

Parents' knowledge towards Covid-19 disease in Children; preventive attitudes and risk perception

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ABSTRACT

BACKGROUND

Covid-19 is an outbreak of atypical respiratory disease that began in Wuhan, China in December 2019. After that, it spread universally with extraordinary speed to become the most urgent public health concern frightening all spirits over the world.

AIM

to evaluate the knowledge and attitudes of an Iraqi family, who have less than fifteen years of age child, towards COVID-19 disease in Children including clinical signs of the disease, modes of transmission, and protection measures.

METHOD

A cross-sectional study using online questionnaire consists of seven short pages each page have many single and multiple-choice question about a sociodemographic feature, covid-19 knowledge, and attitude (route of transmission, symptom, and preventive measure, etc...). Data collection took place from 1st to 15th of November, 2020. Nearly two million online questionnaires were sent to Iraqi parents using social media platforms. Only 1801 participants finished the survey that made the response approximately 0.09%. Parents from all cities in Iraq who can read the Arabic language and had children less than fifteen years of age and below were eligible to contribute to this survey.

RESULTS

Seventy percent of respondent depends on social media followed by the official website of the ministry of health as their source of information and sixty-five percent of them believe that covid-19 presented as fever in children and 40% said it could be asymptomatic. Furthermore, eighty-two percent know that respiratory droplet forms the common route of transmission followed by direct physical contact and close contact. Moreover, eighty-two percent of them aware that avoid crowdedness can protect them from COVID-19.

CONCLUSIONS

Iraqi society has average knowledge and attitude comparable with others or less in some points. This study may improve the educational policies concerning the appropriate techniques of teaching parents about COVID-19 in children.

KEYWORDS: COVID-19, Children, Parents, transmission, prevention, Iraq.

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I. Introduction:

Covid-19, an outbreak of the atypical respiratory disease first notified in Wuhan, China in December 2019 (1). Later, it disseminated globally in a drastic manner to become the most urgent public health concern and the ever-worst crises frightening humans over the world (2). Along with this fast global spread, the first case was reported in Najaf, Iraq on February 24, 2020 (3). Two weeks later, the Iraqi Ministry of Health announced that 101 cases had been confirmed positive for COVID-19, with nine deaths in 14 provinces. Like many Arabic countries, Iraq has experienced many difficulties in dealing with COVID-19 at the beginning like the lack of intensive care unit (ICU) beds, medical equipment, and qualified quarantine centers (4). Moreover, with the quality of life and the nature of the culture of Iraq including social life, people continued to practice their rituals and actions by shaking hands, exchanging kisses between relatives, and attending social gatherings, wedding ceremonies, and funerals. These represented a great challenge to control the spread of COVID-19 (5). In this

regard, the Iraqi Ministry of the Interior has made every attempt to prohibit several social gatherings within cities and suburbs(3).

In this small study, a cross-sectional analysis was carried out to evaluate the knowledge and attitudes of parents towards COVID-19 disease in Children. It is expected that the conclusion of the current study may improve the educational policies concerning the appropriate techniques of teaching parents about COVID-19 in children.

AIMS OF THE STUDY:

The study aimed to evaluate the knowledge of Iraqi parents about Covid-19 infection among children, transmission, and prevention.

II. Methods:

Participation and procedure

A cross-sectional study design was performed using a proper sample size from Iraqi parents. Moreover, the data collection took place from 1st to 15th of November, 2020. Nearly two million online questionnaires were sent to Iraqi parents using social media platforms like Facebook, Instagram (number of members in all groups=1,918,831), telegram, and WhatsApp groups. Only 1801 participants finished the survey that made the response approximately 0.09%. Parents from all cities in Iraq who can read the Arabic language and had children less than fifteen years of age and below were eligible to contribute to this survey.

Measures

This instrument consists of seven short pages of an online questionnaire. On the first page, respondents were informed clearly about the background and objectives of the study. From the second to the sixth page there are many questions about Socio-demographic factors included gender, age, residency and the number of children aged 15 years old and below in the family, and whether they had any chronic health condition or not. The number of members in each family also has been assessed and if there is any family member that works in the medical field.

