

COVID-19 VACCINATION; PERCEPTIONS, PROSPECTS
AND CHALLENGES



Submitted By

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2022

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Thesis submitted to the Department of Anthropology, Quaid-e-Azam University,
Islamabad, in partial fulfillment of the degree of Master of Science in Anthropology.

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2022

Formal Declaration

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Acknowledgments

Alhamdulillah, all gestures of recognition to Allah for the qualities and His approval in finishing this proposal. Without His guidance, I would not have the wisdom or physical ability to complete this research work.

After that, my deepest feeling of gratitude goes to my dearest guardians, my parents Muhammad Saleem and Zahida Perveen because they are the reason behind my motivation and success in every field of the life. Without my Parent's support I couldn't make it possible. I'm also very thankful for their endless love, prayers and support. To the people who indirectly contributed to this research work, your graciousness implies a great deal to me. My brothers Muhammad Salman Sani, Muhammad Usman Sani and my all sisters Sidra Batool, Saira Batool, Maira Batool and Uzma Batool, I am so thankful for all of their endless love and support.

Extraordinary appreciation goes to my supervisor, Dr. Saadia Abid, Associate Professor, Department of Anthropology, for her management and consistent help. Her priceless assistance of helpful remarks and ideas throughout the research works have added to the achievement of this exploration. I also wish to express gratitude to the Head of the Department Dr. Aneela Sultana for her direct and indirect support.

I want to extend my gratitude to all of the staff members of the department of Anthropology for their help and support during my Master of Science degree. Also, thankful to my key informant Mam Arooj Junaid who made my access possible to the respondents in the specified field area.

I would also like to thank my cousin Muhammad Uzair who always helped and supported me in this project and encouraged me throughout in fulfilling this task.

Last but not least, I would also feel obliged to my Friends specifically to Muzamil Azam, Sadia, and Saira Ali; she always cheers me up in every situation or helps me whenever I needed. Thank you all very much. May this research work be helpful for others and be the light of their distorted ways.

Sana Batool

Dedication

I dedicate my thesis to my Parents first who sacrificed for my prosperous future and inspired me for higher ideals of life. My mother whose prayers and inspiration is the torch to my success. And My Father who always guides me for further studies and supported me always. Secondly, I dedicate my thesis to my teachers whom I have learned a lot with great affection and sincerity.

Abstract

The outburst of corona virus disease (COVID-19) as a pandemic has stunned the worldwide health structure and economy by their origins. This epidemic is still increasing and viewing no signs of declining trend. Vaccination might be the only in effect and economical means to controller of this pandemic. An amount of research institutes and pharmacological companies have rushed into the competition of vaccine growth against COVID-19 which is in numerous phases of development. This event allowable a debate into the challenges in the sharing, valuing and availability of the vaccines. This review emphasis on the Perceptions prospects of vaccine development against COVID-19 vaccines. It highlights acceptance, refusal and hesitancy too in vaccine development, possible vaccine candidates, different vaccine strategies, safety evaluation issues, and factors influencing vaccine acceptance, refusal and hesitancy making.

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List of Abbreviations

COVID-19	Corona Virus Disease (2019)
SARS-CoV-2	Severe acute respiratory syndrome corona virus 2
WHO	World health organization
MERS-CoV	Middle East respiratory syndrome CoV
BCG	Bacille Calmette Guerin
HPV	Human papilloma virus
EPI	Extended Program of Immunization
HCWs	Healthcare Workers
SIR	Susceptible Infected recovered model
ASH	Assistant Secretary for health
NVAC	National Vaccine Advisory Committee
NVPO	National Vaccine Program Office
CDC	Centers for disease control
EHRs	Electronic Health Records
VPDs	Vaccine Preventable Disease
CFR	Case Fatality Ratio

DTaP	Diphtheria, tetanus and acellular pertussis
MMR	Measles, mumps and rubella
DTP	Diphtheria and tetanus
IPV	Inactivated polio virus
SM	Social media
IPPI	Intensive Pulse Polio Immunization
OPV	Oral Polio Vaccine
NIDs	National Immunization days
SNIDs	Sub National Immunization days
PMT	Protection motivation Theory
TRA	Theory of reasoned action

1. INTRODUCTION

The world sunk into oblivion, an era of total despair and frustration, causing deaths, freezing blood and blocking throat. A micro specie endangering the whole habitat of mankind putting the complete survivor of humans at stake. Measuring the boundaries of the dark traumas, resisting the enemy of fate, capturing the zenith of intense acceptance, treating the ardent emotions of fear, executing all doubts, testing all limits and introducing a world to a new dimension of biological weapon. A weapon which has no control, a weapon which attacks the human internal infrastructure, a weapon blocking the respiratory system, contagious to lungs and lower back, an enemy to medically challenged person. A virus which came into being with no visual contact to the human eye but creating casualties in every single country and challenging scientists hundred years of proud-ish work and intellect, an amalgamation of different kind of symptoms creating a fear across globe, producing theories and theories, creating sagas of confusion and confliction, dividing people into different concepts trying to innovate ideas to satisfy themselves.

Denial of the testification and existence and denial of the presence of a unique kind of disease that the world was totally unaware of and they were unable to believe that with such modernization and sophistication our life has achieved any such thing could exist which is totally untouchable and UN-treatable. But on the other end a tale of assassinations and killings occurring in countries where people are just watching their blood relations die in front of them and watching them being thrown into river but totally out of control and totally helpless.

Torrents of virus coming as bulk and moving along like a fire of missile crushing every single life that comes along its way, blistering every skin and crushing every life bringing disasters and miseries, a story which came with no climax, with no dimension, a story with no hope, a story where u only hear the screams of people, a story where you see the dead bodies floating on the surface and their dead eyes demanding just for a better death, just to be engulfed in soil by the hands of their own people.

1.1. Covid-19:

Conforming 3 December 2020, the covid-19 disease 2019 pandemic, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, has spread to 220 countries, areas or territories with more than 63 million laboratory-confirmed cases and more than 1.4 million deaths (World Health Organization (WHO)), leading to widespread social and economic disruption. SARS-CoV-2 is a supporter of the *Coronaviridae* family, which includes many virulent strains that contaminate humans and animals, as well as SARS-CoV and Middle East respiratory syndrome CoV (MERS-CoV). On the way to develop a vaccine against a newly developed virus, it is important to understand the immune compares of protection. Even though much remains to be resolute regarding immune correlates of defense for SARS-CoV-2 infection, emerging data have demonstrated the significance of both humoral and cellular immunity in protection. (Gao, 18 December 2020).The first recognized infections from SARS-CoV-2 have been found in Wuhan, China. (Zhou P, 2020 Feb 3). The unique source of viral transmission to people remains doubtful, as does whether or not the virus became pathogenic before or after the spillover event. There are many lots of variants of SARS-CoV-2, which may be grouped into the a lot large clades. Several specific clade nomenclatures have been proposed. Next strain divides the variants into 5 clades (19A, 19B, 20A, 20B, and 20C), whilst GISAID divides them into seven (L, O, V, S, G, GH, and GR). (Rambaut A, (November 2020)). Several notable editions of SARS-CoV-2 emerged in overdue 2020. The World Health Organization has presently declared five versions of difficulty, which are as follows:

Alpha: In the UK in September 2020, Beta: Occurred in South Africa in May 2020, Gamma: Arose in Brazil in November 2020, Delta: Began in India in October 2020, Omicron: Appeared in Botswana in November 2021. (WHO, "COVID-19 Weekly Epidemiological Update Edition 69", 7 December 2021.) Other first-rate variants include 6 different WHO-distinctive variants underneath investigation and Cluster five, which emerged amongst mink in Denmark and led to a mink euthanasia marketing campaign rendering it truly extinct. ((CDC), 11 February 2020)

While COVID-19 spreads destructively and unexpectedly through the globe, many societies have also perceived the extent of other viral phenomena like misinformation, conspiracy theories, and popular mass suspicions around what is truly occurring. In this we are able to see that how advertising to and have faith in facts resources, and anxiety and despair, are related to conspiracy and misinformation ideals in 8 countries/regions (Belgium, Canada, England, Philippines, Hong Kong, New Zealand, United States, Switzerland) in the course of the COVID-19 pandemic. Data have been combined in a web survey fielded from May 29, 2020 to June 12, 2020, resulting in a international representative pattern of eight, 806 grownup respondents. Results recommend that greater advertising to standard media (TV, radio, newspapers) is related with decrease conspiracy and misinformation beliefs, even as advertising to politicians and virtual media and private contacts are associated with more conspiracy and incorrect information ideals. Experience to fitness specialists is related with decrease conspiracy beliefs most effective. Progressive emotions of depression also are related with greater conspiracy and misinformation principles. We furthermore determined relevant group- and US differences. We debate the results of those outcomes. While the SARS-CoV-2 virus—responsible for imposing the COVID-19 ailment—spreads aggressively and swiftly across the globe, many societies have also witnessed the reveal of different apparently viral phenomena broad of fake news, conspiracy theories, and trendy mass suspicions about what's evidently going on. (David De Coninck, 16 April 2021)

Conspiracy theories originated to emerge immediately after the first news of the COVID-19 outburst (Jay J. Van Bavel, 30 April 2020) and several of these stopped from existing tensions within and amongst groups. For example, from initial on during the pandemic, some people thought that COVID-19 was intentionally man-made by the Chinese to wage war on the USA (or vice versa). (van Bavel et al., 2020), Conspiracy theories are significant, and in many trainings have been connected to climate denial, vaccine refusal, political apathy, lethargy in the workplace, prejudice, crime, violence (see Douglas et al., 2019, for a examination; see also Rutjens et al., 2021, for further discussion on science skepticism). In general, it is hard to address the significances of conspiracy theories for the reason that such theories are often multifaceted, nebulous, and therefore resilient to disconfirmation

(e.g., Lewandowsky et al., 2012).

Similarly, belief in conspiracy theories is frequently driven by strongly whispered social and political identities, and the ties of these group involvements are difficult to break (Uscinski et al., 2016). COVID-19 conspiracy theories are likely to have significances for group practices and intergroup relationships that are as yet unfamiliar. (Douglas, 2021)

Covid-19 is basically related to the “Ethno-medicine”. The entrance of COVID-19 as a new pandemic in the contemporary era has run the public to a new view of health. In the previous days of the COVID-19 pandemic, many factors made people go on their individual ways in finding its supposed “cure”. With conservative medicines’ limited accessibility, traditional medicines turn out to be more appealing due to its widespread accessibility and increased perception of security. Numerous herbal medicines are then believed to be competent to improve or cure COVID-19 and its symptoms. Resemblances and designs in herbal medicines being used show native wisdom of the respective groups regarding their knowledge of diseases and its treatment, known as “ethno medicine”. COVID-19 pandemic attitudes new challenges to the clinical arena. Research is finished to discover its treatment. For the meantime, people are also watching for its alternatives. Numerous herbal medicine candidates seem as the result that might be beneficial in treating COVID-19. However, the lack of knowledge and examination of those candidates hinders its public acceptance as COVID-19 treatment. Therefore, ethno medicine, a ground studying traditional medicine and the culture around it, might have the prospective in guiding researchers in finding COVID-19 cure from traditional herbal medicine. This paper reviews: Traditional herbal medicines are recycled as alternative COVID-19 treatment, Herbal medicines’ prospective for wider acceptance in treating COVID-19, Social and political climate nearby herbal medicine usage, Precautions required for the usage of herbal medicine. (Wilar, 2021 Oct 19.)

Covid-19 in Anthropological Perspectives; With the continuing coronavirus the entire public of health professionals is working to control disease and capitalizing crores in vaccine development. These issues are concise in three categories: first, stigmatization due to deficiency of knowledge around the source of infection; second, speculations

and their significances around lack of information about transmission; and lastly, the concern concerning miscommunication during such a crisis. The Ebola epidemic reaction is an example of by what means social scientists and anthropologists can work with other professionals to solve questions of community health importance. Their approach to the community with the impartial to understand the sources, reasons, and conditions of the infection will help to achieve the current outbreak. Adding, anthropologists are better interventionists in addressing issues about public health emergencies by flattering an integral part of the affected public. They can help figure strategies by appealing with the community, religious leaders, significant members, decision-makers in the public, and other shareholders to prevent miscommunication. It also supports by keen observation of the individual shackle for transmission of diseases by organizing relevant methods and tools in communication tracing. Such involvements help in falling risk of exposure and additional health crises. People may feel confident to tell evidently of their issues and concerns and worries. “Ebola Response Anthropology Platform” has methodically addressed the issues of current Ebola outbreak. (Ponnaiah, 2020 Jun 24).

1.2. Vaccination:

Vaccines have a history that started late in the 18th time period. From the late 19th century, vaccines could be established in the laboratory. Nevertheless, in the 20th century, it developed possible to progress vaccines based on immunologic markers. In 21st century, molecular biology authorizations vaccine improvement that was not conceivable before. (Plotkin, 2014 Aug 18). Edward Jenner was the first British Physician who was introduced vaccines in 1796 and he used the Cowpox Virus to discuss the protection against Smallpox, a related virus, in Humans.

“Vaccines by way of definition are biological mediators that create an immune response to an exact antigen derived from contagious disease-causing pathogen”. Edward Jenner established the first vaccine in 1796 by means of cowpox to vaccinate against smallpox. “Yale Journal of Biology and Medicine”, articles focus on many diverse aspects of vaccine research and enlargement, fluctuating from understanding poor uptake of the influenza vaccine in at-risk inhabitants to using your immune

system to recover the efficiency of anti-cancer vaccines. (Med., 2014 Dec;)

Initial 1900s, polio was an international disease, paralyzing hundreds of thousands of individuals every year. By 1950, two effective vaccines contrary to the disease had been established. But immunization in some parts of the world was still not mutual enough to stopover the spread of polio, mainly in Africa. In the 1980s, a combined worldwide effort to eliminate polio from the planet initiated. Over many years and several spans, polio vaccination, using routine vaccination actions and mass vaccination campaigns, has taken place in all landmasses. Billions of people, mostly children, have been inoculated and in August 2020, the African continent was specialized wild poliovirus allowed, joining all other portions of the world excluding Pakistan and Afghanistan, where polio has not yet been eliminated. (WHO, 8 December 2020).

The fresh era of vaccination was prefigured with the licensure of the first 2 measles vaccines in 1963. This fresh era was different from the previous era of vaccination for 4 main whys and wherefores. First, federal leadership in favor of vaccination at the local level rose. Second, vaccination protagonists defended the required vaccination of children as the superlative means of make sure a protected population. Third, vaccination proponents supported the idea that mass inoculation would not only benefit manage infectious diseases but also eliminate them. Fourth, the focus of native and federally supported vaccination initiatives originated to extend to the “mild” and “moderate” diseases of juvenile (e.g., measles), so-called because they were perceived as less severe than earlier aims of mass vaccination, such as smallpox, polio, and diphtheria. (Elena Conis, 2019). There are different types of vaccines that had made which includes Polio Vaccines, Influenza Vaccines, Varicella (ChickenPox) vaccine, Yellow fever vaccines, MMR, Vaccinia vaccines and sveral others. Now Due to Covid-19 Pandemic, different newly vaccines has made against Covid-19.

