Original Article

Contextual, Individual or Group Influences on Hesitancy towards COVID-19 Vaccination: A Descriptive Study

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INTRODUCTION:

The global pandemic of coronavirus disease 2019 (COVID-19) has infected more than 257 million population and out of them, 5.1 million already died [1][2][3]. Both therapeutic and non-therapeutic measures were taken to flatten the number of COVID-19 confirmed cases and reduce deaths [4]. Vaccines aside from COVID-19 are one of the foremost effective and reliable public health interventions ever implemented that prevent many deaths from viral infections per annum[5][6]. The SAGE working party on Vaccine Hesitancy concluded that Vaccine hesitancy refers to a delay in acceptance or refusal of vaccination despite the availability of vaccination services [7]. The hesitancy regarding COVID-19 vaccines is prominently evident worldwide [8]. Studies have identified several factors related to COVID-19 vaccine hesitancy in several domains [9]. The identified factors included various socioeconomic and demographic characteristics[10] (e.g., age, sex, residence, income, occupation, and marital status) constructs of the health belief model, constructs of theory of planned behavior, and therefore the 5c psychological antecedents[11][12], vaccines-related knowledge[13], attitude towards COVID-19 vaccination, conspiracy beliefs, trust and confidence[14], COVID-19 preventive behavioral practices[15], and therefore the perceived safety and side effects of the vaccines. Despite vaccine hesitancy, the demand for vaccines increases over time, and disparities in vaccine access within and across the countries are remarkable [16]. Albeit the first drivers of vaccine hesitancy are often context-specific [17], there are some agreements that confidence and trust in the COVID-19 vaccine play a critical role in increasing vaccine acceptance[18]. Hesitancy for being get vaccinated was measured with the concept including contextual, group, or individual factors which were again subdivided into the aspects of barriers to vaccination, etc. [19][20].

MATERIALS AND METHODS:

Ethical Clearance: - Institutional Review Board has approved further research. The Ethical committee considered protocol revisions and the IRB completed a review. The Ethical committee has reviewed and approved it without any changes.

Study Design: - A descriptive questionnaire-based survey has been carried out with a sample population of 1350 in and around places of Nandyal, Andhra Pradesh of India for six months.

The survey questionnaire was designed as a model of determinants for COVID-19 vaccine hesitancy, based on a systematic review of literature, which categorized the drivers into Contextual influences, Individual or Group influences each of them with relevant factors and variables. The working group developed de-novo survey questions tailored to the specific determinant. In the study group, the hesitancy on Covid-19 vaccination was determined through two influential determinants as Contextual influences and Individual or Group influences.

Contextual influences: - Contextual Influences are those influences arising due to historic, socio-cultural, environmental, health system/institutional, economic or political factors. The factors of contextual Influences towards

hesitancy on Covid-19 vaccination were categorized into seven categories each with its relevant variables. The factors include; A. Communication and Media environment, B.Influential leaders, Gatekeepers, and anti or pro-vaccination lobbies, C. Historical influences, Religion, Culture, Gender & Socio economical influences, D.Influences due to Politics, Policies (Mandates), E.Influence of Geographic barriers and F.Influence of Pharmaceutical Industry as the Vaccine manufacturer.

Individual or Group Influences: - Individual or Group influences are those influences arising from the personal perception of the vaccine or influences of the social or peer environment. The influencing factors are categorized into six categories with relevant variables, they are; A. Influence of Experience with past vaccination, B. Influential Beliefs, Attitudes about Health and prevention, C. Influence due to Knowledge and Awareness, D. Influences due to Health System and providers trust and personal experience, E. Influences due to Risk/Benefit (perceived, heuristic), F. Influence of COVID-19 Vaccination as a social norm.

