ORIGINAL ARTICLE

Frequency and Pattern of Myths and Misconception regarding Covid- 19 Vaccine in General Population

SAIMA JATOI[1], MANZOOR ALI[2], SUNIL DAT MAHESHWARI[3], MASOOD UZ ZAMAN[4], MUHAMMAD ADNAN BAWANY[5], HASHAM MASOOD QURESHI[6]

[1]Assistant Professor of Pulmonology, Isra University Hyderabad [2]Assistant Professor of Psychiatry, Isra University Hyderabad
[3]Assistant Professor of Medicine, Isra University Hyderabad
[4]Assistant Professor of Neurology, Isra University Hyderabad
[5]Professor of Medicine, Isra University Hyderabad
[6]Medical Officer, Isra University Hyderabad
Corresponding author: Sunil Dat Maheshwari, Email: sgmaheshwari86@gmail.com

ABSTRACT

Objective: To determine the frequency and pattern of myths and misconceptions regarding COVID-19 vaccine in the general population at Isra University Hospital Hyderabad

Material and Methods: This cross-sectional survey base study was conducted at the Isra University Hospital Hyderabad, during a period of six months from August 2021 to January 2022. All the patients who visited the OPD and their attendants of any age or gender, were included. All the subjects were properly counseled that their privacy was fully secured and their name and contact numbers were taken. After obtaining sociodemographic information, the participants were interviewed regarding COVID-19 infection in the past, previous vaccination history for diseases other than COVID-19, conceptions, and myths regarding COVID-19 vaccination, acceptance of COVID-19 vaccination, reasons to vaccinate for COVID-19, and reasons not to vaccinate for COVID-19. All the information was gathered via study proforma including questioner and SPSS version 26 was used for the purpose of data analysis.

Results: A total of 145 individuals of either gender were studied regarding myths and misconceptions of COVID-19 vaccine, their average age was 27.71+9.86 years and females were in majority 62.1%. Among the study population, doctors, private employee and housewives were the most common as 44.1%, 11%, 11.7% and 9% respectively. Most of the cases 62.1% were unmarried. According to the myths and misconceptions, 8.3% said it can affect fertility, 23.4% had no trust on its effectiveness and safety, 14.5% said it is an artificial infection procedure, 11% were afraid from its dangerous side effects, 3.4% said the vaccine will change their DNA, 13.8% said it is a controversial substance and 6.9% afraid that they will die within 2 years. 24.1% cases heard myths from family, 24.8% heard from friends and 51% heard by social media. 17.2% had idea that it is an international conspiracy and 4.8% said this may cause sexual dysfunction and 4.8% said it is a procedure of implanting microchip to control them.

Conclusion: There were several misconceptions in the general population, most myths like effects of male fertility, distrust on vaccine efficacy, they will be infected artificially, fear of dangerous side effects, controversial substances were observed to be the commonest myths and misconceptions regarding the COVID-19 vaccine in the general population. Above ideas were adopted mostly by the friends and social media.

Keywords: Covid-19, vaccine, misconception

INTRODUCTION

Since December 2019, COVID-19 has been rapidly spreading over the world.[1] According to the World Health Organization, the exponential increase in COVID-19 cases sparked an "info emic" due to widespread beliefs and misinformation about the disease transmission.[1,2] Millions of people have died as a result of the global coronavirus pandemic. There was a time when there was no hope, but with time hope rise in the shape of the vaccination.[3] Ultimately, the good news is that many vaccines have been discovered and vast immunization programs have been implemented as a consequence of collaboration between scientists and pharmaceutical corporations.[3] Vaccination has made a significant contribution to the reduction of disease, disabilities, and mortality. Other than treating symptomatic individuals, the control and prevention of the epidemic during 2020 included measuring asymptomatic infections, close contact tracing, follow-up and monitoring after cure and discharge, high-risk population screening, and disinfection of the epidemic source but effective vaccination is the only way to completely eliminate COVID19 infections.[4] Vaccine

