

Assessment of COVID-19 knowledge, Preventive behaviors, severity, self-efficacy and mental health in Bangladesh and Iraq

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Research

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Abstract

Background: As a part of South- Eastern Asia- Pacific, Bangladesh has been following to adopt proactive non-therapeutic means to repress the spread of nCoV-2 just like other countries. As stated in reports of September, the COVID-19 pandemic has become very distressing in Iraq, a Country in Southwestern Asia Pacific reporting around 4,000 new cases every day and around 500 deaths a week.

Methodology: A descriptive, survey-based, cross sectional study was conducted among 1000 participants aged > 18 years old from Bangladesh and Iraq.

The survey was conducted as an online survey distributed for the general population for a month. The questions were assessed using Likert-type response scale from 1 to 5 for almost all questions. Chi², mean and standard deviation were used to present the data.

Results: There are significant differences between the mental health assessment, the country, educational level, hypertension and smoking. While the other variables have no effect on mental health. Approximately 99% of the participants said they had heard about COVID-19. More than 90% of the participants have stated that they know about COVID- 19. Also, more than 85% of the participants have claimed that they know the causes of COVID-19. Furthermore, participants (around 84%) were largely aware of the death rate for people infected by the virus.

Conclusion: Mental health is mostly affected by the pandemic and need to be regularly assessed to keep the immunity competent. Poverty and lack of proper education are contributing factors in increment of COVID-19 cases and discarding about preventions.

Introduction

World Health Organization (WHO), with the burst of novel coronavirus-2 (nCoV-2) declared this a pandemic and an international public health emergency and the entire world is struggling to address it. It is a rapidly evolving and emerging circumstance. Nearly two million people in 185 countries around the globe have been identified as confirmed cases of coronavirus disease 2019 in less than 5 months after the first emergence of the virus in December 2019. (1)

However, no medication has been approved by the FDA, gone through controlled studies and demonstrated an effect on the virus for this global pandemic. (2)

Only preventive measures as a current strategy can narrow the expanse of cases. Preventive strategies include early screening, diagnosis, isolation, and treatment are necessary to limit further spread. Preventive strategies are focused on the isolation of patients and careful infection control, including appropriate measures to be taken right after the diagnosis and clinical treatment in the meantime. (3)

As a part of South- Eastern Asia- Pacific, Bangladesh has been following to adopt proactive non-therapeutic means to repress the spread of nCoV-2 just like other countries. Nevertheless, there is a

continuing dispute if the measures have been taken adequately and implemented efficiently. Bangladesh confirmed the first COVID-19 case on March 7, though the virus has entered into its territory before the detection of it. (4)

As published data on August, 260,507 people have been identified as established cases where 150, 437 have been healed after the treatment. (5)

According to the report on October, 5007 people have died out of the COVID- 19 infection stated by, the Directorate General of Health Services (DGHS). (6)

As stated in reports of September, the COVID-19 pandemic has become very distressing in Iraq, a Country in Southwestern Asia Pacific reporting around 4,000 new cases every day and around 500 deaths a week.

In August, more extra 100,000 cases have been identified in Iraq. 23 September, 5,055 new COVID-19 cases were affirmed, expressing the highest daily rate in the country since the beginning of the pandemic. The 30% of the country's reported case belongs to the Capital of Iraq, Baghdad. (7)

Methodology

A descriptive, survey-based, cross sectional study was conducted among 1008 participants aged > 18 years old from Bangladesh and Iraq.

The survey was conducted as an online survey distributed for the general population in both countries for one month (1st September – 1st October, 2020).

All the participants were well informed about the purpose of the study and they gave their consents before enrollment (Electronic consent).

