IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 7, May 2022
Impact Factor: 6.252

A Survey to Assess the Reason for Non-Vaccination of Covid-19 Vaccine among Adults Visiting OPD

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Abstract: *WHO defines Vaccine hesitancy as a delay in acceptance or refusal of vaccines despite the availability of vaccination service. Vaccine hesitancy has been reported in more than 90% of countries in the world. Vaccine hesitancy is threatening the historical achievements made in reducing the burden of infectious diseases, which have plagued humanity for centuries. The aim our study is to find the reason for non-vaccination of Covid-19 vaccine among adults visiting OPD, NMCH.We conducted survey using Google form with 186 samples who are attending NMCH OPD, Jamuhar. Survey was conducted in the month of December 2021 related to reasons for non-vaccination of covid-19 vaccine among adult. More than 50% of the respondents had fear of side effect followed by 32% respondents had co-morbidity and finally 28% respondents had non- availability of particular brand and other respondents was responded like breast feeding, pregnancy, vaccine may not be effective, fear of fertility, non-availability of vaccine, I may be already immune to covid-19 vaccine, not trusted on covid-19 vaccine for reason of non-vaccination of covid-19 vaccine. Vaccine hesitancy was high in urban area of western part Bihar .This study provides a sound understanding about non-vaccination of covid-19 vaccine. This finding can be used to develop behaviour change communication campaigns..*

Keywords: Covid-19, Non-vaccination, Vaccine Hesitancy

I. INTRODUCTION

The present novel Covid disease also called as severe acute respiratory syndrome (SARS)-CoV-2 and corona-virus disease 2019 (COVID-19) is an emerging global health threat. The COVID-19 epidemic started from Wuhan city of China towards the end of December 2019 and since then spread rapidly to Thailand, Japan, South Korea, Singapore and Iran in the initial months. This was followed by wide viral dissemination around the world including Spain, Italy, USA, UAE and the UK. The WHO declared the COVID-19 outbreak as a pandemic. As of 6 May 2020, outbreaks and sporadic human infections have resulted in 3 732 046 confirmed cases and 261 517 deaths.

The WHO Scientific and Technical Advisory Group for Infectious Hazards (STAG-IH), working with the WHO secretariat, reviewed available information about the outbreaks of 2019 novel corona-virus disease (COVID-19) on Feb 7, 2020, in Geneva, Switzerland, and concluded that the continuing strategy of containment for elimination should continue, and that the coming 2–3 weeks through to the end of February, 2020, will be crucial to monitor the situation of community transmission to update WHO public health recommendations if required.

Non-pharmaceutical interventions remain central for management of COVID-19 includes close monitoring enhanced communication strategies, intensive source control, containment activities, intensified active surveillance, preparation for resilience of health, mitigation activities, serological tests. Continued research is important to understand the source of the outbreak.

Despite being recognized as one of the most successful public health measures, vaccination is perceived as unsafe and unnecessary by a growing number of individuals. Lack of confidence in vaccines is now considered a threat to the success of vaccination programs. Vaccine hesitancy is believed to be responsible for decreasing vaccine coverage and an increasing risk of vaccine-preventable disease outbreaks and epidemics. This review provides an overview of the phenomenon of vaccine hesitancy. First, we will characterize vaccine hesitancy and suggest the possible causes of the

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apparent increase in vaccine hesitancy in the developed world. Then we will look at determinants of individual decision-making about vaccination.

Feeling some anxiety about receiving any new vaccine is understandable. However, while the COVID-19 vaccine was created and approved more quickly than the average vaccine, safety and testing precautions were not sacrificed to achieve effective results.

Objectives

The objectives of the study were to:

1. To identify the reason of non vaccination of COVID – 19.
2. To find the association between reason of non vaccination with socio demographic variables.

Need for the Study

There are certain beliefs and barriers regarding vaccination among the general population. Vaccine coverage and its acceptance vary to respect to behaviour of the people, geography, and time (Padhi & Almohaithef, 2020). Furthermore, certain key factors such as severity of the disease, previous vaccination history, lack of belief in health care services, route of administration of vaccine, economic and educational status of the individuals, recommendations from doctors, and cost of vaccine also determines the acceptance of vaccines (Nguyen et al., 2011).

