International Journal of Current Research and Review
DOI: http://dx.doi.org/10.31782/IJCRR.2021.SP193

Scopus

Survey Research

IJCRR
Section: Healthcare
ISI Impact Factor (2019-20): 1.628
IC Value (2019): 90.81
SJIF (2020) = 7.893

A Survey on Coronavirus Vaccination

Vijay Kumar[1], Shipra Gupta[2*], Jasmeet Kalra[3], Shipra Agarwal[4]

[1]Professor, Department of Physics, Graphic Era Hill University, Dehradun, Uttrakhand, India; [2]Associate Professor, Department of Commerce, Graphic Era Hill University, Dehradun, Uttrakhand, India; [3]Department of Mechanical Engineering, Graphic Era Hill University, Dehradun, Uttrakhand, India; [4]Department of Commerce, Graphic Era Deemed to be University, Dehradun, Uttrakhand, India.

ABSTRACT

Background: Right now many pharmaceutical companies are tried to finalise the vaccines of coronavirus and many are trying. In India, vaccination of coronavirus is the world's largest program. Many types of rumours are coming from the side of the public of the whole world about the vaccination. The authors are decided to survey in this regard.

Objective: To investigate immunization trust in locally made coronavirus antibodies and antibody inclination.

Methods: In December 2020, the authors are surveyed 500 people of the top ten states of India about the acceptance rates and factors influencing acceptance of a coronavirus vaccine. For this survey, online platform technology is used to find the response of the participants.

Results: The results of the survey represent that out of 500 respondents, 53.5% were females. 37.6% of people were responded who have an income level of Rs. 501-1000 per day. 38.8% of those people responded who have an only intermediate qualification. 42.4% of people having the age group 25 to 54 years were responded to the vaccination survey. 51.8% of people fully agreed with vaccination but 34% of people suggested if it is coming from the side of the employer, it becomes more successful.

Conclusion: By survey analysis of this paper, it is concluded that maximum people are trusting and some are not agreed with the vaccination.

Key Words: Coronavirus, Vaccination, Survey, Respondent's perception, Behaviour study

INTRODUCTION

There have now been more than 10,655,435 instances of coronavirus across India, and more than 153,376 passings, therefore. At the world level, coronavirus has become a challenge for the government and health workers. For the last year, the whole world is fighting against this virus. India is also one of the nations that are fighting and successfully coronavirus beat. But it is suggested by many health workers and health organisations of the whole world that vaccination is only one solution to this problem. Therefore the pharmaceutical companies of many countries were tried to develop the vaccine for this virus. The human trial of many vaccines is going on. Human trial of vaccines made by many pharmaceutical industries of India is also going on and on the last and final stage. The governments of all countries are trying to succeed in the vaccination program. No doubt, it is a very big challenge. The people have any doubts regarding the vaccination. They have many questions in their mind. In this manuscript, a survey has been done regarding the vaccination and authors are trying to cover all the questions which may be in the mind of the people.[1,2]

Without an immunization, the countries overall are attempting to contain the spread of the coronavirus with the requirement of isolate, social distancing, local area utilization of facemasks consistently, and conveyance limitations. Lockdown in cities and many other foundations like that are responsible for much economic loss. The multi-faceted calamitous results related to the coronavirus episode have escalated worldwide endeavours in building up a compelling avoidance strategy to monitor flare-ups. There is an extreme worldwide exertion in building up a protected and compelling coronavirus antibody, with a gauge of more than 100 up-and-comer immunizations at present in various improvement stages,[3] and a few applicant antibodies effectively in

Corresponding Author:

Dr. Shipra Gupta, Associate Professor, Department of Commerce, Graphic Era Hill University, Dehradun, Uttrakhand, India.
Email: drshipragupta16@gmail.com

ISSN: 2231-2196 (Print) **ISSN:** 0975-5241 (Online)

Received: 25.01.2021 **Revised:** 12.02.2021 **Accepted:** 18.02.2021 **Published:** 30.03.2021

clinical preliminaries. An immunization against coronavirus may before long be accessible for public use; thusly, an earnest agreement is justified to explore the agreeableness of a coronavirus antibody to get ready for compelling advancement techniques.[4,5]

