaded to the study group.

3. RESULTS AND DISCUSSIONS

Table 1 shows that the audience' confidence to claim they're fully aware of the reason for prohibiting food was at its highest levels with beverages and meat (69.6%, 51.1% claimed their knowledge and mentioned the right examples). However, the majority of the audience stated their ignorance of the reasons that make other food groups impermissible from the Islamic perspective.

On the other hand, the levels of Egyptian consumer awareness before and after COVID-19 are not affected in the case of four food groups out of seven under study. Furthermore, The Google questionnaire employed in this study demonstrated remarkable reliability before and after COVID-19. Despite the difference between the two study samples' populations, the estimates as shown in Table 1 show no significant variations in the sub-awareness levels before and after COVID-19. Moreover, the validation process revealed that the meat and beverage groups have the largest inconsistency between the initial and revised results. Furthermore, it was also found that the fish group witnessed the most wrong answers from the respondents, with 22.52% and 25.74% of the answers before and after COVID-19 being wrong and having been deleted.

Table 2 shows that the lower age groups are the least aware of the requirements of halal food, and vice versa. On the income level, and unexpectedly, the awareness of low-income consumers (<2500 EGP) of halal food requirements after COVID-19 is low compared to the period before the pandemic. Whereas, middle-income consumers (5000–7500 EGP) are the most aware of halal food requirements. Contrarily, high-income consumers (>7500 EGP) are the least aware of halal requirements for meat and dairy. As shown in Table 3, it is noteworthy that Upper Egypt's consumer awareness of halal food requirements concerning meat and beverages is lower compared to Lower Egypt. As expected, the lower educational groups were the least aware of halal food requirements. Related to gender, as revealed in Table 4, males also showed a greater awareness of halal food requirements than females. The results of the study indicated that the respondents who participated in the survey twice and watched the awareness videos of the study group on Facebook were the most aware of the requirements of halal food.

The focus group meeting was held to validate the initial results of the study. Figure 2 illustrates the general rules that were extracted to assess the awareness of respondents to this study. (See the Jurisprudential Explanation of Figure No. 2 in Appendix no. 1).

Appendix 1: Jurisprudential explanation of Figure No. 2

Harms must be removed: in the case of the presence of infected organs in the animal, they must be removed to prevent consumers from associated harms without prohibiting the rest of the healthy organs as long as the disease is not transmitted, as in the case of the presence of worms or tapeworms in the liver or the presence of diseases in the kidney or the spleen. But, in the case of common diseases between humans and animals, such as tuberculosis that affects the lungs, the veterinarian determines the extent of damage and the need to fully execute the animal body or not. Also, in the case of animals that eat dirt or are fed with feedstuffs containing non-halal ingredients and stinks appear in the smell of their sweat, which means that "stink" has been rooted in their tissues, this stink must be

Table 1. Percentage of Consumer Perception of Halal Food Requirements Before and After COVID-19

Product	Degree of revision	Before Covid-19							After Covid-19							t-test [(1)]
		No. of observations	Spearman's rho	(1)	(2)	(3)	(4)	(5)	No. of observations	Spearman's rho	(1)	(2)	(3)	(4)	(5)	
Meat	Initial	287	0.644**	2.4	4.2	16.0	60.6	16.7	319	0.560**	2.2	7.2	9.1	49.8	31.7	1.386
	Revised			3.1	3.5	15.7	54.7	23.0			2.2	6.9	9.1	51.1	30.7	
Milk	Initial	271	0.976**	10.7	43.9	21.8	18.8	4.8	297	0.991**	10.4	32.7	31.3	17.8	7.7	1.398
	Revised			10.7	41.7	23.2	21.0	3.3			10.4	32.7	31.3	20.9	4.7	
Beverages	Initial	274	0.787**	2.5	7.7	12.8	61.7	15.3	318	0.517**	1.6	6.3	5.7	58.2	28.3	4.814**
	Revised			2.6	6.9	12.4	75.9	2.2			1.6	5.0	5.3	69.8	18.2	
Fish	Initial	234	0.978**	14.5	45.7	26.5	10.7	2.6	251	0.952**	15.1	36.3	31.1	11.2	6.4	1.807*
	Revised			15.0	45.7	26.5	12.0	0.9			14.3	36.7	30.7	17.9	0.4	
Honey	Initial	277	0.999**	23.5	55.2	17.3	3.2	0.7	300	0.984**	27.7	47.0	22.0	2.0	1.3	-0.286
	Revised			23.5	55.2	16.6	4.3	0.4			28.0	46.7	22.0	3.0	0.3	
Eggs	Initial	293	0.978**	20.1	51.5	20.1	6.5	1.7	311	0.996**	20.6	42.1	22.8	9.6	4.8	1.343
	Revised			20.1	50.5	16.7	11.6	1.0			20.6	42.1	21.9	14.1	1.3	
Cereals	Initial	270	0.968**	23.3	53.7	18.5	3.0	1.5	296	0.976**	20.3	50.0	19.9	7.8	2.0	1.754*
	Revised			22.2	54.8	17.8	4.4	0.7			20.9	50.0	18.9	9.1	1.0	