The parts of the questionnaire were assessed consequently as follow:

1. Knowledge: Assessed with four questions about COVID-19 which are written below (11), Each question was answered either Yes or No:
 - A. Have you ever heard about COVID-19?
 - B. Have you known what is COVID-19 is?
 - C. Have you known the causes of COVID-19?
 - D. Have you known the death rate for people infected by COVID-19?
2. Preventive behaviors: They are 17 items of actions taken by the participants to protect themselves from infection, answered by a score of five points depending on Likert-type response scale: Never, Rarely, Sometimes, Often and Always. (15)
3. Severity: One question was used to assess the severity which is (How serious would be for you if you contract COVID-19 in the next year?). Assessed using Likert-types response scale from 1 to 5

respectively: None, Very mild, Mild, Moderate and Severe.

4. Self-efficacy: One question was used to assess it as well, which is (How confident are you that you can prevent getting COVID-19 in case of an outbreak?). Assessed by Likert-type response scale from 1 to 5: None, Very mild, Mild, Moderate and Severe.
5. Mental Health: Also, one question to assess it which is (In general, would you say your mental health is? During the pandemic?). Assessed by Likert-type response scale from 1 to 5: Very poor, Poor, Fair, Good and Excellent.

Demographic data was also collected and included gender, educational level, household number, living status, chronic disease of Diabetes, hypertension or asthma, and smoking status.

Data was analyzed by using Statistical Package for Social Sciences (SPSS) version 25.0, Mean and standard deviation (SD) used in presenting the data along with frequencies and percentages for demographic data. Chi²-test was used to assess the statistically significant difference between variables with P-value of < 0.05 and confidence interval of 95%.

Results

The mean age of the participants \pm SD is 27.48 ± 9.99 , ranging from 18 years to 88 years. 49.8% of them were from Iraq (502 participants) and 50.2% of them (506 participants) were from Bangladesh. 438 participants were males (43.5%) and 570 participants were females (56.5%).

Table (1) describes the marital status, educational level, household number including the participant and the living place for the participants.

Table 1. The frequency and percentages of demographic data of the participants		
	Frequency	Percentage
<u>Marital Status:</u>		
Married	324	32.1%
Single	656	65.1%
Divorced / Windowed	28	2.8%
<u>Educational Level:</u>		
Illiterate	36	3.6%
Primary School	99	9.8%
Secondary school	134	13.3%
College	739	73.7%
<u>Household Number:</u>		
Alone	59	5.9%
1 - 3 members	257	25.5%
4 - 5 members	492	48.8%
> 5 members	200	19.8%
<u>Living Place:</u>		
Country	417	41.4%
Municipality	312	31%
Village / Town	279	27.7%

Figure (1) shows the percentages of the chronic diseases and smoking among them.

Figure (2) shows the percentages of the knowledge among them about COVID-19.

There are not significant differences between Q1 and educational level (P-value = 0.112), marital status (0.317), gender (0.59), living place (0.686), household numbers (0.09), country (0.215) or age (0.991).

There are significant differences between Q2 and educational level, marital status, gender, living place, country and age with P-value of 0. While there is not a significant difference between Q2 and household number with P-value of 0.076.

There are significant differences between Q3 and educational level, marital status, gender, living place, country and age with P-value of 0. While there is not a significant difference between Q3 and household number with P-value of 0.067.

There are significant differences between Q4 and educational level (0.0), gender (0.03), living place (0.013), household number (0.0), country (0.0) and age (0.01). While there is not significant difference between Q2 and marital status (0.39).

Table (2) shows the mean and the standard deviation of the preventive behaviors among the participants ranging from (1 for never) to (5 for Always).

Table 2. The mean and SD of Preventive behaviors among the participants				
The Question	Minimum	Maximum	Mean	SD
Q1: Do you wear masks:	1	5	4.35	0.919
Q2: Do you avoid travelling on subway or buses?	1	5	3.88	1.126
Q3: Do you avoid large gathering of people?	1	5	3.87	1.113
Q4: Do you avoid travelling to COVID-19 infected areas?	1	5	3.89	1.251
Q5: Do you take herbal supplements?	1	5	2.53	1.358
Q6: Do you eat a balanced diet?	1	5	3.52	1.077
Q7: Do you use disinfectants?	1	5	3.97	1.101
Q8: Do you wash your hands regularly?	1	5	4.20	1.103
Q9: Do you avoid traveling by taxi or any public transport?	1	5	3.61	1.198
Q10: Do you avoid shaking hands?	1	5	3.96	1.168
Q11: Do you get sufficient sleep?	1	5	3.69	1.083
Q12: Are you more attentive to cleanliness?	1	5	4.08	1.053
Q13: Do you avoid particular type of people? (such as health care professionals or high-risk people during COVID-19)	1	5	3.32	1.251
Q14: Do you exercise regularly:	1	5	3.11	1.177
Q15: Do you avoid eating in "Food centers" or "Restaurants"?	1	5	3.50	1.182
Q16: Do you take vitamins or zinc supplements?	1	5	2.82	1.286