II. REVIEW OF LITERATURE

Khan Sharon, Et.al (2020) conducted a cross-sectional study was on COVID-19 vaccine acceptance beliefs and barriers associated with vaccination among the general population in Corona virus disease 2019 (COVID-19). The study identified that concerns regarding the vaccine side effects acted as the key barrier for vaccine acceptance. The major findings of this study can be utilized in planning vaccination campaigns. Furthermore, the level of vaccine acceptance can be increased within the population if additional studies can confirm the safety and effectiveness of available vaccine candidates

Yulan lain Et.al (2020), a nationwide cross-sectional, self-administered online survey in china was conducted on 1–19 May 2020. This study attempts to understand corona virus disease 2019 (COVID-19) vaccine demand and hesitancy by assessing the public's vaccination intention and willingness-to-pay (WTP). Confidence in COVID-19 vaccines produced in China and preference for domestically-made or foreign-made vaccines was also investigated. The health belief model (HBM) was used as a theoretical framework for understanding COVID-19 vaccination intent and WTP.

Malik Salam (2020) Cross sectional study conducted on Covid-19 vaccine hesitancy worldwide a concise systematic review of vaccine acceptance rates. Vaccine acceptance among the general public and healthcare workers appears to have a decisive role in the successful control of the pandemic. Low rates of COVID-19 vaccine acceptance were reported in the Middle East, Russia, Africa and several European countries. This could represent a major problem in the global efforts to control the current COVID-19. Pandemic More studies are recommended to address the scope of COVID-19 vaccine hesitancy.

V. Lazarus, Et.al (2020). a global survey of potential acceptance of covid-19 vaccine . Several corona virus disease 2019 (COVID-19) vaccines are currently in human trials. Of these, 71.5% of participants reported that they would be very or somewhat likely to take a COVID-19 vaccine, and 48.1% reported that they would accept their employer's recommendation to do so. Differences in acceptance rates ranged from almost 90% (in China) to less than 55% (in Russia). Respondents reporting higher levels of trust in information from government sources were more likely to accept a vaccine and take their employer's advice to do so.

Aurélie Baldolli, Et.al (2019) a survey study on Vaccination perception and coverage among healthcare students in France Vaccine hesitancy in healthcare workers has been increasing especially in France while they are the cornerstone of vaccination programs. Greater understanding of healthcare students (HCS) vaccine knowledge, attitudes and beliefs

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is necessary to provide an adequate vaccination education to better equip them to promote vaccination in their future careers. The aim of this study was to assess vaccination perception (VP) (perception of benefits and risks of vaccines) and its impact on vaccination coverage (VC) for mandatory and recommended vaccines among HCS.

C.kevin (2021) College Students'COVID-19 Vaccine Hesitancy Distributed by the Social Science Research Network (SSRN) in Corona virus & Infectious Disease Research e Journal January 26, 2021; Social. Students at a midsized public university in New England were surveyed to determine the extent of their vaccine hesitancy regarding corona virus vaccines. The random sample consisted of 592 graduate and undergraduate students. Responses to the survey question, "Will you be vaccinated for the corona virus when vaccines are available to you?" included the following responses: 299 (50.6%) responded yes, 176 (29.8%) responded no, and114 (19.3%) responded.

Arunodaya Gautam Et.al (2020) a Digital Survey on the Acceptance and Affordability of COVID 19 Vaccine among the People of West Bengal, India- A Survey Based Study Currently, multiple vaccines for corona virus disease 2019 (COVID-19) are in clinical trials. In Oct-Nov 2020, 1078 individuals in West Bengal surveyed to evaluate possible acceptance rates, affordability and factors affecting the acceptance of a vaccine for COVID-19.77.27 percent of respondents reported that they would be very or very likely to take a vaccine for COVID-19, 5.3 percent don't want to take vaccine and 12.24 don't know about their decision. In that 58 percent respondents want to take Indian Vaccine; 19 percent respondents want to take foreign vaccine.