Inclusion Criteria:

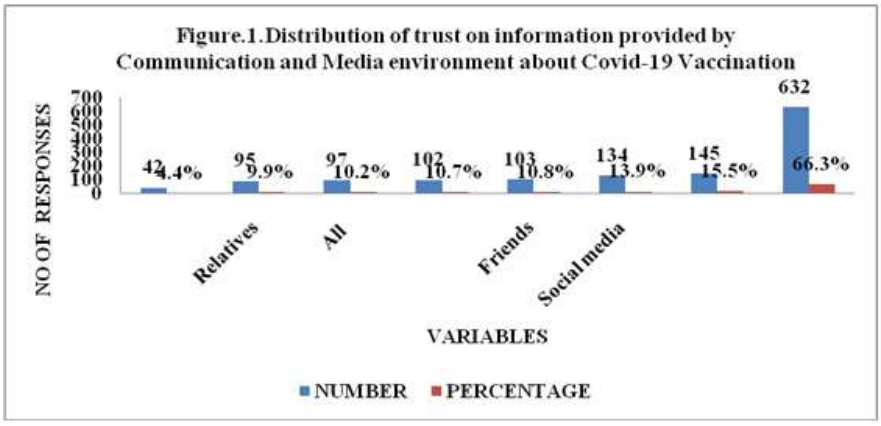
- People of age >20 years.

Exclusion Criteria:

- Pregnant women.

RESULTS:

Contextual Influences:



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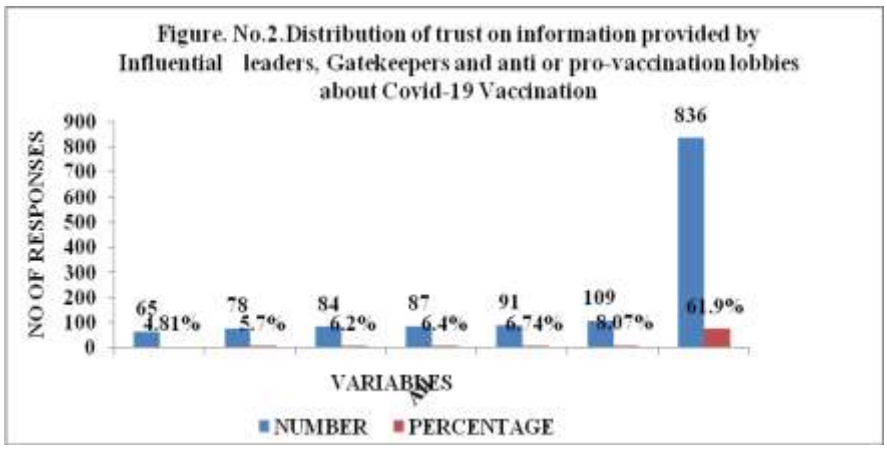


Figure. No.3. Distribution of historical influences that discouraged the people from getting vaccinated

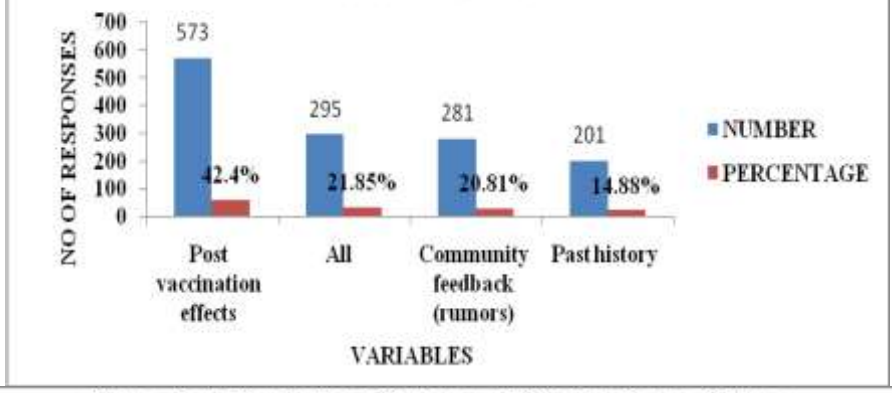


Figure. No.4.Distribution of influence of Religion, Gender, Culture and Socio-Economical factors among the study population against getting vaccinated