All the questions have significant differences with educational level, marital status, gender and country with P-value < 0.05.

Table (3) shows the mean and SD of the severity, self-efficacy and mental health assessment among the participants starting from (1 for none) to (5 for severe) for the first two variables while starting from (1 for very poor) to (5 for Excellent) for mental health.

Table 3. The mean and SD of the severity, self-efficacy and mental health assessment among the participants				
	Minimum	Maximum	Mean	SD
1. Severity:				
How serious would it be for you if you get in contact with COVID-19?	1	5	3.64	1.001
2. Self-efficacy:				
How confident are you that you can prevent getting COVID-19 in case of an outbreak?	1	5	3.23	1.062
3. Mental Health:				
In general, would you say your mental health is? (During this pandemic)	2	5	3.48	.857

There are significant differences between the mental health assessment and the country, educational level, hypertension and smoking with P=value < 0.05. While the other variables have no effect on mental health.

There is a significant difference between the assessment of mental health and the self-efficacy assessment with P-value of 0.13. while there is not a significant difference between mental health assessment and the severity with P-value of 0.64.

Discussion

In this study, we aimed to determine the associations between the COVID-19 related knowledge, preventive behaviors, severity, self-efficacy, and mental health among a sample of the general public in Iraq & Bangladesh.

There are significant differences between the mental health assessment, the country, educational level, hypertension and smoking. While the other variables have no effect on mental health. Approximately 99% of the participants said they had heard about COVID-19. More than 90% of the participants have stated that they know about COVID- 19. Also, more than 85% of the participants have claimed that they know the causes of COVID-19. Furthermore, participants (around 84%) were largely aware of the death rate for people infected by the virus. Given that the data collection was under-taken during the mid-stage of COVID-19 in Iraq & Bangladesh, this result is indeed expected.

With regard to the preventive behaviors against COVID-19, the results indicated that the rate of adherence to preventive behaviors from COVID-19 was at a desirable level. The most frequently practiced preventive behaviors included wearing a mask, washing hands regularly, maintaining hygiene, avoiding shaking hands, avoiding travelling to COVID-19 affected areas & travelling on subway or buses, avoiding large gathering of people and using disinfectant. While taking supplements, exercising regularly, having sufficient sleep, taking herbal supplements, eating a balanced diet, avoiding food centers or restaurants were the least.

People living in cities & municipalities showed better performance against the disease than villagers probably due to the difference in their literacy levels. Masks and other disinfectants can be effective in increasing the individuals' adherence to these preventive behaviors. These results are consistent with reported findings on preventive behaviors against COVID-19. For example, Yıldırım et al. (2020) reported that avoiding public transportation and frequent handwashing were among the most practiced preventive behaviors against COVID-19 among Turkish population. (8)

WHO states that people should wear masks strictly if they have any respiratory illness. Apart from this, those who are in quarantine must use masks in case they need to go outside, it helps in limiting transmission. Those who are adults or high-risk patients must do the same. However, the practice of reusable masks should be encouraged by maintaining some protocols. (9)

It's wise to avoid traveling to the highly infected areas due to the chances to get affected. (10)

People who have come in direct contact with COVID positive patients, recently traveled to the countries with high infection rates, having symptoms of fever, coughing, or any breathing problem, are advised to maintain the quarantine. (11)

