Perception and Behavioural Outcome towards COVID-19 Vaccine among Students and Faculties of Nursing Colleges at Gujarat

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Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

ABSTRACT

Introduction: Perception and behaviour towards corona vaccine among peoples in India was poor due to some side effects and negative media publicity in primary phases of vaccination. India has developed two types of vaccine (Covaxin and Covishield). During primary phase of corona vaccine we don’t have appropriate research and literature, about side effects and how far vaccine is reliable that why due so some minor side effect and negative media publicity peoples are very scared to take vaccine. So few peoples were started denial get vaccinated. The researcher wan to explore the positivity through the research result to reduce the negative mindset of the peoples toward corona vaccine, Because in India few peoples has fear to take vaccine against corona due to negative media publicity and scared of side effect.

Objective: To assess the existing level of perception and behaviour toward COVID-19 vaccine and to find out the association between selected socio-demographic variables.
Methods: Descriptive cross-sectional survey research design was used and non-probability (snowball) sampling method was used to draw samples through online Google form, all questions were plots on Google form and inform consent form also has been taken online prior to data collection from the samples. Prior to data collection written setting permission obtain from nursing colleges principals, for the data collection researcher were selected total 03 nursing institutes. The total sample size was 254 nursing college students and faculties. The tool consist of following Section-01 Demographic variables, section-02 Nursing students and faculties information related to COVID-19 vaccination during 1st and 2nd dose and Section-3 Questions related to perception and behaviour towards COVID-19 vaccine. Descriptive statistics applied where, data were analyzed by using SPSS software, and Frequency, percentage, tables etc. were used to represent the statistical data in the tables. Chi-square test was used to assess the significant association between the demographic and level of perception to test the hypothesis.

Results: Out of 254, 245(96.45%) were belong age 18-25 years, 8(3.14%) were belong to 26-35, 1 (0.34%) was belong to 46-60 age group. 219(86.22%) were females, 53(20.87%) were study Diploma course and 178(70.08%) were study degree course, regarding religion 223(87.79%) were Hindu, 5(1.97%) were Muslim and 26(10.24%) were Christian, Marital status 227(89.37%) were Unmarried and 24(9.47%) were Married, 134(52.75%) were from urban area, and rest 120 (47.24%) belongs to Rural area. Sources of information about COVID 19 vaccine 109(42.92%) got from online media, 44(17.32%) from television, 243(95.67%) received free of cost corona vaccine, 199(78.35%) mindset was not influenced by negative media publicity about vaccine, 248(97.63%) do not have any co-morbidities. 219(86.22%) taken Covid-19 vaccine empty stomach. 221(87%) of samples were taken willingly vaccine, 205(80.71%) of samples were received Covishield vaccine and others 49(19.29%) were taken Covaxin, 109(42.91%) samples noticed mild fever, 53(20.87%) samples noticed moderate fever, 18(7.08%) noticed severe fever and rest 74(29.13%) didn’t noticed fever.

Conclusions: Regarding perception and behaviour towards COVID-19 vaccine, the majority of samples has good perception and behaviour, 74% has good perception and only 23% had moderate to poor perception, majority of participant were willingly taken vaccine and agree to recommend to others, not evidence any serious side effect due to vaccination.

Keywords: Covaxin; covishield; DPCN; WHO; nursing; college; fever.

1. INTRODUCTION

On 30 January, World Health Organization (WHO) 2020, announce COVID-19 as a public health crisis and afterwards On 11 March 2020, World Health Organization (WHO) announce the corona virus disease 2019 a pandemic (COVID-19) [1].

According to report on 22 October 2021, worldwide cases reached over 242.5 million people worldwide [2]. The number of deaths had totaled more than 4.9 million [2].

According to report on 25 October 2021, India covid-19 infected cases reached over 34 million and total death 4.5 million [3].