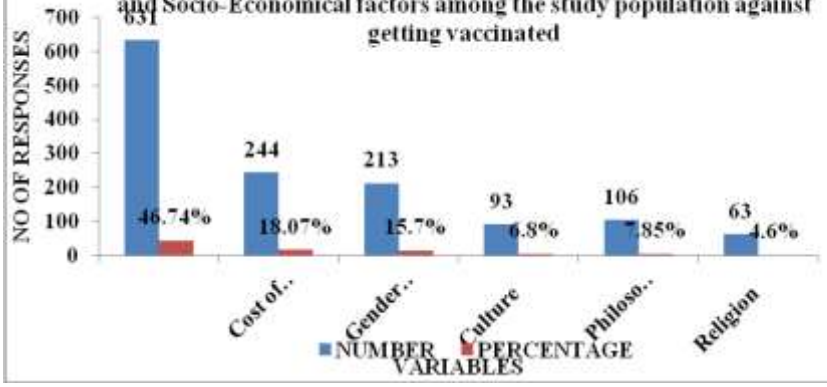


Figure. No.5.Distribution of influence due to Politics, Policies (Mandates) factors among the study population towards getting vaccinated

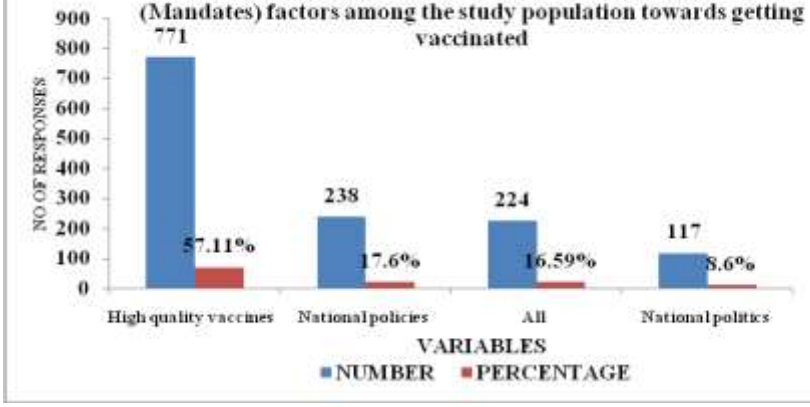
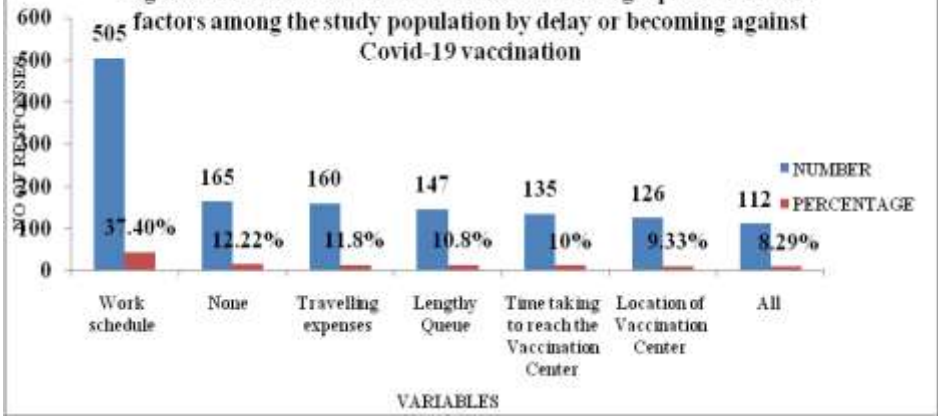