The questionnaire includes the education level of the participants, monthly household income in Iraqi dinars (IQD), respondents' occupation, and about COVID-19, like how did the participants know about the virus (television, social media, the official website of the health department, family, friends, private browsing of the internet, medical articles, do not know). Furthermore, respondents were asked if there is any family member that has been infected with or passed away from COVID-19, how old were they and did they hospitalize or not.

The last page of the questionnaire consisted of many questions concerning participants' level of knowledge of COVID-19 in children, for instance, there are many questions about clinical characteristics, transmission, prevention, control, signs, and symptoms for COVID-19 in children. Furthermore, multiple preventive measures and protective attitudes for children against COVID-19 were included.

Data Analysis

All analyses were performed using IBM SPSS statistics (SPSS, Chicago, IL, USA) for mac, version 23.0. Data were tabulated and processed using Microsoft Excel (2019).

Ethical Consideration

This study was approved by the department of community medicine, college of medicine, the University of Baghdad in June 2020. Respondents were informed about the background, objectives of the study, and all information, and opinions provided would be anonymous and confidential.

III. Results:

The survey started from the first of November 2020 to the 15th of November 2020. The greatest response was recorded on the first of November 31.2% (N=562) while the weakest one was on the ninth of November 0.16% (N=3)

Demographic variables

A total of 1801 respondents were incorporated in the final analysis, of which 80.4% (N=1432/1780) were females and 19.5% (N=348/1780) were males. There were nearly 1.1% (N=21/1801) of them didn't answer this question. The commonly reported age group was (20-29 years) accounting for 39.2% (N=701/1787). On the other hand, three respondents 0.16% (N:3/1787) were more than 60 years old. 16 respondents did not respond to this question (which form 0.88% (N:16/1801) (Figure 1). The bulk of the respondents were from Baghdad, reported in 54.7% (N=916/1673). This was followed by Babil in 6.5% (N=109/1673). Sulaymaniyah and Duhok reported the lowest response rate in 0.23% and 0.29% respectively (N=4/1673 and 5/1673 respectively).

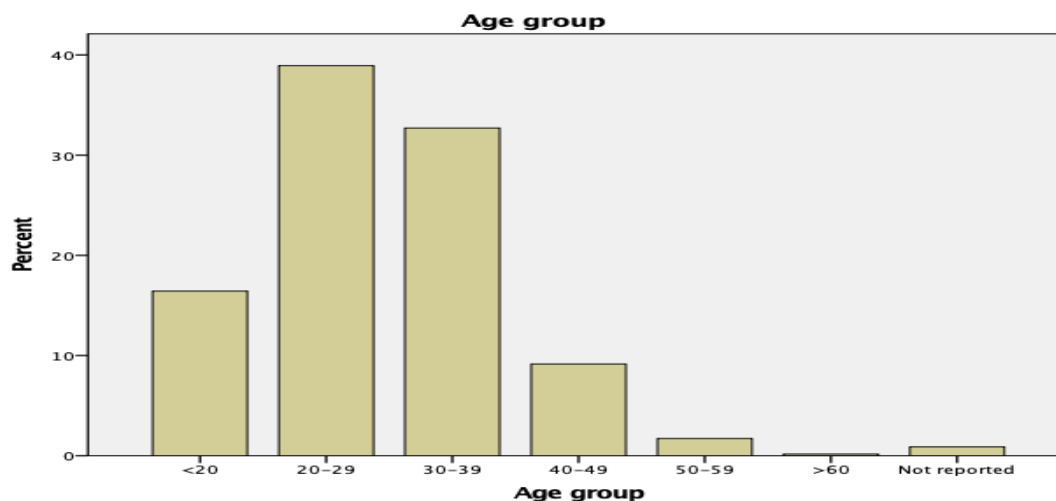


Figure.1: Distribution of participants according to age group

Assessing the academic degree of the participants had shown that the Bachelor degree represented the majority of respondents as they form 44.7 % (N=800/1787), this was followed by college students in 19.6% (N=352/1787), as shown in Table 1.