Vaccination was one of the greatest cost-efficient, inhibitory actions [4]. Vaccines were the upmost essential public wellness actions and highly successful method to save public from covid-19 [5]. The world is presently working for the quick evolution of the COVID-19 vaccine. A successful COVID-19 vaccine should be useful, effective, set free from any side effect and affordable for local people in the world [6,7].

There are presently above 125 vaccines go through pre-clinical investigation for covid-19. The vaccines are than go into three phases of clinical tests, India has already rolled out a huge coronavirus effort to utilize two vaccines, Covishield and Covaxin [8,9].

The covid-19 vaccine was introduced on 16th January, 2021. Health personnel and frontline workers were the first group who get the opportunity to get COVID-19 vaccine and after them individuals who are above 50 years of age and individuals who are under 50 years and suffering from co-morbidity conditions were the second group for COVID-19 vaccination [10].
There were two doses of covid-19 vaccine which would be offered in 28 days' gap during initiation phase later the duration has been increases by 84 days for second dose of covishield vaccine. The efficiency of vaccine starts later on 14 days of taking the second dose. The covid-19 vaccine was extremely fruitful against covid-19 [6]. Some experts declare that the vaccine protected against covid-19 in 62% of those who received two full doses and 90% of those who initially received half dose [11,12,13].

Corona virus (COVID-19) Vaccinations status 48.5% of the world population has received at least one dose of a COVID-19 vaccine.

6.84 billion doses have been administered globally, and 25.52 million are now administered each day. India’s Cumulative COVID-19 Vaccination Coverage exceeds 102.27 Cr [14].

1.1 Objective

1. To assess the existing level of perception toward COVID-19 vaccine among students and faculties of Nursing colleges at Anand and Kheda Districts.
2. To assess the behavior towards COVID-19 vaccine among students and faculties of Nursing colleges at Anand and Kheda Districts.
3. To find out the association between selected socio-demographic variables and perceptions towards COVID-19 vaccine.

2. MATERIALS AND METHODS

2.1 Research Approach

Non Experimental, Descriptive survey approach.

2.2 Research Design

Cross sectional survey.

2.3 Research Variables

2.3.1 Dependant variables

Perception and Behaviour toward covid-19 vaccine.

2.3.2 Demographic Variables

Demographic variables of Nursing Student's such as Age, Gender, Course, Year, Marital status, vaccination history, side effects.

2.4 Sampling Method

The E-survey was prepared online and hyperlink of the survey was distributed to students using mobile group messaging application. It was made sure in a class that most of the students are having smart mobile devices and sufficient Internet connectivity to fill up the form online. Students who were not using Internet were encouraged to take help from their friends having Internet enabled device. Prior to the distribution, students were made clear about the objectives of this study and inform consent form. It is to be noted that student participation was voluntarily and they could opted not to fill up the E-survey [15].

2.5 Instrument for Data Collection

For the data collection toll has been prepared in three categories. 1. Questionnaire related to Covid-19 vaccine 1st dose, 2. Questionnaire related to Covid-19 vaccine 2nd dose, and 3-point Likert scale to assess the perception and Behaviour.

2.5.1 Study population

Nursing College Students And Faculties.

2.5.2 Study sample

Nursing students and faculties who received COVID-19 vaccine.

2.5.3 Study setting

04 nursing institutes of the Kheda and Anand District Gujarat.

2.5.4 Sample size

254 Nursing College Student and Faculties.

2.6 Sample Criteria

2.6.1 Inclusion criteria

1. Students and faculties of nursing colleges of both gender of age between 17-60 years.
2. Those who have taken COVID-19 vaccine.

2.6.2 Exclusive criteria

1. Those who are not willing to participate in study.
2. Those who have not taken vaccine.
2.7 Tool for Data Collection

Section-I: Consist of Demographic variables.
Section-II: Consist of Questionnaire related to Covid-19 vaccine 1st dose.
Section-III: Consist of Questionnaire related to COVID-19 vaccine 2nd dose.
Section-IV: Consist of 3 point likert scale to assess the perception and behavior.

