A study to assess the perception of covid-19 vaccine among the selected community in Navi Mumbai

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ABSTRACT
Background: - The people in the society is having different understanding about covid-19 vaccine so we noticed that the major problem in the community is that the peoples are not taking covid-19 vaccine because they are having different understandings about the covid-19 vaccine like taking the jab may cause serious side-effects.
Aim:-The aim is to assess the perception about covid-19 vaccine among selected communities in Navi Mumbai.
Methods:-The study was conducted with the permission from the head of the department and the Institutional ethical committee. Information about the study was given to the subjects and informed consent was obtained in the prescribed form, maintain confidentiality of subject data. 300 subjects was selected by non-probability convenient sampling technique. Demographic data was collected from the subjects and to analyse the perception of the subjects about covid-19 vaccine was done by 5-rating likert scale.
Results:-The findings of the study showed that out of 300 samples, 68 participants have positive perception, 176 participants have neutral perception and 56 participants have negative perception. Hence the study allowed us to study about the perception of participants among the selected communities.
Conclusion:-The above intervention was good learning experience for us . The results of study proved that there was a significant effect on the perception of covid-19 vaccine among selected communities.

INTRODUCTION

"Research is to see what everybody else has seen, and to think what nobody else has thought."-*Albert SzhentGyorgya.*
The sudden outbreak of 2019 novel coronavirus (2019-nCoV, later named SARS-CoV-2) in Wuhan, China, originated in bats which rapidly grew into a global pandemic, marked the third introduction of a virulent coronavirus into the human society, affecting not only the healthcare system, but also the global economy. The disease is transmitted by inhalation or contact with infected droplets and the incubation period ranges from 2-14days.The symptoms are usually fever, cough, sore throat, breathlessness, fatigue, malaise among others. The symptoms are usually fever, cough, sore throat, breathlessness, fatigue, malaise among others. The disease is mild in most people; in some (usually the elderly and those with co morbidities), it may progress to pneumonia, acute respiratory distress syndrome (ARDS) and multi organ dysfunction. As of 4:22pm CET, 9 December 2020, there have been 67,780,361 confirmed cases of COVID-19, including 1,551,214 deaths, reported to WHO.
There was a rapid outbreak of Severe acute respiratory syndrome corona virus (SARS-COV -2) infection is rapidly in India and across the world. The COVID-19 outbreak has prompted scientists from around the world to design anti-SARS-CoV-2 vaccines.
A COVID-19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), the virus causing Corona virus disease 2019 (COVID-19).
Pfizer-Biotech's COVID-19 vaccine is an mRNA vaccine that has been shown to be highly effective in preventing symptomatic COVID-19 disease. The vaccine, BNT162b2, received emergency use authorization (EUA) from the U.S. Food and Drug Administration in December 2020 for use in individuals 16 years of age and older, making it the first COVID-19 vaccine authorized in the United States. As the disease may be eradicated only if nearly the entire population is vaccinated, the government has little choice but to make it a free of cost drive for most of the people.
Currently, to honour the Covid warriors, the government has decided to provide free vaccines to people associated with the healthcare sector (Health Care Workers) and Front Line Workers.
In India, so far two vaccines are available for use. Covishield produced by the Serum Institute of India and Covaxine produced by Bharat Biotech.
It's most likely that the taxpayers may have to bear the burden of the Covid-19 vaccine that the government has decided to give free of cost to certain groups of people.
Covishield and Covaxin have already been granted emergency use approval and the government will start a nationwide vaccination drive using them from January 16.The first consignment of Covishield consisting 54.72 lakh doses were transported to 13 locations from the Serum Institute of India (SII)

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Covishield: Rs 200 per dose (for first 100 million doses), Rs 1,000 per dose thereafter at private outlet.
Apart from the vaccine developed by Pfizer, all other vaccines can be stored between 2-8 degrees Celsius. Pfizer's vaccine needs to be stored at minus 70 degrees Celsius.
Covaxin is an inactivated vaccine which means that it is made up of killed corona viruses, making it safe to be injected into the body. When administered, immune cells can still recognize the dead virus, prompting the immune system to make antibodies against the pandemic virus.
The two doses are given four weeks apart. The vaccine can be stored at 2C to 8C.
Covishield is made from a weakened version of a common cold virus (known as an adenovirus) from chimpanzees. It has been modified to look more like corona virus - although it can't cause illness.When the vaccine is injected into a patient, it prompts the immune system to start making antibodies and primes it to attack any corona virus infection.
The vaccine is administered in two doses given between four and 12 weeks apart. It can be safely stored at temperatures of 2C to 8C, about the same as a domestic refrigerator. The jab developed by Pfizer-BioNTech, which is currently being administered in several countries can only be moved a limited number of times - a particular challenge in India, where summer temperatures can reach 50C.

India is administering Covishield and Covaxin Covid-19 vaccines to 1 crore healthcare workers—both from public and private health facilities—and around 2 crore state and central police personnel, armed forces personnel, home guards, civil defences and disaster management volunteers, municipal workers, prison staff, and revenue workers involved in containment and surveillance.