Table.1: Academic degree of the participants

Degree	No	Percent	Valid %
Bachelor	800	44.4	44.7
College student	352	19.5	19.6
Master	200	11.1	11.2
Secondary	197	10.9	11.0
Doctorate	91	5.1	5.1
Primary	83	4.6	4.6
Others	44	2.4	2.4
Read and write	12	0.7	0.7
Illiterate	8	0.4	0.4
Number of valid responses	1787	99.2	
Not reported	14	0.8	
Total	1801	100.0	

According to the job of the respondents; the employees constitute about 42.8% (N=759/1770), Students 30.6% (N=542/1770), non-employee 23.1% (N=408/1770) and retired from work form about 0.6% (N=11/1770). Out of the cohort, 35.3% (N=630/1787) have a family member in the health sector from the total 1801 responses; 16.3 % (N=292/1787) represents medical doctors in their family and 2.9 % (N=53/1787) nursing staff in the family, 15.5% (N=277/1787) of the respondents are working in the health sector other than physicians or nursing staff. Out of the total, there were 0.4 % (N=8/1801) not reporting their jobs. The majority of the participants have two kids less than 15 years in the family recorded by 35.1% of the participants (N=607/1725), as shown in (Figure 2)

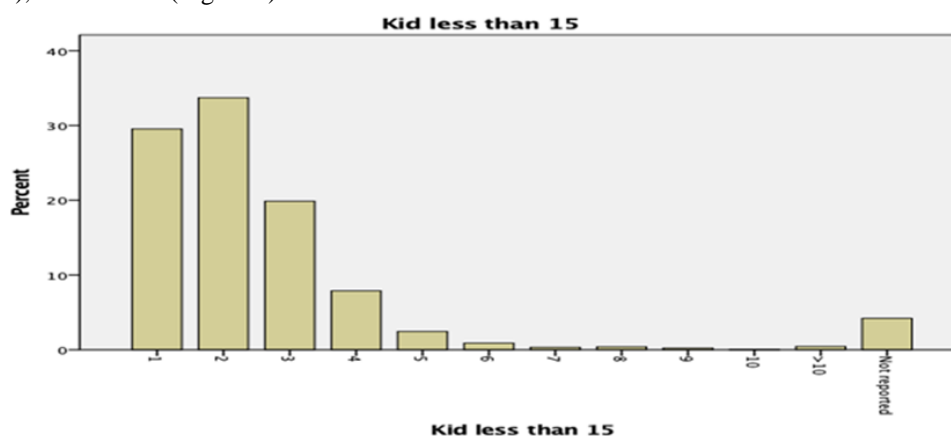


Figure.2: Number of kids in the family

Source of information about COVID-19 in children: social media represent the most frequently reported source of information about COVID-19 as it accounted for 70.5% (N=1262/1790) followed by an official website in 52.8% (N=945/1790). These were followed by personal search through the internet 45.9% (N=827/1790), television 38.9% (N=697/1790), scientific articles 31.2% (N=558/1790), family members 21.5% (N=385/1790), and friends 18.4% (N=332/1790) (Table.2).

Table.2: Source of information about COVID-19

Data	Number	Percent	Valid %
Social media	1262	70.1	70.5
Official website	945	52.5	52.8
Personal search	827	45.9	46.2
Television	697	38.7	38.9
Scientific articles	558	31.0	31.2
Family members	385	21.4	21.5
Friends	332	18.4	18.5
Number of valid responses	1790	99.39	
Not reported	11	0.61	
Total	1801	100	100

Clinical manifestations of COVID-19 in children: According to participants' knowledge about presentations and manifestations of COVID-19 in children, the most frequent answer was fever constituting 65% (N=1171/1801), followed by Asymptomatic cases in 40.6% (N=731/1801). Other answers were lethargy in 35.0% (N=631), flu-like illness in 31.2% (N=562/1801), (N=535/1801), cough in 26.1% (N=470/1801), headache in 18.2% (N=328/1801), vomiting in 16.8% (N=303/1801), and skin rash in 4.4% (N=79/1801) (Table.3).

