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**RESEARCH ARTICLE**

# Life Status of Iraqi Students Studying in Iran during Coronavirus Disease (COVID-19) Pandemic

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ABSTRACT

***Background:*** COVID-19 has spread to most countries in the world. The impact of the disease is different from country to country. Students have contact and interaction with different people in that country, so they may have a risk of being infected with coronavirus through direct contact or daily activities.
Aim: The present study aimed to determine effect of coronavirus on life status among Iraqi students who returned from Iran at the time of the announcement of the spread of COVID-19.
***Methodology:*** Quantitative design, a descriptive study was conducted among (61) Iraqi students studying in Iran at the time of the announcement of the spread of COVID-19. An online survey was conducted and used a form to collect the data; the form was created by researchers and used Google Forms as the platform. The data was collected at the time of quarantined students from period February 15, 2020, to March 8, 2020. In terms of the statistical aspect, the data was then analyzed by (SPSS Version 21).
***Results:*** The highest percentage of age was between (20-30) years old, and the mean ages were (25.2±5.7), (51%) were male (82%) were married, (64%) had Bachelor's degree. More than one-third (34.4%) of participants had contact with Iranian people, (73.8%) used PPE (personal protective equipment), (98.4%) were immunized BCG during neonates, (96.7%) were free from chronic diseases, more than one-third (37.7%) of participants were no fear or stress during the outbreak, and (45.9%) of participants were partly stressed or had some sort of fear, (91.8%) of participants tested negative for coronavirus, (90.2%) of participants didn't have any signs or symptoms of COVID-19 at quarantine. There was no significant association found between signs and symptoms with testing results (P-Value = 0.415).
***Conclusions and recommendations:*** the study finding concluded that near to all of them confirmed as healthy and not infected with COVID-19. The majority of them have been vaccinated with BCG; it may be related to the global BCG vaccination might have led to a reduction severity of the COVID-19 disease. Given the complicated nature of the virus, we believe that students studying in Iran are still at risk of contracting the disease, so we recommend they continue the remainder of their study program from home, using already popular online platforms, which are used widely used by Iranian and other international universities.

*Keywords: Covid-19, Iraqi students, Iran country*



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## INTRODUCTION

The current worldwide crisis brought on by COVID-19 is among the worst in human history (Zakeri et al., 2021a). The COVID-19 pandemic started in China and it has quickly spread over all continents affecting most countries in the world. However, there are some striking differences in how COVID-19 is behaving in different countries. It is caused on by new coronavirus, a member of the coronavirus family. It has been transmitted from animals to people, just like other coronaviruses. The World Health Organization (WHO) has declared it a pandemic and the most common symptoms of COVID-19 are fever, tiredness, and a dry cough. Some patients may also have a runny nose, sore throat, nasal congestion, and aches, or diarrhea. Some people report losing their sense of taste and/or smell (Boseley et al., 2020). Many people may also be asymptomatic. The likelihood of developing respiratory distress syndrome is typically higher in the elderly and in those with chronic conditions such diabetes, cardiovascular disease and cancer are more likely to develop respiratory distress syndrome. The most frequent means of transmission are saliva droplets or direct contact with an infected person. The time of incubation is between 2 and 14 days. The likelihood of dying from this virus is between 2% and 3% (Singhal et al., 2020). COVID-19 impacts physical health, individual, society, and global psychosocial implications due to the increasing number of cases and deaths (Bo et al., 2020; Wang et al., 2020). The various steps that have been taken to control the transmission of COVID-19 in the community, such as the closing of school, forbidding gathering, social isolation, and being in quarantine had resulted in the emergence of mental health problems in the population as reported in the previously published study (Brooks et al., 2020). This may be due to idleness, excess fear of having COVID-19, and lack of strong family support throughout the quarantine. People may experience loneliness, anxiety, depression, sleep disturbances, and stress-related disorders, which may lower treatment adherence (Shevlin et al., 2020; WHO, 2020). For more control of the transmission of COVID-19 in the community, the authorities of Kurdistan Region decided not to allow to return from outside borders to Kurdistan Region without permission from the Ministry of Interior, those returning will be quarantined at the port of entry for two weeks, beyond this deadline, all border checkpoints will be closed to travellers except for trade (Kurdistan Region Government, 2020). The aim of this study is to carry out the effect of coronavirus on life status among Iraqi students who returned from Iran at the time of the announcement of the spread of COVID-19.