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). T-test: two samples assuming unequal variances.

Table 2. Determinants of Consumer Perception of Halal Food Requirements Before and After COVID-19 (Age and Income)

	Age (Years)												Income (EP)							
	<20		20-30		30-40		40-50		50-60		>60		<2500		2500-5000		5000-7500		>7500	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Meat	(-)	(-)*	(-)	(-)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(-)	(+)*	(-)	(+)	(+)	(+)	(+)	(-)**	(-)
Milk	(-)	(-)*	(-)**	(-)**	(+)	(+)	(+)	(+)**	(+)	(+)	(+)	(+)	(+)*	(-)**	(+)	(+)	(-)	(+)*	(-)*	(+)
Beverages	(+)	(-)	(-)*	(+)	(+)	(+)	(+)	(-)	(+)	(-)	(+)	(+)	(+)	(-)	(+)	(-)	(+)	(+)	(-)	(+)
Fish	(+)	(-)	(-)	(-)*	(+)	(+)	(-)	(+)	(+)	(-)	(+)	(+)	(+)	(-)*	(-)	(-)*	(+)	(+)	(-)	(-)
Honey	(-)	(-)	(-)*	(-)	(+)	(+)	(+)	(-)	(+)	(-)	(-)	(+)	(+)	(-)	(+)	(+)	(-)	(+)	(-)	(-)
Eggs	(-)	(+)	(-)**	(-)**	(-)	(+)	(+)*	(+)	(+)	(+)	(+)	(+)	(+)	(-)	(-)	(+)	(+)	(+)	(-)	(-)
Cereals	(-)	(-)	(-)**	(-)*	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(-)	(+)	(-)	(-)	(+)	(+)	(+)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 3. Determinants of Consumer Perception of Halal Food Requirements Before and After COVID-19 (Geographical Locations and Education Level)

	Geographical Location										Education Level													
	Urban		Lower Egypt		Upper Egypt		Canal Cities		Food Science Graduate		Primary		Elementary		High School		After High School		University		Master		Ph.D.	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Meat	(+)	(-)	(+)	(-)	(-)*	(+)	(+)	(+)	(+)	(+)	(-)	(-)	(-)*	(+)	(+)	(-)*	(-)	(-)	(-)	(-)	(+)	(+)	(+)	(+)
Milk	(-)	(+)	(-)	(+)	(-)	(-)	(+)*	(+)	(+)**	(+)**	(-)*	(-)*	(-)	(+)	(-)	(-)**	(-)	(-)	(-)	(-)	(+)	(+)	(+)	(+)**
Beverages	(+)	(+)	(+)**	(+)	(-)**	(-)	(+)	(+)	(+)	(+)	(+)	(-)	(-)	(+)	(-)	(-)	(-)	(-)	(-)	(+)	(+)	(-)	(+)	(+)
Fish	(-)	(+)	(+)	((-)	(-)	(-)	(+)	(+)	(+)*	(+)**	(-)	(-)	(-)*	(-)	(-)*	(-)**	(+)	(-)	(+)	(+)	(+)	(+)	(+)	(+)
Honey	(-)	(+)	(-)	(-)	(+)	(+)	(+)	(+)	(+)*	(+)**	(-)	(-)	(-)	(+)	(-)	(-)	(-)	(+)	(+)	(-)	(+)	(+)	(-)	(+)*
Eggs	(+)	(+)	(-)	(+)	(-)	(-)	(+)*	(+)	(+)	(+)**	(+)	(-)	(-)	(+)	(-)	(-)	(-)	(-)	(+)	(-)*	(+)	(+)*	(+)	(+)**
Cereals	(-)	(+)	(+)	(+)	(-)	(-)	(+)	(-)	(+)**	(+)*	(-)	(-)	(-)	(+)	(-)	(-)	(-)	(+)	(-)	(-)	(+)	(+)	(+)	(+)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 4. Determinants of Consumer Perception of Halal Food Requirements Before and After COVID-19 (Gender and Social Media Awareness)