There are numerous COVID-19 vaccines authorized for usage by WHO (given Emergency Use Listing). The first form vaccination programme started in initial December 2020 and the numeral of vaccination doses administered is rationalized on a daily basis on the COVID-19 control panel. The WHO Emergency use Listing

development standardizes whether a product can be recommended for use based on all the accessible data on security and efficiency and on its appropriateness in low- and middle-income nations. Vaccines are evaluated to safeguard they meet satisfactory standards of excellence, safety and efficiency using clinical trial data, manufacturing and quality control practices. (WHO, Coronavirus disease (COVID-19): Vaccines, 24 January 2022). The calculation weighs the threat modeled by the substitute as well as the advantage that would accumulate from the use of the product compared to any potential risks. In streak with their nationwide regulations and regulation, countries have the self-sufficiency to issue emergency use endorsements for any health product native emergency use sanctions are issued at the freedom of choice of countries and not subject to WHO support. Commencing 12 January 2022, the following vaccines have acquired EUL: The Pfizer/BioNTech vaccine, 31 December 2020, the AstraZeneca/AZD1222 vaccines, 16 February 2021, the Janssen/Ad26.COV 2.S vaccine established by Johnson & Johnson, 12 March 2021, the Moderna COVID-19 vaccine (mRNA), 30 April 2021, the Sinopharm Corona vaccine, 7 May 2021, the Sinovac-CoronaVac vaccine, 1 June 2021, the Bharat Biotech vaccine, 3 November 2021, the Covovax (NVX-CoV2373) vaccine, 17 December 2021 and the Nuvaxovid (NVX-CoV2373) vaccine, 20 December 2021. (IBID) Consequently, there are number of vaccines has made for people for the protection of people against covid-19. So when new vaccines have been made different Myths has been originated in the minds of Different People. Different have different Perception and understanding about Covid vaccines and different People showing different attitudes, behaviors towards vaccination process. People have different Myths towards vaccines, there are numerous conspiracy theories are there like some of them are given below:

Vaccines contain many harmful constituents, Vaccines create autism and abrupt infant death syndrome (SIDS), and Vaccine-preventable diseases are just portion of childhood. It is healthier to have the disease than become resistant through vaccines; I don't need to vaccinate my child for the reason that all the other children from place to place them are already immune, A child can essentially get the disease from a vaccine, The COVID-19 vaccines were not verified before approval, You can acquire COVID-19 from the vaccine, There are microchips in COVID-19 vaccine, COVID-19 vaccines will alter my DNA, From the time when

I previously had COVID-19 and recovered, I do not need to be vaccinated. (Centres for Disease Control and Prevention, Dec. 15, 2021). Accordingly we can see that when vaccination came then how the people had refused and created different Myths.

1.3. Skeptical Nature of People:

People were so skeptical about the reality of Covid-19. Most people were of the view that it is not real; it is just another mode of surveillance. The state is restricting human liberty by such fake and planted calamities. Most of the respondents claimed that they are skeptical when it comes to coronavirus. There is no case of corona nearby so, they were of the view that is not all a problem. Media and other sources are spreading wrong information. In some areas of the city, the pre and post corona situation is the same. Public gathering (Jirga) is still taking place in resolving political and social issues. There was no concept of social distancing among different areas of the city as well. Therefore when people don't accept the reality of covid-19 then how will they be able to vaccinate..? Hence the awareness is still low in some areas. Nevertheless, still, there are different perceptions and attitudes of people towards vaccination against covid-19.

1.4. Conspiracy:

Another crucial perception about coronavirus was based on conspiracy. Some of the respondents claim that all this drama is fabricated by the United States of America, Israel, the World Health organization, and the pharmaceutical industry. America and Israel have created this pandemic to maintain their supremacy. Islamic countries are their main target. Christians and Jews will never be friends of Muslims, so that is why they keep on creating such issues. The pharmaceutical industry to maximize its profit creates such viruses in the lab and makes billions out of it. They will soon make a vaccine and they will pay a huge price for it. When people take vaccines then-new covid-19 variants originated like alpha-beta and different waves have come nowadays omicron waves are there so people have made a new booster dose vaccine and in the future, if new variant will originate then they will make new booster dose vaccines. At this moment we will further see the findings of how people accept and refuse the

vaccination process and what methodologies and sampling processes are used in this regard.

1.5. Statement of the Problem:

This study aimed to explore the different Perceptions, Prospects, and challenges of the Covid-19 vaccination process. In this, we can explore the Perceptions and attitudes of people regarding Covid-19 vaccines. Perceptions and behaviors are very important factors to understand any phenomenon in a socio-cultural context. People opt for various health assistance techniques which are interlinked with their perception. How people perceive coronavirus will help to understand it and what are their approaches towards the vaccine of coronavirus.

In this, we can figure out the different barriers and hurdles against vaccination of covid-19. What barriers are in the people's way, and why do people refuse this vaccination? Are people experiencing this vaccine of covid-19 or people whose relatives have dangerous experiences that make them refuse? And some people want to vaccinate but they face some hurdles and some economic issues. In short, we can explore and figure out the Perceptions, attitudes, and different barriers that people face in a way of vaccination against covid-19. Adaption is another criterion that needs to be figured out. People in conservative societies are very skeptical about any new idea or phenomenon.

Conservative people have a lot of concerns regarding the social norms and that new phenomenon which they are supposed to follow. Anything which according to them is culturally incompatible should not be followed. The purpose of this study is to explore people's responses to this phenomenon. Whether the people are ready to adapt to the vaccination process, or they still refuse this regardless of how quickly Covid-19 is spreading. Through this study, the researcher is trying to find out how effective vaccination is and what can be done to improve it further. Whenever people deal with such a situation. Perceptions and stereotypes are more likely to take place. People of Pakistan have different perceptions about Covid-19 and vaccination. There are huge

numbers of people who are of the view that Covid-19 and vaccination are nothing but a conspiracy. Those countries in power try to impose their will and subjugate the people of Islamic countries in various ways and the current situation is an example. So, the researcher will intend to figure out these perceptions and stereotypes regarding vaccination. This study is meant to explore all possible aspects of vaccination.

This research helps to develop an understanding of people regarding the vaccination process and how the vaccine of covid-19 affects them. Another thing is that people will get aware of the vaccination process. Like due to getting vaccinated, will they benefit from vaccines and immunity increases in the bodies of the individual? Or people who have misconceptions will get more aware.

1.6. Objectives:

The Corona pandemic is a very broader topic to discuss. There are various aspects of this pandemic. Studying each aspect needs much more time and it will be quite an expensive task so, the researcher tried to explore two major aspects of corona vaccination.

- To explore the perceptions and attitudes of people regarding covid-19 vaccination.
- To figure out the barriers and hurdles toward vaccination.

1.7 Significance of the study:

The significance of the study is that we will first get a Master's degree from the university, then we enhance our knowledge and we will explore more and more. We will be able to conduct research. Knowing the vaccination perceptions of people regarding this pandemic covid-19 is a new virus or disease, and the vaccines of

corona and the understanding of people towards vaccines. This study has the potential to provide a benefit for further research on this topic. Researchers see it as a ground report and if the Government of Pakistan is continuing a vaccination campaign then they will also take benefit from this.

We aim to make three distinct contributions to this literature. As far as we are aware, we provide the first consolidated overview of vaccination attitudes (defined here as expressions of support or hesitancy) among public and healthcare professionals across different vaccines and countries in Europe. Secondly, we provide an extensive mapping of the empirical literature (mostly surveys) on attitudes to vaccination in Europe in the 'post-pandemic' period (2009–2012). Thirdly, this research offers an analysis of unpublished market research data from member companies of Vaccines Europe and compares this with published literature.

Through this Research government explores more regarding policy making. From this research, the perceptions and attitudes and different barriers that the government will know will be very helpful for the government in making a new policy for the betterment of the people. By knowing this all governments will be able to create a good environment according to the people's needs and facilitate the individuals.

1.8 Operationalization:

1.8.1. Pandemic:

A pandemic means an outbreak of a disease in the whole country or world.

1.8.2. Data collection:

The data has been collected using various methods in anthropology. This field research has been carried out in different parts of Rawalpindi. During field research, a small amount of data has been collected by contacting through telephone and also by doing online interviews, online discussion platforms in groups, video calling, and recording and most of the data has been collected by participant observation, focus group discussions, formal and informal discussions making notes, photography

and through questionnaires.

1.8.3. Research Design:

This research has been done using both methods: mostly qualitative and a very little amount of quantitative for documentation of primary as well as secondary data in the research duration. These make the researcher observe to participate in the study and be involved in the whole process. The methodology chosen has been drawn from a combination of different research approaches.

1.9. Organization of the Study:

Chapter 1 gives the introduction related to the topic of the research i.e. Covid-19 and vaccines or vaccination process, Statement of the Problem, Research Objectives and Significance of the Study, and operationalization.

Chapter 2 consists of the history or background and literature work in this regard. The need for the research can be better understood in this chapter by reviewing previous research papers and applying theories.

Chapter 3 describes the methodology used to conduct the study including Sampling method techniques, tools, Data Collection methods, Analysis of the Data and then ethical considerations of the research was discussed.

Chapter 4 describes the Area Profile in which researcher has discussed about the main area or locale where researcher was there when she took the interviews of the respondents.

Chapter 5 & 6 reports the findings and detailed discussions of the study, Vaccination Acceptance and Vaccination Refusal plus Hesitancy.

Chapter 7 reports the factors that are influenced vaccination hesitancy, acceptance and refusal.

Chapter 8 reports the Conclusion and in this the Summary of the Arguments and the reflection of the themes has also discussed.

Discussion, Recommendations, Bibliography, Respondent Profile and then Interview Guide.

2. Literature Review

2.1. Development of vaccines history:

Human use of arrangements to avoid specific infections has been described since 1500 AD, beginning in China. (Needham, 2000) where smallpox was prohibited by variolation, which is the summary of material from scabs into the skin. In 1796 in the United Kingdom, Edward Jenner detected the immunity to smallpox of milkmaids having beforehand had natural infection with cowpox (Jenner, 1798).

He resolved that inoculating small amounts of pus from the lesions of cowpox, presumably having a virus related to vaccines, into susceptible hosts rendered them immune to smallpox. The vaccine against smallpox was established in 1798. The next phase of scientific developments involving the manipulation of infectious agents to excerpt suitable vaccine antigens took almost a century of research. Louis Pasteur's effort with attenuation by oxygen or heat led to live-attenuated chicken cholera, inactivated anthrax and live-attenuated rabies vaccines at the turn of the 20th century. (Pasteur, 1885).

Substitute methods of attenuation using serialized passageway of *Mycobacterium bovis* led to the live Bacille Calmette-Guerin (BCG). (Calmette, 1927) vaccine, still in use today for the hindrance of tuberculosis. Serialized way was also used in the expansion of yellow fever vaccines (Theiler, 1937) which are grown in chicken embryo tissues. Whole cell killed bacterial vaccines were established when means to treat and destroy bacteria through heat or chemicals were recognized and whole cell typhoid, cholera and pertussis vaccines resulted at the end of the 19th Century. In 1923, Alexander Glenny and Barbara Hopkins established ways to inactivate bacterial toxins with formaldehyde, leading to the diphtheria and tetanus toxoid vaccines (Glenny, 1923).

Advances in virus culture *in vitro* allowed viral pathogens to be studied in superior detail and attenuation ways due to cultivation in artificial conditions led to the live oral polio, measles, rubella, mumps and varicella virus vaccines. In the 1960's at the

Walter Reed Army Institute of Research, vaccines were established using capsular polysaccharides (Gold, 1971), of encapsulated organisms including meningococci and future pneumococci (Austrian, 1989) and *Haemophilus influenzae* type b (Hib) (Anderson, 1972).

The expiration of the 20th century marked a rebellion in molecular biology and provided insights into microbiology and immunology allowing a superior understanding of pathogen epitopes and host responses to vaccination. Molecular genetics and genome sequencing has allowed the expansion of vaccines against RNA viruses possessing several variants of epitopes, such as the live and inactivated influenza vaccines. (Maassab, 1985) and live rotavirus vaccines (Clark, 2006). The human papilloma virus (HPV) vaccine profits from enhanced immunogenicity due to the creation of virus-like particles by the L1 antigen of each virus confined in the vaccine (Kirnbauer, 1992).

Vaccine development was verified in 2020 when a novel coronavirus, SARS-CoV-2, developed from China causing a severe acute respiratory sickness, which subsequently feasted globally. Within 5 months of the detection of this virus (7th January 2020) (Zhu, 2020) and person-person transmission (Chan, 2020) 5,697,334 cases had been recognized, with orders of magnitude likely not dignified and almost no country runaway from pandemic. Owing to the earlier advances in vaccinology, by 8th April 2020, there were 73 vaccine applicants under pre-clinical investigation (Thanh Le, 2020). Of these, six were in Phase 1 or 1/2 hearings and one was in Phase 2/3 trials by 28th May 2020. The quickness of this reply verified the ability to harness surviving technologies including: RNA vaccine stages (NCT04283461), DNA vaccine platforms (NCT04336410), recombinant vector vaccines (NCT04313127, NCT04324606) and adjuvants. The regulation, producer and supply of these vaccines will need expedition given the global public health need, from a period of many years to a problem of months. The efficacy and health influence of these vaccines is yet to be established, but if they are effective, then vaccines need to be made accessible for all global areas affected by SARS-CoV-2.

The funding of this endeavor will prove challenging in a global situation of national

social and economic lockdown and massive government borrowing, but the explanation for this provision will be through the multiple profits to society that will need healthy citizens to reconstruct economies in the decades post-COVID-19. (Plotkin, 14 July 2020).

The history of vaccination is not complete without relating the public health interference that led to the routine use of these vaccines for children globally. The Extended Program of Immunization (EPI) was originated by WHO in 1974 with the target of providing routine vaccines to all children by 1990.(Assembly, 1974). In 1977, global strategies for immunization against diphtheria, pertussis, tetanus, measles, polio, and tuberculosis were set off. The EPI comprises hepatitis B, Hib, and pneumococcal vaccines in many areas and by 2017, 85% of the world's children (12–23 months of age) received diphtheria, pertussis, tetanus, and measles vaccines (Bank, 2019).

2.2 Different types of viruses with their vaccines:

There are different types of viruses that have spread over the worldwide some are pandemic and some are epidemic. And against the viruses different vaccines have made. The Virus called “swine flu” from Mexico had later classified as the **A/H1N1** virus and the World Health Organization (WHO) avowed influenza globally as a Pandemic. WHO had affirmed the Mass Vaccination officially about the influenza pandemic? Later this mass vaccination program was sanctioned and inaugurated but from the outset the program was delimited. With the concerns aiming on the safety and effectiveness of the vaccine was questioned because of the using thimerosal in the vaccine and this is also really very risky for the pregnant women, children, allergic persons, asthma and auto-immune disorders. While the government of Canada had provided sanctions for the vaccine prioritization for high-risk groups, each province was answerable for determining the order in which high-risks groups and the general public were eligible to take the A/H1N1 vaccine (Christen M. Rachul, May/June 2011). The Vaccine A/H1N1experience had increased several essential questions about the attitudes towards the vaccination and the features that influence the vaccination uptake.