induce the production of specific antibodies in the body, resulting in an anamnestic reaction when the body is exposed to the pathogen again.[4] This fearful attitude stems from a variety of factors, including religious views, misconceptions regarding vaccine effects, and an insufficient knowledge.[5,6] Lack of confidence in vaccination leads to vaccine refusal, according to Rutten et al. Other factors include social media propaganda, rapidly vaccine development, and the sociopolitical climate in which individuals live.[5,7] Myth is a folklore genre comprised stories/narratives that have a significant influence in people's daily lives.[8,9] Due to public awareness campaigns using multiple

platforms such as social media, radio, television, newspapers, health presentations by politicians, pamphlets, and signboards to encourage people to get vaccinated, there are some myths and misconceptions about COVID-19 vaccines.[8] These misconceptions are disseminated by word of mouth and social media, which may persuade the public to believe the opposite, resulting in a reduction in necessary health behaviors and serious health risks. Such beliefs can be destructive to society since they produce a lot of commotion and confusion among the people.[8]

Unfortunately, in Pakistan, religious conspiracy theories and misleading narratives about the COVID-19 vaccination may influence people's decisions to get the vaccine if it becomes available.[10,11] However, current study aimed to assess the frequency and pattern of myths and misconceptions regarding COVID-19 vaccine in the general population at Isra University Hospital Hyderabad.

MATERIAL AND METHODS

This cross-sectional survey-based study was conducted at Isra University Hospital Hyderabad, during a period of six months from August 2021 to January 2022. All the patients who visited the OPD, their attendants and Hospital health workers of any age or gender were included. All the individuals less than18 years old and those who were not agreeing in the participation of the study were excluded. Informed consent were obtained from the cases after explaining the study objective. All the study subjects were given the option of not submitting the completion form. Because no names or contact numbers were included in the data, the participant could not be identified. Each participant's privacy was fully secured during the study. After following SOP of COVID like social distancing (physical distancing) and prohibited activities,

information was collected. After taking sociodemographic information, including the age of the cases, gender, their marital status, place of residence, education, employment, and socioeconomic status, the participants were interviewed regarding COVID-19 infection in the past, previous vaccination history for diseases other than COVID-19, conceptions, and myth regarding COVID-19 vaccination, acceptance of COVID-19 vaccination, reasons to vaccinate for COVID-19, and reasons not to vaccinate for COVID-19 as per study questioner. All the information was gathered via study proforma including questioner and SPSS version 26 was used for the purpose of data analysis.

RESULTS

In this study, 145 individuals of either gender were studied regarding myths and misconceptions of COVID- 19 vaccine, their average age was 27.71+9.86 years and women were in majority 62%, while males were 37.9%. According to the occupational status students, doctors, private employee and housewives were most common as 44.1%, 11%, 11.7% and 9% respectively. Most of the cases 62.1% were unmarried and the educational status of the study subjects are shown in table.1

According to the Myths and misconceptions, 8.3% were thinking vaccine can affect fertility, 10.3% said that they had already COVID-19 and they did not need, 23.4% said that the rushed the development of COVID-19 vaccine, so its effectiveness and safety cannot be trusted, 9.7% said getting the COVID-19 vaccine means I can stop wearing a mask and taking coronavirus precaution, 14.5% said by vaccination they will be infected by COVID-19, 11% were afraid due to dangerous side effects, 3.4% said the vaccine will change their DNA, 13.8% had idea that the vaccine prepared by controversial substances, 6.9%afraid that they

will die within 2 years after vaccination. On the question of getting vaccinated by own will or pressure/Reason for acceptance, 72.4% replied that it was their own job, 19.3% said job pressure and 8.3% had peer pressure. 24.1% cases heard myths from family, 24.8% heard from friends and 51% heard by social media. 17.2% had the idea that it is an international conspiracy and 4.8% said this is only for sexual dysfunction. 4.8% said it is an implanting microchip to control them. Table.2