### Objectives of the study

- To identify socio-demographic characteristics of study sample.
- To identify effect of coronavirus on life status among Iraqi students who returned from Iran at the time of the announcement of the spread of COVID-19.
- To find out the association between signs and symptoms of study sample with testing corona virus results

## METHODOLOGY

### Design of the Study

A quantitative design (descriptive) study was conducted among (61) Iraqi students studying in Iran at the time of the announcement of the spread of COVID-19.

### Sample of the Study

A non-probability purposive sample, the form reached 100 students, the researchers studied the forms and filtered out 39 forms as they had not filled the form completely. Know the samples are 61 respondents

**The study instruments**

In order to collect the data, a questionnaire was developed by the researcher based on previous studies, to measure the variables underlining the present study. It consists of two parts; the first one is socio-demographic characteristics of the study samples, and the second part is questions to assess the situations the Iraqi students studying in Iran. The data analysis was done with SPSS (version 21). The demographic characteristics of the samples were reported by using descriptive statistics (numbers, percentages, and mean) and the chi-square test used for associations

**Validity of the study tools**

The questionnaire was designed and constructed by the researchers but was also checked by a panel of (5) experts of different specialties. All experts agreed that the questionnaires were clear, relevant and adequate. Minor changes were employed based on their recommendations and suggestions.

**Pilot study**

A pilot study was conducted on a purposive sample of ten students; the sample of the pilot study was excluded from the present study sample. The purpose of the pilot study was:

- To enhance the reliability of the questionnaire.
- To determine the clarification items of the questionnaire for the respondents.
- To determine the average time required for data collection.

**Data Collection**

An online survey was conducted and used a form to collect the data; the form was created by researchers and used Google Forms as the platform. The data was collected at the time of quarantined students from period February 15, 2020, to March 8, 2020. In terms of the statistical aspect, the data was then analyzed by (SPSS Version 21).