Human papilloma virus (HPV) is the most mutual sexually transmitted infection (STI) in the United States. There is a comparison of predictors of “HPV vaccination” for Latina and Non-Latina White women. The uptake of HPV vaccine (in the socio-cultural and behavioral factors) that had no effect on the White and Latina women in the same manner previously. Latinas were also more likely than Whites to die from ‘cervical cancer’. The literature recommends that Latina mothers may have these kinds of consultations less frequently than White mothers do, this communication protective effects applies to Latino adolescents too. But Research had validated too that the parental influence is also very essential for adolescent vaccination behavior. The investigation that had done by Roberts, Gerrard, Reimer and Gibbons (2010), in this the communication about the sexual health between the daughter-mother had on HPV vaccination among Caucasian adolescent females. (Rachel A. Reimer, (November-December 2013))

Most of the results indicated that the communication between the daughter-mother about the sex and daughters’ perceptions that their mothers would support the decision to get the HPV vaccine was a substantial predictor of vaccination. Because mother- daughter communication is an significant predictor of sexual health behaviors, and has been publicized to effect HPV vaccination, it was hypothesized that better mother-daughter communication would be associated with advanced HPV vaccination in the recent study, and Mother-daughter communication about sex influenced HPV vaccine endorsement among Whites and Latinas in a different way, just because of the frequency and content of the communication may fluctuate between Latinas and Whites. (IBID) .The first HPV vaccine had been approved in U.S 2006 by (FDA) Food and Drug Administration. This is about the HPV uptake of vaccines in Latinas and Non-Latinas White women. In this there is some little variation between these two types of women on the basis of different factors like due to cervical cancer. Due to **Typhoid fever** most of the soldiers had died in the war which was basically U.S fought the Spanish American War against Spain in support of Cuban interdependence.

So the typhoid vaccine had developed by the U.S Army commissioned and then in 1911, that vaccine was successfully developed. When vaccine was essential that was ordered for all troops and for all personnel younger than the age of 45 years. Epidemic

Polio in U.S had very great impact on the development of vaccines and the approval of universal vaccination by the American public. From corner to corner U.S, the rich and the poor, live with slight concern for several infectious diseases due to the great effort and sacrifice that has been made to improve and implement vaccination programs. (Philip J. Smith, (1974-) , JULY/AUGUST 2011,). This is about the Typhoid vaccines that were very essential for the troops of Army Commissioned of U.S because during the U.S Spain War some soldiers had died due to typhoid fever.

There was also another virus known as “**Spanish Flu**” and that was held in 1918-19 and this influenza pandemic was really a genuine pandemic. Due to this there were excessive morbidity and high level of mortality rates were raised all around the world. This pandemic was categorized by three waves all over the world which are as given below: (1) In the northern summer of 1918 the first wave hit. (2) Second was a start in the autumn. (3) The Third was in late winter, early in 1919. That influenza was got into Britain in the first half of 1918, by the servicemen most likely who was travelling by the ports and possibly through several ports more-or-less instantaneously.

The Glasgow (capital city of Scotland), was suggested about the first outbreak and that was occurred among the civil populations in May 1918. In November 1918, there was a very worst death rate that the Britain had suffered. The mortality rate of influenza was reached its heights in the year Nov 1918 and Feb-Mar 1919, that was basically the second and third waves of the pandemic. Nevertheless, much of the world may tell of a “Black October”, because the mortality rose in October before peaking in Nov, with an actually more constant peak than in England and Wales. It performs too that Scotland grieved the third wave earlier, getting a peak in Feb 1919, while England and Wales get hold of their maxima in Mar 1919. (Johnson, (Oct., 2004)).

A genuine pandemic known as *Spanish flu* that was basically held in 1900s and due to this there were high rates of morbidity and mortality rates and due to the second and third wave of this disease it was called off “Black October”.

2.3. Vaccination Behaviors:

Behaviors of nurses regarding vaccination and vaccination knowledge about the seasonal influenza and risk perceptions and health beliefs too were explored. Nurses' behavior regarding vaccination about the seasonal influenza was really very complex and that was based on the analysis of both vaccinated and unvaccinated nurses' behavior. The most effective way to prevent infection and severe outcomes is "Vaccination", and this is basically the cause for overcoming the hospitalization, morbidity and mortality rates too. This article is basically examining the relationship between risk perception, knowledge and health beliefs headed for seasonal influenza and vaccination and the behavior of nurses towards vaccination. Government agencies had strongly recommended the annual seasonal influenza vaccination to healthcare workers (HCWs) because the studies had suggested that the influenza vaccine uptake was repeatedly low in HCWs worldwide, and the nurses' behavior towards getting vaccinated was so reluctant than other HCWs. (J. ZHANG, SEPTEMBER 2012,). Behaviors of nurses towards vaccination must have optimistic. Because is necessary not only for hers rather for the patients too. So nurses should have to give positive response towards vaccination.

Regarding Covid-19 vaccine or vaccines, liberal internationalists, not unexpectedly, call for kindness. As one wrote: "America should lead a worldwide exertion to create, test, fabricate and convey these prescriptions as fast and extensively as could really be expected. More than anything else, America's role in finishing the pandemic will decide how a lot moral authority it needs to shape the world that comes subsequently." (Keys, 2020) Now a day's covid-19 has spread everywhere or all around the world. So every country are trying to make the vaccine to overcome the morbidity and mortality rates by producing antibodies in the humans body that are fighting against this pandemic virus. When thinking about the Covid-vaccines the SIR (Susceptible, Infected recovered) model is very accommodating. Vaccines are normally not great and neither accessible to nor actively got by everybody. Assume, for example, that an immunization was compelling in predicting the infection totally and forever in 60% individuals who got it and failed to help the other 40% who got it. Managing such a vaccine to the whole populace with, say, 10% tainted or recuperated would result in an extra $0.9 \times 0.6 = 54\%$ of the populace safe, so $S(t) = 1 - 0.1 - 0.54 = 0.36$. Contingent upon the worth of R_0 , that number could be adequatet to

accomplish group invulnerability. Accomplishing crowd resistance by means of an immunization as opposed to through contaminations is additionally favorable in that it mitigates overshooting. (Christopher Avery, (Fall 2020)). Every country must have to make the excess amount of vaccines so that everyone can get the benefit and to protect their lives and the people who have decided to take the vaccine then he/she must have to complete the doses of that vaccine and fulfill the requirements that have been suggested by the doctors.

As of May 21, 2021, the Covid disease 2019 (Covid-19) pandemic has caused in excess of 165 million diseases across all ages worldwide, just as more than 3.4 million deaths. **BNT162b2 (Pfizer–BioNTech)** is a **Covid-19 vaccine** containing nucleoside-altered messenger RNA encoding the severe acute respiratory syndrome Covid 2 (SARS-CoV-2) spike glycoprotein. In strong grown-ups, two 30- μ g dosages of BNT162b2 evoked high killing titers and hearty, antigen-explicit CD4+ and CD8+ T-cell reactions against SARS-CoV-2. BNT162b2 is the just one as of now approved for use in people more young than 16 years old The viability of BNT162b2 against affirmed Covid-19 with a beginning at least 7 days after portion 2 was summed up in members who didn't have proof of past SARS-CoV-2 infection, just as in completely vaccinated members. The BNT162b2 antibody in 12-to-15-year-old recipients had a positive security profile, delivered a more prominent invulnerable reaction than in youthful grown-ups, and was profoundly successful against Covid-19. (Robert W. Frenck, May 27, 2021). This BNT162b2 (Pfizer-BioNTech) vaccine is basically used for the covid-19 and this is for the people who are 12-to-15 years old because this vaccine works successfully against Covid-19 in these of the grown-up childhood. Pakistan is among three nations in which "**Polio**" is as yet endemic. The greater part of the cases growing up in the city is from slum regions where most of the public is unaware. A few religious and anecdotal opinions and confusions have been assuming a significant part in keeping polio endemic nearby in spite of numerous genuine endeavors of government. In this, Researchers finished up from this cross sectional investigation is that there are more goings-on should have been done in this regard especially in educating parents of youngsters and completing social campaigns to spread awareness among each and every parent and cause them to insist that polio is preventable and by just vaccinating their kids they can save them from polio until the

end of time. (Pakistan.pdf, Polio Pakistan.pdf). Pakistan is working on the possible campaigns for enhancing the awareness regarding Polio that every parent must have to know this thing and must have to vaccinate their child and to protect their children from this disease.

The Assistant Secretary for Health (ASH) asked the National Vaccine Advisory Committee (NVAC) to direct an autonomous mid-course survey to assess the advancement on the objectives of the National Vaccine Plan and substitute proposals for the ASH. This NVAC survey thinks about the discoveries of an equal, separate mid-course survey of the situation with the National Vaccine Plan authorized by the National Vaccine Program Office (NVPO) in August 2015 that incorporated an expansive partner commitment measure. (Committee, (JULY/AUGUST 2017)).

Stopping infection and progressing safety rely upon the cooperation of a few areas of society. The US antibody and vaccination framework achieved one of the best general wellbeing accomplishments in the twentieth (20th) century. Vaccination gives huge wellbeing and financial advantages. A recent report performed by the Centers for Disease Control and Prevention (**CDC**) assessed that normal youth vaccinations anticipated 322 million ailments and deflected 732 000 unexpected losses from antibody preventable ailments in kids brought into the world somewhere in the range of 1994 and 2013, with an expected cultural expense reserve funds of \$1.38 trillion.⁴ A recent report announced that interests in inoculation in low-and center pay nations for 2011-2020 will yield an expected return of around 16 times the expense (I.B.I.D).

Health data improvements can help screen vaccination inclusion, antibody viability, and vaccination security. Government antibody wellbeing observing frameworks, for example, the Post-licensure Rapid Immunization Safety Monitoring and Vaccine Safety Data-link, utilize patient data from **EHRs** (Electronic Health Records) to distinguish potential antagonistic occasions following vaccination. A 2014 NVAC report, Reducing Patient and Provider Barriers to Maternal Immunizations, urges government accomplices to distinguish approaches to streamline the utilization of EHR and IIS information for checking and reconnaissance of vaccination inclusion and antibody wellbeing for mother-newborn child sets. The utilization of wellbeing

data advances and information from patient electronic wellbeing records (EHRs) for improving medical services quality and supporting general wellbeing keeps on expanding. The world needs immunizations against numerous irresistible illnesses that effect general health, both in the United States and internationally. (I.B.I.D). Most of the companies or agencies had worked on the vaccination process to protect the lives of the people or they worked on the quality of the vaccines too that either that vaccine will be much or best beneficial or not like for producing more or less antibodies in humans body.

Smallpox initially came from the East. It was first recorded in Arabia in AD.572. Al Razi known as Razes in the advanced world accepted to be the primary individual to compose a detailed depiction on smallpox in his book deciphered named 'A treatise on the smallpox and measles'. Nonetheless, there were no any compelling solutions for smallpox in Ayurvedic and Yunani arrangement of medication. Woman Mary Wortley Montagu, the spouse of the British ambassador depicted how Turkish laborer ladies did the vaccination by nearby procedure of gentle contaminations through addition of variolous matter from smallpox pustules. On her return in 1718, she presented the act of inoculation in England, lastly, a superior strategy was found in 1796 by Edward Jenner saw that the individuals who have been contaminated by cow pox like milkmaids and ranch workers were safe to smallpox. Hence, he began his investigation on James Phipps, with cowpox infection instead of the smallpox infection in 1796. He distributed his pamphleten named 'An investigation into the circumstances and end results of the variolaevaccinae. An illness found in a portion of the western regions of England, mainly Gloucestershire, and identified by the name of the cow pox'. Bax by makes reference to about the Jenner's two unpublished original copies managing the beginning of smallpox. 27 Soon after the revelation, the inoculation was presented to large parts of the world inside couple of years. Unnecessary to repeat, thought of vaccination was select act of the old world and dispatched to the new world through campaigns (Alam(2016)). Edward Jenner had experimented by the contamination of milkmaids for the protection of this infection called Smallpox, and this was successful and had approved.

Vaccination can be viewed as the best methodology to control flu, particularly when

another subtype of infection enters the human population, causing a pandemic. Actually, an absence of previous insusceptibility can prompt an extraordinary morbidity and deaths. The people's information about flu H INI is “the standard source of data (public TV news, nearby TV, satellite news, papers, web, welfare offices interior correspondence), consciousness of the presence of an antibody and a powerful treatment against flu, methods of contracting flu (standing pretty much than 1 meter from somebody, eating pork, reaching out to pigs), and utility of influenza-mask”.About persons' behaviors embraced to keep away from the disease of the pandemic influenza is the “staying away from swarmed spots and people who have been abroad as of late, asking data to their GP and requesting antiviral medications, utilization of this season's virus veil, washing hands all the more every now and again or utilizing hand chemical, wishing of get vaccinated, remaining at home assuming sick and keeping the kids home, and agonizing over getting sick”. (GIUSEPPE LA TORRE, February 2012,). The Vaccination process has proven to be the best to control any pandemic disease virus. Because vaccines make antibodies against the specific virus and our body's antibody fights against that virus and then due to vaccination our body doesn't react negatively when virus attacks. ‘Zoonotic respiratory disease’ that had been caused by the MERS (Middle East Respiratory Syndrome) which was basically a health concern of global public. And this zoonotic infection had proved by the only source which is basically a dromedary camel. Even though Africa has bulky no. of dromedary camels but this zoonotic disease has not been reported from Africa rather Arabian Peninsula. While MERS coronavirus (MERS-CoV) is similarly endemic in dromedaries in Africa, where the majority of dromedary camels are originated. The epidemiological phases of field studies of dromedary camels in Morocco, Burkina Faso, Ethiopia, and Nigeria, including seropre valence and RT-PCR finding of virus from nasal swabs, have been testified earlier. (Daniel K. W. Chu, (March 20, 2018),). MERS-CoV has not been endemic in dromedary camels for actual time-consuming. Yet, the existence of antibodies to a MERS-CoV-like coronavirus in dromedary sera from Africa and the Middle East together 30 years ago shows that the virus has been transferring in camels for at least this time period. Taken together, these data may recommend that dromedaries, even though at this time the source of zoonotic infection, are themselves a comparatively latest host of **MERS** CoV and that the virus is stagnant adapting to this species. So

MERS-CoV in Africa is phylogenetic ally distinctive but antigenic ally alike to those presently circulating in the Arabian Peninsula. (I.B.I.D). This Zoonotic infection called MERS CoV in Africa has originated in dromedary camels and this is almost similar to the present virus that is severe acute respiratory syndrome (SARS-CoV).

2.4. Different Barriers towards vaccination:

Radanovich and Mair says that the Americans and the advantages of **universal vaccination** have been well documented. Universal vaccination might overcome the severe morbidity and mortality due to influenza virus in high-risk individuals, provide particular and societal benefits to all who are vaccinated and encourage better pandemic vigilance due to prolonged capacity for vaccine fabrication and improved infrastructure for vaccine supply. A developing body of literature maintains universal vaccination of teenagers as a way to overcome the spread of influenza in family unit and groups. In this, there is an endorsement to vaccinate Americans against Influenza. So the interviews of 35 stakeholders had been conducted and the questions had been asked by the interviewer about the policy of future influenza vaccination and the barriers regarding the policy change 95% respondents were in a favor and expansion of vaccination for all childhood kids, and 95% were in a favor of universal vaccination, while there were also some respondents who were in a favor of policy change. (Pamela Protzel Berman, (November 2010)).