3. RESULTS

3.1 Section I: Demographic Variables of Nursing Students and Faculties

The Table-1 portrays that majority participants (96%) age below 25 years, majority (86%) were female, (70%) were undergraduate students. [Table/-1] depicts majority (87%) were belong to Hindu religion, (89%) were unmarried, (95%) received vaccine free of cost, majority (86%) taken vaccine empty stomach.

3.2 Section II: Distribution According to Information during 1st dose of Covid-19 Vaccine

The [Table/-2] depicts majority (87%) willingly taken vaccine, (80%) were taken Covishield vaccine, (80%) does not have any serious side effects after taken vaccine, (42%) mild fever and last longer for 1-2 days. (43.70%) had mild pain on the vaccine site, 203(79.92%) participant do not have fear prior to take corona vaccine.

3.3 Section III: Distribution According to Information during 2nd dose of COVID-19 Vaccine

[Table/-3] depicts majority (89%) willingly taken vaccine, (90%) does not have fear (97%) does not have any serious side effects after taken vaccine, (37%) mild fever and last longer for 1-2 days. (44.70%) had mild pain on the vaccine site.

3.4 Section IV: Distribution According to Perception and Behavior toward COVID-19 Vaccine

[Table/-4] depicts majority only 7(2.7%) had poor perception, 60(23.7%) had moderate perception, 187(73.6) majority of participant had good perception.

3.5 Section V: Distribution According to Association between Perception and Selected Demographic Variables

The [Table/-7] depicts outcome of chi-square test results, In reference to the association of perception and behaviour with selected demographic variables, there was significant association of perception with sources of corona vaccine information and rest of variable found not significant, at 0.05 level of significant.

Table 1. Frequency and percentage distribution according to demographic variables (N=254)

| Variables                | Categories     | (F)  | (%)    |
|--------------------------|----------------|------|--------|
| Age                      | 17-25          | 245  | 96.45% |
|                          | 26-35          | 8    | 3.14%  |
|                          | 36-45          | 0    | 0%     |
|                          | 46-60          | 1    | 0.39%  |
| Gender                   | Male           | 35   | 13.77% |
|                          | Female         | 219  | 86.22% |
| Educational status       | Diploma        | 53   | 20.87% |
|                          | Undergraduate  | 178  | 70.08% |
|                          | Postgraduate Degree | 23 | 9.05% |
|                          | M.Phil./Ph.D.  | 0    | 0%     |
| Religion                 | Hindu          | 223  | 87.79% |
|                          | Muslim         | 5    | 1.97%  |
|                          | Christian      | 26   | 10.24% |
| Marital Status           | Unmarried      | 227  | 89.37% |
|                          | Married        | 24   | 9.45%  |
|                          | Widow/Widower  | 3    | 1.18%  |
| Residence                | Urban Area     | 134  | 52.75% |
|                          | Rural Area     | 120  | 47.24% |
| Family Monthly Income    | Below 10,000   | 34   | 13.38% |
|                          | 10,000-20,000  | 57   | 22.44% |
| Variables                                      | Categories               | (F) | (%)    |
|-----------------------------------------------|--------------------------|-----|--------|
| 20,001-30,000                                 | 34                       |     | 13.38% |
| Above 30,000                                  | 66                       |     | 25.96% |
| I Don’t know                                  | 63                       |     | 24.80% |
| Sources of information about COVID 19 vaccine | Online media             | 109 | 42.92% |
|                                               | Television               | 44  | 17.32% |
|                                               | News paper               | 12  | 4.72%  |
|                                               | Friends/Family members   | 14  | 5.51%  |
|                                               | Teachers                 | 51  | 20.07% |
|                                               | Others                   | 24  | 9.44%  |
| Paid for vaccine                              | Yes                      | 11  | 4.33%  |
|                                               | No                       | 243 | 95.67% |
| Negative media influence you                  | Yes                      | 55  | 21.65% |
|                                               | No                       | 199 | 78.35% |
| Taken vaccine empty stomach?                  | Yes                      | 35  | 13.78% |
|                                               | No                       | 219 | 86.22% |