Bharat Biotech has stated that side effects that have been reported with Covaxin are – injection site pain, injection site swelling, injection site redness, injection site itching, stiffness in the upper arm, weakness in the injection arm, body ache, headache, fever, malaise, weakness, rashes, nausea, and vomiting.Apart from these, Bharat Biotech has said that there is a "remote chance" that Covaxin could cause severe allergic reactions. These are – Difficulty in breathing, swelling of your face and throat, a fast heartbeat, rash all over your body, and dizziness and weakness.
Serum Institute of India (SII), the manufacturer of Covishield developed by Oxford-AstraZeneca, has stated that there are side effects that have been reported with Covishield. The SII has stated that "very common" side effects that may affect more than 1 in 10 people are tenderness, pain, warmth, redness, itching, swelling, or bruises where the injection is given, generally feeling unwell, fatigue, chills, or feeling feverish, headache, nausea, and joint pain or muscle ache.
SII said that there are side effects that are 'uncommon' that may affect up to one in 100 people. These are feeling dizzy, deceased appetite, abdominal pain, enlarged lymph nodes, excessive sweating, itchy skin, or rash.

STATEMENT OF THE PROBLEM

A study to assess the perception of covid-19 vaccine among the selected community in Nerul, Navi Mumbai.

PURPOSE

To find out the perception of covid-19 vaccine among the selected community in Navi Mumbai.

OBJECTIVES

- To assess the perception of covid-19 vaccine among the selected community in Navi Mumbai.
- To find out the association between perception of covid-19 vaccine and demographic variable among the community in Navi Mumbai.

HYPOTHESIS

H0: - There is no significant association of perception in relation to covid-19 vaccine with demographic variables among selected communities.
H1: -There will be significant association of perception in relation to covid-19 vaccine with demographic variables among selected communities.

OPERATIONAL DEFINITIONS

Dictionary, the word assess means to make a judgment about the nature or quality of somebody ASSESS-
According to Oxford /something.
In our study assess means to value the perception of covid-19 vaccine among the community.

PERCEPTION-

According to Oxford Dictionary, the word Perception means an idea, a belief for an image you have as a result of how you see or understand something.

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In our study Perception means to understand the purpose of covid-19 vaccine from the community.

VACCINE-
According to Oxford Dictionary, the word vaccine means the preparation used as a preventive in occupation to confer immunity against as specific disease, usually employing an innocuous form of the disease agent, as killed or weakened bacteria or viruses, to stimulate antibody production.

In our study, covid-19 vaccine is a vaccine intended to provide acquired immunity against Severe Acute Respiratory Syndrome (SARS-COV-2).

COMMUNITY-
According to Oxford Dictionary, the word community means the people who live in a particular area, country, etc.

In our study, community means the place from which we are taking the data collection from the people.

ASSUMPTIONS
Communities are at a risk of getting infected by corona virus so this can be prevented by covid-19 vaccine.
There can be reduction of corona virus infected cases among community by covid-19 vaccine.

DELIMITATIONS
- This study is delimited to the selected community.
- This study is delimited to age group above 25 years in the selected community.

CONCEPTUAL FRAMEWORK
The health belief model (HBM) is a psychological model that attempts to explain and protect health behavior by focusing on attitudes and beliefs of individuals. In 1950 is group of social psychologists Godfrey Hochbaum , Stephen Kegeles , Irwin Rosenstock try to explain why people were not participating in disease detection programs.

The underlying concept of the original health belief model is that health behavior is determined by personal beliefs or perception about a disease and strategies available to decrease its occurrence.

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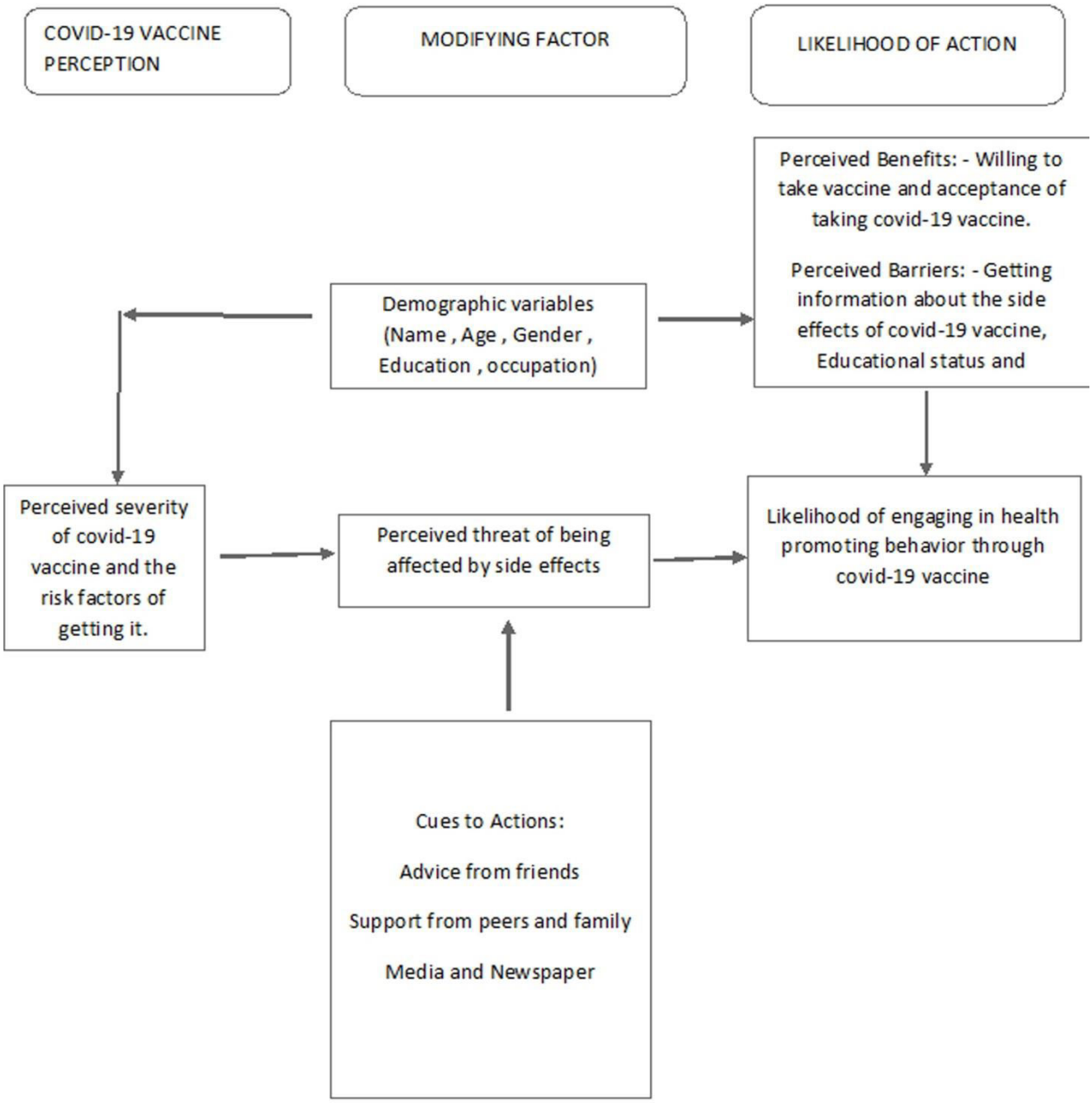