Michel kabamba, Et.al (2020) ,Acceptability of Vaccination Against COVID-19 Among Healthcare Workers in the Democratic Republic of the Congo For acceptability of vaccination against COVID-19 among others education among HCWs is crucial because health professionals' attitudes about vaccines are an important determinant of their own vaccine uptake and their likelihood of recommending the vaccine to their patients

Josie Dickerson Et.al (2020) COVID-19 vaccine hesitancy in an ethnically diverse community: descriptive findings from the Born in Bradford study. 535 (31%) of 1727 invited between 29th October-9th December 2020 participated in the study. 154 (29%) of respondents do want a vaccine, 53 (10%) do not. The majority had not thought about it (N=154, 29%) or were unsure (N=161, 30%). Vaccine hesitancy differed significantly by ethnicity and deprivation: 43% (95% CIs: 37- 54%) of White British and 60% (35-81%) in the least deprived areas do want a vaccine, compared to 13% (9-19%) of Pakistani heritage and 20% (15-26%) in the most deprived areas. Those that distrusted the NHS were more likely to not want a vaccine (30%, 15-50%).

Material and Methods

It was non experimental research design. The study of setting was NMCH OPD, Jamuhar. One hundred eighty six adults attending NMCH OPD were selected through Convenient sampling technique. Data was collected through Google form were 25 questionnaires. content of the tool were validity by 5 experts in the field of nursing and medicine. Reliability coefficient of the tool is 0.8.Each correct answer carried 1mark and 0 for wrong answer and unattempted question Knowledge score ranged from 0 to 25. Ethical committee of Gopal Narayan Singh University (Under Indian Council of Medical Research), Jamuhar Sasaram (Bihar) approved the study protocols. Permission and approval for data collection was also taken from nursing college and hospital selected for data collection. Informed consent is taken from study participants through Google form. The obtained data was analysed by using SPSS Software version 20.

III. METHODOLOGY

Research approach

Descriptive Approach

Research design

Non Experimental research design is used for this study.

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Setting of the study

The study is conducted in NMCH, a tertiary care centre of Western Bihar in Rohtas district under the Deo Mangal Memorial Trust. It has more than 500 daily out- patient strength an annual admission of nearby 5000 patients It has equipped with super specialty departments to cater to various patient populations. The inpatient block has 50 distributed among various medical, surgical women and child health and other super specialities. NMCH has about 100 faculty and 60 residents' physicians and over 300 nursing, administrative and support staff. The setting of the study General Medicine OPD, NMCH

Population

Target population

All the adults population who are attending NMCH OPD.

Accessible population

All the adults population who are attending NMCH OPD during data collection.

Sample

Sample consisted of 185 patients who have not taken Covid-19 Vaccine.

Sample size calculation-

Assuming the adult of Rohtas people to be 12,85,509 with a vaccine hesitancy of 14% us margin of error of 5% and (95% CL). We calculate a sample size 185.

Sampling technique

Convenient sampling technique is used to select the study subjects. All patients who fulfilled the inclusion and exclusion criteria were selected the study. All 185 adults fulfilled the criteria of the study.

Criteria for sample selection

Inclusion criteria

1. All adults who have not taken covid-19 vaccine.
2. Have age group above 18

Exclusion criteria

1. Adults who have taken covid-19 vaccine
2. Have age group below 18

Variable

1. Socio demographic variable
2. Questionnaire

IV. METHOD OF SAMPLE SELECTION

Universal sampling technique was used to selected the study subjects. All subjects who have not taken COVID-19 vaccine who fulfilled inclusion criteria were selected for the study all 185.

Instruments

The instrument consisted of a background Performa to collect demographic data.

Description of instrument

1. Demographic data
   Demographic data had a set of items oriented to socio-demographic variables included age, gender, address, marital status, religion, occupation, annual income, types of family.
2. Questionnaire – To identify the reason for non-vaccination COVID-19 vaccine

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Validity

The tool was given to four experts for validation which includes two doctors, and two nursing experts in medical &surgical nursing. They were requested to give their opinion regarding relevancy, accuracy and appropriateness of the items for further modifications. Based on the suggestions given by the experts, modification and rearrangement of few items were done. The demographic data consists of 9 items according to the expert's opinion. The first drafts of questionnaire consisted of 16 items there was 100% agreement.