	Gender		Social Media Awareness		
			Participated in 2019 questionnaire	Membership of Halal Food Facebook group	Watched the awareness videos produced by this studies' focus group
	Before	After	After		
Meat	(+)	(+)	(+)	(+)	(+)
Milk	(+)	(+)**	(+)	(+)**	(+)**
Beverages	(-)	(+)	(-)	(-)	(-)
Fish	(+)	(+)	(+)	(+)**	(+)**
Honey	(-)	(+)	(+)**	(+)**	(+)**
Eggs	(+)	(+)*	(+)**	(+)**	(+)*
Cereals	(+)	(+)	(+)*	(+)**	(+)**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

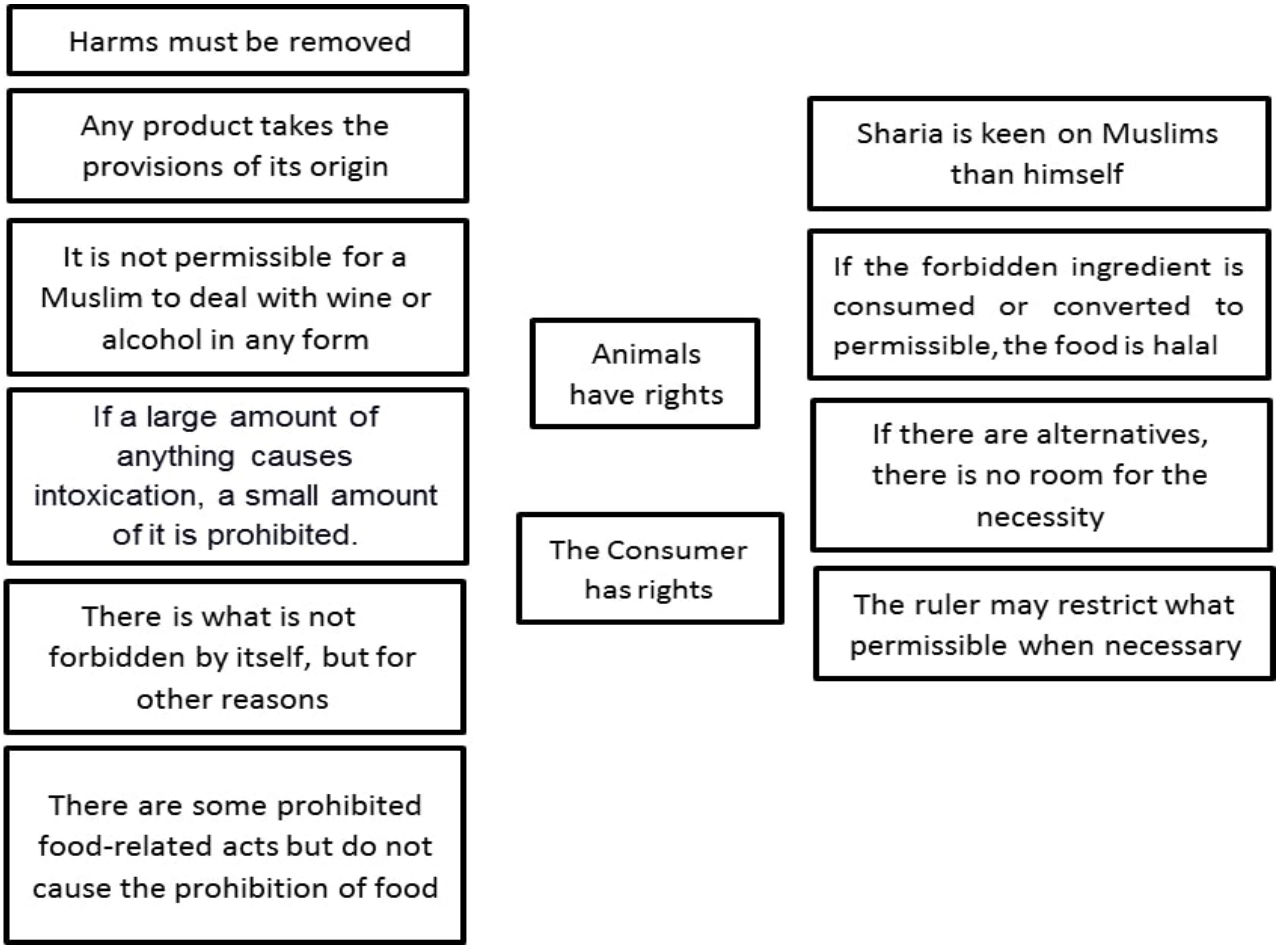

Figure 2. The findings of the focus group meetings; General rules of Halal Food

removed from them by isolating the animal and feeding it on clean food for a period that varies according to its size, where the jurists set forty days for large animals, ten days for medium animals, and three days for small ones. But if the stink appears on the products of these animals—meat, milk, eggs, and others—it is not permissible to eat it unless there is a way to remove the "stink".

Any product must meet the provisions of its origin. For instance, eggs from an impermissible bird are also forbidden. At the same time, derivatives and components extracted from forbidden or dead animals are forbidden as well, and so on. Moreover, the remnants of honeybees' parts in honey are not deprived according to the opinion of "Maalikia," which allows eating insects as long as they will not cause harm to man, are accepted by oneself, and do not cause disgust.

It is not permissible for a Muslim to deal with wine or alcohol in any form. Alcohol is considered wasted money for Muslims and should not be acquired at all. In that manner, it is not permissible for a Muslim to add wine or alcohol to food, even if it is confirmed that it will be consumed by heat during cooking, but there is nothing wrong with it as long as he does not request the addition. It is not permissible for a Muslim to intentionally add alcohol to drinks, even if the proportion will not lead to drunkenness, but if alcohol exists in food or beverages inadvertently as a result of fermentation or other processes, then it is possible to intake food and beverages provided that the amount formed is too small to the degree that does not allow drunkenness even with extravagance in eating or drinking.

