

Students Attitudes and Hesitancy Toward COVID-19 Vaccine: A Cross-Sectional Study

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Abstract. Background: Recovering from the recent COVID-19 outbreak requires widespread vaccine coverage. Nonetheless, there are worries regarding the effectiveness and safety of this immunization campaign. Objectives: To identify students' attitudes and hesitancy toward COVID-19 vaccine. Methods: Data for a cross-sectional study with 200 participants from the University of Basrah was gathered using a closed-ended questionnaire. The participants ranged in age from 18 to 58. The study began in November 2021 and ended in April 2022. Utilizing SPSS version 26, the analysis was conducted. Results: According to the report, 84% of those surveyed had received the coronavirus vaccine. The Pfizer vaccine was selected by 73% of them. (61%) of the participants' trust in the vaccine's manufacturer. According to medical studies, 82.5% of participants said they would rather get the vaccine. Conclusion: The negative effects of the immunizations and their administration caused a great deal of anxiety. Social media has a big impact on the decision to get the immunizations.

Highlights:

1. Assess students' attitudes and hesitancy toward COVID-19 vaccines.
2. Cross-sectional study with 200 participants; SPSS version 26 analysis.
3. High vaccination rates, Pfizer preference, trust influenced by social media.

Keywords: Students, Attitudes, Hesitancy, COVID-19 Vaccine

Introduction

The World Health Organization declared COVID-19 a pandemic on March 11, 2020 [1]. More than 200 countries have already been affected by the pandemic [2]. This highly contagious illness is currently plaguing the world. Uncertainty has been brought about by the millions of COVID-19 cases and deaths [3]. Communities around the world are still battling the public health emergencies caused by the long-running epidemic. It has also had major socioeconomic and psychological repercussions [4]. A safe and effective COVID-19 vaccine is now required in every location. Many countries have already started immunizing their citizens [5].

Numerous vaccines are already accessible for worldwide distribution [6]. However, sufficient knowledge and favorable attitudes regarding the vaccine are necessary for a successful vaccination effort. Vaccine hesitancy, which is defined as "the decision to

delay vaccination or the refusal to vaccinate despite available vaccination services," may result from ignorance and a lack of attitude [7,12]. Pneumococcal, influenza, and human papillomavirus vaccination reluctance has previously been noted [13-16].

With little success, the increase in instances prompted specialists to adopt several therapy regimens. Therefore, more practical and effective ways to slow down or perhaps stop the COVID-19 pandemic were sought, especially through the creation of a vaccine. To combat the COVID-19 pandemic, international pharmaceutical companies made great efforts to develop effective and secure vaccines. Due to the urgency of the situation, vaccination programs had to be started right away everywhere, even in Iraq [17-20]. At the end of March 2021, Iraq received its first dose of the COVID-19 vaccination [21-25].

Only with sufficient vaccination coverage can the ongoing community spread of COVID-19 be contained and herd immunity developed. One of the best and most economical ways to avoid infectious diseases is by immunization. To prevent disease morbidity and mortality, COVID-19 vaccinations are crucial [26-29]. An estimated 60% to 80% of the population must be vaccinated to achieve herd immunity [30-33].

Methods

Two hundred participants, including both male and female staff members and students, participated in the study, which was conducted at Bab Al-Zubair University in Basrah to identify their anxiety about receiving the COVID-19 vaccine. A questionnaire with closed-ended questions was used to collect data. The first component of the questionnaire is broken up into three sections and includes seven items: age, gender, marital status, educational achievement, location of residence, economic situation, and smoking.

Twelve questions in the second section focus on the sample's clinical characteristics in relation to COVID-19. 17 questions about fear of the COVID-19 vaccine make up the third section. The data was analyzed using a standardized 2-point Liker scale with YES and NO options. A completed questionnaire form was given to 200 participants, who read it and responded. The researchers then collected the completed forms, which were then scored based on the average of the responses. SPSS (Statistical Package for Social Sciences) version 26 was used for the analysis, and frequency and percentage were used to express the data. A mean of scores was used to determine the degree of significance