“**Barriers to influenza vaccination**” endorsements consist of access, supply, confusing sanctions, and community perceptions. Barriers to universal vaccination contain absence of infrastructure, cost, requirement for education, and vaccine supply. Concerns regarding resources and education are trials that impede policy change. Briss and Schwartz said that the problems linked to vaccine supply, the possibility of mass vaccination, effective policies for vaccine delivery, funding and public acceptance have been acknowledged as hurdles for successful execution of universal vaccination (I.B.I.D) .Universal vaccination is also very effective to overcome the mortality and morbidity rates against pandemic diseases and this has also been proved by the influenza spread that has overcome when the teenagers get universal vaccination. Barriers exist too in the vaccination cases. Harris, Saint, Henderson in

2010 they said their articles that to understand the response of this pandemic disease H1N1, a survey including individuals has conducted by the Society for Healthcare Epidemiology of America (SHEA) in healthcare with a leadership positions or at medical institutions or at planning preparedness. Most of the respondents believed for future preparedness according to the survey, the vaccine development revision of influenza pandemic plans and education were also very essential. Vaccines should become mandatory for individuals who are working in healthcare settings and this also has been concluded in this survey. Del Campo has mentioned in his article in 2011, about the recommendations of the U.S Centers for Disease Control and Prevention (CDC) for healthcare workers, volunteers and students that received influenza vaccination. Silversides in 2009 has also mentioned this that the Centre for Emergency Preparedness and Reaction in Canada has specified that the response action taken to the H1N1 pandemic was much superior as compare to the action taken during the Severe Acute Respiratory Syndrome (SARS) epidemic. Some of the safety measures taken by authorities during the H1N1 epidemic included storing of supplies and equipment, as well as better-quality policies to protect the employed staff in pandemic-induced situations. So, The Canadian public health reaction to the pandemic was prevention through vaccination, and the Public Health Agency of Canada recommended the H1N1 vaccine was the best technique to protect oneself and others from infection. (Julie Drolet, (2013)). Vaccination process is mandatory for the healthcare workers too, and this also must have been recommended by the government. Every country's Health agencies must have to recommend the vaccine to protect the lives from infection.

A survey has been conducted in which "Perceptions of the Parents regarding vaccination of their child's". There were greatly a significant proportion of vaccine-hesitant parents who did not perceive Vaccine Preventable Disease (VPDs) as a serious threat to the health of their children, in contrast with the parents who support vaccination for schoolchild. Surveyed regarding vaccine hesitant-parents are 47% out of total who really considered vaccines either as un-safe or somewhat safe. Studies have been initiated that the vaccine campaigns are most successful when they give emphasis to that VPDs do truly attitude of a greater risk to children. (Omer, (5 August 2013)). Parents must have to make their perceptions optimistic (by getting awareness),

and agree to perceive VPDs for their children as a serious thing. And yes vaccines campaigns must have to be conducted and to get aware of those parents who really didn't know about risk towards their children.

Lyme disease, which is brought about by the spirochetal agent *Borrelia burgdorferi*, is the greatest widely recognized vector-borne disease in the United States. Lyme infection is a multi-framework ailment that, in North America, is brought about by *Borrelia burgdorferi sensu stricto*, which is a spirochete communicated by *Ixodes* species ticks. In the early 1990s, there were two pharmaceutical companies that have developed vaccines for this Lyme disease which are as given: (1) LYMERix (SmithKlineBeecham) and (2) ImuLyme (Pasteur Merieux Connaught). Both Vaccines were based on the references in June 1999 for use of LYMERix in individuals exist in, working, or recreating in areas of high or realistic risk, which included as the Lyme disease vaccination should be measured for persons 15-70 years of age who involve in activities (e.g., leisure, property maintenance, professional, and relaxation activities) that result in frequent or sustained coverage to a tick-infested habitat. Whereas, Lyme disease vaccination may be deliberated for persons 15-70 years of age who are wide-open to a tick-infested habitation but whose exposure is neither frequent nor elongated. The advantage of vaccination elsewhere that provided by basic peculiar protection and early diagnosis and treatment of infection is ambiguous. Lyme disease vaccination is not suggested for individuals who have marginal or no exposure to a tick-infested habitat (Angela K. Shen, February 2011). Another disease known as “Lyme”, which is basically a vector borne disease and this is also an infectious disease and pharmaceutical companies had also developed two vaccines for the protection of the individuals against this infectious disease.

Vaccination with diphtheria toxoid initiated in certain Soviet cities in the late 1920s, but execution of vaccination programs was hampered by World War II and post-war renewal. Severe epidemics of diphtheria continued to afflict the Soviet Union into the 1950s despite effective childhood immunization programs in many areas. Due to the absence of diphtheria antitoxin and postponed treatment, the Case Fatality Ratio (CFR) was very high (>20%) in some countries at the start of the epidemic. In 1994, the CFR (excluding Estonia, from which no deaths were informed among 10 cases)

reached from 2.8% in Russia to 23% in Lithuania and Turkmenistan. Since 1995, the international community has delivered antitoxin and antibiotics, and the CFR reduced on average to 5%–10%. In Russia, where diphtheria antitoxin was continuously available, the CFR was ~3%. Disparity of CFRs may also be affected by regional differences in investigation: Fewer severe cases of disease are more likely to be reported in some countries than in others due to variance accessibility of laboratory resources and access to medical care (Sieghart Dittmann, 01 February 2000). The implementation of vaccines against diphtheria is also really very essential because as we learn from the above passage that due to the lack of this diphtheria antitoxin and delayed treatment, the Case Fatality Ratio (CFR) was raised. So we must have to take these vaccines as well.

2.5. Perceptions against Viruses and vaccines:

One perception shared by some parents and doctors is that multiple synchronized antigens can overload the immune system and cause damage. In realism vaccines actually decline the number of antigens to which the immune system needs to respond. Generally the immune system responds to more antigens after natural infection than afterwards vaccination. For instance with *Haemophilus influenzae* type b (Hib) conjugate vaccine, the immune system is showing to only 2 antigens [polyribosylribitol phosphate polysaccharide (PRP) and a protein carrier], while immune responses develop to 50 or additional antigens after invasive *H. Influenza* disease. Similarly hepatitis B vaccine contains only 1 antigen likened with exposure to 4 or more antigens in hepatitis B virus. A viral upper respiratory infection indication to the immune system responding to 4 to 10 different antigens; with streptococcal pharyngitis the immune system reacts to as many as 50 dissimilar antigens (I.B.I.D).

There were also some potential barriers towards combination vaccines, even though these combination vaccines have many advantages but some potential problems of combining vaccines in the similar syringe have been recognized, including **chemical incompatibility**, carrier suppression, immune deviation and antigenic competition.

Combination vaccines have been accessible for more than fifty years. Some combination vaccines that are presently approved in the US include: diphtheria, tetanus and acellular pertussis (DTaP); measles, mumps and rubella (MMR); and inactivated poliovirus (IPV) vaccine. Some combination vaccines that are presently approved in the US include: diphtheria, tetanus and acellular pertussis (DTaP); measles, mumps and rubella (MMR); and inactivated poliovirus (IPV) vaccine. When available and designated, combination vaccines are favored over individual vaccine mechanisms administered as single injections. (I.B.I.D). [**Chemical incompatibility** between thimerosal, a preserving that was used in whole cell (and some acellular) pertussis, diphtheria and tetanus (DTP) vaccines, has reduced the effectiveness of inactivated poliovirus (IPV) vaccine and prevented the expansion of this combination product in the United States. (Neal A. Halsey & nhalsey@jhsphe.edu., November 2001)].

Children will get advantage from new combination vaccines due to this less injections will be vital to prevent against vaccine-preventable diseases (VPD), permitting for the outline of fresh vaccines into vaccination schedule and prevention of surplus diseases. As we all know that the vaccines have increased our immunity to fight against the diseases. Therefore the people who have their less immunity rates must have to get vaccinated. New Combination vaccines had also proven the advantage-able rates to the children. So we must have to follow the recommended best cures against the infections which is really very beneficial for us. In the 21st Century billions of people will become infected with tuberculosis. In 1882 by Robert Koch that it is microscopic cause Mycobacterium tuberculosis. For more than six decades a vaccines has been used for this protection purpose that the antibiotics drugs that basically kill the disease to cure the patient.

About the TB the world sadness has been perceived. Relatively in the recent or the present article called Bulletin of the world Health Association titled as “Apocalypse or Redemption, which was basically respond towards the Extensively Drug Resistant Tuberculosis”, in their assessment of where we stand the authors are refreshingly frank in this. Extensively Drug Resistant TB is the emergence of XDR-TB and the evidence of new form of regression. People must have to take it curable or incurable.

The affinity has been to fault the most vulnerable and powerless then the patients who were powerless, for a multitude of reasons, to follow treatment through to accomplishment. Then all we have to bear that responsibility collectively for this and if we cannot succeed a disease as well alike as TB, we just have little validation to overseers of the significant amount of wealth given to healthcare globally. (McMillen, 2015). Government must have to find the cure regarding tuberculosis or must have to make an antigen that will make antibodies immunity against the TB in the Human body or vaccines like that will enhanced the immunity when enter in the body of human. We must not give up instead, keep trying and hopefully, we will definitely find a solution of this disease prevention one day.

2.6. Medical Anthropology Finds a solution against diseases:

Medical Anthropology at all times finds solutions against the diseases. Medical anthropology as a diverse subfield is a comparative new arrival in the world of academe. The proof of identity of the pitch of medical anthropology is commonly credited to William Caudill in his paper from 1953 authorized "Applied Anthropology in Medicine" (McElroy). Meanwhile that period Medical Anthropology has recognized a position of impartiality from its parental discipline of societal and cultural anthropology. In spite of this autonomy, medical anthropology's disciplinary progression has been significantly affected by the alterations in social anthropology. Various medical anthropologists realize this model of disease as out-of-date and incorrect because "it decreases the analysis of societal and cultural features of illness to disconnected, static, measureable 'beliefs' apprehended by the study inhabitants" (Parker and Harper 1-2). This factorial concept of disease looks to include the reasoning that aspects of disease connection such as natural science and atmosphere are beyond the spread of culture. A contemporary origin of culture, as acknowledged by maximum anthropologists is expressively more amalgamated and all-inclusive. In modern medical anthropology, it is understood that all research, even the maximum subjective and systematic, is fixed in the culture and experience of folks who understand and publish the consequences. (Campbell, 2011 Jun).

Away from vaccines and drugs, growing the health care infrastructure's capacity is a major eye of many governments' planning for future pandemic diseases. Those stressing the importance of get it wrong on the side of caution have pointed to hospital surge volume as a major concern. Emergency department excess numbers and ambulance transmit orders are circumstances that proper development might help avoid, but it should be kept in mind that such needs are not exceptional.

3. Methodology:

➤ **While discussing scientific methodology Russell says:**

“Each scientific discipline has developed a set of techniques for gathering and Handling data but here is, in general, a single scientific methodology. The method Is based on assumption s: (a) that reality “out here”, (b) that direct observation is The way to discover it, and (c) that material explanations for observable Phenomena are always sufficient, and that metaphysical explanations are never Needed.” (Bernard, 2006)

The methodology involves the use of techniques and methods for the collection of data from first step to final step. Methodology is a tool in research which involves selecting particular Observation techniques, assessing the yield of data and relate that data to theoretical propositions. In this research the techniques of qualitative and a very low amount of quantitative research will be used for data collection. To enhance researcher’s data in order to become the results effective researcher will be used the below mentioned techniques.

To affect the phenomenon chosen, it's necessary for a researcher to style a group of methods. These methods are tools and scheme to perform a research. The procedures and techniques help the researcher to gather relevant data and to get the required answers. Research methodology contains a scientific procedure to get, identify and explain the difficulty or a situation. Researcher has used some anthropological tools to administer his/her research. A quick description of the methods has adopted which are given below.

“*Qualitative research*” relates to the understanding of some aspect of social life, and its methods that generate words, rather than numbers for data analysis.

3.1. Participant Observation:

It is the process where the researcher lives participates and interact with respondents on daily basis to understand the norms, values, culture and behavior of the respondent. Participant observation is one of the best ways for collection of data in a subjective manner. By becoming a member of the community, researcher will have a close observational approach to the other things of people like whether they avoid to visit public places, make use of masks on daily basis or not.

Participant observation includes the researcher engrossed in the everyday silent aspects of people's happenings, rituals, and relations (Dewalt & Dewalt, 2010) as a way to expose or reconstruct their performs, presentations, activities, and movements within a naturalistic set (Kawulich, 2005; Mulhall, 2003). Participant observation is designated as the "heart of ethnographic fieldwork" by permitting researchers the chance to experience with applicants during those natural circumstances that include daily life (Bailliard, Aldrich, & Dickie, 2013; Dewalt & Dewalt, 2010).

There are three administrative suppositions of participant observation comprising that (1) we can absorb from observation, (2) being keenly involved in the breathes of people brings the ethnographer nearer to understanding the participants' idea, and (3) attaining understanding of individuals and their performances is possible (Dewalt & Dewalt,2010). With its backgrounds in anthropology, participant observation appeared for the period of the late 19th century as an ethnographic field technique for the study of minor similar cultures (Dahlke, Hall, & Phinney, 2015). It permits the researcher to be an energetic participant in the conversation, such that the researcher contributes in nearly the whole thing that other persons are doing as a means of understanding cultural rules, behaviors, and norms, along with facing contextual effects (Dewalt & Dewalt, 2010; Polit & Beck, 2010).

It supplies the researcher with a exceptional way of "knowing" for the reason that the researcher becomes a participant in what is experiential or observed. (Rudman, November 28, 2019).

The findings of this Research are stranded in a comprehensive serious ethnographic study, which was absorbed on understanding how the atmosphere (including physical, social, cultural, political, and institutional) inclined the participation.

Participant enlistment followed over a period of 11 months in a medium-sized Rawalpindi city and its nearby group of people using in-person performances, organizational contacts, and newspaper commercials. There were almost 25-30 participants involved and gave interview. Respondents were male and female both comprising of age from 18 above till 70 years. Every individual have their own perception or attitude towards covid-19 vaccines. Some people were in favor and some are in against of the vaccination process thinking that this is basically a conspiracy theory and yes there were also others who have shown neutral attitudes. It is considered as a foundation of qualitative disciplines. In anthropological research, it's believed as a substratum of a study that facilitates a researcher with an entire understanding of a culture being studied. As an anthropologist, researcher went into the locale with the objective of doing a keen observation being a participant. Also the participant observation became the first pillar of triangulation in this study. Hence the participant observation was done on an extensive scale throughout the fieldwork.

3.1.1. Semi Structured interviews:

This method of semi -structured interviews is used by researcher for the extraction of data, which help them to explore issue at first hand. In this research tool, researcher simply asks few questions to respondent among which some of the questions are predetermined which were asked every time from each respondent, while the rest of the questions were random questions that were subjected to the flow of the interview.

3.2. Rapport Building:

Rapport building contributes to a positive and friendly environment for a researcher through engaging in an open and causal communication. It allows a researcher to blend during a culture more productively. (Coupland, 2003)

Rapport building is the starting point of ethnography where the researcher penetrates into the community. A successful penetration is the first step towards a successful research. Researcher was introduced into the community by some knowing friends living over there. Researcher started visit locale and then started interview in the field by introducing his/her recognition to the respondents and then started making informal relations with them. My sound academic background gave me a good reputation among the local females that were not so literate. Within days, people got familiar with me and started showing their natural behavior.