Table.3: Clinical manifestation of COVID-19

Data	Number	Percent
Fever	1171	65.0
Asymptomatic	731	40.6
Lethargy	631	35.0
Flue like symptoms	562	31.2
Diarrhea	535	29.7
Cough	470	26.1
Dyspnea	446	24.8
Headache	328	18.2
Vomiting	303	16.8
Bone pain	284	15.8
Dysphagia	268	14.9
Red eyes	150	8.3
Skin rash	79	4.4
Total	1801	100

Methods of transmission of COVID-19 in children: Moreover, an inquiry about the knowledge according to the method of the transmission of COVID-19 in children revealed that 82.8% (N=1492/1801) of answers reported respiratory droplets as a cause of transmission, followed by physical contact in 67.6% (N=1218/1801), close contact (less than one-meter distance) in 64.9 % (N=1168/1801), infected surfaces contact in 62.0 % (N=1117/1801). Of note, sixty-five respondents did not know the method of transmission (3.6%) (Table.4)

Table.4: Mode of transmission of COVID-19

Data	Number	Percent
Respiratory droplets	1492	82.8
Direct physical contact	1218	67.7
Close contact	1168	64.9
Infected surfaces	1117	62.0
Infected food	508	28.8
Unknown	65	3.6
Total	1801	100

Protective measure for children against COVID-19 infection: Out of the listed preventive methods, hand washing ranked first among the methods of prevention from COVID-19 in children reported in 84.8% (N=1527/1801), followed by avoiding crowded places in 76.7% (N=1382/1801), avoiding patients' contact in 66.4 (N=1195), use of sterilizers in 57.0% (N=1026/1801), wearing masks in 48.2% (N=868/1801), Kids education in 38.8 (N=698/1801), eating well-cooked food in 36.2% (N=652/1801). Finally, seventy-seven participants thought there all measures are useless (4.3%) (Table.5).

Table.5: Preventive measures of COVID-19

Data	Number	Percent
Hand washing	1527	84.8
Avoid crowdedness	1382	76.7
Avoid patients' contact	1195	66.4
Use of sterilizers	1026	57.0
Wearing masks	868	48.2
Education about COVID-19	698	38.8
Eating well-cooked food	652	36.2
No measure is of help	77	4.3
Total	1801	100

IV. Discussion

COVID-19 is an emerging infectious disease that poses a serious threat to public health. For that reason, preventive measures play a key role in reducing the rate of infection and controlling the spread of the disease forcing the need for public adherence to preventive and control measures that are affected by their knowledge, attitudes, and practices.

Demographic variables

As was stated earlier, the current survey started from the 1st to the 15th of November, 2020. According to the date of registration of all the 1801 responders, the highest percentage of response was recorded on the 1st of November which seized about 31.2% followed by the 2nd of November. This could be because the working students were sending out online questionnaires across multiple social media platforms like Facebook, Instagram, telegram, Twitter, WhatsApp groups, and many others, continuously and actively in tremendous amounts in the beginning.

Different variables of participants in this study were studied including gender, age, educational level, and income level. Regarding gender, females showed the highest responses of about 80.4% while males reached 19.5%. All other similar surveys have a higher response rate from females than males except in the Pakistani study in which the males were higher (6, 7-10). This could raise from the fact that most mothers in Iraq habitually stay at home while fathers are usually busy at work. Thus, women could have more time to access social media and are more interested in dealing with the health of kids than men.

The current study showed that 39.2 % of responders were in the age group of 20 to 29 years old which is the usual age in Iraq to have a family and kids less than 15 years old and it approximately comparable to other studies in Saudi Arabia, India, Pakistan and China (6, 8, 9, 11). Also, these age groups are usually more knowledgeable and able to use social media platforms, while the least responders were older than 60 years old participants. This age group is unlikely to be parents to a child less than 15. Furthermore, participants in this age group don't use social media oftentimes, so only apart have answered the survey.

Similar to other surveys, a bachelor academic degree which had reached about (44.7%) of the responses, followed in order of frequency by college students, master degree, secondary degree, Doctorate, primary school respectively while the lowest reported answers were for being only able to read and write and being illiterate (6,7,9, 11, 12).

Furthermore, forty- two percent of the respondents were government employees, thirty percent were students, and 23.1% were unemployed while Being retired showed the lowest responses, this result is almost similar to Hanawi et al. results in Saudi Arabia (9). To clarify this, retired people are less likely to have kids less than 15 years old or are less interested in active participation in social media activities. Additionally, thirty-five percent of respondents have family members working in the health sector. Conversely, it was just 5% and 4.7% of the respondents in the US and UK online surveys reported being health workers (8). The difference is that in the current study the question was about respondent or family member work while in Geldsetzer study, the question was directed to the respondent himself, and not considering family members.

