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Assessment of Knowledge, Perception and Perceived Stress towards COVID-19 Vaccination among People in Selected Community of West Bengal

Aditi Karmakar

Clinical Instructor, College of Nursing, Medical College and Hospital, Kolkata, W.B.

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ABSTRACT

In human, various types of Coronaviruses causes serious problem. In early March, 2020, the World Health Organization (WHO) declared that the Corona Virus disease 2019 (COVID-19) is a global pandemic. COVID-19 is a new strain of Coronavirus and scientists are still collecting information and conducting research on the virus. Vaccination is the most effective strategy to protect the population from COVID-19 infection and several vaccines have been approved against the disease globally. But, the knowledge, perception and perceived stress towards COVID-19 vaccination among general community people are very poorly understood. Thus, the present study aimed to investigate the knowledge, perception and perceived stress towards COVID-19 vaccination among selected community people in West Bengal and it is observed that 66.75% people had moderate knowledge, 98.75% people had positive perception and 66.25% had moderate stress towards COVID -19 vaccination.

Keywords: Corona Virus disease 2019 (COVID-19), Vaccination, Knowledge, Perception, Perceived stress, Community people

INTRODUCTION

Corona Virus disease 2019 (COVID-19) is a grave disease which affects many countries in the world. The disease is caused by new strain of Corona Virus, SARS-COV-2 which have become a serious problem worldwide [1].

The World Health Organization (WHO) declared the COVID-19 outbreak as a pandemic on 11th March, 2020 [2].

During the time of writing (31st January 2022) this pandemic has affected 224 countries with 37.3 Crore confirmed cases. It causes death of 56.6 million people whereas 29.5 Crore people recovered from this deadly disease globally [3].

The incidence of the disease is higher in USA with 75.48million of confirm cases, 9.06 million of death and 45.88 million of recovered cases, whereas in India the total cases are 41.09 million with 4.94 million deaths and 38.71 million recovered cases [3].

The first case of COVID -19 infection in India was reported from Kerala on 27th January 2020[4].

Vaccination is the most important public health measure and most effective strategy to protect the population from COVID-19 infection since SARS-COV-2 is a highly contagious virus affecting population widely and globally [5].

Among WHO approved 8 nos. of Covid -19 vaccines, 6 nos. of vaccines are available in India. But 'Covishield' and 'Covaxin' are widely used in India. In India total 70.1 Crore people (50.8%) are fully vaccinated [6, 7].

In West Bengal, a total of 20550 cases of death were recorded out of 19.9 lakhs Covid - 19 confirmed cases. At the same time, 121390105doses of vaccination had already been completed [8].

Need of the study

A global survey about the acceptance of potential COVID-19 vaccine

showed that about 48% of population are confused about this vaccine and remained unaware whether they have the vaccination [9]

Similarly, another study in China showed that only 54% of their populations were intended for vaccination. Above two studies showed that very low proportion of population are intended to vaccinate themselves [10].

Statement of the problem

Assessment of knowledge, perception and perceived stress towards COVID-19 vaccination among the people in selected community of West Bengal

Objective of the study

1. To assess the knowledge, perception and perceived stress towards COVID-19 vaccination among the people residing in around Dharmada Gram Panchayet, Nadia, West Bengal.
2. To determine the relationship between knowledge, perception and perceived stress towards COVID -19 vaccination and selected demographic variables.

Research hypothesis

H1: There will be significant relationship between knowledge, perception and perceived stress of people towards COVID-19 vaccination.

H2: There will be significant relationship between demographic variables and knowledge, perception and perceived stress of people.

Assumptions of the study

1. Community people will have some knowledge regarding COVID-19 vaccination.
2. Community people will have positive perception towards COVID-19 vaccination
3. Community people will have low perceived stress towards COVID-19 vaccination
4. Community people will give consent and willingness to collect the necessary data about the knowledge and attitude towards COVID-19 vaccination.

Delimitation of the study

The study is delimitated to-

1. 400 subjects as sample for the present study
2. Community people who are residing in and around Dharmada Gram panchayet, Nadia, W.B.
3. Community people who are willing to participate in the study.

METHODOLOGY

Research approach

Descriptive survey approach was adopted for the study.

Research design

Cross sectional design was used to carry out the study.

Setting of the study

The investigator selected the community setting in and around Dharmada Gram panchayet Nadia, WB.

Population

The population for the present study was the community people who are residing in the area under Dharma Gram panchayet, Nadia, W.B.

Sample and sample size

Sample size for the present study consists of 400 community people of Dharmada Gram panchayet area.

Sampling technique

Simple random sampling technique was adopted to collect the data for the present study.