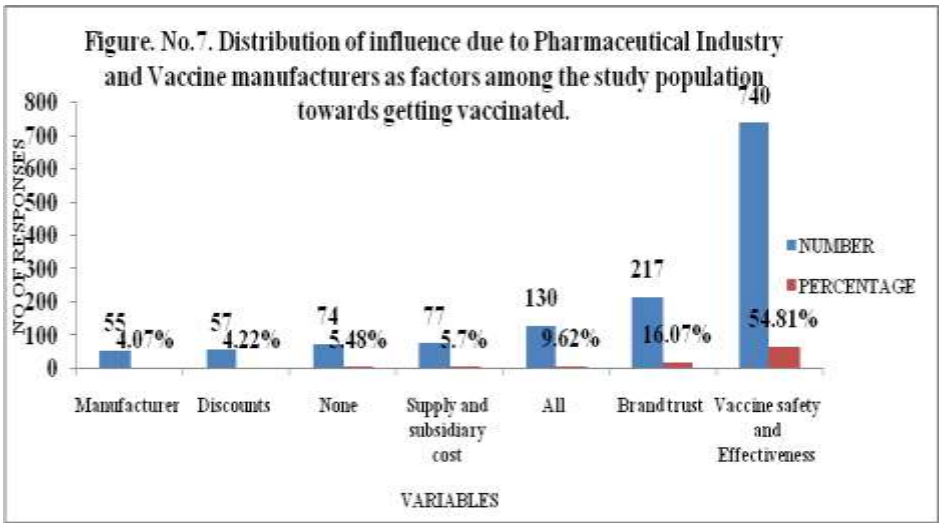
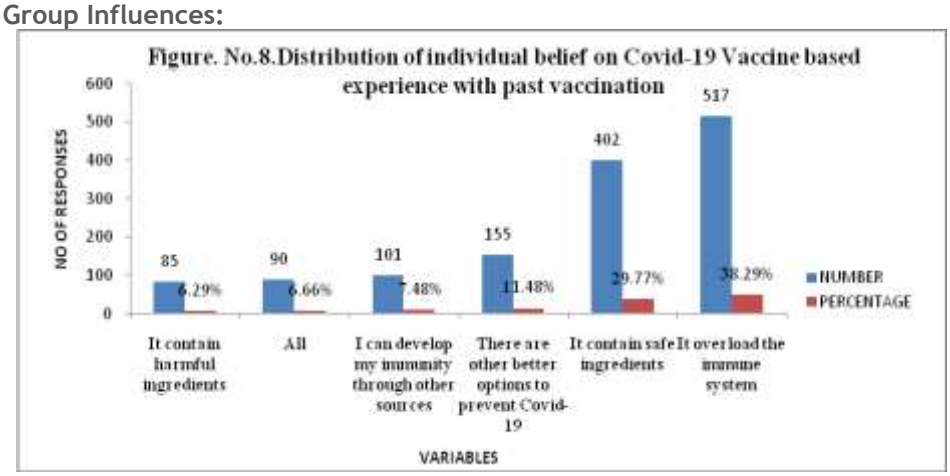


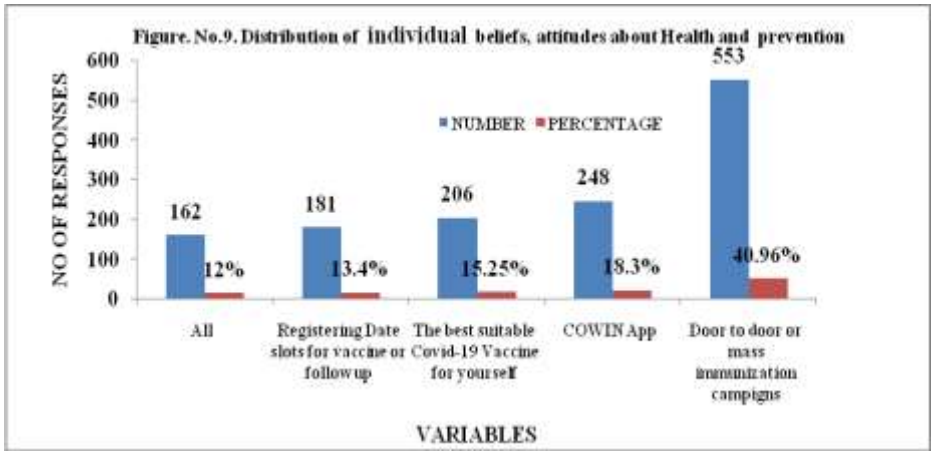
Figure.No.6.Distribution of influence due to Geographic barriers as factors among the study population by delay or becoming against Covid-19 vaccination





