

ACCEPTANCE AND HESITANCY OF COVID-19 VACCINE AMONG NURSES IN PUBLIC SECTOR TERTIARY CARE HOSPITALS OF PESHAWAR

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ABSTRACT**OBJECTIVES**

To assess Covid-19 Vaccine Acceptance and Hesitancy level among Nurses in the Public Sector Tertiary Care Hospitals of Peshawar.

METHODOLOGY

This descriptive cross-sectional study was conducted from 1 September to 31 December 2021 at public sector tertiary care hospitals of Peshawar Khyber Pakhtunkhwa. Three hundred forty staff nurses were included in this study using convenient sampling techniques. A modified questionnaire was used for data collection, and consent was taken from the participants. Data were analyzed through SPSS software version 25.0.

RESULTS

The study's findings showed that 92.4% of the participants agreed to receive the vaccine, and 3.9% disagreed to get it. And most of the participants were hesitant for the reasons of the effectiveness of the COVID-19 vaccine 48.3%, worried about the adverse effects of the vaccine 62.3%, fear of being infected with COVID-19 after getting the vaccine 50%, and COVID-19 vaccine not give permanent protection to the vaccinated people 61.1%.

CONCLUSION

Despite overall acceptance among nurses, others express fear of being vaccinated and consider the vaccine non-effective. Forthcoming vaccination must address this hesitancy that the vaccine is safe and provide immunity to get adequate results.

KEYWORDS: Acceptance, Hesitancy, COVID-19, Vaccine, Nurses

INTRODUCTION

The Coronavirus (Covid-19) pandemic, beginning in Wuhan, China, has become a significant danger in nearly every country worldwide.¹ The pandemic has affected 9720 people and led to 213 deaths in China, also 19 other countries reported 106 cases of infection till 31 January 2020.² Till 7 August 2021, overall, 214,468,601 confirmed cases of COVID-19, including 4,470,969 deaths, have been reported to the world health organization.³ This virus was aroused from bats and transferred to humans through an unknown intermediary substance in Wuhan, Hubei province, China, in December 2019. The mode of transmission of this disease is inhalation or contact with droplets; the incubation period may vary from 2 to 14 days.⁴ Every year millions of people are prevented from disease, disabilities, and death due to immunization, but the support of people for their utilization has decreased universally. The hurdles to the immunization program are being recognized, which include doubt about vaccines and refusal or reduction in immunization which cause actual and factual threats to the successfulness of the immunization program.⁵ Vaccine hesitancy was defined by World Health Organization in 2015 as any delay or denial of immunization regardless

of the availability of immunization resources. Vaccine hesitancy is increasing worldwide.⁶ According to the World Health Organization, hesitancy to vaccination is one of the top ten threats to global health.⁷ In the Democratic Republic of Congo, a study conducted on the level of acceptance of covid-19 vaccine reveals that 24.1% of participants believe that the covid-19 does not exist. Overall 55.9% agreed to get the vaccination. The remaining 40.1% were not ready to get vaccines. The Health Care Workers were less probably to be vaccinated.⁸ Another study on the acceptance of covid-19 in the United States of America stated that 36% of the participants agreed to get the vaccination as soon as possible. Most of the participants, about 56%, wanted to wait to confirm whether the vaccine was safe for us. Only 8% of the healthcare workers were not agreed to take a vaccine. However, some factors increase the level of vaccine acceptance when it grows, i.e. income, education and age.⁹ The vaccine campaign of covid-19 vaccination in Pakistan began in February 2021 after the donation of half a million doses of the Sinopharm vaccine by the People's Liberation Army of China.¹⁰ The healthcare workers are the first vaccinated. Later on, the vaccination was extended to the general public above the age of 70 and 60. Now to the age of 18 and above.¹¹ Health Care Workers are crucial in educating