Table 1: Demographic information of the study participants n=145

Variables		Statistics	
Age (Years)		27.71+9.86 years	
Gender of the cases	Males	55	37.9%
	Females	90	62%
Occupation of the participants	Student	64	44.1%
	Ward boy	1	0.6%
	govt officer	4	2.7%
	Doctor	16	11%
	House wife	13	8.9%
	Nurse	12	8.2%
	Private employ	17	11.7%
	Driver	1	0.7%
	Dentist	1	0.7%
	Teacher	3	2.1%
	Technician	1	0.7%
	Advocate	2	1.4%
	Un-employed	2	1.4%
	Engineer	4	2.8%
	Labour	4	2.8%
Educational level of the participants	Illiterate	8	5.5%
	SSC	8	5.5%
	HSC	15	10.3%
	Undergraduate	30	20.6%
	Graduate	73	50.3%
	Post Graduate	12	8.2%
Marital status	Single	90	62.1%
	Married	54	37.2%
	Widow	1	0.7%

Table 2: Myths and misconceptions as per questioner n=145

Variables		Statistics	
The COVID-19 vaccine can affect fertility.	Yes	12	8.3%
	No	133	91.7%
If I've already had COVID-19, I don't need a vaccine.	Yes	15	10.3%
	No	130	89.7%
Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted.	Yes	34	23.4%
	No	111	76.6%
Getting the COVID-19 vaccine means I can stop wearing mask and taking coronavirus precaution	Yes	14	9.7%
	No	131	90.3%
Getting the COVID-19 vaccine give you COVID-19.	Yes	21	14.5%
	No	124	85.5%
The side effects of the COVID-19 vaccine are dangerous	Yes	16	11%
	No	129	89%
The COVID-19 vaccine enters your cells and changes your DNA	Yes	5	3.4%
	No	140	96.6%
The COVID-19 vaccine was developed with or contains controversial substances	Yes	20	13.8%
	No	125	86.2%
I will die in 2 years	Yes	10	6.9%
	No	135	93.1%
Getting vaccinated by own will or pressure/ Reason for acceptance	Own job	105	72.4%
	Job pressure	28	19.3%
	Peer pressure	12	8.3%
Where did you hear about the myth	family	35	24.1%
	friends	36	24.8%
	social media	74	51%
COVID doesn't exist	Yes	20	13.8%
	No	125	86.2%
International conspiracy	Yes	25	17.2%
	No	120	82.8%
Male sexual dysfunction	Yes	7	4.8%
	No	138	95.2%
Preexisting disease is a contraindication (Hypertension, Diabetes, Allergies, Asthma	Yes	14	9.7%
	No	131	90.3%
They are implanting microchips to control me	Yes	7	4.8%
	No	138	95.2%

DISCUSSION

In the presence of COVID-19 pandemic's tsunami, by first recognized cases reported in December 2019, it became clear that vaccines might play a critical role in improving population immunity, avoiding the severe COVID-19 infection-related conditions, minimizing the burden on healthcare systems, and minimizing economic loss.[12,13] In this study a145 individuals of either gender were studied regarding myths and misconceptions of COVID- 19 vaccine, their average age was 27.71+9.86 years and women were in majority 62.1%, while males were 37.9%, according to the occupational status students, doctors, private employ and housewives were most common as 44.1%, 11%, 11.7%, and 9% respectively. Most of the cases 62.1% were unmarried. In the study of Tahir MJ et al[14] reported that the 55.6% of the 883 participants were male, 49.3% were between the ages of 21 and 30, and 81.3 percent were unmarried. 80.2% of the respondents lived in cities, and 59.6% had completed more than 13 years of formal education. In another study of Abbas Q et al[1] demonstrated that the 66.3% of individuals were from rural areas, 72.5% were men and the younger age group (21–30 years) had the greatest quantity of responses 56.2%. In terms of marital status, 3 persons did not indicate their marital status, while 70.4% were unmarried, 28.9% were married, and divorced were 0.4%. Graduates received the greatest response (53.5%), followed by 16% secondary, 12.8% were postgraduate, 9.3% were illiterate and 8.4% had primary level education.[1] Hayat K et al[15] conducted the study to look at the public's perceptions of COVID-19, particularly their knowledge, attitudes, and practices and they also reported almost similar findings regarding age, educational status, residential status and marital status with a little difference in our study, majority population were female while in others majority

were male.