Individual or Group Influences:





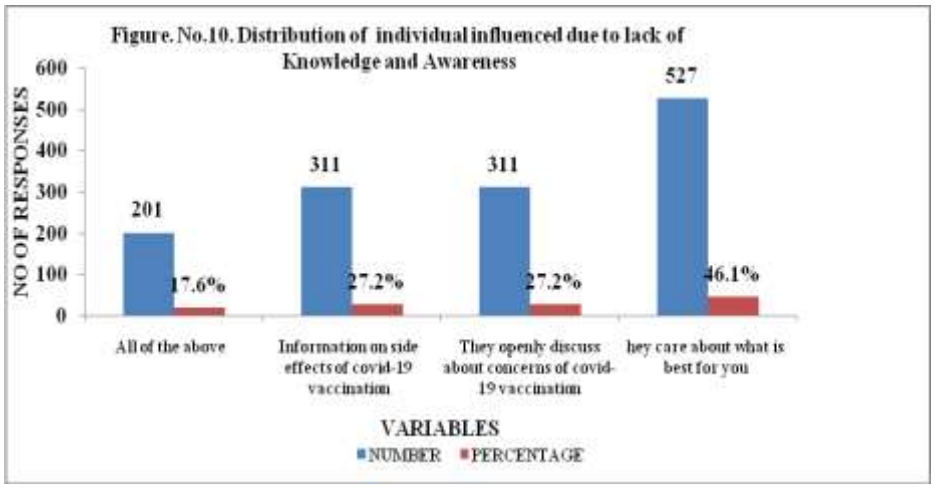


Figure. No.10. Distribution of individual influenced due to lack of Knowledge and Awareness
NO OF RESPONSES
600
500
400
300
200
100
0
201
17.6%
311
27.2%
311
27.2%
527
46.1%
All of the above
Information on side effects of covid-19 vaccination
They openly discuss about concerns of covid-19 vaccination
hey care about what is best for you
VARIABLES
NUMBER
PERCENTAGE

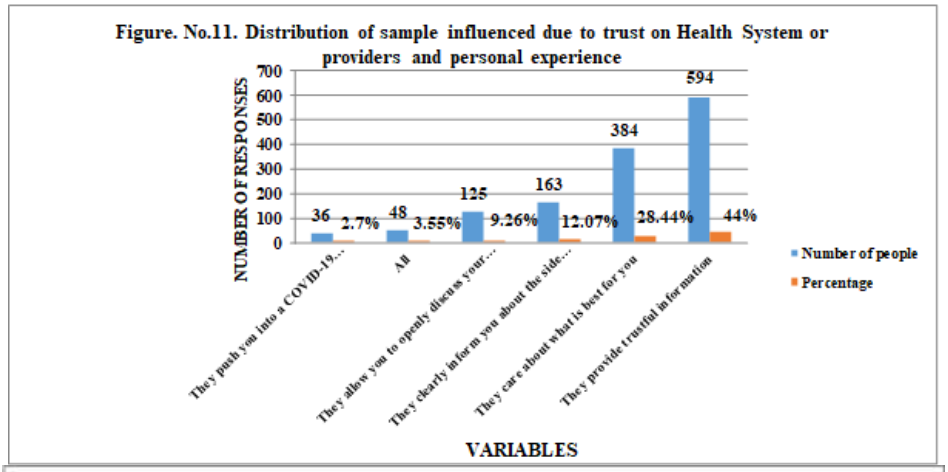


Figure. No.11. Distribution of sample influenced due to trust on Health System or providers and personal experience
NUMBER OF RESPONSES
700
600
500
400
300
200
100
0
36
2.7%
48
3.55%
125
9.26%
163
12.07%
384
28.44%
594
44%
They push you into a COVID-19...
All
They allow you to openly discuss your...
They clearly inform you about the side...
They care about what is best for you
They provide trustful information
Number of people
Percentage
VARIABLES