RESEARCH METHODOLOGY

Research methodology is the path through which researchers need to conduct their research. It shows the path through which the researchers formulate their problem and objective and present their result from the data obtained during the study period.

The methodology of the research refers to the principles and ideas on which the researchers base their procedures and strategies. It includes research approach, design, population, sampling technique, development and description of the tools and intervention, pilot study report, procedure for data collection and data analysis.

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RESEARCH APPROACH

A quantitative and qualitative study will be conducted among selected community in Navi Mumbai using a 5-rating likert scale to obtain responses from selected community about the perception of covid-19 vaccine.

a) **TYPE OF STUDY**

A Descriptive cross sectional study was conducted for assessing the perception of selected community about covid-19 vaccine in Nerul, Navi Mumbai community's perception of covid-19 vaccine among selected community in Navi Mumbai.

b) **RESEARCH DESIGN**

The research design is the framework of research method and techniques chosen by a researcher. The design allows researchers to hone in on research methods that are suitable for the subject matter and set up their studies up for success. The research design chosen for our study was descriptive cross-sectional study aiming to understand the perception of the community.

SETTING OF STUDY

The selected study area will be selected community in Navi Mumbai.

STUDY POPULATION

Participants from the selected community in Navi Mumbai will be the study population.

SAMPLE

A sample is defined as a smaller set of data that a researcher chooses or selects from a larger population by using a pre-defined selection method.

Participants from selected community from age group above 25 will be the sample for the study.

SAMPLE SIZE

The sample size for the study will be for 300 participants from selected community in Navi Mumbai.

c) **SAMPLING TECHNIQUE**

The study sample will be selected by using non-probability convenient sampling.

CRITERIA FOR SAMPLE SELECTION

- ***Inclusion criteria:***

1. All the participants from the selected community who are willing to participate.
2. Participants from selected community above age group 25 are included.

- ***Exclusion criteria:***

1. Participants from selected community who are not willing to participate.
2. Participants from selected community who are not available during the data collection.

d) **TOOL OF THE STUDY**

The most important aspect of any investigation is the collection of appropriate information which will provide necessary data to answer the questions raised in the study.Based on review of literature and opinion from authorized people or experts that tool developed was:

- **Section A:** Demographic variable(Gender, Age, Marital Status, Income, Employment status, Place of stay)
- **Section B:** 5- Rating Modified Likert Scale

There are 5 options in the 5-rating likert scale. The first option is strongly disagree and the score is 1. The second option is disagree and the score is 2. The third option is Neutral and the score is 3.The fourth option is Agree and the score is 4.The fifth option is strongly agree and the score is 5.

PLAN FOR DATA ANALYSIS

The data was decided to be analysed by using descriptive and inferential statistics.

- DESCRIPTIVE STATISTICS
  - Frequency and percentage distribution to analyse the demographic data.
- INFERENTIAL STATISTICS
  - Chi square test
  - It will be presented in tables

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DATA ANALYSIS AND INTERPRETATION

Data analysis is the method of organizing data in such a way that the research question can be answered. Interpretation is the process of making sense of results and of examining the implications of the findings within a border context.

ANALYSIS AND INTERPRETATION

SECTION-I

This section deals with analysis of demographic data under study .It is analyzed and presented in the form of frequency and percentage table.

SECTION-II

This section deals with assessment of perception with demographic variable in selected communities in Navi Mumbai by chi-squaretable.