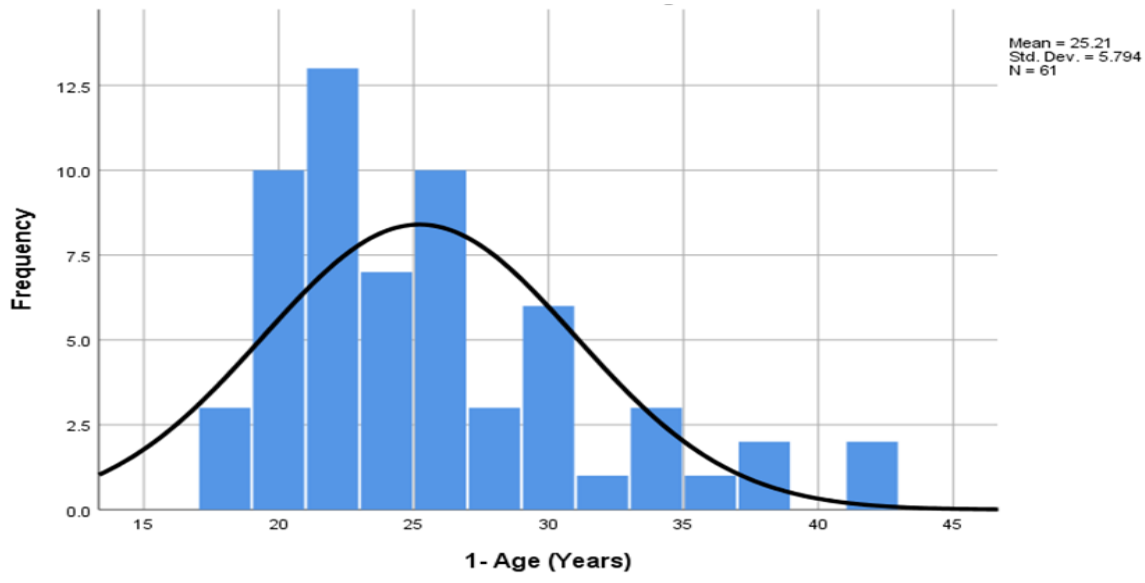
## RESULTS

Overall, 61 students participated in the present study; the highest percentage of age was between (20-30) years old, and the mean ages were (25.2±5.7) (figure 1). And the gender distribution was nearly equal (51%) were male and (49%) were female. Regarding marital status (82%) of participants was married and (18%) were single. The highest percentage of participants (64%) were studying Bachelors, (31%) were studying masters, and only (5%) of participants were studying doctorate (Ph.D.) degree (figure 2). According to the distribution of students over different provinces (44.4%) of participants were living in Sanandaj, (29.6 %) were living in west Azerbaijan, (19.6%, 6.5 %) were living in east Azerbaijan and Kermanshah respectively (figure 3). Regarding the return, dates started from January 20 to March 8, 2020, and the majority of the students returned from February 21, 2020, to February 28, 2020, as shown in (Figure 4).

It is clear from table (1) that the majority of the participants (77%) stayed at the dormitory during the announcement of the spread of COVID-19, more than one-third (34.4%) had contact with Iranian people, and (65.6%) avoided close contact with people, (42.6%) of participants using public transportation in Iran after the outbreak of COVID-19. (73.8%) of the participants used PPE (personal protective equipment), the vast majority of students (98.4%) were immunized BCG and poliomyelitis during neonates, (96.7%) of participants were free from chronic diseases. More than one-third (37.7%) of participants were no fear or stress during the outbreak, and (45.9%) of participants were partly stressed or had some sort of fear, and (16.4%)

confirmed they experienced stress during the outbreak. Upon their return from Iran, (85.2%) of participants stayed in quarantine in the Kurdistan Region for two weeks and (14.8%) did not go into quarantine, some of whom might have returned illegally. (68.9%) of participants when they returned from Iran, took RT-PCR testing, and (31.1%) of participants did not take RT-PCR testing at quarantine or while crossing the borders. The majority of participants (91.8%) tested negative for coronavirus, but (8.2%) of participants were a positive result. (90.2%) of participants didn't have any signs or symptoms of COVID-19 at quarantine such as a headache, sore throat, fever, shortness of breath, body aches, cough, and runny nose, and (9.8%) of participants showed some symptoms at quarantine and were worried as a result. (24.6%) of participants were not agree with the health services provided at quarantine (39.3%) were partly satisfied, and (36.1%) didn't agree with health services at quarantine. As for food and accommodation, minorities of (14.8%) of the participants were not satisfied with the provided accommodation and food, and (27.9%, 57.4%) were partly satisfied and satisfied with the services respectively. (18.0%) of participants, said prior to the spread of COVID-19, they did not have health information and (34.4%) were partly informed, while (47.5%) of all participants said they had health information about pandemics and self-protection. It is clear from the table (2), that there was no significant association found between signs and symptoms with testing results (P-Value = 0.415).