Result and Discussion

Table 1: Frequency and percent of negative reactions regarding COVID-19 vaccine

Item	Frequencies	Percent	Mean score	Significance
1- Have you had the coronavirus vaccination?				
Yes	168	84	2.84	Significance
No	32	16		
2- Which vaccination do you prefer from the list below?				
American - British Pfizer vaccine				
Yes	146	73	2.19	Significance
British AstraZeneca vaccine				
Yes	18	9	0.27	Non-Significance
Sinopharm (Chinese) vaccine				
Yes	36	18	0.54	Non-Significance
3- Do you know enough about the vaccine's adverse effects?				
Yes	104	52	2.52	Significance
No	96	48		
4- Do you trust the government that brings the vaccine into your nation?				
Yes	44	22	2.22	Significance
No	156	78		
5- Do you trust the business that is making the vaccine?				
Yes	122	61	2.61	Significance
No	78	39		
6- Does getting more people vaccinated against the coronavirus make you want to get it yourself?				
Yes	134	67	2.67	Significance
No	66	33		
7- Do you favor receiving the vaccine based on scientific studies?				
Yes	165	82.5	2.825	Significance
No	35	17.5		
8- Given that the vaccine has a long duration of protection against the virus, do you choose to have it?				
Yes	174	87	2.87	Significance
No	26	13.0		
9- Do you advocate for vaccinations among your loved ones?				
Yes	154	77	2.77	Significance
No	46	23		

10- Does the vaccine prevent infection and lessen the symptoms of corona?				
Yes	167	83.5	2.835	Significance
No	33	16.5		
11- Do you believe that the vaccine helps people's lives return to their pre-pandemic state?				
Yes	178	89	2.89	Significance
No	22	11		

According to Table 1, 84% of individuals had received the vaccination, whereas 16% had not. The Sinopharm vaccination was favored by 18% of participants, the American-British Pfizer vaccine by 73%, and the British AstraZeneca vaccine by 9%. While 48% lacked sufficient information, 52% knew the vaccine's adverse effects. Regretfully, only 22% of respondents expressed faith in the government that brings the vaccine into the nation. Sixty-one percent of participants trusted the business that made the vaccination. 67% of participants believe that their motivation to get the vaccine is increased when more people are inoculated against the coronavirus. According to medical studies, 82.5% of participants said they would rather get the vaccine.

Table 2: Frequency and percent of positive reactions regarding COVID-19 vaccine

Item	Frequencies	Percent	Mean score	Significance
1- Do you have anxiety or concerns about receiving the COVID-19 vaccine?				
Yes	139	69.5	2.695	Significance
No	61	30.5		
2- Are you afraid of the vaccine's adverse effects?				
Yes	102	51	2.51	Significance
No	98	49%		
3- Does your decision to get the vaccine change as a result of the regular news reports regarding vaccine fraud on social media?				
Yes	71	35.5	2.355	Significance
No	129	64.5		
4- Is acquired immunity from a vaccine inferior to natural immunity?				
Yes	120	60	2.63	Significance
No	80	40.0		
5- Do you believe that a person's infertility is impacted by the vaccine?				
Yes	7	3.5	2.035	Significance
No	193	96.5		

6- Do you believe that your acceptance of the vaccine has been negatively impacted by the quick development of COVID-19 vaccines?

Yes	138	69		
No	62	31.0	2.69	Significance

According to Table 2, there was a great deal of anxiety about receiving the vaccinations and their potential negative effects. According to 35.5% of vaccination respondents, social media had a major impact. An important finding on this topic was that 60% of respondents believe that having natural immunity is preferable to obtaining it. We discovered a strong correlation between immunizations and fertility, even though 3.5% of respondents incorrectly believe that the vaccine has an impact on male fertility. Additionally, 69% of respondents said that their motivation to get the vaccine was impacted by its quick development.

Conclusion

The majority favored the American-British Pfizer vaccine and were immunized against the COVID-19 virus. The most frequent excuse for not getting the vaccination was the speed at which it was being produced. Except for the items about the usage of the Sinopharm (Chinese) and British AstraZeneca vaccines, which were not significant because the majority of respondents favored the American-British Pfizer vaccine, there was a substantial connection with all positive things. The negative response to vaccination and the quick development of vaccines were significantly correlated.

References

- [1] D. Cucinotta and M. Vanelli, "WHO Declares COVID-19 a Pandemic," *Acta Biomed.*, vol. 91, pp. 157–160, 2020. [Online]. Available: <https://doi.org/10.23750/abm.v91i1.9397>. PMID: 32191675.
- [2] H. Namazi and V. V. Kulish, "Complexity-Based Classification of the Coronavirus Disease (COVID-19)," *Fractals*, vol. 28, p. 2050114, 2020. [Online]. Available: <https://doi.org/10.1142/S0218348X20501145>.
- [3] WHO, "WHO Coronavirus (COVID-19) Dashboard," WHO, [Online]. Available: <https://covid19.who.int>. Accessed: Apr. 7, 2021.