If a large amount of anything causes intoxication, a small amount of it is prohibited. That means if drinking a large amount can cause drunkenness, in this case, both small and large amounts of it are forbidden. On the contrary, if a few portions of alcohol are formed by fermentation or after the use of alcohol in the extraction of food additives such

as flavors and colors to the extent that their traces do not lead to drunkenness with excessive intake, it might not be forbidden.

There is what is not forbidden by itself, but for other reasons: For example, excessive amounts of authorized food additives are haram because their addition has certain percentages that should not be exceeded; otherwise, they may cause harm to the consumer, even in the long run. The prohibition here is not for the additive itself but for its long-term detrimental effect. If these substances are used within the limits of good manufacturing practices, the quantity added is halal. Also, eating permissible food excessively may cause a person to prohibit it in the future if it causes harm to him. For instance, if excessive intake of sweets or salted pickles for a long time can lead to diabetes or cardiovascular disease, then sugar and salty pickles will be prohibited by physicians. To that end, excessive amounts of sugar and salt are haram for a Muslim as long as he knows they will harm him.

There are some prohibited food-related acts, but they do not cause the prohibition of food. Fishing, for example, by stun or dynamite, the fisherman is guilty of violating the laws if they prevent it, if it is proven to cause damage to the fish, or if they kill the fish in a way that causes pain. Despite this sin of the hunter, this fish is not forbidden to eat because it allows Muslims to eat dead fish. Another example is that adding glucose to honey without informing the consumer is haram, and the beekeeper is sinning, but consuming this adulterated honey is not haram because it is not harmful.