The rapport building is of the major step for the progression of data collection, which the researcher will use within the locale, through which researcher will get his/her respondents interview easily for collecting data.

3.3. Key Informants:

It is non-observational technique which is another source of getting information. Key informant may be the one that belongs to the community where researcher works in the domains of his studies. It's one of the main sources of collecting data about particular culture. This system becomes a bridge for the researcher as a source to create relationship between past and present. Good informants are people to whom one can talk easily, who understand the relevant knowledge, and who are glad to offer it to you. Key informant may be a respectable and trustworthy person that connects a researcher to his/her respondents like a snowball. Researcher had three key respondents during this study.

The first key respondent was researcher's Professional Principal, as the researcher has done nearby job in that area and the key respondent was living in that locale. She was a respectable lady, has a small scale business over there. Second person was a female teacher from a local government school.

The third key respondent was a senior citizen from a religious family. He also has a sound reputation in that area and he has a detailed knowledge or current information regarding topic.

3.4. Sampling Procedure:

Sampling may be a method to extract the sample of a study from the whole population. It's a critical stage in research because the samples of a research give the results of a study. It is a process to pick a neighborhood of population, to check a press release for assessment process, interviews and study that must reflect the entire population. I became be able to draw my research Sample from non-probability technique using purposive sampling that permits the researcher to pick relevant sampling units and pertinent data. I also used snowball sampling as an additional tool to reach the relevant persons.

3.4.1. Purposive Sampling:

Purposive sampling will be used in this research. This technique will be used due to the constraint of time. The researcher will select a group of people from the specific locale to know the attitudes of people regarding covid-19 vaccination and to know the barriers.

This system depends on the character of research objectives and therefore the choices of a researcher, to whom he/she going to incorporate in sample. During this sampling, the researcher look for individuals who meet the standards of research questions and therefore the selected sample is tied to review objectives with the judgment of researcher. (Palys, (2008))

Researcher has selected purposive sampling to settle on her research sample because she study question focuses on the assumption of attitudes and behaviors of people towards acceptance of covid-19 and corona vaccines too. During researchers' stay in the field, after building a good reputation and meeting with several community members, researcher short listed the most suitable individuals. Besides these individuals, researcher also took the contribution of other people with the help of the primary respondents who became the snowball sample.

3.4.2. Sampling unit and Size:

The sampling unit of this research is the female & male members of City Rawalpindi Province Punjab. It's difficult on behalf of researcher to study the whole population therefore researcher has selected some individuals as per research respondents. Out of nearly 130 households in that particular research area, researcher incorporated more than 30. Researcher conducted twenty-five to thirty interviews or more than 30 but few people have similar perceptions do didn't considered, and interviews has been conducted from different people including men, women girls and boys too, of different age groups.

3.4.2.1. Age of the respondent:

The individuals including male, female, boys and girls who have age between 18 to 70 years has been taken for the interviews. Researcher has conducted 30 interviews from different age group. Most of the respondents were young and educated and they have their affiliations with their village areas, everyone have their own perceptions with different kinds of myths as well. The people that I have selected for research were 14 males and 16 females.

Table 1: Gender Division and ages of the respondents

Ages of the Respondent	Male	Female
Between 18-30	5	6
Between 31-40	2	5
Between 40-50	4	3
Above 50	3	2
Total	14	16

3.4.2.2. Primary Data:

The primary data will be collected through questionnaires, interviews, recording and Photographs from the field. While analyzing final report this recording will help the researcher to Cross check. During the primary data collection, views and ideas will be obtained especially from Male and female to determine cultural importance related to perceptions and attitudes towards vaccination regarding covid-19.

3.5. Formal Interviews:

Structure or formal interviews are comprised of a group or series of questions from interview schedule. In response to a search question, formal interview may be a basic tool to gather data in qualitative research during which a researcher participates less and listens carefully during an interview. (Stuckey, 2013)

Researcher has conducted formal interviews from the key respondents first. Those interviews enabled her to restructure research questions and become more precise. In the second phase, researcher interviewed more people with detailed formal discussions.

3.6. Informal Discussion:

Its a process of collecting related data through discussion and involvement with respondents during which a researcher allows people to precise their views openly in their own ways. This method allowed researcher to get closer to the lives of respondents and nearly going native. Mostly the female respondents were more open to the informal discussions. Researcher was not recording the informal discussions on the spot that gave them a sense of security and they were confident to talk about all the sensitive issues related to the topic. In this way, informal discussions became an integral part of this study.

3.7. Case Study Method:

Case study method is widely utilized in anthropological research and is a crucial source to understand the in-depth analysis of community's perceptions about different phenomena. It reveals comprehensive patterns of behavior and prepares the researcher to seek out unexpected data. It considers inter-relation of all the factors during observation. (Fidel, 1984). Case study is an in-depth description and analysis of a bounded system. It is an empirical inquiry that investigates contemporary phenomena within its real context.

This study also takes its foundations from the case study method. Several case studies were conducted from the families and individuals who had the first-hand experience of the phenomenon under consideration.

3.8. Focus Group Discussion:

Focus conference is extremely helpful in getting different opinions on selected issues within the given period of time. In this method, researcher interviews a group of individuals with the objective that if one person is reluctant to share a piece of information, another may do that. In this method, the group should be heterogeneous and the respondents ideally shouldn't know one another. This system is employed within the research being a really authentic tool to collect primary data consistent with the research topic. Researcher has conducted focus group discussions with both mostly educated and uneducated folks too. The questions used in discussion were not included just the interview guide questions but also a couple of general questions associated with research topic.

3.9. Field Notes:

It is another important method to keep the record straight and without errors. The field notes method has been employed by researcher keeping its significance in mind to note down every piece of information observed during the research work. The writing of field notes gave a chance to the researcher to recall the events and mode of dialogue made with the respondents. Field notes were collected during participant observation and informal discussion with respondents during their routine activities. Daily notes are kept on day to day basis during fieldwork. It's difficult for a

researcher to memorize every small piece of data for an extended period therefore field notes helped me a lot.

3.10. Photography:

Photographic evidence is useful for the research as it gives a glimpse of the locality and respondents. It enables the readers to take an imaginary visit to the field that is quite helpful in understanding the socio-economic conditions and lifestyles of the people. Researcher also took the relevant photographs from the field visit that helps me explain the real life conditions of my respondents.

3.11. Sound recording:

Audio recording method becomes a big research tool in qualitative research that has replaced the handwritten notes during an interview. During interview and discussion, it's difficult for a researcher to completely capture the narrations of respondents. It's also essential to focus on the visual communication of an interview instead of only capturing the verbal information. This method enables the researcher to conduct a successful interview with none interruption. After taking consent of respondents, Researcher recorded the discussions with them. Researcher took recordings of focus group discussions and some of the formal in depth interviews. Besides that researcher also used to record some informal discussions and listen to them at the end of the day to collect relevant information.

3.12. Ethical Considerations:

Researcher clearly informed their respondents about his/her identity, research topic and purpose of conducting interviews. Researcher did not collect any interview forcefully and took no recording without the permission of any respondent. During the research, Researcher took care of the privacy and confidentiality of my respondents. Researcher did not reveal the real names and identities of individuals and kept them unrecognized. Researcher did not invade into the private space of the respondents and meet them according to the schedule of their choice. Researcher tried to the best of knowledge not to manipulate or distort any information and write

down the ideas of respondents as they were.

As a researcher must have to follow these following research ethics:

- Take permission from the respondent of making pics, videos and recording.
- Will pay attention to keep non-hierarchical relations between Researcher and respondent. Researcher will make use of local language or third language (like Urdu) with respondents to
- Make them feel comfortable.

“Research Tools”: This research will be based on in depth interviews that will be in detail for getting information and to enhance knowledge about the person who does or does not believe on vaccination, follow precautionary measures to save them from corona and also to get knowledge about People where cultural barrier is a hurdle on the way of vaccination.

3.13. Interview Guide:

It is one of the noteworthy research tools as it provides a foundation of conducting interview, for a researcher to successfully generate data of a research. It is necessary to develop a set of questions relevant to a research objective. Researcher has also formulated an interview guide encompassed of easy, meaningful and understandable questions for respondent that fulfill research criteria.

3.14. Purpose of the study:

In this research, the researcher aimed to explore the knowledge about to explore the perceptions and attitudes of people regarding covid-19 vaccination. To figure out the barriers and hurdles toward vaccination which will be held in Rawalpindi.

4. Area Profile:

4.1. Locale:

4.1.1. Prologue:

Rawalpindi is the capital metropolis of Rawalpindi Division placed within the Punjab province of Pakistan. Rawalpindi is the fourth-biggest metropolis right in Pakistan after Karachi, Lahore and Faisalabad after respectively at the same time as the bigger Islamabad-Rawalpindi metropolitan location is the country's 1/3 biggest metropolitan location. Rawalpindi is adjoining to Pakistan's capital of Islamabad, and the 2 are together referred to as the "dual cities" resulting from robust social and financial hyperlinks among the cities.

Rawalpindi is placed at the Pothohar Plateau, regarded for its historic Buddhist heritage, in particular within the neighbouring city of Taxila a UNESCO World Heritage Site. The metropolis changed into destroyed at some point of the invasion of Mahmud of Ghazni earlier than being taken over via way of means of Gakhars in 1493. In 1765, the ruling Gakhars have been defeated because the metropolis got here beneath Sikh rule, and subsequently have become a prime metropolis within the Sikh Empire primarily based totally in Lahore. The metropolis changed into conquered via way of means of the British Raj in 1849, and in 1851 have become the biggest garrison city of the British Indian Army. Following the partition of British India in 1947, the metropolis have become domestic to the headquarters of the Pakistan Army as a result maintaining its repute as a prime army metropolis.

Construction of Pakistan's new purpose-constructed nationwide capital metropolis of Islamabad in 1961 caused extra funding within the metropolis, in addition to a short stint because the country's capital right away earlier than crowning glory of Islamabad. Modern Rawalpindi is socially and economically intertwined with Islamabad, and the extra metropolitan location. The metropolis is likewise domestic to several suburban housing trends that function bedroom-groups for employees in Islamabad. As domestic to the GHQ of the Pakistan Army & the previous Benazir Bhutto International Airport (now a part of PAF Base Nur Khan), and with

connections to the M-1 and M-2 motorways, Rawalpindi is a prime logistics and transportation centre for northern Pakistan. The metropolis is likewise domestic to ancient havelis and temples, and serves as a hub for travelers touring Rohtas Fort, Azad Kashmir, Taxila and Gilgit-Baltistan.

4.1.2. Origin

The area round Rawalpindi has been inhabited for heaps of years. Rawalpindi falls within the historical

barriers of Gandhara, and is in an area suffering from Buddhist ruins. In the area north-west of Rawalpindi, lines were located of as a minimum fifty five stupas, 28 Buddhist monasteries, nine temples, and diverse artifacts within the Kharoshthi script.

To the southeast are the ruins of the Mankiala stupa a second-century stupa wherein, in step with the Jataka tales, a preceding incarnation of the Buddha leapt off a cliff that allows you to provide his corpse to seven hungry tiger cubs. The close by city of Taxila is concept to be domestic to the world's first university. Sir Alexander Cunningham diagnosed ruins at the web website online of the Rawalpindi Cantonment because the historical metropolis of Ganjipur (or Gajnipur), the capital of the Bhatti tribe within the while previous the Christian era.

4.1.3. Geography

4.1.3.1. Climate

Rawalpindi capabilities a damp subtropical weather with warm and moist summers, a cooler and drier winter. Rawalpindi and its dual metropolis Islamabad, at some point of the yr studies a mean of ninety one thunderstorms that is the very best frequency of any simple elevation metropolis within the country. Strong windstorms are common within the summer time season at some point of which wind gusts were said via way of means of Pakistan Meteorological Department to have reached 176 km/h (109 mph). In such thunder/wind storms, which leads to a few harm of infrastructure. The climate is exceedingly variable because of the proximity of the metropolis to the foothills of Himalayas.

The common annual rainfall is 1,254.8 mm (49.4 in), maximum of which falls within the summer time season monsoon season. However, westerly disturbances additionally carry pretty large rainfall within the winter. In summer time season, the report most temperature has soared to 47.7 °C (118 °F) recorded in June 1954, at the same time as it has dropped to a minimal of -3.9 °C (25 °F) numerous occasions, even though the remaining of which turned into in January 1967.

4.1.3.2. Cityscape

Social systems in Rawalpindi's ancient middle centre round neighbourhoods, every referred to as a Mohallah. Each neighbourhood is served via way of means of a close-by bazaar and mosque, which in flip function an area wherein humans can accumulate for exchange and manufacturing. Each Mohallah has slender gullies, and the grouping of homes round quick lanes and cul-de-sacs lends a experience of privateness and safety to citizens of every neighbourhood. Major intersections within the neighbourhood are every called a chowk.

South of Rawalpindi's ancient middle, and throughout the Lai Nullah, are the extensive lanes of the Rawalpindi Cantonment. With tree-covered avenues and ancient architecture, the cantonment turned into the principle European place advanced at some point of British colonial rule. British colonialists additionally constructed the Saddar Bazaar south of the ancient middle, which served as a retail middle geared toward Europeans inside the metropolis. Beyond the cantonment are the big suburban housing trends that function bed room groups for Islamabad's commuter population.

4.1.4. Demographics

The populace of Rawalpindi is 2,098,231 in 2017. 84% of the populace is Punjabi, 9% is Pashtun, and 7% is from different ethnic groups.

In 2017 populace of Rawalpindi district turned into five, 402,380. 2, 736, one hundred eighty had been male and 2,665,089 had been female. 2,396,672 (44.36%) lived in rural regions and 3,005,708 (55.64%) lived in city regions. Muslims had been

the overpowering majority faith with 98.01%, at the same time as Christians had been 1.90% of the populace.

According to the 1998 census of Pakistan, the populace of the district turned into 3,363,911 of which 53.03% had been city, and is the second-maximum urbanised district in Punjab. The populace turned into envisioned to be 4.5 million in 2010.

4.1.5. Language

During 1998 census of Pakistan, the resulting were the demographics of the Rawalpindi region, by first language

- Punjabi: 90%
- Urdu: 3.5%
- Pashto: 4.3%
- Others: approx. 2.2%

During 2017 Census of Pakistan, the sharing of the populace of Rawalpindi Area by first language was as follows:

- Punjabi 68.7%
- Pashto 10.9%
- Urdu 10.2%
- Hindko 3.2%
- Kashmiri 1.8%
- Saraiki 1.0%
- Sindhi 0.2%
- Brahui 0.1%
- Balochi 0.1%
- Others 4.0%

4.1.6. Religion

The 96.8% of Rawalpindi's populace is Muslim, 2.47% is Christian, 0.73% lengthy to different spiritual groups. The town's Kohaati Bazaar is webweb page of big Shia mourning-processions for Ashura. The neighbourhoods of Waris Shah Mohallah and

Pir Harra Mohallah shape the center of Muslim agreement in Rawalpindi's vintage town.