Knowledge and attitude of the Iraqi family about COVID-19 in children

Regarding the Source of information about COVID-19, seventy percent of the responder chose social media as a source of their information. Furthermore, official websites have been selected by half. This finding agrees with Douplex et al. (13). Abuhammad et al. study showed that the most frequent source of information was the WHO website followed by social media and the official website (12). Furthermore, in an Indian study, seventy percent of respondents agree that: newspapers, the Internet, and television were the usual sources of their knowledge (9). This could be explained by the ability of people to get internet access.

According to the nature of the questionnaire, respondents were allowed to choose more than one option. Hence, the real problem is in those who select only social media as information reference as it has a high percent of misleading news and myths.

In the scope of knowledge towards COVID-19 in children, fever was reported to be the commonest symptom. Besides, forty percent of them predict that COVID-19 can be asymptomatic in children. This was similar to other studies elsewhere (14,15). All these results are in line with the WHO guidelines about the symptoms of COVID-19 and Aligned with Abuhammad et al.study (12). Thereupon, the Iraqi society may be less aware of cough and diarrhea as symptoms occurring in their kids since less than one-third of respondents are aware of these prevalent symptoms in COVID-19 in children.

Moreover, Eighty-two percent of respondents reported respiratory droplets as the main route of transmission. A Malaysian study reported an 82.9% rate of transmission by respiratory droplets, and multiple other studies reported similar results (10, 14-16). On the other hand, it was much higher in Saudi Arabia as 95.75% of respondents agreed about the role of respiratory droplets as a source of infection (8). Although This is consistent with the finding of other studies, there's a need to enhance the effort to raise the awareness of the Iraqi population as 18% of them do not know if there is a possible transmission of COVID-19 by respiratory droplets. Additionally, sixty-seven percent of parents also agree that personal contact forms an important route of transmission. Furthermore, close contact and infected surface contact form 64.9% and 62% respectively while it was 98% percent in the Saudi Arabia survey. This difference may come from the fact that in that Saudi Arabia survey they described it clearly to the respondent than current survey did as the question stated as "SARS-CoV-2 can be contracted by touching a surface or object, on which the virus is attached, and then touching one's mouth, nose, or, perhaps, eyes" (8). Importantly to say that only 3.6% being unaware of the method of transmission.

Concerning attitudes and practices towards COVID-19 in children, 84.8% of the Iraqi population believe that washing hands is an effective preventive measure and that is consistent with the Saudi study in which 87.69% strongly agreed that hand washing is essential in prevention (8). In comparison, with a Pakistani study in which 63.8% of them agree, Iraqi society has better knowledge according to hand washing as a preventive measure (6). In the Indian study, 94.98% of the participant agree that "taking precautions such as hand washing, isolation, quarantine, social distancing, and wearing a mask will reduce the transmission" (9). This figure is notably higher from all ahead mentioned percent included the current one. In the same manner, seventy-six percent of the Iraqi society aware that avoiding crowded areas can reduce their chance of getting the infection while 97% of the Malaysian population aware that avoiding visit the crowded place and avoid taking public transportation can protect them (10,12,15). Back to the result, sixty-six percent select quarantine, 57% sterilization 48.2% wearing masks in kids, while the lowest responses answered that there is no benefit in any of the preventive measures mentioned above (4.3%). In a Malaysian study, 99.1% believed anyone who has close contact with a confirmed COVID-19 case should be isolated (10). Similarly, the US and UK populations believe all these preventive measures help in preventing catching the infection (92.6% and 86% successively) (7). According to the WHO guidelines, these preventive measures have proven to be paramount in combating COVID-19, especially in kids.

In conclusion, Iraqi society has average knowledge and attitude comparable with others or less in some points. In this case, authorities have to collaborate to raise the knowledge, attitude, and practice in Iraqi society.

Limitation: The main breakthrough of this study is that it was an online survey. Thus, people how cannot read and write or those with low socioeconomic status are less likely to participate.

V. Conclusion

In summary, this is the first study of its type in Iraq about the COVID-19 pandemic in children and the findings imply that Iraqi parents have good knowledge, attitudes, and practices toward COVID-19 equivalent to other countries or less at some points.

VI. Recommendation

Understanding the nature of the disease, its symptom, transmission, and preventive measure is considered the cornerstone to control any health event especially in the current setting. All efforts have to be done for educating the public about this emerging virus and the methods of prevention.

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