The targets of this investigation were to know the perspectives of individuals about coronavirus inoculation. It is the need of each individual that they take into account inoculation which will be shielded from Covid. The individuals of the nation are demonstrating numerous perspectives about immunization. Recently, doubt in the country's inoculation program and locally made antibodies have brought about immunization aversion as well as caused an expanding number of individuals preferring imported antibodies or looking for inoculations abroad.[6-8] This examination likewise endeavoured to investigate immunization trust in locally made coronavirus antibodies and antibody inclination.[6]

LITERATURE REVIEW

As of late, a wide scope of logical discoveries has raised assumptions for accessible coronavirus antibodies. Lately, this has moulded countries' arrangements for their rollout to restrict the spread and damages of coronavirus as fast as could be expected under the circumstances. Numerous nations, remembering just for this investigation, have reported numerous sets of immunization portions for their populaces to vaccinate a lot of their populace against coronavirus.[7]

One expected test to accomplishing the objective of greatest inoculation is antibody reluctance and a developing enemy of immunization development developing across Europe. This is essential to consider since compulsion has brought about expanded and solidifying doubt in specialists, notwithstanding numerous countries comprising Italy, Australia and portions of the United States participating in this technique. Just as accepting allegations of being a dishonest strategy, the jury is additionally out on the viability of this methodology, which, accordingly, expects a commitment to arrive at objectives of crowd insusceptibility with the public who will settle on the choice if to immunize.[8] locate that public degrees of immunization reluctance are directed by a scope of reasons classified under three key territories: (1) 'certainty', that the antibody is seen as protected and compelling; (2) 'accommodation', insights about the straightforward entry to immunization, and (3) 'smugness', discernments that taking the immunization isn't significant. This paper will zero in overwhelmingly on the effect of danger correspondence on 'certainty' and trust because since quite a while ago discovered the significance of social trust in compelling danger correspondence endeavours.[9]

Antibody reluctance has fluctuating degrees of commonness in various pieces of Europe, for various recorded and social reasons. In the aftermath of the 1998 MMR antibody embarrassment, where since-withdrawer research distributed in the Lancet by Andrew Wakefield linked the MMR immunization to the mental imbalance in young people, the UK has a history loaded with immunization aversion.[10] This brought about boundless doubt in antibodies which were just defeated in 2014 after a lot of local area commitment. Surely, ongoing surveys have discovered this antibody reluctance to in any case be very high with coronavirus regards, with just 37% of respondents expressing they would take an immunization in late November 2020. In a similar report, 22% of respondents expressed they would either unquestionably or likely not take the immunization.[11]

France is another country with a background marked by immunization reluctance, and in the last 5 years has seen paces of antibody aversion take off, with 33% being deniers or delayers in 2016 and 33% of French respondents believing that immunizations are undependable in 2018. During and in the aftermath of the 2009 H1N1 flu inoculation effort, web-based media, as well as traditional news media, have amplified this.[12] On coronavirus, an Ipsos focus for the World Economic Forum found that, at 54 per cent, France was the country with the least desire to get an antibody.[13]

In Germany, antibodies are wilful, yet banter has been preparing following a 2017 prerequisite for guardians to give proof of inoculation to kids in kindergartens. In an April study, 10% of German respondents were reluctant to acknowledge a coronavirus antibody, expanding to 30% in October.[14]

The Swedish public has an elevated level of trust in specialists, which has generally brought about high take-up of intentional inoculation projects and low flare-ups of sickness.[16,17,20] This pattern, nonetheless, is changing as incredulity turns out to be more predominant in the wake of the H1N1 immunization program and the ensuing 'narcolepsy disaster' in 2009, bringing about 26% of Swedish respondents not anticipating getting the antibody in November as indicated by a Novus study.[15]

Switzerland had the most noteworthy paces of measles in Europe in 2007, in any case, case rates have as of late fallen significantly. This comes despite a weighty concentration from the Swiss Federal Office of Public Health (FOPH) on intentional inoculation. Rather the effective measles disposal procedure zeroed in on, among different methods, the commitment of essential medical services and school specialists as confided in communicators and the arrangement of excellent data. Regardless of this example of overcoming adversity, and like other European countries, Swiss residents are getting more reluctant to get a coronavirus antibody: A analysis led by Solomon for the Bundesamt für Gesundheit BAG showed that 49 per cent of respondents alone would allow themselves to be immunized against coronavirus at the end of October 2020, down from 62 per cent at the end of April