Rawalpindi turned into a majority Hindu and Sikh town previous to the Partition of India in 1947, at the same time as Muslims made up 43.79% of the populace. The Baba Dyal Singh Gurdwara in Rawalpindi turned into wherein the reformist Nirankari motion of Sikhism originated. The town nonetheless has a small Sikh populace, however has been reinforced via way of means of the appearance of Sikhs fleeing political instability in Khyber Pakhtunkhwa.

The town continues to be domestic to 3 hundred Hindu families. Despite the reality that the widespread majority of the town's Hindus fled masse to India after Partition, maximum Hindu temples withinside the vintage town stay standing, despite the fact that in disrepair and frequently deserted. Numerous of the antique town's neighborhoods maintain to tolerate Hindu and Sikh names, consisting of Krishanpura, Arya Mohallah, Akaal Garh, Mohanpura, Amarpura, Kartarpura, Bagh Sardaraan, Angatpura.

The Shri Krishna Mandir is the simplest useful Hindu temple in Rawalpindi. It turned into constructed withinside the Kabarri Bazaar in 1897. Other temples are deserted or had been repurposed. Rawalpindi's big Kalyan Das Temple from 1880 has been used because the "Gov't. Qandeel Secondary School for the Blind" when you consider that 1973. The Ram Leela Temple in Kanak Mandi, and the Kaanji Mal Ujagar Mal Ram Richpal Temple withinside the Kabarri Bazaar, are each presently used to residence Kashmiri refugees. Mohan Temple withinside the Lunda Bazaar stays standing, however is deserted and the constructing not used for any purpose. The town's "Shamshan Ghat" serves because the town's cremation grounds, and turned into partially renovated in 2012. The town's Babu Mohallah neighbourhood turned into as soon as domestic to a network of Jewish investors that had fled Mashhad, Persia withinside the 1830s. The network had completely immigrated to Israel via way of means of the 1960s. In the British technology many church buildings had been constructed for the British infantrymen to return back to the church buildings for Sunday prayer due to the fact Rawalpindi Cantonment turned into the house for the British Army.

4.1.7. Administrative Divisions

The District of city Rawalpindi is sub- divided hooked on one Municipal Corporation Two Cantonment Board and Seven Tehsils:

- Rawalpindi Municipal Corporation Rawalpindi City
- Rawalpindi Cantonment Board Rawalpindi Cantt
- Chaklala Cantonment Board Chaklala Cantt

Table 2: Administrative divisions

Sr.	Tehsil	Headquarters	Area (km ²)	Population (2017)
1	<u>Taxila</u>	<u>Taxila</u>	NA	677,951
2	<u>Rawalpindi</u>	<u>Rawalpindi</u>	NA	3,258,547
3	<u>Gujar Khan</u>	<u>Gujar Khan</u>	1,466	678,503
4	<u>Kallar Syedan</u>	<u>Kallar Syedan</u>	421	217,273
5	<u>Kahuta</u>	<u>Kahuta</u>	NA	220,576
6	<u>Kotli Sattian</u>	<u>Kotli Sattian</u>	NA	119,312
7	<u>Murree</u>	<u>Murree</u>	NA	233,471

Source: Internet

Rawalpindi also holds many private colonies that have developed themselves rapidly, e.g. Housing Gulraiz Society, Korang Town, Agochs Town, Ghorri Town, Pakistan Town, Judicial Town, Bahria Town which is the Asia's major private colony, Housing Kashmir Society, Danial Town, Al-Haram City, City of Education, Gul Afshan Colony, Allama Iqbal Colony.

4.1.8. Parks

Ayub National Park is positioned past the vintage Presidency on Jhelum Road. It covers a place of approximately two three hundred acres (930 ha) and has a playland, lake with boating facility, an aquarium and a garden-eating place. Rawalpindi Public

Park is on Murree Road close to Shamsabad. The Park become opened to the general public in 1991. It has a play land for children, grassy lawns, cascades and flower cots.

In 2008 Jinnah Park become inaugurated on the coronary heart of Rawalpindi and has considering that end up a hotspot of hobby for the city. It home environment a ultra-modern films, Cinepax, a Metro Cash and Carry supermart, an orifice of McDonald's, gaming lounges, Motion Rides and diverse leisure services. The big lawns additionally offer a good enough picnic spot.

Rawalpindi is located close to the Ayub National Park previously referred to as 'Topi Rakh' (hold the hat on) is with the aid of using the vintage Presidency, among the Murree Brewery Co. and Grand Trunk Road. It covers a place of approximately 2,three hundred acres (930 ha) and has a play location, lake with boating facility, an aquarium, a garden-eating place and an open-air theater. This park hosts "The Jungle Kingdom" that's specifically famous amongst younger residents.

- Liaquat Bagh, previously referred to as the "agency bagh" (East India Company's Garden), is of splendid historic interest. The first high minister of Pakistan, Liaquat Ali Khan, become assassinated right here in 1950. Pakistan's Prime Minister Benazir Bhutto become assassinated right here on 27 December 2007. She become the youngest and the best girl to be elected as Prime Minister of Pakistan.
- Rawalpindi Public Park (formerly Nawaz Sharif Park, renamed Iqbal Park in 2019) is positioned on Murree Road simply contrary to the Arid Agriculture University Rawalpindi. The park become opened in 1991. It has a play location for children, lawns, fountains and flower beds. A cricket stadium become constructed in 1992 contrary the general public park. Several fits withinside the 1996 World Cup had been hung on this cricket ground.

4.2 Research Main Area:

- The area of Research is Punjab, Rawalpindi.
- There are 8 Tehsils and 38 Union councils.

- Total Population of Rawalpindi is 2,098,231, according to 2017 Census.
- Population according to 2021 Census is 2,281,000.
- Main Research has been conducted in Rawalpindi. Rawalpindi is city in the Punjab province of Pakistan. It commonly known as Pindi. Rawalpindi is fourth largest city of Pakistan. It is adjacent to Islamabad the capital of Pakistan.

Following figure is showing the map location of the field research area:

Figure 1: Location of the research area



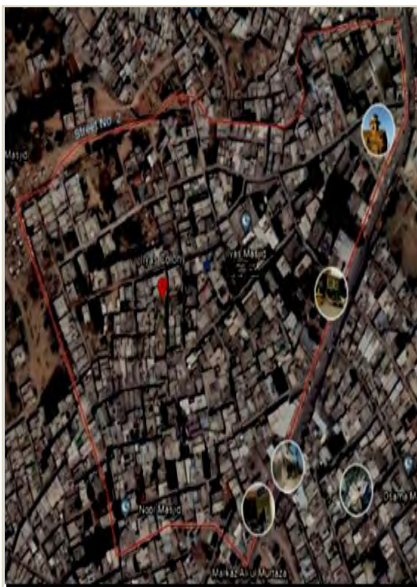
Source: GoogleMap

Rawalpindi has 8 autonomous town and 38 union councils. Area of Rawalpindi is 259 square Kilometers. Population according to 2017 census is more than two million i.e 2,098,231 Rawalpindi was a Hindu and Sikh majority city before the partition of 1947 but now its 96.8% Population is Muslim. Old name of Rawalpindi is “Gajipur”. Rawalpindi is known for an “Ancient Buddhist Heritage”, basically located in the Pothohar Plateau, Especially in the nearby town of Taxila. Populations of Rawalpindi District speak a excessive diversity of Punjabi includes Pothohari, Majhi, Pahari, shahpuri, Dhani and Kashmiri. While Urdu is also the mother tongue of a small or even more number of people but Urdu existence a national language is spoken and understood by large population. The Area where researched has been conducted is known as “ILLYAS COLONY” which is situated

near Illyas Masjid Misrial Road(Attock CNG Petrol Pump) and researched area has been covered two streets i.e street#1 and street#2. In this area there were approximately 25 to 30 respondents that shared their views towards Covid and their vaccines. Some of them have positive views and few are neutral and few have showed hesitancy and some of them have very negative views towards Covid and vaccines and there are different conspiracy theories discussed in this regard. Here is a picture of that area where research has been conducted. Following Figure is showing the sub area of the of the field.

Fig 2: Main Area Location

- (i) Illyas Colony near illyas masjid Street 1 and 2
- (ii) Misrial Road
- (iii) Main Street Entrance from Road to the Colony



(i) Source Google



(ii) Source: Google Map 1



(iii) Source: Researcher

In this area, People or Respondents are belonging different places like most of the population belongs to Rawalpindi and some of the people belong to Gujranwala, Bhurywala, some of them are from Peshawar and some are from Noshera, Multan etc. Most of the people are living there because Rawalpindi is their hometown but others are temporarily living in this area due to other reasons like: due to jobs, studies. And some of the people had settled temporarily but after some time they had decided to set permanently and made their houses in that area.

Respondents have different mother languages like Putohari, Pustoo, Hazarah, Saraiki etc. Most of the people or people living in that area preferred to speak in URDU language in homes rather their own mother tongue.

Respondents in that area mostly have age ranges from 18-70 years old. Some of the respondents were very confident while giving interview while some are very confused little bit. Another thing is that most of the people are educated they tried to understand this research field and ready to give interview but still they have some security reasons too. People in that area do not want to give permission for recorded interview as well.

Some of them said that this not allowed by our family and our families are strict regarding this. Most of the people have their personal reasons while not allowing to give permission for recording.

4.2.1 Mosques:

In the research area, there are two (2) Mosques which are as given below:

- (1) Illyas Masjid
- (2) Bilal Masjid

Figure 3 Pictorial Representation of Illyas Masjid



Source: Researcher

Figure 4 Pictorial Representation of Bilal Masjid



Source: Researcher

The main mosque of that colony is Illyas masjid but the main mosque in that area which is nearest to the main road i.e misrial is 'Bilal masjid' where people pray on Friday and other occasions like Eid prayer etc.

Table 3: Mosques in the area

S.R	Mosques	No.
1.	Illyas Masjid	1
2.	Bilal Masjid	1

Source: Researcher

4.2.3 Sects:

Most of the People are Sunni and others are Shia. There is no religion conflict in that Illyas colony area of the Misrial.

Table 4: Sects of the Respondents

S.R	Sects	No.of House	Percentage
1	Sunni	22	73%
2	Shia	8	26%
	Total	30	100%

Source: Researcher

4.2.4 Ratio of the Vaccination Perceptions of the Respondents:

There are different Perceptions of the People, some are in favor of vaccines of covid-19, some are neutral, few got hesitant and some are in against of vaccines and got refused.

Table 5: Vaccination behaviors of the Respondents

S.R	Vaccination Response	Population	Percentage
1.	Acceptance(In favor)	12	40%
2.	Neutral	6	20%
3.	Hesitancy	5	16.6%
4.	Refusal	7	23.33%
	Total	30	100%

Source: (Interview Schedule)

4.2.5 Education of the respondents:

The education of the people in the field area includes higher level studies like MASTERS, M-PHILL and even PHD level and is on high Profession like Army Officer, Engineer, Assistant Professor, Lecturer and Teachers on high level. Other migrated People also have a Matric, Graduated level studies but some mothers have a primary education level education too.

Table 6: Distribution of Respondents on basis of Education

S.R	Education Level	Population	Percentage
1.	Illiterate	3	10%
2.	Matric,FSC,BSC	5	16.67%
3.	Graduates	6	20%
4.	M-Phill, PHD	6	20%
5.	Gov.Job, Professional	7	23.33%
6.	Others	3	10%
	Total	30	100%

Source: (Interview Schedule)

5. Vaccination Acceptance:

5.1. Covid-19 Vaccines: Methods of Immune Stimulation and Future Contexts:

Protection prompted by presently available vaccines. The novel vaccines in contradiction of SARS-CoV-2 are new in phrases of specificity, their significant dissemination throughout the global population and the inclusion of newly certified mRNA platforms. We talk here how the permitted vaccines trigger innate immunity to sell long lasting immunological reminiscence and bear in mind the future implications of shielding populations with these vaccines. The global SARS-CoV-2 pandemic has prompted vast loss of lifestyles, profound disruption to lives and livelihoods, and full-size economic, sociological and psychological harm. Severe COVID-19 regarding acute respiratory misery syndrome (ARDS), multi-organ failure and death remains the maximum serious chance from infection, however long-time period sequelae from moderate disorder have additionally been suggested. The excessive transmissibility, presence of asymptomatic carriers and emergence of latest variations have had a prolonged effect on the worldwide population for the beyond yrs.', and counting. Vaccination constitutes the most promising direction again to 'normal existence'; here, we discuss how the newly accepted vaccines can mobilize innate and adaptive immune responses, implications for his or her durability, and ongoing and destiny demanding situations for shielding the population. In end, the SARS-CoV-2 pandemic has elevated the licensing of promising vaccine formulations that offer desire for fortifying our immune structures towards the modern-day and future rising pandemics. (Farber, 05 March 2021)

Preclinical and initial results from anthropological trials show that both vaccines create anti-S protein IgG and virus-specific neutralizing antibody retorts for quite a lot of months post-vaccination (Widge, (2021).) although the T cell figures remain to be completely explained.

5.1.1. Vaccines make antibodies against virus:

Vaccines against viruses is mainly based on virus-neutralizing antibodies. Such antibodies usually block the communication of the virus with its cellular receptor or

prevent conformational changes required for fusion of the virus with the cell membrane. Antibodies can either defend from infection and/or disease severity or be useless in doing so. In addition, some antibodies can be harmful. Antibody-mediated upgraded disease may be caused by two different mechanisms. There is presently still merely little understanding of the relations between SARS-CoV-2 infection, antibody reactions and safety. A central issue is to conclude whether vaccine candidates encourage immunity. There are serious ethical and technical limitations to challenging vaccinated volunteers with live wild-type viruses with the purpose of determining vaccine effectiveness. Or else, challenging with recurrent coronaviruses or condensed viruses could be considered for this purpose, knowingly reducing the risk for trial applicants. (Bachmann, 2020 Jul 22)

Covid Vaccines will definitely develop antibodies against viruses, when the virus will attack on the humans then a vaccine that basically makes antibodies will fight against to those of attacking germs.

Respondent Interview 1

General Information:

Name Arooj Junaid, Age: 35, Gender: Female, Cast: Rajput, Education: M.Phil. In Linguistics, Socio-Economic Class: Middle, Religion: Islam, Marital Status: Married, Profession: Lecturer, Time (Month/Year) since vaccination: 9th May 2021 first dose of Covid vaccine and on 2nd of June, 2021 got the second dose of Covid vaccine. Name of vaccine: Sinopharm, Researcher interviewed that lady on 23rd June 2021.

Respondent "Arooj Junaid" narrated that:

“Mai khud Covid negative hunu but meri mother ko covid positive hwa tha. Aur mery khyl sy ye phelny wali bemariyn me sy nahin hai q k agar asa hta tou meri mother sy mjhy b hona chahye tha. Mai ye sochti hnu k ye ak bemari hai no doubt isk lye hamein kuch precautions ko follow zror krna chahye q k mra ye manna tou hai e hai k covid

existtou krta hai. Mera manna hai k hum sbko covid-19 vaccines zror lgwa leni chahye because in case agar hm pr covid hamla krta hai tou hmri body me already antibodies bani hnu vaccines ki wja sy ta'ak hum covid sy fight kr sqen q k vaccines hamri body me antibodies banati hain ta'ak hum virus sy larny ki taqat rkhty hnu aur obviously vaccines insano ki zindgi k lye best hain virus sy bachny k lye. Mera manna hai k vaccines hamri immunity ko barhati hain lakin meny jab sy vaccine lgwaei hai mjhy koi positive or negative asrat ni feel hwy lakin ye ak obvious thing hai k vaccines ham sb k lye faeda mand to hain”.