The quarantine can be performed at the individual or group level which normally involves confinement to their residence or a preferred convenience. (12)

It's a necessity to seek medical help continuously for those who are infected and staying in self-isolation as it can be fatal in some cases. In case of any emergency or breathing difficulty, hospital admission is recommended along with assistance. (11)

We found that elevated levels of COVID-19-related seriousness, self-viability, and preventive practices could anticipate a lot of difference in psychological well-being far beyond the impacts old enough, sex, and persistent maladies. These outcomes propose that individuals who have low seen seriousness and high self-adequacy and commitment in preventive practices against COVID-19 have better psychological well-being during seasons of emergency. In spite of the fact that these outcomes require further examinations by considering the part of different factors that may impact the connection between the deliberate factors and psychological well-being, it is productive regarding filling the hole in the applicable writing. Just hardly any examinations inspected the connection between seriousness, self-adequacy, and

psychological well-being with regards to COVID-19. Higher severity, and lower self-efficacy were found to be related with poor mental health. (13)

Another study found a negative relationship between general self-efficacy and psychological distress during COVID-19 pandemic. (14)

Individuals additionally revealed more prominent cut off and lower self-adequacy identified with COVID-19. This shows that members accepted that it would be intense for them in the event that they contract COVID-19 and they additionally accepted that their capacity or ability is deficient to adapt to the infection.

The archived discoveries will shed lights on mental elements adding to psychological well-being. Individuals ought to be educated about the expected danger of COVID-19 through broad communications to build their mindfulness about the infection. The aftereffects of this research recommend that apparent seriousness and self-adequacy were noteworthy indicators of emotional well-being. Furthermore, our study known preventive behaviors is also of importance in developing the amount of psychological state. Therefore, individuals' engagement in preventive behaviors and its improvement by numerous ways may be helpful in terms of contributive to psychological state.

This study includes basic limitations that need to be acknowledged and addressed in future studies. The foremost necessary limitation of this study was this study was conducted through on-line survey. Thus, those with no or limited internet access couldn't participate within the study. The information assortment was solely relied on participants' self-report. Self-report measures might cause limitations due to bound biases including social desirability and introspective ability.

All in all, research about the mental effects of COVID-19 on individuals' psychological well-being is restricted. Discoveries from this investigation add to explain the connections between COVID-19 severity, self-viability, information, preventive practices, and emotional wellness.

Declarations

Compliance with ethical Statement:

1. **Ethics approval and consent to participate:** Ethical approval was obtained from the ethical committee in the university of Baghdad / College of Medicine. All the participants gave their consents to participate.
2. **Consent for publication:** Was obtained from all the participants.
3. **Availability of data and material:** Available on request.
4. **Competing interests:** No competing of interest to declare.
5. **Funding:** No source of funding was received.
6. **Authors' contributions:** All the authors contributed equally in this paper.
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Figures