**Key:** (F)= Frequency, (%)= Percentage

**Table 2. Frequency and percentage distribution according to information during 1st dose of covid-19 vaccine (N=254)**

| Statement                                                                 | Total | %    |
|--------------------------------------------------------------------------|-------|------|
| Status of COVID-19 vaccination?                                          |       |      |
| Willingly taken                                                          | 221   | 87.00|
| Not Willingly taken                                                      | 33    | 13.00|
| Which COVID-19 Vaccine injected in your body?                            |       |      |
| Covishield                                                              | 205   | 80.7 |
| Covaxin                                                                 | 49    | 19.3 |
| Do you have any severe side effects after taking 1st dose of COVID-19 vaccine? |       |      |
| Yes                                                                      | 51    | 20.0 |
| No                                                                       | 203   | 80.0 |
| After taking 1st dose of vaccine status of fever?                        |       |      |
| Mild Fever                                                               | 109   | 42.9 |
| Moderate Fever                                                           | 53    | 29.8 |
| Severe Fever                                                             | 18    | 7.0  |
| None of above                                                            | 74    | 29.1 |
| Duration of Fever after taking 1st dose of COVID-19 vaccine?             |       |      |
| 1-day                                                                    | 97    | 38.1 |
| 2-days                                                                   | 79    | 31.1 |
| 3-days or more                                                           | 98    | 37.8 |
| None of above                                                            | 70    | 27.7 |
| Did you required hospitalization after taking 1st dose of COVID-19 vaccine? |       |      |
| Yes                                                                      | 5     | 2.0  |
| No                                                                       | 244   | 98.0 |
| Status of injection site pain after taking 1st dose of COVID-19 vaccine? |       |      |
| Mild Pain                                                                | 111   | 43.7 |
| Moderate Pain                                                            | 65    | 25.5 |
| Severe pain                                                              | 19    | 7.5  |
| None of above                                                            | 59    | 23.2 |
| Duration of injection site pain after taking 1st dose of COVID-19 vaccine? |       |      |
| 1-day                                                                    | 67    | 26.4 |
| 2-days                                                                   | 68    | 26.8 |
| 3-days or more                                                           | 68    | 26.8 |
| None of above                                                            | 59    | 23.2 |
| After taking 1st dose of COVID-19 vaccine which other side effects do you have? |       |      |
| Nausea and vomiting                                                      | 05    | 2.0  |
| Lethargy                                                                 | 18    | 7.09 |
| Headache and Body ache                                                   | 131   | 51.1 |
| None of above                                                            | 100   | 39.0 |
Table 3. Frequency and percentage distribution according to information during 2nd dose of COVID-19 vaccine (N=254)

| Statement                                           | Total | %  |
|-----------------------------------------------------|-------|----|
| Do you have fear prior to take COVID-19 vaccine?     |       |    |
| Yes                                                 | 51    | 20.0 |
| No                                                  | 203   | 80.0 |