people about vaccination.¹² According to the statistic in Pakistan, as of 28 September 2021, 1,241,825 confirmed cases of covid-19, including 27,638 deaths, have been reported to the National Command Operation Center.¹³ Pakistan's population is very diverse and contains many religious, ethnic and socioeconomic groups. Out of them lies a small portion of peoples which have recently gone against the utilization of polio immunization, due to which Pakistan lies among the three nations which still report polio cases.¹⁴ During the implementation of the polio immunization program, many challenges have occurred. One of them was the fantasy related to the biological impact of vaccines.¹⁵ The same fantasy was also raised in the case of covid-19 pandemic, as some people claimed that the covid-19 vaccine would change our DNA and a microchip would be inserted into our bodies which would manage our minds. (Vaccine Rumours Debunked: Microchips, 'altered DNA' and More- BBC News, n.d.). Recently, a famous journalist and columnist claimed that this is a grand illusion to target the Islamic nations and allow the Jews to rule over the world.¹⁶ Theories like these are actively discussed in Pakistani social media. In a country where vaccine hesitancy is a major problem, it will lead to resistance against covid-19 vaccination.¹⁷ The current covid-19 vaccine acceptance rate in Pakistan is only 70%.¹⁸ Therefore, it is essential to find out the attitude of HCWs towards covid-19 vaccination because it will lead to a greater transformation of knowledge to people.¹⁹ Among many challenges, vaccine hesitancy is now a real problem for Pakistan. In Peshawar, no study exists on the acceptance and hesitancy of covid-19 vaccination. Thus, our study aims to describe the current covid-19 vaccine acceptance among nurses in Peshawar, Pakistan, to identify covid-19 vaccine acceptance barriers.

METHODOLOGY

The quantitative descriptive cross-sectional study was conducted from 1 July 2021 to 31 December 2021 for six months at tertiary hospitals (Lady Reading Hospital, Khyber Teaching Hospital and Hayatabad Medical Complex) in District Peshawar. The sample size is calculated by Yamane Equation ($n = N / (1 + N(e)^2)$) with the following parameters; the Margin of error is 0.05, and the confidence level is 95%, respectively. The calculated sample size is 340, with a total population of 2300. A Convenient sampling technique was used to

select participants. Informed consent was obtained after explaining the purpose of data collection. A modified/adopted questionnaire with five points Likert scale was used for data collection. The questionnaire consists of three sections. Section 1:- Socio-Demographic Variables This section contains six variables, including Name, Age, Gender, Education, Religion and Place of work. Section 2:- Acceptance of COVID-19 vaccine, includes seven items Section 3:- Hesitancy towards COVID-19 vaccine, contains eight items. A pilot study was conducted before on 10 % of the sample size. All registered nurses RN were included in the study participant except Student Nurses, Nurses Internee and Nurses on casual leave or absence. Written consent was read and signed by participants before completing questioner. Data collection was started after approval from the ethical review board. Ethical principles such as anonymity, confidentiality, autonomy and informed consent were ensured throughout the study. Further approvals were obtained from the Nursing Directors of Public Sector Tertiary Care Hospitals of Peshawar. Data were analyzed by using SPSS software version 25.0. In descriptive statistics, mean, and standard deviation were calculated for continuous variables (Age). Frequency and percentage were calculated for categorical variables such as gender, level of education, religion and place of work and were represented in tables, graphs and charts. In inferential statistics, the chi-square test was used for analysis.

RESULTS

Table 1: Descriptive Demographic Data of Nurses Included in the Survey (n=340)

Variables		N(%)
Age	21-30	264(77.64%)
	31-40	62(18.2%)
	41 and Above	14(04.11%)
Gender	Male	80(23.5%)
	Female	260(76.5%)
Level of Education	RN	193(56.8%)
	Post-RN	75(22.1%)
	BSN	71(20.9%)
	MSN	01(0.3%)
The Religion of the Participants	Islam	323(95%)
	Christianity	17(05%)
Place of Work of the Participants	Lady Reading Hospital	148(43.5%)
	Khyber Teaching Hospital	118(34.7%)
	Hayatabad Medical Complex	74(21.8%)

Table 2: Description of Acceptance Towards COVID-19 Vaccination (n=340)

Items	Strongly Agree n (%)	Agree n (%)	Not sure n (%)	Disagree n (%)	Strongly Disagree n (%)
I am willing to be vaccinated if it is freely available.	190(55.9%)	124(36.5%)	13(3.8%)	06(1.8%)	07(2.1%)
I will take the COVID-19 vaccine only if it is made mandatory by government authorities.	95(27.9%)	176(51.8%)	26(7.6%)	33(9.7%)	10(2.9%)
I would get the COVID-19 vaccine if my family or friends recommended it.	105 (30.9%)	128(37.6%)	59(17.4%)	38(11.2%)	10(2.9%)
I will take part in COVID-19 vaccine trials in future.	76(22.4)	128(37.6%)	103(30.3%)	(3.5%)	21(6.2%)
The COVID-19 vaccine will protect me from getting the disease.	123(36.2%)	146(42.9%)	49(14.4%)	16(4.7%)	06(1.8%)
I will get the COVID-19 vaccine at a cost if it is 95% effective.	92(27.1%)	161(47.4%)	62(18.2%)	20(5.9%)	05(1.5%)
If my doctor recommends the COVID-19 vaccine, I will take it.	110(32.4%)	158(46.5%)	44(12.9%)	24(7.1%)	04(1.2%)