Animals have rights. If it is proven that stunning before slaughter or fishing by detonation or electrocution harms the animal and causes him pain, these acts are not allowed, and those who do them commit a sin.

The consumer has rights. Shariah preserved consumer rights when it prohibited food-related acts and food that would harm him. In this manner, if it is scientifically proven that stunning before slaughter, for example, leads to non-completed bloodshed or that fishing with electric shock also leads to changes that would harm the consumer, then stunning is forbidden. Likewise, if it is proven that blast fishing affects fish reproduction, destroys nature, negatively affects the sustainability of food, or causes undesirable changes in fish that harm the consumer, then blast fishing is not permissible.

Sharia is keener on Muslims than himself: It is not permissible for a Muslim to eat food if he knows that it contains harm to him; his knowledge of the damage makes food forbidden and makes him sin if he eats it. Because man is entrusted with his body and ordered to preserve it, not destroy it.

If the forbidden ingredient is consumed or converted to permissible, the food is halal. For example, if wine is added to the food and the alcohol is consumed with fire during cooking, eating this food is not forbidden in this case, as long as he did not request the addition, as mentioned previously. Similarly, if the nectar of the poppy flower turns into honey when the bees feed on it, there is nothing wrong with eating the honey, as long as there is no narcotic effect from eating it if there is an excessive intake.

If there are alternatives, there is no room for necessity. When there is a place that sells halal food so that a Muslim can go to it even once every period to buy his halal food needs, it is not permissible for a Muslim, in this case, to eat another questionable food. But in cases of necessity, there is nothing wrong with the Muslim eating the food of the people of the book (such as Jews and Christians) exclusively, provided that the name of Allah is pronounced on it. As well as "beekeeper," which feeds the bees on glucose without informing the consumer, in the period of the presence of flowers, and there is nothing to prevent bees from feeding on the nectar of flowers and pollen, he commits sins because he did not have to do so.

The ruler may restrict what is permissible when necessary. If the governor considers that fishing at certain times of the year in which fish reproduce will negatively affect the sustainability of fish production, he may enact legislation prohibiting fishing during this period of the year. Subsequently, fishermen must abide; otherwise, they commit a sin, but that does not prohibit eating this fish, and there is nothing wrong with the consumer.

There is no doubt that halal food is one of the derivatives of safe food due to the keenness contained in its rules to eliminate all food contaminants and hazards during production, preparation, handling, and

consumption. The results of the focus group meeting of this study revealed that halal food is inseparable in its principles from the principles of sustainable consumption. As figure (3) illustrates, Muslims are legally obligated to refrain from consuming products that contain food hazards—as long as they know that—to preserve themselves, so their consumption of unsafe food is considered forbidden. Also, the operations carried out by the producers that affect the environment or harm the welfare of animals are considered forbidden actions according to halal food rules, even if the food itself is not prohibited unless the food is negatively affected by these actions. For example, fishing with electricity or dynamite is a forbidden act because it harms the environment and may lead to harm to the animal itself, but there is no evidence that food has been negatively affected by these actions, and then it is possible to eat the fish resulting from these forbidden actions. However, if the fish is caught using toxins, in this case, both the action and the food as well are forbidden.