| Statement                                           | Total | %  |
|-----------------------------------------------------|-------|----|
| Status of COVID-19 vaccination?                      |       |    |
| Willingly taken                                      | 226   | 89.00 |
| Not Willingly taken                                  | 28    | 11.00 |
| Do you have fear to take 2nd dose                    |       |    |
| Yes                                                  | 27    | 10.0 |
| No                                                   | 227   | 90.0 |
| Do you have any severe side effects after taking 2nd dose of COVID-19 vaccine? |       |    |
| Yes                                                  | 8     | 3.0 |
| No                                                   | 246   | 97.0 |
| After taking 2nd dose of vaccine status of fever?    |       |    |
| Mild Fever                                           | 95    | 37.4 |
| Moderate Fever                                       | 13    | 5.1 |
| Severe Fever                                         | 3     | 1.18 |
| None of above                                        | 143   | 55.12 |
| Duration of Fever after taking 2nd dose of COVID-19 vaccine? |       |    |
| 1-day                                                | 65    | 25.6 |
| 2-days                                               | 44    | 17.3 |
| 3-days or more                                       | 4     | 2.0 |
| None of above                                        | 140   | 55.1 |
| Did you required hospitalization after taking 2nd dose of COVID-19 vaccine? |       |    |
| Yes                                                  | 8     | 3.1 |
| No                                                   | 246   | 96.9 |
| Status of injection site pain after taking 2nd dose of COVID-19 vaccine? |       |    |
| Mild Pain                                            | 114   | 44.9 |
| Moderate Pain                                        | 58    | 22.8 |
| Severe pain                                          | 03    | 1.18 |
| None of above                                        | 79    | 31.1 |
| Duration of injection site pain after taking 2nd dose of COVID-19 vaccine? |       |    |
| 1-day                                                | 86    | 33.8 |
| 2-days                                               | 70    | 27.5 |
| 3-days or more                                       | 15    | 6.0 |
| None of above                                        | 83    | 32.6 |
| After taking 2nd dose of COVID-19 vaccine which other side effects do you have? |       |    |
| Nausea and vomiting                                  | 1     | 0.39 |
| Lethargy                                             | 7     | 2.75 |
| Headache and Body ache                               | 88    | 34.6 |
| None of above                                        | 158   | 62.2 |

Table 4. Frequency and percentage distribution according Perception and behavior toward COVID-19 vaccine

| Perception and behavior level | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Poor Perception               | 7         | 2.7        |
| Moderate Perception           | 60        | 23.7       |
| Good Perception               | 187       | 73.6       |
| Total                         | 254       | 100%       |
Table 5. Level of Perception and behavior toward covid-19 vaccine likert scale (n=254)

| Statement                                                                 | A  | U  | DA |
|---------------------------------------------------------------------------|----|----|----|
| Will you recommend COVID-19 vaccine to others?                            | 74.8 | 10.2 | 19.9 |
| Getting myself vaccinated for COVID-19, would be good way to protect myself against infection? | 81.4 | 10.2 | 8.2 |
| Does COVID-19 symptoms after taken vaccine may differ from one person to another? | 41.7 | 26.3 | 31.8 |
| Do you think COVID-19 vaccination is an effective way to prevent and control COVID 19? | 74.8 | 12.5 | 12.5 |
| Is Corona infection providing better immunity than COVID-19 vaccine?      | 44.8 | 24.0 | 31.1 |
| Is COVID-19 vaccine safe for all?                                        | 56.2 | 19.2 | 24.4 |
| Do you think all has to take COVID-19 vaccine?                           | 68.1 | 16.9 | 14.9 |
| COVID 19 vaccine may be fatal?                                           | 9.05 | 44.8 | 46.0 |
| COVID-19 vaccine can lead to serious health issues?                      | 7.8 | 24.8 | 67.3 |
| COVID-19 vaccine is sufficient for preventing Corona virus to all?        | 45.2 | 22.8 | 31.8 |
| I believe a vaccine can help control the spread of COVID-19?              | 23.6 | 60.6 | 15.7 |
| Is COVID-19 vaccine become available, it should be mandatory for all?     | 55.9 | 23.6 | 20.4 |
| Is COVID-19 vaccine will be given to everyone simultaneously?             | 56.2 | 28.3 | 15.3 |
| Is it mandatory to take the vaccine?                                     | 50 | 27.9 | 22.0 |
| Is it necessary for a COVID-19 recovered person to take the vaccine?     | 57.0 | 27.5 | 15.3 |
| The vaccine introduced in India be as effective as the ones introduced in other countries? | 53.9 | 35.8 | 10.2 |
| Does one need to follow preventive measures such as wearing mask, hand sanitization, social distancing after receiving the COVID-19 vaccine? | 72.4 | 15.7 | 11.8 |
| Are there any common side effects of this vaccine?                       | 53.1 | 14.5 | 32.2 |
| Does negative media information's work as a barrier in COVID-19 vaccination? | 47.6 | 25.1 | 27.1 |
| Will you follow all the COVID-19 protocols once you get vaccinated?      | 73.6 | 17.3 | 9.0 |