- [4] M. M. Rahman et al., "Assessing the Psychological Condition Among General People of Bangladesh During COVID-19 Pandemic," *J. Hum. Behav. Soc. Environ.*, vol. 31, no. 2, pp. 1–15, 2020. [Online]. Available: <https://doi.org/10.1080/10911359.2020.1848688>.
- [5] "Coronavirus (COVID-19) Vaccinations—Statistics and Research," *Our World in Data*, [Online]. Available: <https://ourworldindata.org/covid-vaccinations>. Accessed: Apr. 7, 2021.
- [6] S. Wibawa, "COVID-19 Vaccine Research and Development: Ethical Issues," *Trop. Med. Int. Health*, vol. 26, no. 3, pp. 114–122, 2021. [Online]. Available: <https://onlinelibrary.wiley.com/doi/full/10.1111/tmi.13503>.
- [7] T. Callaghan et al., "Parent Psychology and the Decision to Delay Childhood Vaccination," *Soc. Sci. Med.*, vol. 238, p. 112407, 2019. [Online]. Available: <https://doi.org/10.1016/j.socscimed.2019.112407>. PMID: 31366444.
- [8] A. M. Tiryag, M. A. Atiyah, and A. S. Khudhair, "Nurses' Knowledge and Attitudes Toward Thyroidectomy: A Cross-Sectional Study," *Health Educ. Health Promot.*, vol. 10, no. 3, pp. 459–465, Jul. 2022.
- [9] H. H. Abdul-Ra'aoof, A. M. Tiryag, and M. A. Atiyah, "Knowledge, Attitudes, and Practice of Nursing Students About Insulin Therapy: A Cross-Sectional Study," *Academia Open*, vol. 9, no. 1, pp. 10–21070, Jun. 2024.
- [10] A. M. Tiryag, S. B. Dawood, and S. K. Jassim, "Nurses' Knowledge and Attitudes About Enteral Feeding Complications by Nasogastric Tube in Intensive Care Units," *Rawal Med. J.*, vol. 48, no. 3, pp. 689–694, Jul. 2023.
- [11] I. H. Zainel, H. H. Abdul-Ra'aoof, and A. M. Tiryag, "Mothers' Knowledge and Attitudes Towards Their Children With Neonatal Jaundice: A Cross-Sectional Study," *Health Educ. Health Promot.*, vol. 10, no. 3, pp. 565–570, Jul. 2022.
- [12] A. M. Tiryag, "Revitalizing Hearts: The Transformative Impact of Pacemaker Therapy on Cardiac Conduction Disorders," *Academia Open*, vol. 9, no. 1, pp. 10–21070, Jun. 2024.
- [13] E. F. Fowler and S. E. Gollust, "The Content and Effect of Politicized Health Controversies," *Ann. Am. Acad. Political Soc. Sci.*, vol. 658, pp. 155–171, 2015.

- [14] M. A. Mohammad, H. H. Abdul-Ra'aoof, K. A. Razzaq Manahi, and A. M. Tiryag, "Parents' Knowledge and Attitudes Toward Testicular Torsion," *Bahrain Med. Bull.*, vol. 46, no. 1, Mar. 2024.
- [15] M. Jabbar, M. Mohammad, and A. Tiryag, "Changes in Male Reproductive Hormones in Patients With COVID-19," *Georgian Med. News.*, no. 342, pp. 42–46, Sep. 2023.
- [16] H. M. Sabty, S. B. Dawood, and A. M. Tiryag, "Nurses' Knowledge and Practices on Influenza Vaccination for Pregnant Women," *J. Kebidanan Midwiferia.*, vol. 10, no. 2, pp. 50–59, Oct. 2024.
- [17] K. M. Jassim, A. S. Khudhair, Z. S. Dawood, and A. M. Tiryag, "Nurses' Knowledge About Electrocardiogram Interpretation: A Cross-Sectional Study," *Rawal Medical Journal*, vol. 48, no. 4, pp. 850–853, Oct. 2023.
- [18] M. A. Akber, A. M. Tiryag, and A. I. Alobaidi, "Nurses' Knowledge Regarding Cast Complications of Limb Fractures: A Cross-Sectional Study," *Central Asian Journal of Medical and Natural Science*, vol. 5, no. 2, pp. 195–200, Apr. 2024.
- [19] H. H. Abdul-Ra'aoof, S. B. Dawood, F. A. Jassim, S. K. Jassim, S. S. Issa, M. A. Akber, and M. A. Atiyah, "Moderate Proficiency in Suture Techniques Among Nurses: A Cross-Sectional Study," *Journal of Nursing Education and Practice*, vol. 14, no. 2, pp. 50–58, 2024.
- [20] H. H. Abdul-Ra'aoof et al., "The Psychological Impact of Violence on Emergency Department and Intensive Care Unit Nurses: A Cross-Sectional Study," *Research Journal of Trauma and Disability Studies*, vol. 3, no. 4, pp. 228–233, Apr. 2024.
- [21] S. S. Issa, K. J. Madwah, and H. S. Al Mosawi, "Evaluation of Nurses' Knowledge in Management of Premature Babies in Neonatal Units," *American Journal of Nursing*, vol. 6, no. 5, pp. 291–295, 2018.
- [22] A. A. Al-Iedan, M. A. Akber, S. B. Dawood, A. I. Alobaidi, S. S. Issa, H. H. Raoof, A. Z. Khalaf, and A. M. Tiryag, "Bridging the Gap: Enhancing Open Fracture Care in Emergency Nursing," *Academia Open*, vol. 9, no. 1, Article ID 10-21070, Jun. 2024.
- [23] S. S. Issa, M. A. Ma'atook, and M. Falih, "Assessment of Nurses' Knowledge About Intravenous Fluid Administration at Basra General Hospital," *International Journal of Pharmaceutical Research*, vol. 12, no. 2, Apr. 2020.