Description of the tools: Data was collected using 3 tools-

Tool 1: Socio-demographic proforma

Tool 2: Questionnaire on assessment of knowledge regarding COVID-19 vaccination

Tool 3: Questionnaire on assessment of perception towards COVID-19 vaccination

Tool 4: Questionnaire on assessment of perceived stress towards COVID-19 vaccination

After careful examination of the experts committee consisting of 6 members from the field of Community and Psychiatry, the validity of the tool for the present study was assessed. Some modification was made as per suggestions given by the experts. Reliability of the tool were found to be 0.91 using split half technique and inter-rater method.

To conduct the study necessary consent was taken from the participants.

Ethical permission was also obtained from the concerned authority. Pilot study was conducted among 100 community people to check feasibility and practicability of the study. The study was found to be feasible. The data was tabulated and analyzed using differential and inferential statistics like percentage, mean, standard deviation and chi- square test. The correlation was computed using Pearman's correlation co-efficient [11]

RESULTS

Section-A: Description of demographic variables of community people.

Table-1: n=400

Sl No.	Variables (Demographic Variables)		Frequency	Percentage (%)
1.	Age (in years)	18-45	253	63.25
		46-60	62	15.5
		61- above	85	21.25
2	Gender	Male	225	56.25
		Female	175	43.75
3	Educational status	No formal Education	12	3
		Primary	77	19.25
		Secondary	82	20.50
		Higher Secondary	79	19.75
		Graduation and above	150	37.5
4.	Marital Status	Unmarried	215	53.75
		Married	149	37.25
		Separated	24	6
		Widow	12	3
5.	Religion	Hinduism	335	83.75
		Islam	54	13.5
		Christian	9	2.25
		others	2	0.5
6	Type of family	Joint	169	42.25
		Nuclear	219	54.75
		Extended	12	3

Table-1 showed that out of 400 subjects, majority (63.25%) were belonged to the age group between 18-45 years 56.25% were male, 37055 had completed their graduation, 53.75% were unmarried, 83.75% were belong to Hinduism by religion and 54.75% were belong to nuclear family.

SECTION-B: Description of knowledge, perception and perceived stress score

Sl No.		Score Range	Frequency	%
1	Knowledge Score	6-8 (High)	114	28.5
		3-5 (Moderate)	267	66.75
		0-2 (Low)	19	4.75
2	Perception Score	11-16	395	98.75
		6-10	5	1.25
		0-5	0	00
3.	Perceived stress	16 -24	59	14.75
		8-15	265	66.25
		0-7	76	19

Table -2 showed that out of 400 subjects, 28.5% had high knowledge level towards COVID-19 vaccination whereas 66.75% had moderate knowledge level towards COVID-19 vaccination.

It also showed that out of 400 subjects 98.75% had high perception towards COVID-19 vaccination.

The table also showed that, among 400 subjects, 66.25% had moderate perceived stress towards COVID -19 vaccination.

SECTION-C: Description related to correlation of knowledge score, perception score and perceived stress scores towards COVID-19 vaccination.

Pearsons' correlation coefficient analyzed among collected data between knowledge score and perception score. It showed negligible correlation [r= 0.068] between knowledge score and perception score. It also shown that, there is also negligible correlation (r= 0.095) between perception score and perceived stress and (r= 0.025) between knowledge score and perceived stress.

SECTION-D: Description related to association between knowledge, perception and perceived stress with related socio-demographic variables.

Table- 3: Knowledge score and selected-demographic variables.

Variables			High	Moderate	Low	Chi value	P value
Demographic Variables	Age (in Year)	18-45	76	163	14	9.23 (NS)	9.43
		46-60	11	51	0		
		61- above	27	53	5		
	Gender	Male	65	153	9	0.64 (NS)	5.99
		Female	49	116	10		
	Educational status	No formal Education	3	9	0	4.63 (NS)	15.51
		Primary	18	55	4		
		Secondary	25	52	5		
		Higher Secondary	19	57	3		
		Graduation and above	49	94	7		
	Marital Status	Unmarried	57	147	11	3.44 (NS)	12.59
		Married	44	97	8		
		Separated	8	16	0		
		Widow	5	7	0		
	Religion	Hinduism	90	229	16	7.69 (NS)	12.59
		Islam	19	33	2		
		Christian	3	5	1		
		others	2	0	0		
	Type of family	Joint	70	136	13	5.78 (NS)	9.49
		Nuclear	41	123	5		
		Extended	3	8	1		

NS= Non-significant, S= significant

Table-4: Perception and selected demographic score

Variables			High	Moderate	Low	Chi value	P value
Demographic Variables	Age (in Year)	18-45	249	4	0	0.017 (NS)	9.49
		46-60	61	1	0		
		61- above	85	0	0		
	Gender	Male	222	3	0	0.003(NS)	5.99
		Female	173	2	0		
	Educational status	No formal Education	12	0	0	0.025 (NS)	15.51
		Primary	77	0	0		
		Secondary	80	2	0		
		Higher Secondary	78	1	0		
		Graduation and above	148	2	0		
	Marital Status	Unmarried	146	3	0	1.33 (NS)	12.59
		Married	213	2	0.		
		Separated	24	0	0		
		Widow	12	0	0		
	Religion	Hinduism	330	5	0	0.982(NS)	12.59
		Islam	54	0	0		
		Christian	9	0	0		
		others	2	0	0		
	Type of family	Joint	165	4	0	0.50 (NS)	9.49
		Nuclear	218	1	0		
		Extended	12	0	0		