2020. These public varieties in antibody acknowledgement particularly regarding verifiable or social contrasts feature the requirement for variety when imparting on the coronavirus immunization and comprehension of setting.[22] That being stated, exercises can be gained from different countries on both compelling and helpless techniques for coronavirus immunization hazard correspondence, especially in the wake of commonly developing antibody aversion across Europe.[16]

Correspondence of the immunization rollout course of events

In this inquiry, the European countries have chosen to have variously imparted the timetable by which individuals should expect to get an antibody. In the United Kingdom, in its correspondence on the timetable for immunizations to begin, the public authority was highly idealistic, with well-being secretary Matt Hancock broadcasting an unusually optimistic vibe on BBC Breakfast on the second of December 'From one week from now, we will have the option to twitch pushing this [the BioNTech/Fosun/Pfizer vaccine] out'. For the second seven day stretch of December, 800,000 portions are usual.[24] This follows the endorsement of the Autonomous Regulatory Agency for Medicines and Healthcare Products (MHRA), whose pace of affirming the antibody has been analyzed by EMA as a higher priority than guaranteeing public confidence in the authorization period.[17] Up to now, where the immunization will be transmitted and to whom it will remain muddled. Near to this momentary hopefulness, Matt Hancock was also idealistic about longer-term timetables, delineating in a meeting on 23 November that he assumes that because of transmitting immunizations,' sometime after Easterly effects will [get back] to typical'. As a feature of a more comprehensive acquisition of 357 million antibody dosages, the UK has demanded 40 million portions of the BioNTech/Fosun/Pfizer immunization. In comparison, France was significantly more cautious and sharper in its statement as to in what way the inoculation would be sent. President Emmanuel Macron delineated on 24 November that 'such [vaccines] will be accessible from nearby the end of December, starting in January, and another [vaccine] period will emerge in the Spring. Near to this initial statement, in a meeting with the Parisien paper on 28 November'the presence of antibodies will not alter the life of French individuals from one day to the next,' well-being clergyman Olivier Véran was swift to thorough a practical tone, but it will encourage us to live better. Like speaking the truth about assumptions, on 30 November there was additional clarification as to the statistics for the key rush of antibodies: conferring to the French National Health Authority (HAS), the primary wave will contain 1.5 million inoculations subsequent consent by the European Medicine Agency (EMA).[18]

The German government was expectant about the rollout of immunizations. Federal Health Minister Jens Spahn said on 23 November, 'There is a reason behind optimistic thinking that an antibody will be endorsed in Europe this year. And then we can launch the immunizations immediately,' and demanded that the government states plan nearby inoculation communities for mid-December. He further guaranteed that it will not take until the end of 2021 to inoculate the entire residents.[19] Due to the approval of the BioNTech/Fosun/Pfizer antibody by the UK Medicine and Health Care Product Regulatory Agency (MHRA), Spahn stressed the value of convincing people that the immunization was safe as opposed to approving it as soon as time allows. The idea is not that we are the first, but the idea is that in the pandemic we have safe and good vaccines and that we can make promises, and nothing is greater. The experts in Sweden are generally careful not to lift conclusions when the Swedes have the option of being immunized. Very recently, Sweden has reached an agreement with the European Union (EU) that the nation will bear 2% of the antibodies purchased by the EU in its first supplier arrangement. That is equivalent to 4-4.5 million portions that could immunize 2-2.5 million Swedes. Richard Bergstrom, Sweden's EU Immunization Facilitator, said in a question-and-answer session on 24 November that he figures that these antibodies will begin to appear in Sweden in the New Year and that the weakest individuals will be inoculated by Easter. In a public interview on 4 December, he affirmed that 2 million Swedes will begin to be inoculated in the primary quarter of 2021. According to the coronavirus Emergency Communicator of the Public Authority, Elisabeth Backteman, the Swedish experts asked the Swedes to be prepared to live and treat coronavirus for all of 2021, as the nation must initially have sufficient antibodies and then the districts must decide to organize the immunization of the nation's citizens. When asked at the first December 2020 question and answer session,' Several nations guarantee to immunize everyone before summer, but it will take all of 2021 in Sweden, are they [these nations] too idealistic? The immunization that is available to us will be circulated to the places,' chief disease transmission specialist Anders Tegnell responded. It is unclear at that point what kind of sums would go out to the different nations. These pharmaceutical companies with whom we have agreements have said that the conveyance duration is 1-2 years, and so we take into account that some investors would be needed. They are now approving deals with more pharmaceutical organizations. The amount of will be endorsed, we can perceive. Everyone speculates, but we will do everything within our power to ensure that our immunization is available to our people.[20] It is a moving target'. A comprehensive strategy has been spread by Switzerland, with inoculations scheduled to begin in the main quarter of 2021 following public administrative endorsement. On 1 December, Virginie Masserey, immunization boss at FOPH, announced that shipments will currently begin in January. She continued to shed light on a timely arrangement, saying "we will get the antibodies month-by-