- [24] G. A. Razooqi, H. H. Ra'aoof, and S. S. Issa, "Radiology Safety in Iraq Exposes Critical Gaps in Training and Knowledge," *Academia Open*, vol. 9, no. 1, Article ID 10-21070, Jun. 2024.
- [25] H. N. Waheeb, F. A. Jassim, and S. S. Issa, "Assessment of Nurses' Knowledge About Breast Cancer," *Journal of Namibian Studies: History Politics Culture*, vol. 35, pp. 2899–2913, Jul. 2023.
- [26] H. Harapan et al., "Acceptance of a COVID-19 Vaccine in Southeast Asia: A Cross-Sectional Study in Indonesia," *Frontiers in Public Health*, vol. 8, p. 381, Jul. 2020.
- [27] Z. A. Hassan, S. S. Issa, A. A. Al-Mussawi, and S. K. Jasim, "Assessment of the Knowledge Regarding HIV/AIDS Among Nursing College Students in University of Basrah," *Indian Journal of Public Health*, vol. 10, no. 11, p. 2519, Nov. 2019.
- [28] M. A. Abdullah, F. J. Kadhum, and S. S. Issa, "Assessment of Liver Involvement in Patients With Type 2 Diabetes Mellitus in Basrah City, Iraq, Using FibroScan and Correlation With Risk Factors," *Cureus*, vol. 16, no. 7, Jul. 2024.
- [29] M. A. A. Maher, "Knowledge of Nursing College Students on Preventive Measures for Irritable Bowel Syndrome: Pre-Experimental Study," *International Journal of Integrative and Modern Medicine*, vol. 2, no. 3, pp. 16–24, 2024.
- [30] J. H. Kim, F. Marks, and J. D. Clemens, "Looking Beyond COVID-19 Vaccine Phase 3 Trials," *Nature Medicine*, vol. 27, no. 2, pp. 205–211, Feb. 2021.
- [31] M. Atiyah, "Nurses' Knowledge Regarding Management of Hypovolemic Shock: A Cross-Sectional Study," *Academia Open*, vol. 9, no. 2, Article ID 10-21070, May 2024.
- [32] Z. K. Dhahi, S. S. Issa, and L. A. Hameed, "A Study on Pregnant Women's Satisfaction With Primary Health Care Services in Basra," *International Journal of Research in Humanities Arts and Literature*, vol. 3, no. 1, pp. 7–19, Jan. 2015.
- [33] S. S. Issa, K. J. Madwah, and H. S. Al Mosawi, "Evaluation of Nurses' Knowledge in Management of Premature Babies in Neonatal Units," *American Journal of Nursing*, vol. 6, no. 5, pp. 291–295, 2018.
- [34] S. M. Ebrahim and S. S. Issa, "Workplace Violence Against Nursing Staff Working in Emergency Departments at General Hospitals in Basra City," *Indian Journal of Public Health Research & Development*, vol. 9, no. 6, pp. 239–244, 2018.

- [35] N. R. Shiaa, S. S. Issa, and K. H. Subber, "Maternal and Fetal Determinants of Stillbirth Among Women Attending Maternity Departments of Basra Central Hospitals," *Indian Journal of Public Health Research & Development*, vol. 10, no. 9, Sep. 2019.