Key: A:Agree, U:Undecided, DA: Disagree

Table 6. outcome of chi-square test results to find significant association between selected demographic variables of nursing students and faculties (n=254)

| Variables                  | Categories          | (f)  | Chi-Square | Sig. P-value |
|----------------------------|---------------------|------|------------|--------------|
| Age                        |                     |      |            |              |
| 17-25                      | 245                 | 4.063| 0.907      | NS           |
| 26-35                      | 8                   |      | df=9       |              |
| 36-45                      | 0                   |      |            |              |
| 46-60                      | 1                   |      |            |              |
| Gender                     |                     |      |            |              |
| Male                       | 35                  | 0.916| 1.00       | NS           |
| Female                     | 219                 |      | Df=9       |              |
| Educational status         |                     |      |            |              |
| Diploma                    | 53                  | 5.89 | 0.750      | NS           |
| Undergraduate              | 178                 |      | df=9       |              |
| Postgraduate Degree        | 23                  |      |            |              |
| M.Phil./Ph.D.              | 0                   |      |            |              |
| Religion                   |                     |      |            |              |
| Hindu                      | 223                 | 5.278| 0.908      | NS           |
| Muslim                     | 5                   |      | Df=9       |              |
| Christian                  | 26                  |      |            |              |
| Marital Status             |                     |      |            |              |
| Unmarried                  | 227                 | 1.891| 0.993      | NS           |
| Married                    | 24                  |      | df=9       |              |
| Widow                      | 3                   |      |            |              |
| Residence                  |                     |      |            |              |
| Urban Area                 | 134                 | 4.046| 0.67       | NS           |
| Rural Area                 | 120                 |      | df=6       |              |
| Family Monthly             |                     |      |            |              |
| Below 10,000               | 34                  | 19.86| 0.177      |              |
| 10,000-20,000              | 57                  |      | df=15      |              |
Variables | Categories | (f) | Chi-Square | Sig. P-value |
--- | --- | --- | --- | --- |
| | 20,001-30,000 | 34 | | |
| | Above 30,000 | 66 | | |
| | I Don’t know | 63 | | |
Sources of information about COVID 19 vaccine | Online media | 109 | 32.87 | 0.18 Significant |
| | Television | 44 | df=18 | |
| | Newspaper | 12 | | |
| | Friends/Family members | 14 | | |
| | Teachers | 51 | | |
| | Others | 24 | | |

4. DISCUSSION AND CONCLUSION

The purpose of the present study is to assess the attitude regarding online lecture after the impact of COVID-19 at selected nursing college Nadiad. The study consisted of 136 samples that were selected on the basis of simple randomization techniques. Based on the objective. Regarding perception and behaviour towards COVID-19 vaccine, the majority of samples has good perception and behaviour, 74% has good perception and only 23% had moderate to poor perception, majority of participant were willingly taken vaccine and agree to recommend to others, not evidence any serious side effect due to vaccination.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

Yes informed consent form was acquired from the participants prior to data collection.

ETHICAL APPROVAL

The study was approved by the institutional ethical committee of Dinsha Patel College of nursing, research committee, there are total 15 members in the committee from various field. The ethical approval reference number is DPCN/27IEC/2020-21/13 and a formal written permission was gathered from the authority of or Principal of Institute prior to data collection.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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