month in small bits. We do not know exactly the number of dosages we will obtain from which antibody, and when... because everything depends on the Swissmedic '[Swiss Agency for Therapeutic Products] authorization. The rollout will take place at the cantonal level, with a combination of approaches. Review of antibody correspondence, recalling coronavirus, has contended that correspondents should not be too idealistic in their assumptions and impart that countries will not return 'to ordinary' any time soon, especially even with vulnerability to event courses; In particular, the way the adequacy of coronavirus immunizations is frequently spoken with confidence and as a far-reaching key to beating the infection in the UK is a perilous approach, considering indication of reinfection within a year in Camelus dromedarius from another Covid (MERS-CoV) and a lack of communal clarification on the real decrease in contagiousness of coronavirus after inoculation.[21,22] This could cause the risk that governments would not meet their hopeful goals. Besides, the idealism and straightforwardness of a few countries in imagining the pace of the rollout chances to sabotage public trust all the while. If they frustrate people in general, these possible disappointments may become trust-devastating occasions and may lead to a lower probability of helping government limitations and proposals, somewhat SPI-B in the United Kingdom and other rational review bunches have referenced on various events such as coronavirus. In the key case, this may also help to lower visibility. To strengthen and encourage public interest in the implementation of coronavirus antibodies, attention is given to monitoring assumptions by being transparent and legitimate about vulnerabilities and clarifying that these could alter. Besides, treating assumptions and not setting fixed cutoff times to reach a specified number of inoculations will assist against any unexpected outcomes of this simplicity and anticipated faith mixed signals.[23,24]

Prioritization of the vaccine community and coordination

It is important to plot who will be immunized and at what request to ensure that trust in the deployment method is preserved. This involves maintaining decency in prioritization and preference of willfulness and deciding on decisions in line with public assumptions on these two fronts. Since September, the Joint Committee on Vaccination and Immunization (JCVI) has created an antibody need list in the United Kingdom, with a late refreshed 9-bunch schedule for an immunization rollout (JCVI 2020). Here, those existing inconsiderate households and caregivers, trailed by those above 80 years of age and cutting-edge medical services staff, are the highest need community[25]. Following this, positions need to be taken on age gathering and threat features, such as prior illnesses, and the 9 meetings adopted cover 'about 99 per cent of coronavirus preventable dreariness' (JCVI 2020, 9). In general, as per Kate Bingham, top of the UK antibody team on fourth October, immunization will not be needed, and the public authority is only planning to inoculate about half of the UK population in opposition to public assumptions (Gross and Cameron-Chileshe 2020). Teacher Devi Sridhar augments that there should be more communication with over-all society on how prioritization will work and that existing methodologies are ineffective as Dr. Chaand Nagpaul, the top of the British Medical Association, further noted when he said 'Specialist and other medical care staff will interpret inoculating.