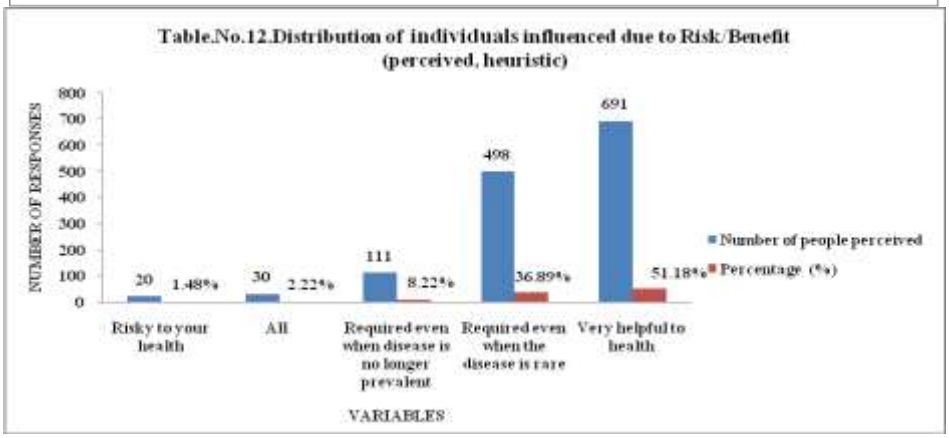
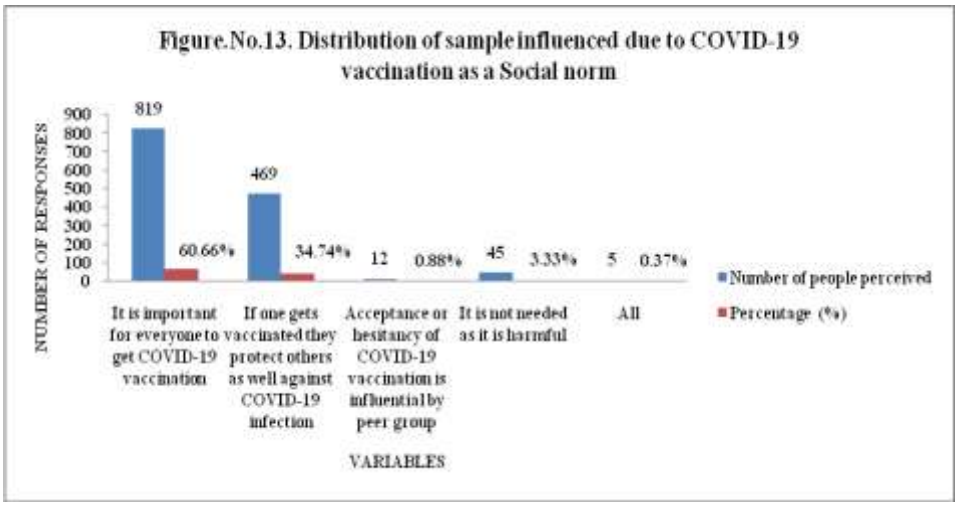


Table.No.12.Distribution of individuals influenced due to Risk/Benefit (perceived, heuristic)
NUMBER OF RESPONSES
800
700
600
500
400
300
200
100
0
20
1.48%
30
2.22%
111
8.22%
498
36.89%
691
51.18%
Risky to your health
All
Required even when disease is no longer prevalent
Required even when the disease is rare
Very helpful to health
Number of people perceived
Percentage (%)
VARIABLES



DISCUSSION:

Contextual influences:

Media and social media can create a negative or positive vaccine sentiment and can provide a platform for lobbies. From the results, it has been observed that the hesitancy towards Covid-19 vaccination due to Communication and Media environment was influenced by all variables.