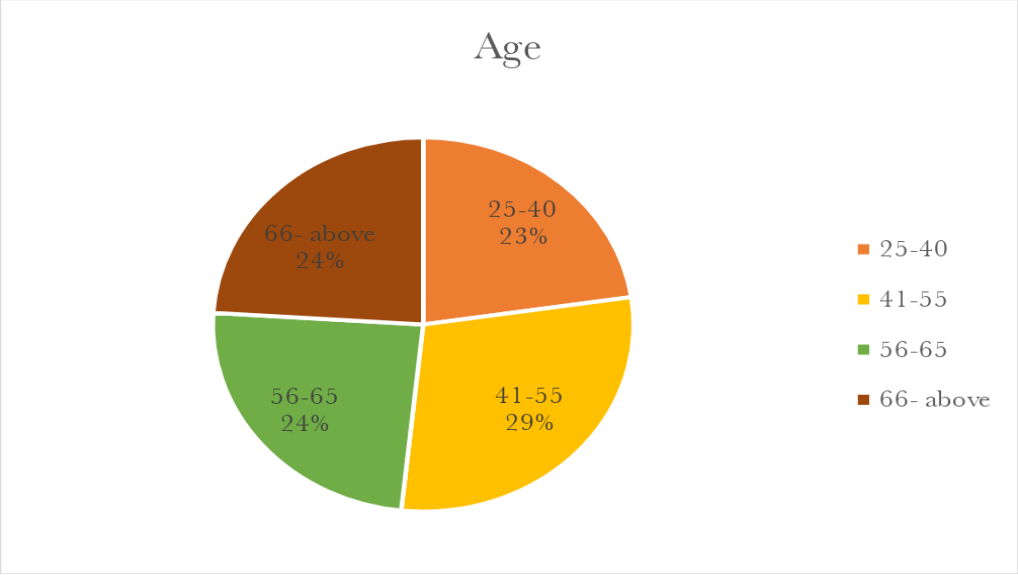
SECTION-III

To analyse the perception about covid-19 vaccine among selected communities in Navi Mumbai presented by frequency and percentage table.

SECTION-I

Table 1-Distribution of participants from selected communities' according to their demographic data and age group.

Age Group	Frequency	Percentage%
25-40	68	22.7
41-55	87	29.0
56-65	73	24.3
66-above	72	24.0
Total	300	100



Above figure shows the age distribution of participants from selected community the majority of the participants belong to the age group is 41-55(29%) years.

Table 2-Distribution of participants of selected communities according to their demographic data and gender

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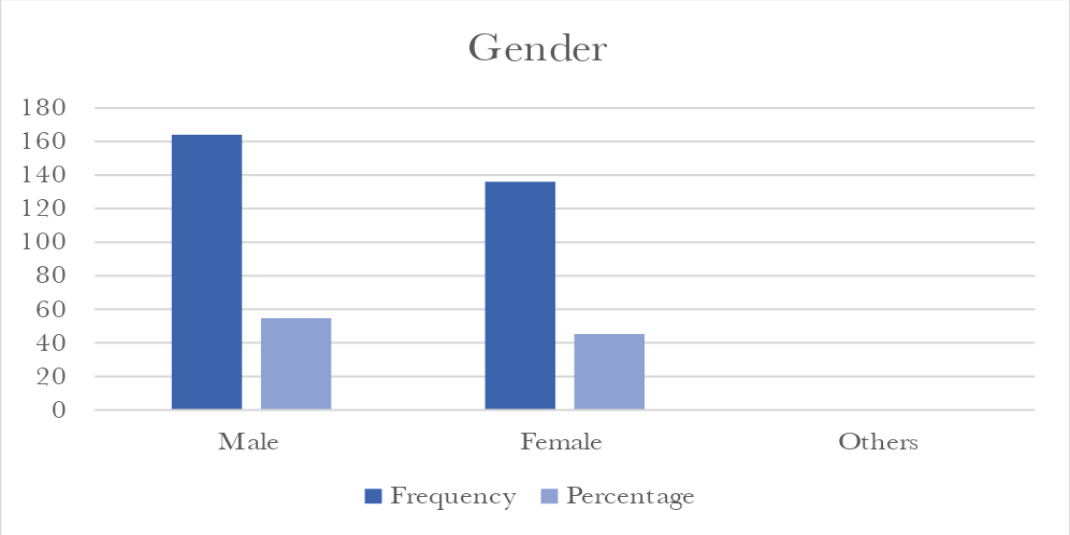
Gender	**Frequency**	**Percentage%**
Male	164	54.7
Female	136	45.3
Others	0	0
Total	300	100



Above figure represents the gender distribution were male participants are more than the female participantsin the community.

Table 3-Distribution of participants from selected communities according to their marital status

Marital status	**Frequency**	**Percentage%**
Married	274	91.3
Unmarried	16	5.3
Separated	10	3.3
Widows	0	0
Total	300	100