**Figure 1: The bar chart illustrates the age of study samples**



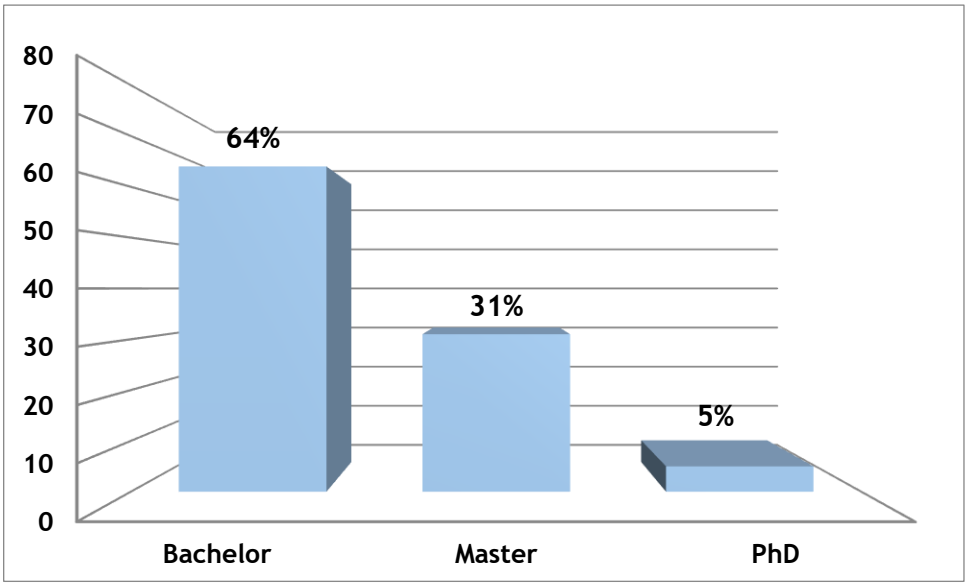



Figure 2: The Level study of Iraqi students studying in Iran.

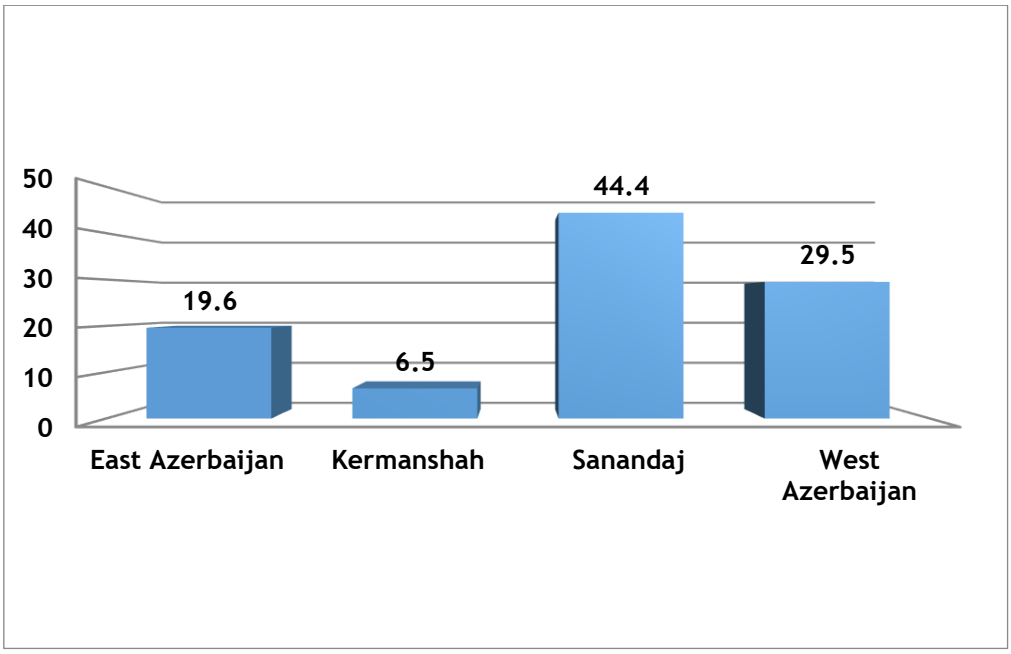



Figure 3: The distribution of students in various provinces in Iran.