"I'm a covid-19 negative but my mother had gotten a covid-19 positive. And I think this is not a contagious disease because if it is then from my mother I definitely should take it. I think this is a disease no doubt but we must have to follow some precautionary measures because I believe that covid-19 exists that's why I believe that everyone must have to get vaccinated because in case of virus attacks then we already have made antibodies in our body due to vaccines so that we can fight with viruses because "Covid-19 Vaccine will also make antibodies against viruses" so that we have immunity to fight against covid-19 and then obviously to protect human lives from viruses. I believe that vaccines boost our immunity but since when I got vaccinated I didn't get any positive or negative effects but this is an obvious thing vaccines are beneficial for all of us".

This respondent is also in favor of Covid-19 vaccines but didn't get positive effects of getting vaccines but believes that the vaccines develop immunity and protect our lives from this dangerous covid-19 virus.

5.1.2. Vaccines are Effective:

Vaccines are effective because due to vaccines living organisms fight with viruses and protect their lives from that specific virus. Vaccines offer sturdy shields, but that shield takes time to build. People must take all the essential doses of a vaccine to form full immunity. For two-dose vaccines, vaccines only give fractional safety after the first dose, and the second dose raises that protection. It takes time before security reaches its risky level a few weeks after the second dose. With a one-dose vaccine, people will have built extreme immunity against COVID-19 a few weeks after getting

vaccinated.(WHO, Vaccine efficacy, effectiveness and protection, 14 July 2021). Vaccines can stop most people from getting ill with COVID-19, but not everybody. Even after somebody takes all of the suggested doses and waits a few weeks for immunity to figure up, there is still a chance that they can get infested. Vaccines do not provide a full (100%) shield, so 'breakthrough infections' – where people get the virus, despite having been fully vaccinated – will occur. (I.B.I.D)

Respondent Interview 2:

One of the Respondents Kamran Sarfraz narrated that:

“Jab Corona aya then ussy bachny k lye vaccine bani. Aur isme asa hota hai k aik dose me insan k andr dead covid ko inject kiya jata hai ta'ak apki body easily covid k against antibodies bana sqy aur jb bhi corona app pr hamla awar ho tou body is virus ko pehchan sqy aur usy khilf larny k lye tyar ho isilye covid ki first vaccine ki dose me virus ki recognition krwae jati hai. Dusri dose islye lgae jati hai jsme asi chzen hti hain jo apki immunity ko itna brha deti hain jiski wja sy ap corona sy larny ki taqwat rkhty ho. So islye Vaccines apna bht asar rkhti hain”.

"When Covid originated then for safety from this, a vaccine was made. And in this case, in one dose dead covid-19 has injected in persons that your body has to make antibodies against Covid and when Covid will attack you then your body has to recognize this virus and get ready to fight against Covid so in the first dose of Covid there is recognition of covid-19. Second Dose from this purpose, there is something that boosts your immunity to that level that you will be able to fight against covid-19".

Kamran Sarfraz respondent knows vaccines of covid-19 and even doses of both two doses that what has happened in these two doses and how vaccines are effective.

Investigation methods in the United States are calculated to capture the Covid-19–related vaccination olden times and scientific consequences for all residents and these schemes provide valued resources for evaluating the efficiency of Covid-19 vaccines in a real setting. On the basis of surveillance data from the whole state of North Carolina, which has a inhabitants of approximately 10.6 million people, we assessed

the efficiency of the three Covid-19 vaccines presently organized in the United States in sinking the risks of Covid-19, hospitalization, and demise up to 9 months after vaccination. (Dan-Yu Lin, January 12, 2022)

5.2. Positive Effects of Covid-19 vaccines:

Vaccines are immunity boosters against diseases and viruses. It develops immunity to fight against germs and viruses. When viruses attack the people then the vaccinated person triggers our immune system to fight the foreign organism. Vaccines help our immune system for remembering the disease-causing germ. When someone gets a virus again, the antibodies recognize and then kill that germ before it grounds harm.

Case Study 1:

Name: Commander Ishaq Ali, Age: 70, Gender: Male, Cast: Rajput, Education: Civil Engineer, Socio-Economic Class: Upper-Middle, Religion: Islam, Marital Status: Married, Profession: Retired Army Officer, Time (Month/Year) since vaccination: March 2021. Name of vaccine: AstraZeneca.

Retired Commander Ishaq Ali was fifty-seven 57 years old when we met him, on 18th June 2021 at 6pm. He was a vaccinated person and the name of the vaccine that he has taken was AstraZeneca. He has taken both two doses. But yeah he was not affected by Covid-19; rather he took negative covid-19. But his wife got covid-19 positive and she was vaccinated too. So this person believes that covid-19 exists and everyone can get a vaccine against covid-19 and he said that everyone must have to follow precautionary measures like social distancing, masks, hand sanitizers, and essential precautions that doctors and the government have implemented. He was of the view that covid-19 is dangerous and we all just have to get a vaccine against this disease. He has claimed that after taking the second dose of this vaccine AstraZeneca, he was feeling very better before taking this he had felt some issues while breathing and took some medicine but after taking the second dose of this vaccine he has stopped taking medicine because he was not feeling any issue while breathing. No one

like a doctor has recommended the vaccine to him, rather he thought that this is essential we must have to get vaccinated. He has also heard the virologist who said that every Covid-vaccinated person would die two years after the vaccination, according to him everyone believes in majority and proof and he(scientist/virologist) doesn't have any evidence about this then he said that his wording against the vaccination is like stupid because there is no logic behind this. His thought was that the covid-19 vaccines are the input of all scientists; this is the contribution of all scientists to prevent people from this disease. He believed that it was a cure. He found information about vaccines by using social media like T.V clips etc. He has known four vaccines yet like AstraZeneca, Sinopharm, Sinovac, and Pak-vac. He acknowledged that vaccines were first discovered in America, the U.S, Russia, China, India, and then Pakistan. He admitted that all vaccines of Covid-19 are effective because they have the same formula but effectiveness varies from case to case. He assumed that he is a Pessimistic person and then he also accepted this or believed that covid-19 can spread from one person to another but in their home, only his wife can get covid-19 positive and the remaining all were negative this also can vary from case to case. He understood that after getting the vaccine we must follow the precautions as well when the situation does not get stable. He held that he was in favor of getting vaccinated from the beginning if he is a pessimistic person. This person had 4 to 5 diseases but after getting these vaccines some diseases were disinterested. He believed that if all populations were vaccinated, this would be curable and beneficial for all of us. He assumed that in Pakistan most of the people are pessimistic and illiterate people must have to understand these kinds of things like one dose of the vaccine can contain 8,400 rupees and now vaccines are free so how difficult is that for our country to provide free vaccines for the whole population so he was of the view at the end that everybody will have to be vaccinated and convince those people for getting vaccine who is unaware and refuse vaccines.

To conclude,

- Covid-19 Vaccine (mainly AstraZeneca) recovers the previous disease issues (inhaling, breathing, and B.P).

- By getting vaccinated with covid-19 vaccines, there is decreased usage of previous diseased medicines.

- Vaccines trigger persons' immunity.

This respondent is highly in favor of vaccines and got positive effects and was of the view that everyone must have to get a vaccine for covid-19.

5.2.1. Increased “Hungry Feelings” who were weak and had taken very less amount of food. (Food intake problems resolve).

As vaccines increase immunity then it means that vaccines demand from the complete body to fulfill all the essential needs for the paramount survival, without problems. As repeated infections contribute to the pathogenesis of malnutrition (Prendergast AJ, 2014), it seems consistent that vaccination may play an important role in avoiding malnutrition. The 10 best evidence-based nutrition-specific involvements are expected to diminish curbing by only 20%, meaning that adjunctive interpositions, containing infection control, are perhaps required to prevent growth hesitating in early life (Bhutta ZA, 2013).

Respondent Interview 3

General Information:

Name Umair Ali Khan, Age: 22, Gender: Male, Cast: Baloch, Profession: Graduate Engineering, Socio-Economic Class: Middle, Marital Status: Un-Married, Student of Taxila Engineering University vaccinated (VAX).

He narrated that:

“ Jab meny corona ki pheli dose lgwae tou inject hoty waqt mjhy zara bhi pata nahi laga k jesy koi injection ki soi tk bhi lag rhi ho tou feel hota hai body ko but jesy e

vaccine inject hwi mjhy zara bhi pata nahi laga asa laga jesy k koi pani laga hai body ko. Aur mjhy asa laga k iska koi faeda bhi nahi hony wala q k kuch laga bhi nahi hai agar laga bhi hai in case tou jesy pani jiska pata bhi nahi chalta hai. Lakin meny dekha k jesy e 4 sy 5 din guzry mujhy bhook lgna start hgai r meri jtni routne thi khany ki meny ussy ziada khana start kr dya. Mujh sy even mery friend's pochty thy k yaar kiya scene hai umair tumhra? Tum to itna phely nahi khaty thy then meny realize kiya k ye vaccine ki waja sy hai isi ki waja sy mjhy zyda bhook lag rhi hai. Aur phely jo meri body me weaknesses thein wo b sahi hony lgein mai phely weak feel krta tha but after vaccination mai blkul fit feel krny lga. Islye mai tou yehi suggest krnu ga k vaccine sabko hi ggwani chahye. Iska faeda e hga sabko aur yhi ak solution bhi hai corona sy bachny k lye”.

"When I got the first dose of covid-19 then during injection, I didn't feel anything that like injection needle is entering then body feels something but when vaccine injected I didn't feel anything, I feel like water has touched with the body. And I assumed that there will be no benefit because there is nothing that I absorbed if there is something that is absorbed then that is water which doesn't feel. But I saw when 4 to 5 days had gone by, hungry feelings originated in me and I started to eat more as compared to my normal routine food. My friends even asked me, `` Yaar what your scene Umair is. You were not eating like that before, then I realized that this is due to the vaccine because of the vaccine I am feeling very hungry. And the weaknesses in my body before that will start recovery, I Felt weak before but after the vaccination, I feel very fit and normal. So that's why I will suggest that everyone must have to get vaccinated. This vaccine is beneficial for all of us and this is the only possible solution for securing their lives from Covid-19."

Respondent is of the view that: Due to getting vaccinated Food intake problems and weaknesses problems have been resolved and ‘People should get vaccinated because that’s the only possible solution for Covid’.

5.3. Public Awareness about corona-virus vaccines:

Analyzing attitudes has instituted that most of the population had positive attitudes (92.9%), and 98.4% of the participants knew this infection is extremely infectious, and the taking of defensive measures to control the spread of this infection is a public responsibility. The Pakistani general population has an overall positive attitude and proactive practices against COVID-19, but their knowledge is insufficient. The most important source of information was social media (SM), followed by television. These are playing a fundamental role in educating the Pakistani public. (Rehana Rehman, 2021)

5.3.1. (I) People should kill their Myths and some orthodox and some conventional stories about vaccines of covid-19.

Intensive Pulse Polio Immunization (IPPI) was happening in 1995, after all, children less than five years of age, regardless of their vaccination status, were assumed extra doses of Oral Polio Vaccine (OPV) on National Immunization Days (NIDs) and Sub National Immunization Days (SNIDs). To overcome these difficulties, NIDs are apprehended in numerous countries. The entire nation is mobilized to deliver vaccines to each child aged below 5 years. (S Mukherji, 2011 Jul 21). In certain spaces, individuals do not believe in COVID-19 presence, the virus is intangible and not actually existing and for some persons, it is certainly hard to admit that a "flu-like illness" could be dangerous. (DAWN, accessed 15.06.20). A myth about the starting point of the virus has also appeared and people also have faith that the government is provided with a false number of COVID-19 cases for the reason that a huge amount of cases will get additional profit and contribution. (I.Ullah,2021 Mar 11). Govt. must implement the compulsion of getting vaccines to rule for Public all over the country and then try to overcome the wrong Myths against vaccination of Covid and for reducing these all we must have to educate our Public by giving sessions, awareness spreading sessions on social Media, by Internet, etc.

Case Study 2

General Information:

Name: M. Salman Sani, Age: 22, Gender: Male, Cast: Malik Joyya, Education: Civil Engineer, Socio-Economic Class: Middle, Religion: Islam, Marital Status: Un-Married, Profession: Cadet Military College of Engineers, Acceptance or Refusal of vaccines of Covid-19: Favor. Time of vaccination: 19th July 2021 only 1st dose, 2nd was on pending...Name of Vaccine: Sinovac

Salman Sani Boy was 22nd years old when met on 24th July 2021 at 5:30 pm. He is highly in favor of the covid-19 vaccine. He had an interaction with covid-19 for a couple of weeks. He thinks that vaccines are necessary for all of us. And this is also not necessary that when you get vaccinated then you will always get Covid- negative rather if u get vaccinated then u get positive corona then vaccines developed immunity that will fight against those of Covid germs virus. Those who don't want to take vaccines for covid-19 are doing so wrong on their selves, and they will pay for this when the Polio vaccines first came into our country then most the people thought that this vaccine is a conspiracy of Non-Muslims against Muslims for giving harm to Muslims and these vaccines are also using to make our children more sicker like these kinds of perceptions an all. He understood that with that kind of thinking people had suffered a lot and then they had seen their children with paralysis or like other lower or legs paralysis etc. Then after that people had no option for getting vaccinated and then people believed that. He said that the same is the case regarding People's behaviors now. They all are behaving like that so the Gov. must have to make compulsion for everyone to get vaccinated because if not then the same conditions or happenings will occur as that of Polio's time. And he is of the view that people are getting the Nobel Laureate Luc Montagnier words that he said that those who get vaccines of Covid-19 will die in two years, 'he (respondent) has denied! And is of the view that people getting him wrong and cannot understand, his words express that kind of things like when you get a vaccine then this vaccine will produce immunity and fight with the old covid-19 (like the first wave,) but after that new covid-19 will get mutated like some kind of strong mutations or produce new-variants, not vaccines produce new variants and then harm people. He said "YouTube" video information is so wrong they all are wrong that virologist'. He assumed that as the coronavirus

continues to grow with the new mutated variants, so will the need for more vaccination doses like maybe 3rd dose. He said that people have very wrong Myths like in Polio's time.

This respondent is highly in favor of Covid-19 vaccines and he said that before something happens wrong with the people due to their wrong myths Gov. must have made compulsion for getting vaccines for Covid-19 and he will support that Gov. Decision. According to him, the compulsion of vaccines is the most essential step that should be taken across the country so that people should kill their Myth and some orthodox and conventional stories about covid-19 vaccines.

5.3.2. (ii) Awareness improve the Public Acceptance:

There was an agreement in this study that cases that take immune-suppressive drugs should be recommended for Sinopharm. The disarmed vaccines have been used in cancer and immunosuppressive patients in the past with excellent safety profiles and they are hypothetically the safest vaccine for these patients. It was also known by the participants that cases of hemodialysis can receive AstraZeneca, cases of kidney transplantation receiving immunosuppressive drugs can receive Sinopharm only and HIV/AIDS patients who receive immune-stimulating can receive any type of vaccination (whereas the available vaccines in Egypt now are Sinopharm and AstraZeneca). (HO, 2020).