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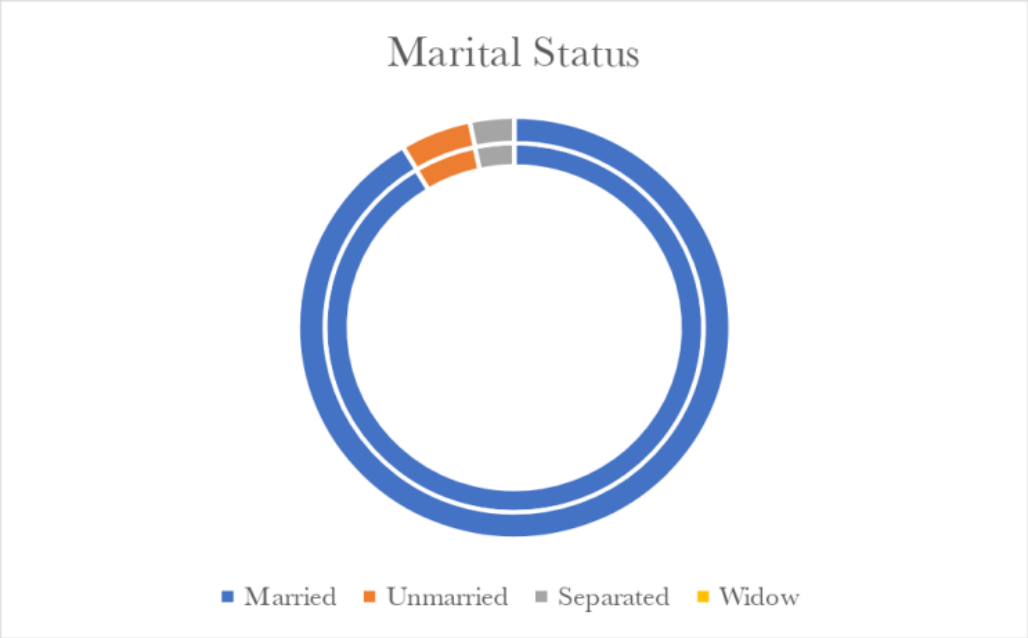
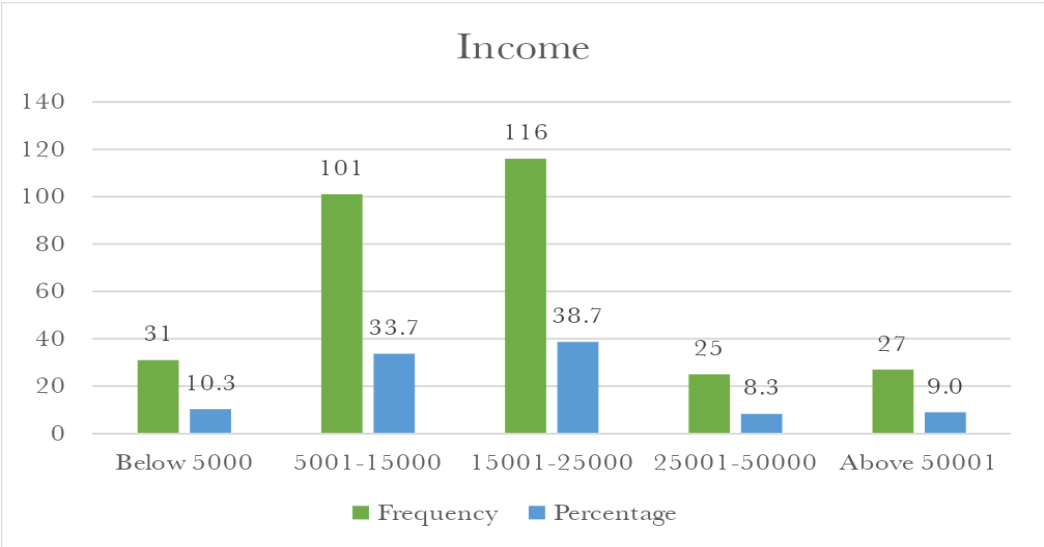


Above figure represents that most of the married participants have participated than the unmarried , separated and widow

Table 4-Distribution of participants from selected communities according to their Income status

Income	**Frequency**	**Percentage%**
Below 5000	31	10.3
5001-15000	101	33.7
15001-25000	116	38.7
25001-50000	25	8.3
Above 50001	27	9.0
Total	300	100



Above figure represents that most of the participants in community is having a income range in between 15001-25000

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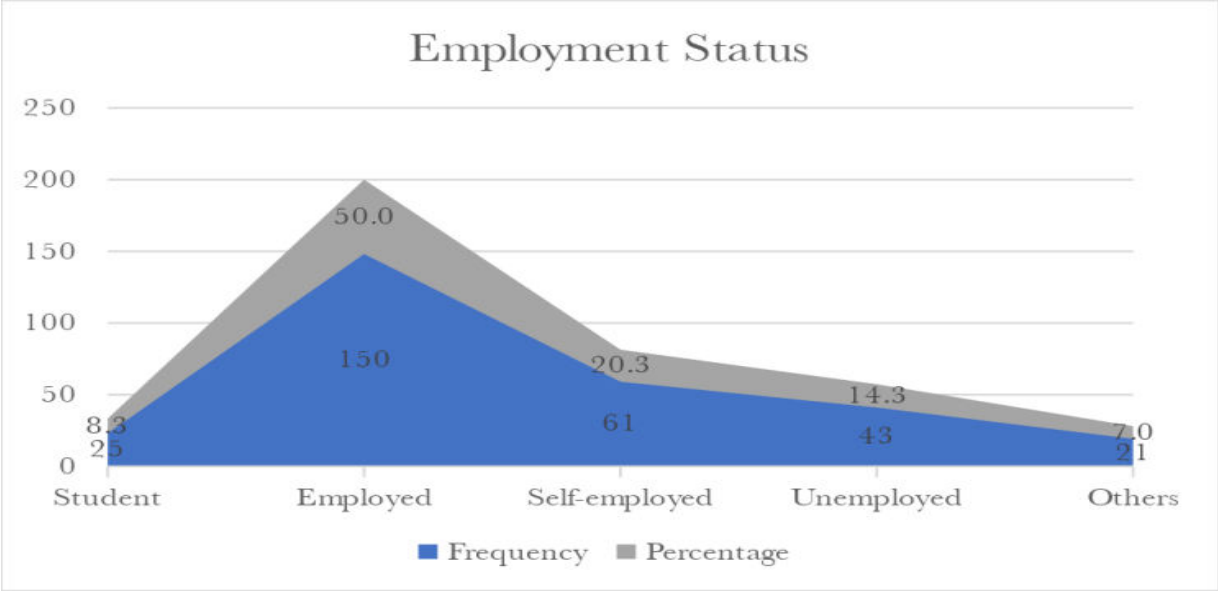
Table 5-Distribution of participants from selected communities according to their Employment Status

Employment Status	**Frequency**	**Percentage%**
Student	25	8.3
Employed	150	50.0
Self-employed	61	20.3
Unemployed	43	14.3
Others	21	7.0
Total	300	100



Above figure shows that majority of participants from selected communities are employed participants.