MATERIAL AND METHODS

In this survey, 500 people have participated. We analyzed that a total of 28 products, including two related to vaccine uptake, were answered by participants, one related to confidence in sources of pandemic knowledge. Some questions about their age, gender, level of education and level of income were asked in Table 1. These questions are examined those are perceived vulnerability and sternness of coronavirus, perceptions regarding paybacks and blockades of vaccination against coronavirus and action taken for its cures. There are five options for respondents' response. There are 'disagree',' slightly disagree',' neutral/no view',' somewhat accept' and 'fully agree'. The above-given data were collected from December 16 to 20, 2020, with the help of an online platform of 500 respondents aged 18 years or older from the top 10 states of India affected by the pandemic, extending between 40 to 60 members per state. We selected the next most affected city, such as Mumbai, from regions not represented on the top 10 list to ensure regional representation: Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Orisha, Delhi, Uttar Pradesh, Madhya Pradesh and Chhattisgarh.

The vaccine-related question was, 'If a coronavirus vaccine is established effective and safe is accessible to me, I will take it. Participants were interested to register their agreement level with a second declaration: 'I would follow my recommendation of an employer to get a coronavirus vaccine once the government has approved it as effective and safe'. Replies were recorded on a five-point ('completely disagree', 'somewhat disagree', 'neutral/no opinion', 'somewhat agree' and 'completely agree'). The authors have examined the answers to these queries. For collecting the data, the age group was selected 15-24, 25-50, 51-60 and 60 or older. Where respondents provided income data, the levels were characterized as '<Rs. 100 per day', 'Rs. 101-200 per day', 'Rs. 201-500 per day', Rs. 501-1000 per day, Rs. 1001-5000 per day and Rs. 5001-10000 per day'. Education levels were categorized as less than high school (low), intermediate, bachelor's degree, postgraduate degree and PhD holder. Gender was defined as male and female. We also gathered

data on whether the respondent or a family member was ill with cases of coronavirus and coronavirus and deaths at the state level.

Research Design

An online questionnaire has been used for the survey (Table 2). The survey was carried out from 16-20 Dec 2020. To ask answers to questions, the research team used Google Form. Members of the Network were requested to circulate this survey connection around the country to all their recognized members. Both participants were told that their participation would be voluntary, and their consent was inferred upon the completion of the questionnaire. Indian people who were at least 15 years old and capable of understanding and reading Hindi and English were the respondents. In this questionnaire personal details, cultural and demographic information of respondents' such as age, gender, religion, ethnicity etc. were collected. The respondents' were also interested to know about the ratings of their overall health status and if they had any history of chronic diseases. Coronavirus experience assessed whether participants had any family members or any friends, neighbours or colleagues with confirmed coronavirus. The intention for the acceptance of coronavirus vaccine was measured by a 'yes' or 'no' basis and for the intention of payment, it was measured by description-based.

Table 1: Description of participants about coronavirus vaccine questions

Type of participants	Overall (%)
Gender (%)	
Female	265 (53.5)
Male	235 (45.8)
Income level (%)	
less than Rs 100 per day	6.3
Rs. 101–200 per day	9.5
Rs.201–500 per day	25.4
Rs. 501-1000 per day	37.6
Rs. 1001-5000	7.8
Rs. 5001-10000	5.7
Did not answer	7.7
Educational level (%)	
Less than high school	19.7
Intermediate	38.8
Graduate degree	29.3
Postgraduate degree	8.8
PhD	3.4
Age group in years (%)	
15–24	38.5
25–50	42.4
51–60	11.3
61 and older	7.8
Coronavirus vaccine if generally available (%)	
Agree	51.8
Somewhat agree	24.7

Table 1: *(Continued)*

Type of participants	Overall (%)
No opinion	10.2
Disagree	6.
Somewhat disagree	6.6
Coronavirus vaccine if employer recommended it (%)	
Agree	34.0
Somewhat agree	28.1
No opinion	16.0
Disagree	17.4
Somewhat disagree	4.5