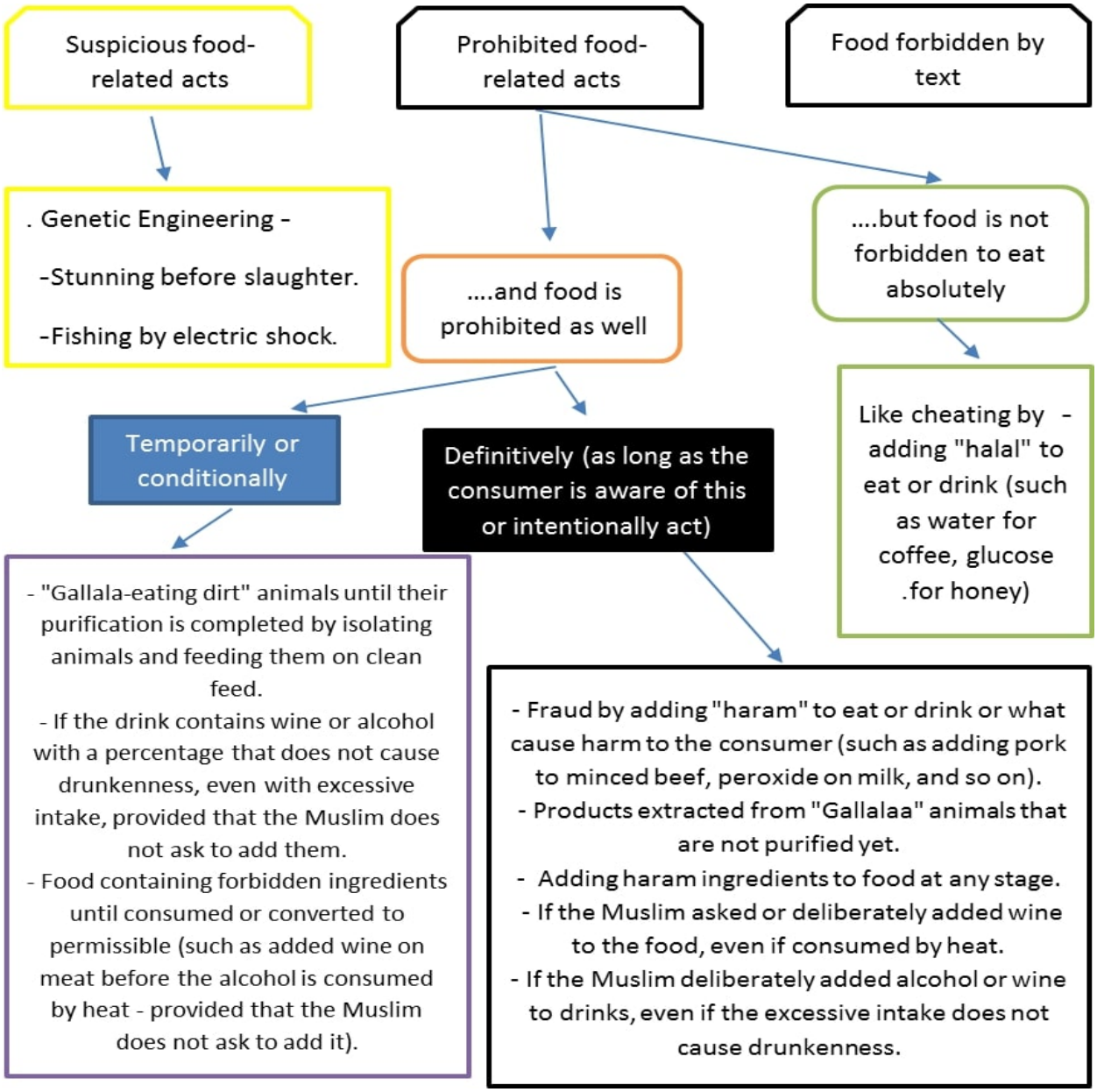

Figure 3. Suspicious food, forbidden food, and Prohibited food- related acts

Likewise, any action that has not been proven scientifically to affect food safety is considered suspicious. Therefore, the food resulting from genetic engineering is considered a suspicious food according to the rules of halal food, and Muslims should avoid it until it is scientifically proven that it is completely safe for the health of consumers. The rules of halal

food are also concerned with the cleanliness and safety of the entire food chain, and this is exemplified by the temporary prohibition of eating the meat of animals that feed on dirt, carrion, and other feeds that are not guaranteed to be clean and safe. These animals are kept and fed clean food for a period according to their size before they are allowed to be eaten as food. Just as the rules of halal food are concerned with sustainable consumption, they are also concerned with sustainable production, an example of which is granting the ruler the right to restrict permissibility as long as there is an impact on the sustainability of production. For example, the ruler has the right to legislate prohibiting hunting during the breeding period as well as slaughtering female cattle when unjust slaughtering of them is common.

In general. the results of the study showed that awareness levels of halal food perception increase with increasing age, which is expected given that awareness is a result of knowledge accumulation. Therefore, consumers with higher educational levels are the most aware of halal food requirements. Concerning geographical location, the extent of the openness of society affects the extent of consumers' awareness in general. In Egypt, the results of the study showed that the level of consumer awareness in Lower Egypt, which includes Cairo and Alexandria, the first and second capitals of the state, is greater than the level of consumer perception of halal food requirements in Upper Egypt, which is a less open and more conservative environment. Whereas, for example, non-halal drinks may be more common in some places in the two capitals, at least, which is less common in Upper Egypt.