Table 6-Distribution of participants from selected communities according to their stay

Where do they stay?	**Frequency**	**Percentage%**
Rural sector	59	19.7
Urban sector	239	79.7
Total	300	100

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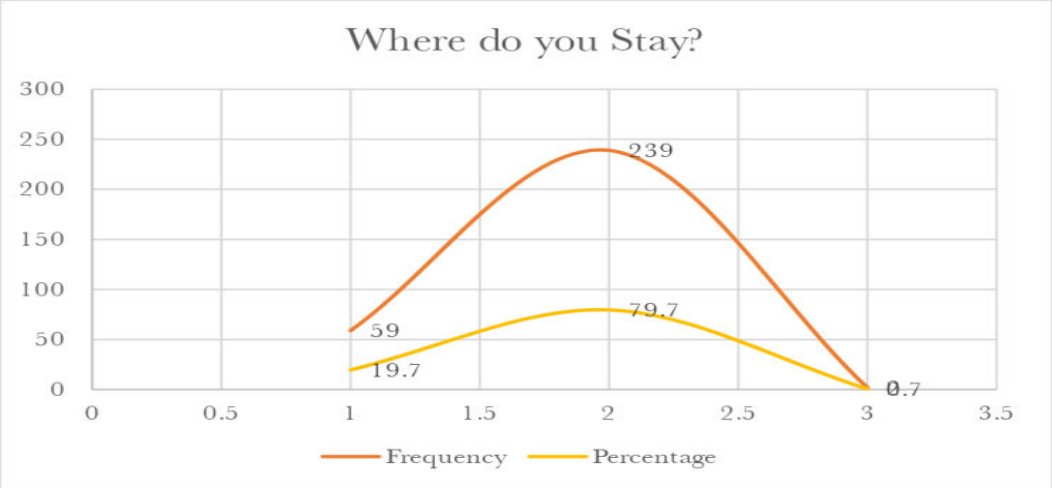

Above figure shows that majority of participants are staying in urban sector than the rural sector and urban slum.

Table 7 –Distribution of participants from selected communities according to how much they lived in that community

How long have you lived in the community?	**Frequency**	**Percentage%**
Less than 5 year	31	10.3
5 year but less than 15 year	107	35.7
15 year but less than 25 year	115	38.3
25 year but less than 35 year	35	11.7
35 year but less than 45 year	12	4
45 year or more	0	0
Total	300	100

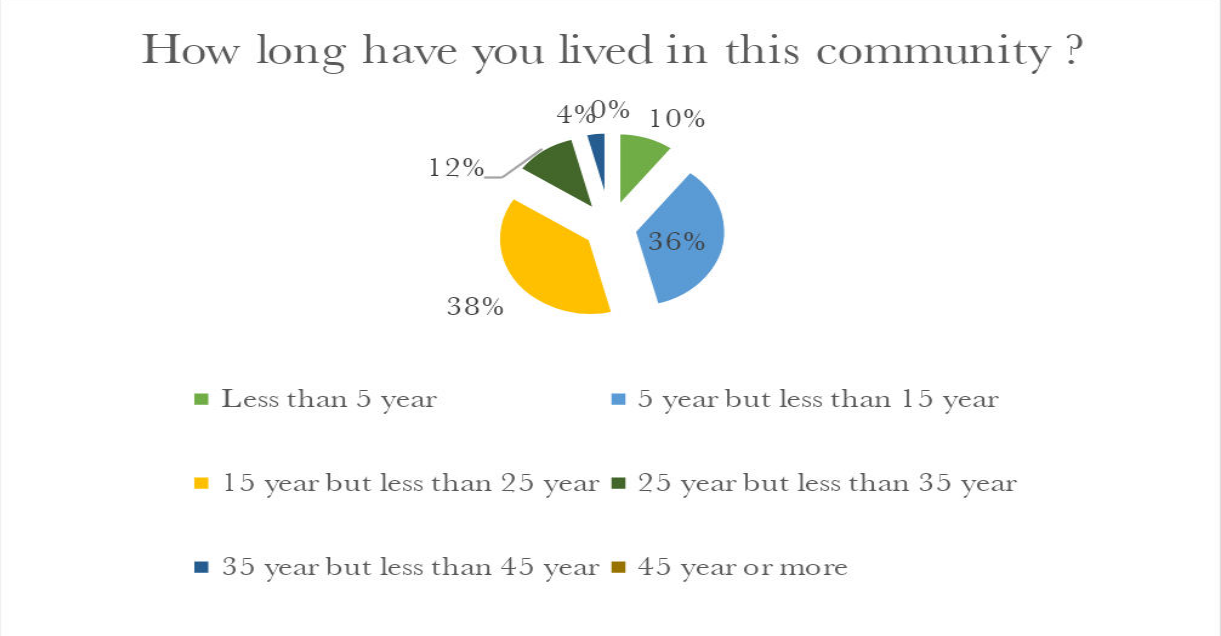

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Table 8- Distribution of participants from selected communities according to being contacted with covid-19?