NS= Non-significant, S= significant

Table-5: Perceived stress score and selected demographic variables

Variables			High	Moderate	Low	Chi value	P value
Demographic Variables	Age (in Year)	18-45	75	178	0	0.77 (NS)	9.49
		46-60	18	44	0		
		61- above	21	64	0		
	Gender	Male	37	149	39	1.75 (NS)	5.99
		Female	22	116	37		
	Educational status	No formal Education	2	7	3	51.23 (S)	15.51
		Primary	3	61	13		
		Secondary	7	62	13		
		Higher Secondary	19	50	10		
		Graduation and above	28	85	37		
	Marital Status	Unmarried	28	98	23	15.46(S)	12.59
		Married	43	155	17		
		Separated	3	15	6		
		Widow	0	8	4		
	Religion	Hinduism	49	227	59	39.16(S)	12.59
		Islam	6	35	13		
		Christian	7	0	2		
		others	0	0	2		
	Type of family	Joint	33	102	34	5.07 (NS)	9.49
		Nuclear	26	153	40		
		Extended	0	10	2		

NS= Non-significant, S= significant

DISCUSSION

From the table -3 it is clear that there is no sufficient relationship among knowledge level regarding COVID-19 vaccination with selected demographic variables.

From the above table, it can be concluded that knowledge level of the individual does not depend upon their age, educational status, marital status, family type or on type of religion they belong to.

The finding of this study is concordance with the findings revealing that though knowledge about COVID-19 vaccination is inadequate among of people of Malaysia but the majority of the respondent were willing to get vaccinated. This finding can help the authority to plan for future efforts to increase vaccine uptake that may eventually lead to herd immunity against COVID-19 infection [12].

From the table-4, it is clear that there is no significant relationship found among perception score of the people towards COVID-19 vaccination. Similar findings were also observed in an institution based cross sectional study conducted among 404 health care workers Dessie City, northeastern Ethiopia in May, 2021 to assess knowledge, attitudes, and perceptions of COVID-19 vaccine and refusal to receive COVID-19 vaccine among healthcare workers in northeastern Ethiopia. The study reveals that the proportion of HCWs with overall good knowledge, good perception, and positive attitudes about COVID-19 vaccination were 62.5%, 60.5%, and 52.3%, respectively; 64.0% of the HCWs wanted to be vaccinated while 36.0% said that they would refuse to do so. Multivariable analysis identified negative attitudes (AOR: 3.057; 95%CI [1.860-5.026]) and poor perceptions (AOR: 4.73; 95%CI [2.911-7.684]) about COVID-19 vaccines were significantly associated with refusal to be vaccinated for COVID-19. [13].

From table 5, The current study aimed to examine the pandemic related perceived stress and vaccine hesitancy in Pakistani adults aged 18-59 years. A sample of 452 adults of Punjab, Pakistan, completed an online questionnaire using Google Forms which contained two scales, including the Oxford COVID-19 Vaccine Hesitancy Scale and Pandemic-Related Perceived Stress Scale of COVID-19. The current study aimed to predict vaccine hesitancy from perceived stress and to find demographic associations with both perceived stress and vaccine hesitancy in Pakistani adults. The results showed that the perceived stress significantly predicted vaccine hesitancy in Pakistani adults. There were found significant gender differences in both

perceived stress and vaccine hesitancy. Women were found to have more perceived stress and vaccine hesitancy than men. Age had no impact on both perceived stress and vaccine hesitancy, whereas education was found to have a significant impact on perceived stress. The adults with low education were found to have more perceived stress than adults having higher education levels. It is concluded and recommended that even if an effective vaccine is prepared in the event of a pandemic, it must be properly explained to people in order to create acceptance for a vaccine. An education program that increases people's health literacy can also effectively reduce public hesitation about vaccination and improve acceptance [14]

Recommendations

I) A comparative study can be done to the residence like rural community versus urban community people.

II) A large number of samples can be included in the study.

III) Other variables like perception stress etc. can be included in the study.

Nursing implication

The finding of the present study reflects that there is negligible association between knowledge level and attitude score towards COVID-19 vaccination among general population of West Bengal. In order to impose knowledge and attitude immediately "Information Education Communication (IEC)" programmes need to be initiated.

CONCLUSION

This preliminary observation suggest that mass health educational programme need to be started to increase the knowledge and attitude towards COVID-19 vaccination.

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