As far as income level, the results disclose that lower income levels are less aware of halal food requirements; perhaps this income segment is more concerned with price level than food safety and quality. As for the middle-income group, which constitutes the largest segment of food consumers in Egypt, their awareness of halal food requirements is the highest. On the contrary, the highest-income groups in society may not engage in interactive activities related to food, such as cooking, for example, as is the case in the case of the middle class, and therefore questions related to the requirements of halal food may not interest this income group. It was not surprising that social media played a major role in improving consumers' awareness levels of halal food requirements.

It's recommended for further research to use the emergent research method (SMIR) employed in this study to inform and discuss the results of what has been surveyed with their respondents. Furthermore, SMIR would be considered a means to increase the respondents' awareness of the phenomenon under study as a societal responsibility of social research.

4. CONCLUSION

Although increasing awareness of health issues and the requirements of safe food, including halal food, is a manifestation of the post-Covid-19 period, this study report that the awareness of Egyptian consumers about the requirements of halal food has not affected after COVID-19 in three food groups out of seven under study. Furthermore, there are many factors that affect the Egyptian consumer's awareness of Halal food positively, such as age, higher educational level, civil location, and increased income.

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الملخص العربي

إدراك المصريين لمتطلبات الأغذية الحلال قبل وبعد جائحة كوفيد-١٩: "البحث التفاعلي عبر وسائل التواصل الاجتماعي": نهج جديد

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تهدف هذه الورقة إلى دراسة إدراك المستهلك المصري لمتطلبات الأغذية الحلال قبل وبعد جائحة فيروس كورونا، وذلك باستخدام منهج جديد استحدثته الدراسة يسمى "البحث التفاعلى عبر وسائل التواصل الاجتماعي" أو Social Media Interactive Research، والمسمى اختصاراً SMIR. حيث تم تصميم استبيان"Google from"، وتمت دعوة المشاركين المحتملين الأوليين عبر حساب الفايسبوك الخاص بالباحث الرئيس لملء نموذج الاستبيان، والانضمام إلى مجموعة فايسبوك مغلقة[٢] لعرض ومناقشة النتائج الأولية للدراسة. وفي مرحلتي الدراسة، قبل وبعد جائحة كوفيد-١٩، تم ملء ٣٠٢ و٣٣٨ استبيانًا. علاوة على ذلك، في المرحلة الأولى من الدراسة، سُمح للمستجيبين بالمشاركة بتعليقاتهم من خلال مقابلة مجموعة التركيز Focus group meeting، والتى ضمت ٢٤ خبيرًا تم بثها مباشرة عبر الإنترنت على مجموعة الفايسبوك الخاصة بالدراسة. وعلى حد علمنا، تعد هذه الدراسة النوعية الأولى من نوعها التي تستخدم هذا المنهج في جمع البيانات والتحقق من صحتها ومعالجتها، حيث تفاعل غالبية المشاركين في الدراسة مع الباحثين طوال مراحلها عبر وسائل التواصل الاجتماعي. تكشف نتائج هذه الدراسة أن مستويات وعي المستهلك المصري قبل وبعد فيروس كورونا لم تتأثر في حالة أربع مجموعات غذائية من أصل سبع مجموعات قيد الدراسة. علاوة على ذلك، فإن وعي المستهلك بمبادئ الغذاء الحلال في المشروبات واللحوم أعلى منه في المجموعات الغذائية الأخرى مثل الحليب والأسماك والعسل والبيض والحبوب.

الكلمات المفتاحية: الغذاء الحلال، إدراك المستهلك، البحث التفاعلي عبر وسائل التواصل الاجتماعي، كوفيد-١٩.

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[٢] يمكن متابعة كافة مراحل هذه الدراسة عبر زيارة مجموعة الفيسبوك "الغذاء الحلال" من خلال هذا الرابط:
https://www.facebook.com/groups/2406167806144409