Reliability of the Tool

Reliability of the instrument is the degree of consistency with which it measures attribute it supposes to measure, it refers to the extent to which the same results are obtained on repeated administration of the instrument. The reliability of a measuring tool can be assessed in the aspects of stability, internal consistency, and equivalence depending on the nature of the instrument and aspects of the reliability concept. The reliability of the instrument was estimated by test-retest method by using Karl Pearson coefficient correlation. The reliability value of the instrument was 0.8 for know/ledge and it was found to be statistically reliable for the main study.

Data Collection Procedure

By universal sampling technique, a subject who fulfilled the inclusion criteria was selected. A written informed consent was taken from all the subjects. The demographic data and questionnaire were collected through the software application (Google form) in their respective mobile phone

V. RESULTs

The highest percentage falls under the category of 18-to-32-year age group.

According to the stud it reveals that 35% of the participants are female and 65% of the participants are male.

The highest percentage falls under the category of 18-to-32-year age group i.e., 96 participants (51.89%). Followed by 42 participants are in age group 29-39 years accounting for 34%. Followed by 16 participants are in age group 40-50% accounting for 8.64%. Remaining 16.75% of the participants are in age group >50 years.

35% of the participants are female and 65% of the participants are male.

49% of the participants are under graduate and 21% of the participants are primary education.

85% of the participants are Hindu and 15% of the participants are Muslim.

55% of the participants are urban and 45% of the participants are rural.

36% of the participants are other occupation. 27% of the participants are students and 20% participants are farmer and 17% job holder.

Table 1: Questionnaire

QUESTION NO.	OPTION	FREQUENCY	PERCENTAGE%
Q.1 Religion	Yes	3	1.62
	No	182	98.37
Q.2 Presence of co-morbidity	Yes	59	31.89
	No	126	68.1
Q.3 Breast feeding	Yes	34	18.37
	No	151	81.62
Q.4 Pregnancy	Yes	29	15.67
	No	156	84.32

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Q.5 Fear of side effect	Yes	75	40.54
	No	110	59.45
Q.6 Non availability of vaccine	Yes	7	3.78
	No	178	96.22
Q.7 Non- availability of particular brand	Yes	51	27.56
	No	134	72.43
Q.8 Vaccine are not , required any more , covid-19 vaccine	Yes	13	7.02
	No	172	92.97
Q.9 Not trust on covid-19 vaccine	Yes	13	7.02
	No	172	92.97
Q.10 Vaccine may not be affective	Yes	13	7.02
	No	172	92.97
Q.11 I may be already immune to covid-19 in past	Yes	7	3.78
	No	178	96.21
Q.12 I will take supplement to boost immunity , not vaccine	Yes	13	7.02
	No	172	92.97
Q.13 Covid-19 not a real disease	Yes	6	3.24
	No	179	96.75
Q.14 Authorities promote covid-19 vaccine for political and financial gain	Yes	10	5.4
	No	175	94.59
Q.15 Fear of infertility	Yes	11	5.94
	No	174	94.05
Q.16 other reason	Yes	23	12.43
	No	162	87.56

Table 2: Characteristics associated with non-vaccination of COVID-19 vaccine

Socio demographic variables	**COR(95% CI)**	**AOR(95% CI)**	**P VALUE**
Age	2.09(1.28-3.44)	1.94(1.14-3.28)	0.02
Gender	1	1	
Marital status	1.67(1.12-2.48)	1.76(1.14-2.72)	0.01
Address	1	1	
Educational status	1.86(1.25-2.77)	1.63(1.06-2.49)	0.03

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Religion	1	1	
Occupation	1	1	
Annual family income	0.95(0.51-1.74)	1.15(0.57-2.32)	
Types of family	0.96(0.58-1.59)	1.68(0.92-3.08)	
Questionnaire			
Religion	1.16(0.58-2.29)	1.69(0.77-3.72)	
Presence of co-morbidity	0.77(0.41-1.43)	0.89(0.45-1.79)	
Breast feeding	0.66(0.3-1.45)	0.71(0.30-1.67)	
Pregnancy	1.11(0.51-2.39)	1.08(0.46-2.49)	
Fear of side effect	0.77(0.36-1.65)	0.84(0.37-1.92)	
Non-availability of vaccine	1	1	
Non-availability of particular brand of vaccine	2.06(1.33-3.19)	2.68(1.58-4.54)	
Vaccine are not required any more,covid-19 vaccine	1.26(1.33-3.19)	2.68(1.58-4.54)	
Not trust on covid-19 vaccine	1.26(0.55-2.88)	1.30(0.52-3.25)	
Vaccine may not be affective	0.92(0.38-2.23)	1.01(0.39-2.58)	
I may be already immune to covid-19 in past	1.39(0.48-4.040	1.22(0.39-3.78)	
I will take supplement to boost immunity, not vaccine	1	1	
Covid-19 is not real disease	1	1	
Authorities promote covid-19 vaccine for political & financial gain	1.63(0.99-2.67)	1.58(0.92-2.71)	
Fear of infertility and death	1	1	