Have you being contacted with covid-19?	**Frequency**	**Percentage%**
Yes	41	13.7
No	259	86.3
Total	300	100

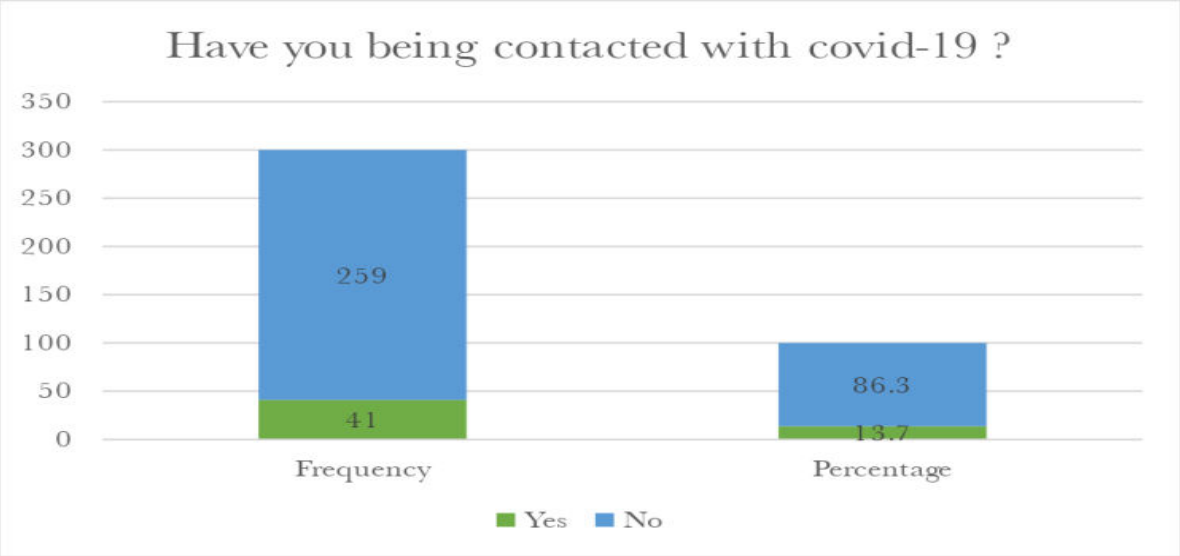

Table 9- Distribution of participants from selected communities according to their co-morbidities

Do you have any co-morbidity?	**Frequency**	**Percentage%**
Yes	106	35.3
No	194	64.7
Total	300	100

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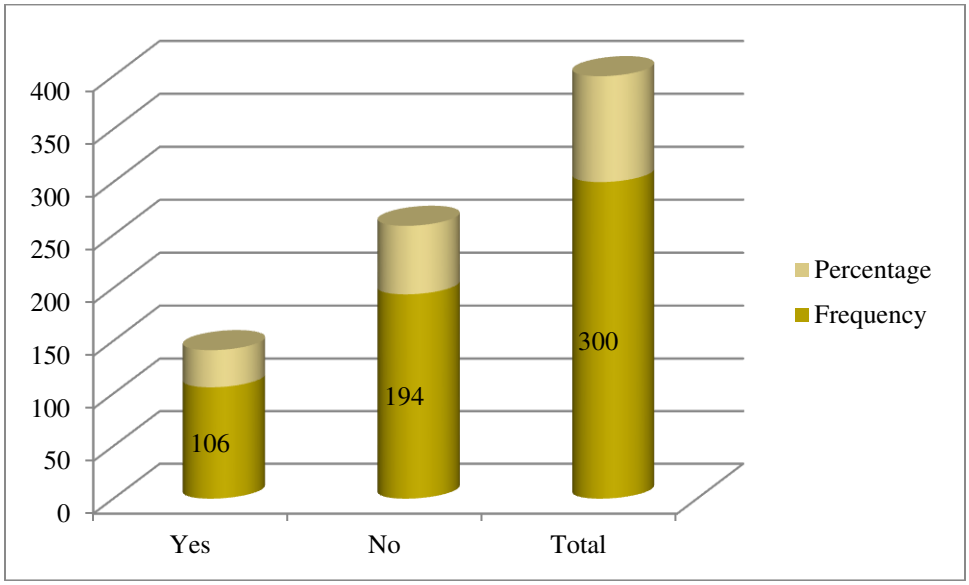

SECTION-II

This section deals with assessment of perception with demographic variable in selected communities in Navi Mumbai by chi-square table.

Demographic variable		Positive perception	Neutral perception	Negative perception	Df	P value
Age	25-40	15	39	14	6	.986469
	41-55	19	48	20		
	56-65	16	44	13		
	66 and above	15	40	17		
Gender	Female	35	93	36	2	.98462
	Male	30	77	29		
	Other	0	0	0		
Marital status	Married	58	156	60	4	.057434
	Unmarried	6	9	0		
	Separated	1	9	0		
	window	0	0	0		
Income	Below 5,000	9	17	5	8	.603967
	5,001-15,000	25	58	18		
	15,001-25,000	19	68	29		
	25,001-50,000	5	15	5		
	Above 50,001	7	12	8		
What is your employment status?	Student	6	14	5	8	.707357
	Employed	34	87	29		
	Self-employed	12	33	16		
	Unemployed	7	23	13		
	Others	6	13	2		
Where do you	Rural sector	15	33	11	4	.750286

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stay?	Urban sector	50	136	53		
	Urban slum	0	1	1		
How long have you lived in this community?	Less than 5 years	5	20	6	8	.95478
	5 years but less than 15 years	21	61	25		
	15 years less than 25 years	29	63	23		
	25 years but less than 35 years	7	19	9		
	35 years but less than 45 years	3	7	2		
	45 year or more	0	0	0		
Have you being contacted with covid-19?	Yes	11	20	10	2	.530466
	No	54	150	55		
Do you have any comorbidities?	Yes	23	62	21	2	.836524
	No	42	108	44		

SECTION-III

To analyse the perception about covid-19 vaccine among selected communities in Navi Mumbai presented by frequency an percentage table .