In this study, according to the myths and misconceptions, 8.3% believe vaccines have an effect on fertility. 10.3% indicated they already have COVID-19 and didn't need it. 23.4% believe the COVID-19 vaccination was hurried to the market, putting its effectiveness and safety in jeopardy. 9.7% answered that having the COVID-19 vaccination will allow them to quit wearing masks and taking coronavirus precautions. 14.5% claimed they would be infected with COVID-19 as a result of vaccination, and 11% said they were worried of the harmful side effects. 3.4% believe the vaccination will alter their DNA, 13.8% believe the vaccine contains controversial ingredients, and 6.9% believe they will die within two years if they are vaccinated. When asked if they got vaccinated because of their own will or because of peer pressure, 72.4% said they their own job, 19.3 percent claimed job pressure, and 8.3 percent said peer pressure. Myths were heard from family in 24.1 percent of cases, friends in 24.8 percent of cases, and social media in 51.0 percent of cases. 17.2% believed it was a multinational conspiracy, whereas 4.8 percent believed it was solely for sexual dysfunction. 4.8 percent stated it was a microchip implanted to control them. In the comparison of our findings the Zaidi A et al[16] reported that the 9.89% of the 364 individuals showed a high level of mistrust in vaccination safety, while 21.7% were unsure; 28% expressed severe concerns about unforeseen adverse effects, while 54.95% expressed moderate concerns. Furthermore, 7.69% significant concerns about commercial profiteering, while 39.84% expressed moderate reservations.[16] Natural immunity was strongly preferred by around 13% of the participants, and natural immunity was thought to be superior than a vaccine by 45.33%. Importantly, 68.13% of individuals planned to get the COVID-19 vaccination as soon as it was available, compared with 17.03% who were unsure and 14.83% that were unwilling to get vaccinated.[16] Although in the study of Kashif M et al[17] reported that the more than half of the respondents (53.5%) thought the vaccine was safe, efficacious and had few side effects, with healthcare workers accounting for a disproportionately large share (p0.001). On other hand, in the line of this study of Mahmud S et al[18] demonstrated that the when offered a question with several selection possibilities, to investigate the reasons behind people's refusal to accept the COVID- 19 vaccine, 78.52% of the 235 individuals who refused to accept the COVID-19 vaccine were concerned about the vaccine's negative effects or safety, while 76.17% doubted its efficacy. Some responders 42% were also skeptical about the COVID-19 vaccine because it was manufactured in India and almost 36% of those polled believed that vaccination is unnecessary because COVID-19 is no longer present or because they are young. [18] The potential threat of the vaccination, on the other hand, appears to have a negative impact on all aspects of vaccine acceptance except autonomy. [19] Large communities reported findings that were somewhat similar. [19,21] One of the main reasons for this is that citizens now have access to a wide range of information via social media platforms. Most individuals believe what they hear without checking to see if the information is true. [19,11] Misinformation causes conflicts and misunderstanding, which in turn leads to mistrust and distrust among some groups and communities.

The government must develop better vaccination communication tactics in order to diminish the public's fear of vaccines. [19]

CONCLUSION

Effects of male fertility, not trust on vaccine effectiveness, they will be infected artificially, fear of dangerous side effects, controversial substances were observed to be the commonest myths and misconception regarding covid-19 vaccine in general population. Above ideas were adopted mostly by the friends and social media. There is a big need of awareness in our general population, even in an educated group.

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