Table 3: Description of Hesitancy towards COVID-19 Vaccine (n=340)

Items	Strongly Agree n (%)	Agree n (%)	Not sure n (%)	Disagree n (%)	Strongly Disagree n (%)
I am concerned that the present COVID-19 vaccine may not be effective enough.	56(16.5%)	108(31.8%)	110(32.4%)	57(16.8%)	09(2.6%)
I am worried about the adverse effects of currently available COVID-19 vaccine.	78(22.9%)	134(39.4%)	79(23.2%)	43(12.6%)	06(1.8%)
I have fear of being infected with COVID-19 after getting vaccine.	72(21.2%)	98(28.8%)	98(28.8%)	54(15.9%)	18(5.3%)
I am scared because this is new vaccine.	63(18.5%)	160(47.1%)	59(17.4%)	50(14.7%)	8(2.4%)
I want to see how it affects others before I get it.	73(21.5%)	132(38.8%)	69(20.3%)	58(17.1%)	8(2.4%)
COVID-19 vaccination is not giving permanent protection to the vaccinated people.	97(28.5%)	111(32.6%)	71(20.9%)	44(12.9%)	17(5.0%)
I do not take COVID-19 vaccine because I have trypanophobia.	65(19.1%)	69(20.3%)	87(25.6%)	72(21.2%)	47(13.8%)

DISCUSSION

The present study observed the acceptance and hesitancy of the COVID-19 vaccine among nurses in the tertiary care hospitals of Peshawar, Pakistan. This study consists of two sections acceptance and hesitancy. The 1st section is about vaccine acceptance, in which the main findings showed that 92.4% agree to receive the vaccine (36.5% agree, 55.9% strongly agree) and 3.9% disagree to get it (1.8% disagree, 2.1% strongly disagree). The reasons for acceptance to be vaccinated are the recommendation of government authorities 79.8% if recommended by family or friends 68.5%, the vaccine will protect from getting the disease 79.1%, to get on a cost of 95% effective 74.5%, and if recommended by doctor 78.9%. A similar study was conducted in 20120 Assessment of COVID-19 vaccine acceptance among healthcare workers in Los Angeles shows overall confidence in vaccine with intend to delay vaccination was 66.5 % 4.5 higher among nurses.⁵ The WHO recognized the importance of healthcare workers in eliminating vaccine hesitancy among vulnerable populations. Recent research shows that vaccine hesitancy in healthcare workers is often the result of a lack of information regarding the vaccines, lack of confidence in communicating information about

vaccines to parents and concerned family members, lack of trust in government authorities providing the vaccine and influence of social media posts on their decision-making process.¹⁹ However, another study conducted in southeast Asia Indonesia in 2019 reveals that acceptance of vaccines is highly related to their effectiveness of it. this study also resulted in 74.5 % acceptance if effectiveness was observed. The Hesitancy of COVID-19 Vaccine, in which the finding shows that most of the participants were hesitant for the reasons of the effectiveness of the COVID-19 vaccine, 48.3% worried about the adverse effects of the vaccine, 62.3% fear being infected with COVID-19 after getting the vaccine 50%, and COVID-19 vaccine does not give permanent protection to the vaccinated people 61.1%. A cross-sectional survey study conducted in the Republic of Congo in 2020 shows that the willingness for COVID-19 vaccination is too low due to dramatically decreased community transmission. And the common intention of immunization among healthcare workers.⁸ Another study on COVID-19 vaccine acceptance among healthcare workers in the United States reveals that 56% were unsure and waiting to review more data to be vaccinated.⁹ A cross-sectional study in Pakistan shows that only 15 % were unwilling, while 70 % were willing to be immunized if

recommended. Another study conducted in the United Kingdom and Turkey shows that Overall, 54% of the participants in Turkey and 63% in the United Kingdom believed that the outbreak of the novel coronavirus was natural, finally leading to an increased willingness to obtain the COVID-19 vaccine and only 5 % delay it.¹⁸ Based on our findings, we recommend that government authorities make the COVID-19 vaccination compulsory and free of cost to achieve the highest possible response rate and address vaccine hesitancy. Furthermore, we suggest organizing awareness seminars or workshops to provide clear information about the vaccine's effectiveness, its role in protecting individuals, and its ability to develop immunity against the virus. Addressing these concerns before administering the vaccine can help alleviate fears and increase acceptance among nurses and the general population.

LIMITATIONS

The article may have a small sample size of nurses from a limited number of hospitals, which may affect the generalizability of the findings to a broader population of nurses.