SR.NO	QUESTIONS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1.	I am ready to take the vaccination once it Is available to me	53(17.7%)	22(7.3%)	109(36.3%)	56(18.7%)	60(20%)
2.	To protect the public health, I should abide to the rules of the government about covid-19 vaccine	13(4.3%)	103(34.3%)	83(27.7%)	57(19%)	44(17.7%)
3.	My family and friends would probably think that getting covid-19 vaccine is a good idea	5(1.8%)	7(2.3%)	115(38.3%)	85(28.3%)	88(29.3%)
4.	I think covid-19 vaccination is very much required for Indians?	11(3.7%)	23(7.7%)	190(63.3%)	37(12.3%)	39(13%)

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5.	Will surely take covid-19 vaccine even though if it is not at free of cost	107(35.7%)	93(31%)	23(7.6%)	53(17.7%)	24(8%)
6.	Covid-19 vaccine will improve my immunity?	19(6.3%)	27(9%)	121(40.4%)	88(29.3%)	45(15%)
7.	I am comfortable to take covid-19 vaccine from nearby PHC or hospital	3(1%)	23(7.7%)	127(42.3%)	115(38.3%)	32(10.7%)
8.	If I take vaccination, I am safe without preventive protocols of covid-19	101(33.7%)	37(12.3%)	73(24.3%)	47(15.7%)	42(14%)
9.	My family is not very much worried for taking covid-19 vaccination	0(0%)	91(30.3%)	172(57.4%)	21(7%)	16(5.3%)
10.	Covid-19 vaccination is very effective for preventing covid-19 disease	12(4%)	27(9%)	163(54.4%)	37(12.3%)	61(20.3%)
11.	Patients with co-morbidities should be the first ones to get the covid-19 vaccine when available	0(0%)	11(3.7%)	67(22.3%)	93(31%)	129(43%)
12.	Covid-19 vaccine is very effective for old age population	7(2.3%)	136(45.3%)	98(32.7%)	33(11%)	26(8.7%)
13.	Covid-19 vaccine is needed for children under 12 years of age	137(45.7%)	52(17.3%)	23(7.7%)	42(14%)	46(15.3%)

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14.	Covid-19 vaccine is safe for pregnant woman	159(53%)	107(35.7%)	17(5.7%)	15(5%)	2(0.6%)
15.	I won't be having any life threatening health problems after vaccination	55(18.3%)	73(24.3%)	121(40.3%)	29(9.7%)	22(7.3%)
16.	I will not be having any major side effects even though I am suffering with co-morbidities	134(44.7%)	71(23.7%)	49(16.3%)	31(10.3%)	15(5%)
17.	After covid-19 vaccination covid-19 infection will not occur?	11(3.7%)	53(17.7%)	147(49%)	63(21%)	26(8.6%)
18.	Covid-19 vaccination will do not harm than good?	21(7%)	43(14.3%)	167(55.7%)	33(11%)	36(12%)
19.	I am not afraid of covid-19 side effects like fever or rashes or headache	93(31%)	176(58.7%)	22(7.3%)	3(1%)	6(2%)

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20.	Everyone needs to be vaccinated not only the health care workers	4(1.3%)	24(8%)	72(24%)	181(60.4%)	19(6.3%)

DISCUSSION

A Cross Sectional study to assess the perception of covid-19 vaccine on selected communities was conducted for the age group above 25 years. Among 300 samples, the participants who are having positive perception is 68(22.6%), neutral perception is 176(58.6%) and negative perception is 56(18.6%) on covid-19 vaccine. Among the participants, age group from 56-65(24.3%) years have participated more than the other age group. Among the participants male participants 164(54.7%) have participated more than female participants136 (45.3%). Among the participants married participants are 274(91.3%) more than unmarried 16(5.3%), separated 10(3.3%) and widows. Among them the employed participants are 150(50%) more than the self-employed 61(20.3%) unemployed 43(14.3%) and others 21(7.0%) . Among the participants they are distributed as their stay that is the participants who stayed in urban sector is 239(79.7%) and rural sector is 59(19.7). Among the participants they are distributed according to how much they in this communities and found about 115 (38.3%) participants have lived for 15 year but less than 25 year and 107(35.7%) participants lived for 5 year but less than 15 year . Among them 41(13.6%) have contacted with covid-19 and about 259(86.3%) have not contacted with covid-19 . Among the participants 106(35.3%) have co-morbidities and 194(64.7%) don't have any co-morbidities. Data was collected through 5-rating likertscale .

CONCLUSION

The active study on perception of covid-19 vaccine conducted on selected communities gave us a understanding about the perception of participants about covid-19 vaccine. Data was conducted from selected communities in Navi Mumbai. The study was one for 300 samples and it was a cross-sectional study .Out of 300 samples, 68 participants have positive perception , 176 participants have neutral perception and 56 participants have negative perception . There is no association between perception of covid-19 vaccine with demographic variable among the communities.

RECOMMENDATIONS

This study recommended the following suggestions:-

- A similar study to be conducted in various settings in order to draw generalization of the findings.
- The same study can be done with large size so that the results can be generalized.
- The same study can be done on the perception of covid-19 vaccine side effects.

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