VI. DISCUSSION

This chapter discuss about the finding of the study derived from the statistical analysis and its pertinence to the objective set for the study and related review of literature of the study.

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Objective of the study

1. To identify the reason of non-vaccination of COVID – 19.
2. To find the association between reason of non-vaccination with socio demographic variables

The first objective of the study is to identify the reason of non vaccination of COVID-19.
The highest percentage falls under the category of 18-to-32-year age group
According to the stud it reveals that 35% of the participants are female and 65% of the participants are male.
The highest percentage falls under the category of 18-to-32-year age group i.e., 96 participants (51.89%). Followed by 42 participants are in age group 29-39 years accounting for 34%. Followed by 16 participants are in age group 40-50% accounting for 8.64%. Remaining 16.75% of the participants are in age group >50 years.
35% of the participants are female and 65% of the participants are male.
49% of the participants are under graduate and 21% of the participants are primary education.
85% of the participants are Hindu and 15% of the participants are Muslim.
55% of the participants are urban and 45% of the participants are rural.
36% of the participants are other occupation. 27% of the participants are students and 20% participants are farmer and 17% job holder.

RECOMMENDATION

For the generalization of the study results, a similar study can be replicated with the larger sample.
• A multicenter study can be conducted.
• A similar study can be conducted in omicron.
• A study can be conducted in assessing the knowledge of staff nurse in risk factor of covid19.
• A study can be conducted to assess health problem associated with covid19.

IMPLICATION FOR NURSING

Nursing Education

• This study may help nurses to identify the group of population who are not willing to take COVID Vaccine. The finding also helps nurse to plan educational intervention for them. A positive outlook can be created among nurse while emphasizing the primary prevention strategy. Nursing education programs should be conducted by resourceful nurses the nursing curriculum should equip student to develop the skill to motivate the community to take vaccine.

Nursing Research

• The present study can be a valuable resource for the further research. The finding of the study can be disseminated to staff nurses and student nurses who can be utilized for providing evidence based care for the population by early identification of the people for not willing to take COVID19 Vaccine.

Nursing Practice

• The nurse during clinical practice when performing history collection if nurse suspect the patient is not willing to take COVID19 Vaccine. To initiate primary intervention for better outcome the nurse teach important of taking covid19 vaccine to prevent Covid pandemic.

Nursing Administration:

• As a nursing administration, he/she should plan, organize, supervise and evaluate various nursing care. Aspect about prevention of COVID-19 Vaccine. She should motivate the utilize the staff nurse and student to encourage public in the programs of COVID19 problem .policies can be formulated to prevent covid19 the present study helps the nursing administrators in recognize the need for conducting continuing nursing education programs on prevention of covid19

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nurses can update their knowledge by participating in seminar and discussion about covid19. Nurse administer should insure that the staff nurse are capable of identifying the patient who is at risk of developing covid19. Nurse administrator should appropriately supervise staff nurse are capable of identifying the patient who is at risk of developing covid19. Nurse administrator should appropriately supervise the staff nurses, while carrying for the patient while performing annual competency skill assessment. Onsite performance appraisal, motivation and rewards on apt time some of the managerial measures to be imparted to staff nurses to assess patients risk. Nursing service department should be collaborating organization to teach, train and supervise staff nurses of the hospital along with Out Patient department (OPD) and which in turn would help in help developing education modules for the care of covid19 patient.

VII. CONCLUSION

This study concludes that Vaccine hesitancy was high in urban area of western part Bihar .This study provides a sound understanding about non-vaccination of covid-19 vaccine. This finding can be used to develop behaviour change communication campaigns

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