Table 2: Outputs of vaccine acceptability questions

	The output of vaccine questions	The output of business question
Age (years)	25–54/ 18–24, 1.14 (1.03, 1.37)	25–54/ 18–24, 1.12 (1.11, 1.23)
	55–64/ 18–24, 1.21 (1.04, 1.40)	55–64/ 18–24, 1.05 (1.18, 1.21)
	65+/ 18–24, 1.73 (1.48, 2.02)	65+/ 18–24, 1.03 (1.0, 1.03)
Sex	Male/ female, 0.85 (0.89, 0.93)	Male/ female, 0.91 (1.77, 1.02)
	Other/ female, 0.24 (0.16, 0.23)	Other/ female, 0.68 (0.45, 1.03)
Income	Rs.1–500/<Rs.1,1.38 (1.06, 1.54)	Rs.1–500/ <Rs. 1, 0.91 (0.72, 1.14)
	Rs.501–5000/<Rs.5000, 1.77 (1.42, 2.18)	Rs.501–5000/<Rs.5000, 1.01 (0.85, 1.05)
	Rs.5001-10000/<Rs. 10000, 2.11 (1.78, 2.13)	Rs.5001-10000<Rs. 10000, 1.27 (1.11, 1.77)
	Refused/<Rs. 500, 0.92 (0.61, 1.06)	Refused/<Rs. 500, 0.68 (0.51, 0.99)
Education	Medium/ low, 0.98 (1.13, 1.27)	Medium/ low, 1.19 (1.13, 1.29)
	High/ low, 1.34 (1.21, 1.48)	High/ low, 1.13 (1.03, 1.35)
	Very high/low, 1.39 (1.24, 1.68)	Very high/low, 1.29 (1.19, 1.38)
Another family sick with coronavirus	Yes/ no, 0.89 (0.79, 1.03)	Yes/ no, 1.04 (0.99, 1.69)
Cases per million pollution (PMP)	Middle/ low, 1.59 (1.39, 1.74)	Middle/ low, 1.19 (1.09, 1.19)
	High/ low, 1.53 (1.41, 169)	High/ low, 0.69 (0.67, 0.79)
Mortality (PMP)	Middle/ low, 1.36 (1.24, 1.51)	Middle/ low, 0.62 (0.57, 0.69)
	High/ low, 1.44 (1.29, 1.46)	High/ low, 0.59 (0.62, 0.69)
Government trust	Yes /no, 1.77 (1.44, 1.79)	Yes/ no, 4.32 (3.99, 4.02)

RESULTS AND DISCUSSION

The authors analyzed the distribution of the responses against the different questions for the entire dataset and further examined differences by the country. For two sets of univariate regressions, the results were calculated: one for each of the two issues related to coronavirus vaccines. Logistic regression was also used by the authors, describing the result as 1 if a respondent replied, 'fully agree' or 'somewhat agree' and 0 for any other answer. Age, sex, income, and education were included in the independent variables. The authors also explored the relationship between the two regression outcomes and whether someone in the family of the respondent was sick with coronavirus, as well as current state-by-state data in India, whether a respondent reported confidence in their government pandemic information (yes or no).

CONCLUSION

After the above analysis of survey respondents, it is seen that 53.8% of female and 45.2% of males have participated in this survey. Maximum response (37.6%) was given by those respondents whose income per day was in between Rs. 501 to 1000 per day. The respondents who were qualified intermediate examination responded maximum (38.8%) in this survey. The maximum percentage (42.4 %) of respondents was ranging between 25 years to 54 age group. 51.8% of respondents (maximum in number) were completely agreed with the vaccine of India and 43% (maximum percentage) respondents agreed after the recommendation of their employer. The higher marginal payment for the vaccine was associated with higher socioeconomic factors. The majority expressed confidence on made in the India coronavirus vaccine. About 65% reported a preference for a made in India coronavirus vaccine.

Suggestions for wellbeing specialists and messages to networks

- Efforts are expected to elevate high distinct expectation to get immunized against Covid when the antibody has effectively come into the market.
- Public wellbeing intercession projects should zero in on expanding the impression of the advantages of Covid immunization.
- Clinical proof of the successful and protected of Covid immunizations are key messages to upgrade paces of antibody inclusion
- Promoting Covid inoculation in the types of advertorials and tributes may incite immunization choice.