CONCLUSIONS

Our findings indicate that most nurses are willing to receive the COVID-19 vaccination. However, a small number of participants expressed unwillingness due to fear and concerns about the vaccine's potential side effects. Additionally, a significant proportion of nurses reported a lack of trust in the development and effectiveness of the vaccine.

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REFERENCES

- Tran VD, Pak TV, Gribkova EI, Galkina GA, Loskutova EE, Dorofeeva VV, et al. Determinants of COVID-19 vaccine acceptance in a high infection-rate country: a cross-sectional study in Russia. *Pharm Pract Granada*. 2021;19(1).
- He F, Deng Y, Li W. Coronavirus disease 2019: What we know? *J Med Virol*. 2020;92(7):719–25.
- WHO Coronavirus (COVID-19) Dashboard [Internet]. [cited 2021 27 August]. Available from: <https://covid19.who.int>
- Singhal T. A review of coronavirus disease-2019 (COVID-19). *Indian J Pediatr*. 2020;87(4):281–6.
- Gadoth A, Halbrook M, Martin-Blais R, Gray AN, Tobin NH, Ferbas KG, et al. Assessment of COVID-19 vaccine acceptance among healthcare workers in Los Angeles. *Medrxiv*. 2020;
- Lazarus JV, Ratzan SC, Palayew A, Gostin LO, Larson HJ, Rabin K, et al. A global survey of potential acceptance of a COVID-19 vaccine. *Nat Med*. 2020 20 October;1-4.
- Thangaraju P, Venkatesan S. WHO Ten threats to global health in 2019: Antimicrobial resistance. *Cukurova Med J*. 2019;44(3):1150–1.
- Ditekemena JD, Nkamba DM, Mavoko AM, Hypolite M, Siewe Fodjo JN, Luhata C, et al. COVID-19 vaccine acceptance in the Democratic Republic of Congo: a cross-sectional survey. *Vaccines*. 2021;9(2):153.
- Shekhar R, Sheikh AB, Upadhyay S, Singh M, Kottewar S, Mir H, et al. COVID-19 vaccine acceptance among health care workers in the United States. *Vaccines*. 2021;9(2):119.
- Desk W. Pakistan Army contributes Chinese-donated Sinpharm vaccine to national drive. *The News International* [Internet]. 2021 Feb 8 [cited 2023 May 19]; Available from: <https://www.thenews.com.pk/latest/786928-army-contributes-chinese-donated-vaccine-to-national-vaccine-drive>
- Siddiqui A, Ahmed A, Tanveer M, Saqlain M, Kow CS, Hasan SS. An overview of procurement, pricing, and uptake of COVID-19 vaccines in Pakistan. *Vaccine*. 2021 Aug 31;39(37):5251–3.
- Paterson P, Meurice F, Stanberry LR, Glismann S, Rosenthal SL, Larson HJ. Vaccine hesitancy and healthcare providers. *Vaccine*. 2016;34(52):6700–6.
- Center NCO. National Command Operation Center [Internet]. [cited 2021 28 September]. Available from: <https://ncoc.gov.pk/#section2>
- Ali M, Ahmad N, Khan H, Ali S, Akbar F, Hussain Z. Polio vaccination controversy in Pakistan. *The Lancet*. 2019 Sep 14;394(10202):915–6.
- Carmichael F, Goodman J. Vaccine rumours debunked: Microchips, altered DNA and more. *BBC* [Internet]. 2020 Nov 15 [cited 2023 May 19]; Available from: <https://www.bbc.com/news/5489343716>.
- Bill Gates' coronavirus vaccine will have nano trackers, will be controlled via 5G satellites to take Islam out of Muslims: Pakistani _expert' Zaid Hamid [Internet]. *OpIndia News*. 2020 [cited 2023 May 19]. Available from: <https://www.opindia.com/2020/05/pakistan-zaid-hamid-coronavirus-vaccine-bill-gates-nano-trackers-5g-satellite-muslims/>
- Khan YH, Mallhi TH, Alotaibi NH, Alzarea AI, Alanazi AS, Tanveer N, et al. Threat of COVID-19 Vaccine Hesitancy in Pakistan: The Need for Measures to Neutralize Misleading Narratives. *Am J Trop Med Hyg*. 2020 Aug 5;103(2):603–4.
- Qamar MA, Irfan O, Dhillon RA, Bhatti A, Sajid MI, Awan S, et al. Acceptance of COVID-19 Vaccine in Pakistan: A Nationwide Cross-Sectional Study. *Cureus*. 2021;13(7).
- Malik A, Malik J, Ishaq U. Acceptance of COVID-19 vaccine in Pakistan among health care workers. *medRxiv*. 2021;

CONTRIBUTORS

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