Community leaders and influencers, including religious leaders in some settings, and celebrities in others, can all have a significant influence on vaccine acceptance or hesitancy. From the study results it was observed that the hesitancy on Covid-19 vaccination due to Influential leaders, Gatekeepers, and anti or pro-vaccination lobbies was influenced through all variable informational sources such as; Community Leaders, Religious leaders, Celebrities, Health Workers, Political leaders, and Teachers. Despite the influence of health workers, hesitancy developed. Negative historic influences such as the Trovan trial/ Wakefield MMR Dautism scare can undermine public trust and influence vaccine acceptance, especially when combined with the pressures of influential leaders/media. Among the historical influences, the variable, Post-vaccination effects have shown the highest discouragement. Whereas history has stood as the lowest discouragement factor.

The influence of hesitancy due to Religion, Culture, Gender & Socioeconomic factors was studied through several variables and the results revealed that all variables have influenced the hesitancy among which the Health issues variable was observed to be highly influential. The influence of getting vaccinated due to Politics, Policies (Mandates) factors among the study population towards getting vaccinated were studied through several variables and the results revealed that all variables have influenced the hesitancy among which the National politics variable was observed to be highly influential. The influence of getting vaccinated due to Geographic barriers as factors among the study population by delay or becoming against Covid-19 vaccination was studied. The work schedule variable was observed to be highly influential toward hesitancy. The influence of getting vaccinated due to the Pharmaceutical Industry and Vaccine manufacturers as factors among the study population was studied among which the Manufacturer variable was observed to be highly influential towards hesitancy.

Individual or Group Influences:

Past negative or positive experiences with a particular vaccination can influence hesitancy or willingness to vaccinate. From the results, it has been observed that the hesitancy towards Covid-19 vaccination due to individual belief in Covid-19 Vaccine based experience with past vaccination was influenced through all variables and the factor that their belief of getting immunity through other sources stood as the major factor of hesitancy. From the results, it has been observed that the hesitancy towards Covid-19 vaccination due to individual beliefs, and attitudes about health and prevention was influenced by all variables. It has been considered that low belief and wrong attitude leads to high.

Vaccine acceptance or hesitancy can be affected by whether an individual or group has accurate knowledge, a lack of awareness due to no information, or misperceptions due to misinformation. Accurate knowledge alone is not enough to ensure vaccine acceptance, and misperceptions may cause hesitancy, but still result in vaccine acceptance. It has been considered that a lack of knowledge and low awareness leads to high hesitancy. Hesitancy towards Covid-19 vaccination due to Health System and providers' trust and personal experience was influenced by all variables. It has been considered that distrust of Healthcare programs leads to high hesitancy. Despite hesitancy when coming to the risk/benefit ratio maximum supported with a statement that the vaccine is helpful to health other than barriers that affect the vaccination process. Vaccine acceptance or hesitancy is influenced by peer group and social norms. It has been considered that the least percept variable resulted in greater hesitancy. Hesitancy was observed among those populations who had perceived that the vaccination is not required as it is harmful.

CONCLUSION:

Contextual influences towards hesitancy were observed through all factors such as the Communication and Media environment of which Private Telecasting information was found to cause greater hesitancy. Among individuals or groups influenced by the influence of experience with past vaccination majority of the study population were hesitant due to the reason that they believed that the vaccine contain harmful ingredients. Healthcare programs were trusted by the majority of the study sample and found no impact on hesitancy. The perception of the study population about the Covid-19 vaccine has a high influence on hesitancy since a maximum number of people perceived that it is risky to health. The opinion about the COVID-19 Vaccination as a social norm among the study population was appreciable as the majority of the study population believed that it is important for everyone, if one gets vaccinated they protect others as well. Despite hesitancy, all of the study population were vaccinated.

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