ACKNOWLEDGEMENT

Authors are grateful to the management of Graphic Era Hill University Dehradun for providing all necessary facilities inside and outside the campus. The authors are also grateful to authors/editors/publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

Conflict of interest: None

Financial Support: None

REFERENCES

1. Huang B. The new China vaccine administration law: Re-establishing confidence in vaccines. Biologicals 2019;61:95–96.
2. Wyatt JC. When to use web-based surveys. J Am Med Inform Assoc 2000;7(4): 426–429.
3. Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Int Res 2004;6(3):e34.
4. Muñoz DC, Llamas ML, Bosch-Capblanch X. Exposing concerns about vaccination in low- and middle-income countries: a systematic review. Int J Public Health 2015;60:767–80.
5. MacDonald NE, SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: definition, scope and determinants. Vaccines 2015;33:4161–4164.
6. Larson HJ, Jarrett C, Eckersberger E, Smith DM, Paterson P. Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: a systematic review of published literature, 2007-2012. Vaccines 2014;32:2150–2159.
7. Fadda M, Albanese E, Suggs L S. When a coronavirus vaccine is ready, will we all be ready for it? Int J Public Health 2020;65:711–712.
8. Biasio LR. Vaccine hesitancy and health literacy. Hum Vacc Immun 2017;13:701-702.
9. Liu B, Chen R, Zhao M, Zhang X, Wang J, Gao L, et al. Vaccine confidence in China after the Changsheng vaccine incident: a cross-sectional study. BMC Public Health 2019;19(1):1564-1569.
10. Daly LE. Confidence limits made easy: interval estimation using a substitution method. Am J Epidemiol 2018;147(8):783–790.
11. Han B, Wang S, Wan Y, Liu J, Zhao T, Cui J, et al. Has the public lost confidence in vaccines because of a vaccine scandal in China. Vaccines 2019;37(36):5270–5275.
12. Xie Y, Zhou X. Income inequality in today's China. PNAS 2014;111(19):6928–6933.
13. Zheng Y, Rodewald L, Yang J, Qin Y, Pang M, Feng L, et al. The landscape of vaccines in China: history, classification, supply, and price. Br Med Inf Dis 2018;18(1):502-509.
14. Lugo NR. Will carrots or sticks raise influenza immunization rates of health care personnel? Am J Infect Control 2007;35:1–6.
15. Siegrist M, Zingg A. The role of public trust during pandemics: implications for crisis communication. Eur Psychol 2014;19:23–32.
16. Quinn SC. Exploring communication, trust in government, and vaccination intention later in the 2009 H1N1 pandemic: results of a national survey. Biosec Bioterror 2003;11:96–106.
17. Shore DA. Communicating in times of uncertainty: the need for trust. J Health Comm 2003;8:13–14.
18. Mahase, E. coronavirus: Oxford researchers halt vaccine trial while the adverse reaction is investigated. Br Med J 2020;370:m3525-9.
19. Coe AB, Gatewood SB, Moczygemba LR, Goode JV, Beckner JO. The use of the health belief model to assess predictors of intent to receive the novel (2009) H1N1 influenza vaccine. Innov Pharm 2012;3(2):1–11.

20. Brewer NT, Chapman GB, Gibbons FX, Gerrard M, McCaul KD, Weinstein ND. A meta-analysis of the relationship between risk perception and health behaviour: the example of vaccination. Health psychol 2007;26(2):136–145.
21. Tsutsui Y, Benzion U, Shahrabani S. Economic and behavioural factors in an individual's decision to take the influenza vaccination in Japan. J Socio-Economics 2012;4:594–602.
22. Shahrabani S, Benzion U. Workplace vaccination and other factors impacting influenza vaccination decision among employees in Israel. Int J Env Res Pub Health 2010;7(3):853–869.
23. Ess SM, Szucs TD. An economic evaluation of immunization strategies. Clinical infectious diseases: an official publication. Inf Dis Soc Am 2002;35(3):294–297.
24. Iwashita Y, Takemura S. [Factors associated with willingness to undergo vaccination against haemophilus influenzae type B (Hib)]. Jap J Pub Health 2010;57(5):381–389.
25. Kumar V, Chawla N, Gupta S, Anand J. Children Coping with stress during lockdown. Int J Curr Res Rev 2020;12(18):167-172.