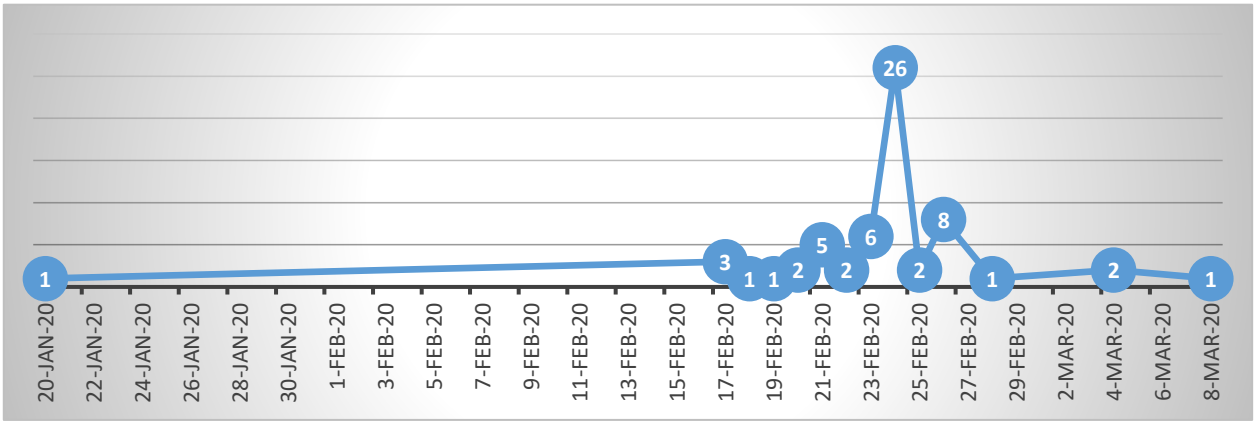



Figure 4: Date of arrived students from Iran to Kurdistan region.

**Table1: Distributions of the study sample according to students' status during COVID19**

| Questions | Answer | No. | % |
|---|---|---|---|
| Did you stay at dormitory during the announcement of the spread of COVID-19? | No | 14 | 23.0% |
| | Yes | 47 | 77.0% |
| Since the spread of COVID-19, have you had contact with Iranian people? | No | 40 | 65.6% |
| | Yes | 21 | 34.4% |
| Did you use public transportation in Iran after the outbreak of COVID-19? | No | 35 | 57.4% |
| | Yes | 26 | 42.6% |
| During the spread of COVID-19 in Iran, did you use PPE, like face mask and gloves? | No | 16 | 26.2% |
| | Yes | 45 | 73.8% |
| During childhood, were you given immunization vaccination such as BCG, poliomyelitis? | No | 1 | 1.6% |
| | Yes | 60 | 98.4% |
| Have you had any chronic diseases? | No | 59 | 96.7% |
| | Yes | 2 | 3.3% |
| During the outbreak in Iran, did you have fear or stress? | No | 23 | 37.7% |
| | Partly | 28 | 45.9% |
| | Yes | 10 | 16.4% |
| When you returned from Iran, did you go into quarantine for two weeks? | No | 9 | 14.8% |
| | Yes | 52 | 85.2% |
| When you returned from Iran, did you take RT-PCR Testing? | No | 19 | 31.1% |
| | Yes | 42 | 68.9% |
| The result of the Testing is Negative? | No | 5 | 8.2% |
| | Yes | 56 | 91.8% |
| When you stayed in dormitory in Iran or in quarantine in Kurdistan Region, did you feel any symptoms such as (headache, sore throat, and fever, shortness of breath, body aches, cough and runny nose)? | No | 55 | 90.2% |
| | Yes | 6 | 9.8% |
| Did your city in Iran have any confirmed cases of COVID-19? | No | 17 | 27.9% |
| | Yes | 44 | 72.1% |
| Were you satisfied with health services at quarantine? | No | 15 | 24.6% |
| | Partly | 24 | 39.3% |
| | Yes | 22 | 36.1% |
| Were you satisfied with the accommodation and foods while in quarantine? | No | 9 | 14.8% |
| | Partly | 17 | 27.9% |
| | Yes | 35 | 57.4% |
| Prior to the outbreak, did you have any health information on self-protection against epidemics? | No | 11 | 18.0% |
| | Partly | 21 | 34.4% |
| | Yes | 29 | 47.5% |

**Table 2: association between sign and symptoms and testing results**

| | | When you stayed in dormitory in Iran or in quarantine in Kurdistan Region, did you feel any symptoms such as (headache, sore throat, and fever, shortness of breath, body aches, cough and runny nose)? | | Total |
|---|---|---|---|---|
| | | No | Yes | |
| The result of the Testing is Negative? | No | 4 | 1 | 5 |
| | Yes | 51 | 5 | 56 |
| Total | | 55 | 6 | 61 |
| P-Value (Fisher's Exact Test) =0.415 (NS) | | | | |

**Discussion**

Since the new coronavirus was reported and began its adventure around the globe, the World Health Organization has declared it a global public health emergency (WHO, 2020), and the possibility of a pandemic has been very frightening among all each other (Day, 2020; Depoux et al., 2020; Mei et al., 2011). In the present study (62.3%) were feeling fear and stress during the COVID-19 outbreak more than in the Kapasia study; which found that (42%) of students had fear during lockdown the study, which has been done on 126 university students in India (Kapasia et al., 2020).