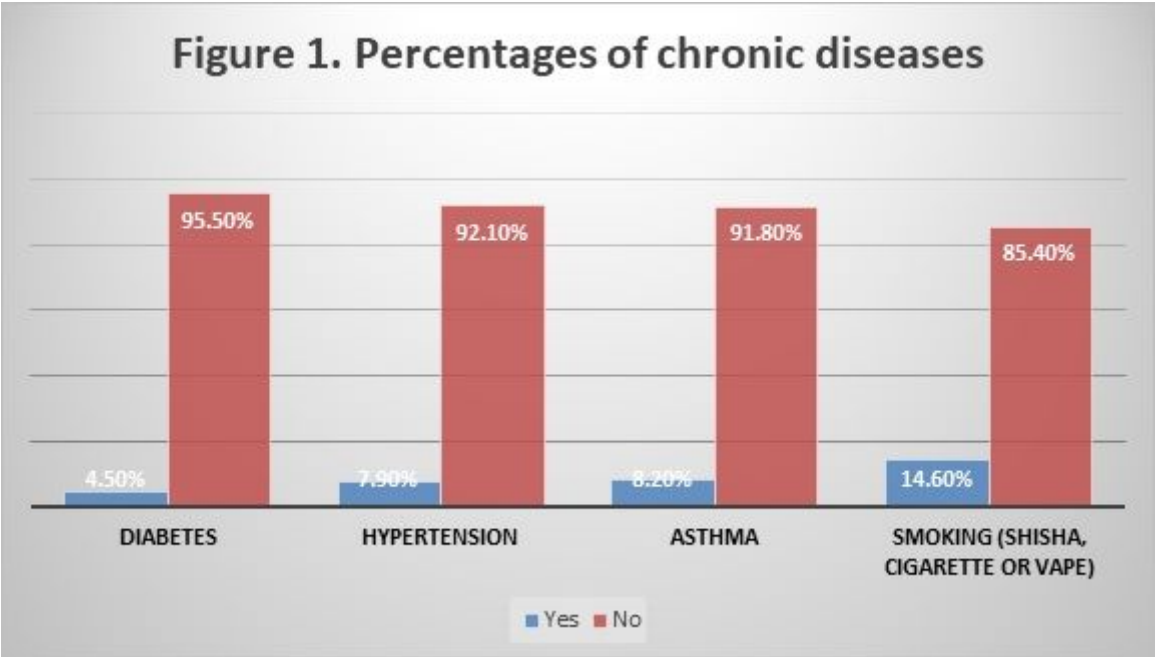


Figure 1

(caption included in image)

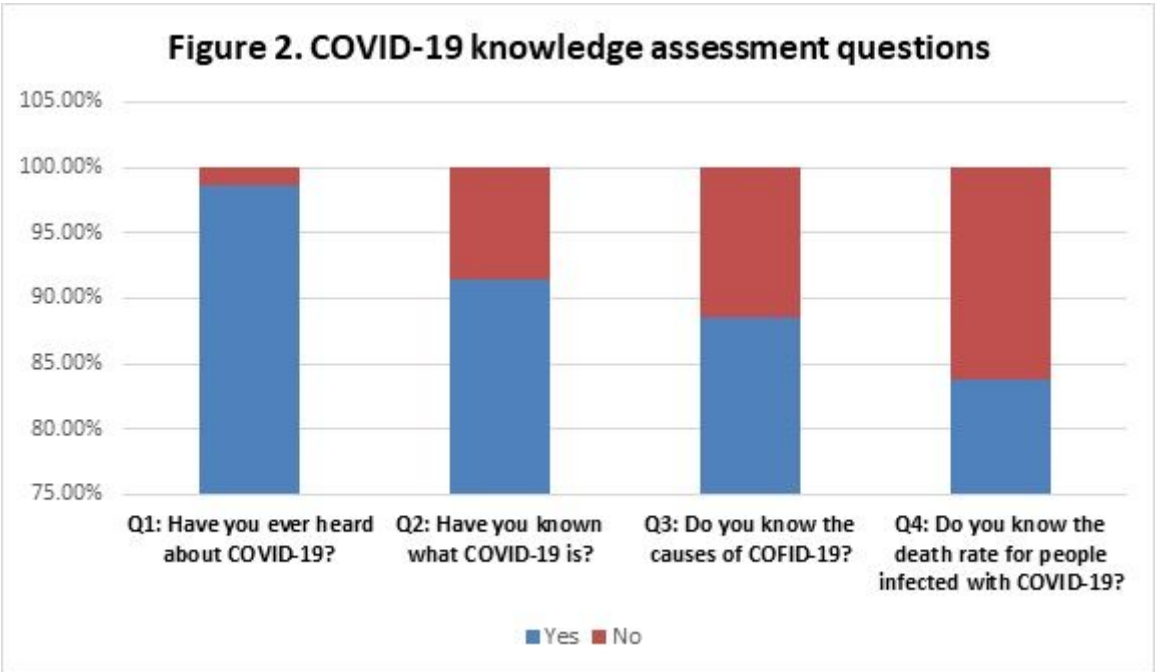


Figure 2

(caption included in image)