The concern of international university students about COVID-19 could be linked to the virus's impact on their research (Cornine, 2020), future work, or their concern regarding graduation, termination of employment and enrolment in further studies may have increased (Wang et al., 2020). All government schools were shuttered in mainland China and Hong Kong and both universities were instructed to be suspended until March 2020 and often use distant learning strategies (Kwok et al., 2020). In the present study, (85.3%) of students were satisfied with the accommodation and food during quarantine times. However, in this critical situation, there are many international students at universities, for whom it is not possible to travel home. It is important to consider that while universities close campuses, many students do not have other accommodation facilities outside of these campuses (Cheng, 2020). Administrators become a major challenge to ensure that non-national students have food, accommodation, and security services. Students also need adequate advice to prevent contact between people and to live alone until the situation becomes normal (Sahu, 2020). Disruption due to COVID-19 could influence admissions for the forthcoming academic session of international students (Bothewell, 2020). In our study, 85% were healthy and not infected with the coronavirus. In addition, (65.6%) of Iraqi students contact Iranian citizens, (57.4%) used public transportation in Iran and (26.2%) did not use PPE (personal protective equipment) like masks and gloves. The RT-PCR of 92% of students was negative. (96.7%) of the study samples are free from chronic diseases, which is another important factor in maintaining good health. In the present study, we found that (98.4%) of students have been vaccinated for BCG and poliomyelitis. Many studies show a correlation between COVID-19 and the BCG vaccination. The study identifies a possible correlation between the existence of universal BCG vaccine policies and the morbidity and mortality rates associated with COVID-19 infections. All over the world BCG, vaccination has been reported to offer broad protection against respiratory infections. The researchers compared large numbers of countries with BCG vaccinations in place with

their morbidity and mortality for COVID-19. They found that countries without universal policies of BCG vaccination (Italy, Netherlands, and USA) have been more severely affected compared to countries with universal and long-standing BCG vaccinations. Countries that have a late start of universal BCG policy (Iran, from 1984) had high mortality. In addition, they found that BCG vaccination could be linked to reduced numbers of reported COVID-19 cases in a country. The combination of reduced morbidity and mortality makes BCG vaccination a potential new tool in the fight against COVID-19 (Miller et al., 2020). However, it is not proven whether elderly people would keep a pool of trained monocytes after BCG vaccination for many years. The possible reason is that children with BCG have a lower risk of SARS-CoV-2 infection, and the discharge of the virus into older populations is therefore reduced, although it needs to be demonstrated. For the highest quality proof for the hypothesis that BCG vaccination can protect against COVID-19 necessary due to these major limitations, controlled trial research needs to be done (O'Neill and Netea, 2020).

## CONCLUSIONS

The study finding concluded that near to all of them confirmed as healthy and not infected with COVID-19. The majority of them have been vaccinated with BCG; it may be related to the global BCG vaccination might have led to a reduction severity of the COVID-19 disease.

## RECOMMENDATIONS:

Given the complicated nature of the virus, we believe that students studying in Iran are still at risk of contracting the disease so we recommend they continue the remainder of their study program from home, using already popular online platforms, which are used widely used by Iranian and other international universities.

## ETHICAL CONSIDERATIONS COMPLIANCE WITH ETHICAL GUIDELINES

This study was completed following obtaining consent from ministry of health-general directorate health of Raparin and We are as a researcher's transaction confidentially regarding research guidelines.

## FUNDING

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## AUTHOR'S CONTRIBUTIONS

Study concept, Writing, Reviewing the final edition by all authors.

## DISCLOSURE STATEMENT:

The authors report no conflict of interest.

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