People and healthcare workers should be informed about new research and information concerning the coronavirus vaccine. Highly educated participants were better educated; their high level of education helps them in understanding educational messages. The higher educated persons can attain knowledge about the vaccine from different sources, which cannot be obtained by lower educated ones. (Marwa O. Elgendy, 13 July 2021).

Respondent Interview 4

Another respondent named Asma Khalid narrated that:

“Mujhy lagta hai k agr logon ko vaccination k process k bary me pata hoga tou phir e wo vaccines lgwany k liye agree kr sqen gy. Logon ny different qism ki perceptions aur myths bana kr rkhein hain k vaccine

ak sazish hai hamy nuqsan phnchany k lye. Logon ki perceptions aur myths is waja sy sae nahi hai q k unhy asal me awareness ni hai. Unhy pata e nahi hai k vaccine asal me hai ks lye? Knyu hai? Kya faeda hga isy lgwany sy? Logon ny khud sy jo suna hai jo dekha hai apny environment me usi k mutabiq apni perceptions bna rkhi hain unhn ny jiski waja sy unki different Myths hti hai. Isi waja sy hamy chahye k vaccines ki zyda sy zyda awareness phelani chahye ta’ak logon ko vaccination k process ko accept krny me masla na ho ho.”

"I think if individuals know the method of vaccination then they will decide to get vaccinated. People have made different types of perceptions and Myths like vaccines are a conspiracy for harming us. Due to this, People do have not the right perceptions and myths because they don't have awareness. They do not know for what purpose vaccines are? Why is that? What will be the benefit while getting vaccinated?. People have made perceptions, according to their environment whatever they learn from the environment, what they see, and what they hear due to this they have different Myths. So that's why we must spread more and more awareness regarding vaccination so that people will not face any difficulty in accepting vaccination." This Respondent support the vaccination behaviors.

5.4. Vaccines are the only possible solution against Covid-19:

Vaccines are the only possible solution against the covid-19 virus because vaccines are used to protect people from the virus. Due to the vaccines, the immunity of an individual enhances and vaccines make antibodies against the viruses. When a virus will attack a person then a person must have the ability to have the power to fight that virus. Therefore, vaccines are the only cure against coronavirus.

5.4.1. Vaccines of covid-19 are basically used for the purpose like as a treatment nowadays against covid-19.

Coronavirus vaccines nowadays are used for enhancing immunity in individuals for protecting people from the covid-19 virus. Vaccines are used as a treatment to secure the person's life from this pandemic covid-19 virus

Respondent Interview 5

Name: Sugra Bibi, Age: 40, Gender: Female, Cast: Baloch, Education: Primary, Socio-Economic Class: Lower Middle, Religion: Islam, Marital Status: Divorcee, Profession: Tailor, Acceptance or Refusal of vaccines of Covid-19: Favor

Respondent Sugra Narrated that:

“Vaccines lagwana har ak insan k lye is time par bhut zarori hai ajkal tou blkul zarori hai jesy jesy corona phel raha hai. Pata ni log isko lgwany sy q jhijahkty hain itny parhy log bhi darty hain pta ni knyu halan k ye hamein nuqsan phunchany k lye tou bilkul bhi nahin hai bl k ye tou hamri sehat k lye zarori hai q k issy insan k andar k jarasem mar jaty hain. Jis mahool me ham rhty hain jesi hawa ham ajkl sans k zariye sy andr le kr jaa rhy hain is hawa me kitny jarasim hty hain jesy dhoein ki wja sy, jesy cigarette aur petrol ka dhowaan wagera iski wja sy hamry andr jarasim paeda ho jty hain aur ham bemar hty hain. Vaccines tou in jarasemon ko marny k lye hain. Islye ham sbko apna khyl rakhna chahye aur vaccine lgwani chahye”.

"At this time it is essential for everyone nowadays to get vaccinated, from time to time like covid-19 is spreading. Don't know why people hesitate, even educated people don't know why, while it is not harmful to us, instead it is necessary for our health because this person's internal germs kill. That kind of environment where we live, that air which we inhale during breathing and inhale that kind of air where most of the germs are there like germs are created due to smoke like cigarette smoke and Petrol smoke etc and due to this in our body germs created and then we get sick.

Vaccines are only for killing these germs. So that's why we have to take care of ourselves and get vaccinated".

Respondents are highly in Favor of Vaccines. She is of the view that: "Vaccine destroys our microorganisms that we ingest in our normal environment consequently we must have to pay attention to ourselves".

5.5. "Vaccines are those medicines that Protects People from Disability":

Vaccines are those medicines that protect human's lives and make immunity booster proteins. When a virus attacks a person then vaccines already have made antibodies against the viruses and individuals will be able to fight against the covid-19 vaccine. And if a person has not been vaccinated and cannot fight the virus then the virus may harm the person severely like to damage the organs of the body, and it may be possible that people get disabled.

Respondent Interview 6

General Information:

Name: Qurrat-ul-ain, Age: 30, Gender: Female, Cast: Baloch, Education: Graduated, Socio-Economic Class: Middle, Religion: Islam, Marital Status: Un-Married, Profession: Disable and affected with Polio/Session court Government Job, Acceptance or Refusal of vaccines of Covid-19: Favor

Disable Respondent Narrated that:

"Mai dono legs sy disable hnu aur aj sirf or sirf disable is waja sy hnu q k mery maa baap ny bachapn me mujhy polio ki vaccine lgwany sy late hogay thy jiski wja sy mjhy Polio hwa aur aj mai disable hnu warna mai paeda ak normal living being ki tarhn e hwi thi aur 9 maheno baad chalna bhi shuru kar dya tha lakin badkismati sy achanak

sy mai vaccine na lgwany ki waja sy mjhy bukhar hwa aur usk baad bukhar me doctor ny mujhy jo injection diya jiski wja sy mai asi bemaar hui k meri tangon pr ghere asar para aur mai chalni sy qasir hui. Kuch time baad doctors ny jab ilaag shuru kiya tou pata laga k ye polio ki vaccine time par na lgwany ki waja sy hwa hai. Mery jisam ka har ak part bilkul normal except legs, mera mind meri bazo mry hath meri baqi body yahn tk k mai "Baaligh" bhi hnu aur yahn tk k mai sexual maturity ki bhi age me aur Periods bhi mujhy hoty hain. So Mera manna ye hai k vaccines asi medicines hain jo apko protect karti hain Disable hny sy. Kisi bhi parent ko laparwahi nahi krni chahye vaccine lgwany sy apny bachy ko blk hamesha responsible hona chahye specially is mamly me tou zaror. aur kisi bhi insan ko issy refuse ni krna chahye q k ye hamry faedy k lye hi hain."

" I am put out of action with both legs and in the present day, I disabled just and just due to this because, in my childhood age, my parents got down to get a vaccination of POLIO, due to this I am disabled now otherwise I was born like normal living/human being and I started taking steps in 9 months of my age but unfortunately, suddenly, I got sick with temperature due to not getting the vaccine and in that temperature that injection given by the doctor to me that affects my legs severely and I got sick more and my legs had gotten disabled. After some time, when doctors started treatment, they recognized that this is due to not getting the Polio vaccine on time. Every part of my body is normal except my legs, my mind my arms my hands all body parts even my Puberty even when I reached puberty age and had Sexual maturity and I experience every month Menstrual Cycle(Periods). So I believe that vaccines are those medicines that protect you from disability. Any Parent must not have to show careless behavior towards their children while getting him/her vaccinated instead must have to show very responsible behavior, especially in that case. And any person must not have to refuse because this is beneficial for us."

The Respondent is Disabled Female and she is in Favor of vaccines and was of the view that: "Vaccines are those medicines that Protect People from Disability".

Respondent Interview 7

Another Respondent who is with that disabled lady whose name was Ayesha, she was also disabled and her age was 28. She was also in favor of getting vaccinated and narrated that:

“Ye zahir c bat hai k vaccines ham sb k faedy k lye e hain. R ye jo virologist hai jo keh raha hai k vaccines hamary andar asy varrients paeda krti hai jiski waja sy ham 2 saal sy zyda survive nahi kar paen gy tou mai is bat sy inkar krti hn ye galt hai. Jb ak chez hai hi islye k ussy insano k andr disability na ay r insan bemariyn sy bach sqen aur zyda sy zyda jee sqen tou ye ksy possible hai k insan jis chz sy 2 saal baad mar jae wo vaccine lgae ja rhi ho aur Government aur Doctors usy approve kr k recommend kr rhy hnu. Mai is bandy ki bt sy totally disagrre krti hnu. Hmari Gov. hamy free vaccines dy rhi hai abi tou hark o is sy faeda uthana chahye kuch time baad Gov. free vaccines ni provide kary gi balk logo ko definatly pay krna pary ga covid-19 vaccines lgwany k lye. Tou Hara k ko chahye k wo is bt ko pehchany aur vaccine lgwae q k ye ham sb k lye mufeed hai aur hamy covid-19 virus sy bachati hai.”

" It is obvious that vaccines are beneficial for all of us. The virologist (Bombshell Nobel Prize Winner Laureate Luc Montagnier) "who says that Covid-19 vaccines are creating variants and due to this we can't survive more than two years" then I denied this thing and this was so wrong. One thing that is only for this purpose is not to create disability in humans and recover from diseases and survive more and more than how the vaccine that people take may expire after two years and physicians and government have accepted and then endorsed. I disagree with that person's words. Our Govt. is providing free vaccines now and that is a good thing so everyone should take this benefit but after some time these vaccines will not be freely provided and people will pay for getting these covid-19 vaccine.”

She said that everyone should recognize this thing and get vaccinated because it is beneficial for all of us and protect us from a covid-19 virus.

Pictorial

Fig 5: Researcher Pictorial Representation while taking interviews



Source: Researcher

Conclusion of this Chapter:

This chapter is about the Covid-19 vaccination Acceptance. The researcher interviewed a total of 30 respondents out of 30, 12 respondents who have the views in the favor of vaccines for covid-19. In this, there are seven (7) Respondent interviews mentioned and 2 case studies that are basically in the high favor of getting vaccines for covid-19 with different perceptions. So overall 40% of the total population is in the favor of Covid-19 vaccines.

6. Vaccination Refusal and Hesitancy:

6.1. MYTHS and FACTS against Covid-19 Vaccines:

6.1.1. Vaccines produce complications in Humans like:

Pregnant females who are required to be vaccinated must converse with their physician and consider the possible risks and profits of vaccination according to their health cases. However, for persons who are planning for pregnancy, there are no academic concerns related to the effects of the COVID-19 vaccine on fertility. To hand is no requirement to delay pregnancy afterward the COVID-19 vaccination. (Rasmussen SA J. D., 2021).

It was acknowledged by the contributors that offspring below the age of 18 are not vaccinated. This is because of the reduced chance of difficulties if they are infected. All chronic diseases do not stop vaccination, as was known by a lot of the participants. The central target of vaccines is to defend high-risk persons, for instance, elderly people, those with prolonged comorbid conditions, health care workers, and those who work in the rudiments industries. (Kaur SP, 2020).

6.1.2 Married couple issues like conceiving problems:

Respondent Interview 8

General Information:

Name Aimen Naveed, Age: 25, Gender: Female, Cast: Khan, Education: Graduate, Socio-Economic Class: Middle, Religion: Islam, Marital Status: Married, Profession: House-Wife, Acceptance or Refusal of vaccines of Covid-19: Refusal, Recorded interview of that lady on 29th July 2021.

Respondent Aimen Narrated that:

“ Mery phly bchy ki pedais hny wali thi jab covid aya aur exist krny lga. Mjhy Covid nahi hwa lakin mera manna ye hai hamy k vaccines nahi lgwani chahyen q k ye insan k sex organs k andar complications create krty hain usk hormones ko imbalance nd disturb krty hain jiski waja sy conceive krna bhi bhut tough ho jata hai . Agar ak married couple vaccinate hota hai tou usy bhut sari mushqalat sy guzrrna parta hai specially tb jb wo family planning kr rha ho aur women k tou even uterus walls me issues aa jty hain iss corona ki vaccines sy jiski waja sy conceive krny k masly hty hain bilkul isi trhn ka case meri sister ne experience kiya hai jiski waja sy mai ye bol rhi hnu otherwise mai asy pgal thri hnu jo khud sy bolnu gi”.

"My first child was about to birth when newly covid-19 had come and existed. I was covid-19 negative but I believe that we should not get vaccinated Because this can create complications in the sex organs of humans and imbalance and disturbs the body process then because of that it will be very tough to conceive. If a married couple gets a vaccine then they will be facing a lot of difficulties especially when they were planning a family due to the vaccine women will face conceiving issues and this same case has happened with my sister, she experienced the same conceiving issues so that why I am saying this all otherwise I am not foolish while says this all. So due to having that kind of perception, she refuses vaccines of Covid".

Respondent was of the view that when we get vaccines for covid-19 then we get complications in our sex organs. If a married couple gets vaccinated then that couple will face a lot of difficulties to have a baby and females will have a problem in their uterus walls and conceiving problems occur. Due to getting Covid-vaccines Married Couple Issues to occur to have a baby, conceiving problems too because vaccines produce complications in Humans.

6.1.3. Inject new virus in Humans and create new Disease (Conspiracy Theory)

Respondent Interview 9

Some People have different Myths regarding Covid-19 vaccines. They thought that there are some new viruses in vaccines that Doctors can inject into People and due to this new diseases have been created. One of the Respondents of 30 years old named Yunis Narrated that:

“ Mujhy lagta hai ye covid showid kuch bhi nahi hota ye bus asy e hai jis ki base par sazish ho ri hai tak hamein vaccines laga kr new virus hamry andr inject kiya jae vaccines k naam pr aur hamen aur new bemariyan hnu aur zyda sy zyda musalman mar sqen ta'ak Musalmano ki tadad kam ho jae. Isi wajs sy jin logon ki ye sazish ka plan hai unho nay Doctors tak ko khareed liya hai.”

" I think that there is no covid exists this is just like that, in fact, based on that there is a conspiracy so that injection of new virus injected in our body on the name of vaccines and then new diseases will be originated and a very large amount of Muslims can die and the population will decrease. So that's why the people who have a conspiracy plan, they already take Doctors with their sides by using money."

So this Respondent is highly in denial of vaccines and of the view that due to vaccines our body will create new diseases like new viruses so on the name of vaccines Doctors injected new viruses into our body and their motive is to kill people. Vaccines are creating new diseases like new variants.

6.1.4. Myth against Doctors regarding Covid-19 Vaccines:

Most people have different Myths about doctors that they are not sincere with the people, and they play with the people's lives.

Respondent Interview 10

Two Respondents Narrated the same views name was Khalid and Aaqib, both were 25 years old and they were friends:

“ Doctors insani jisam pare experiences karty hain. Aur jab insan marta hai tou iska faeda doctors ko hota hai q k ye insan jism k different parts ko bechty hain jest ankhen, Dil, Gurdy wgera bahir k mulkon ko aur us sy faeda hasil krty hain pesy le kr. Doctors ny ab logon ki janon ko bht halka lena shuru kr dya hai. Inhy koi farq nahi parta k koi jeye koi mary balk inhon ny bus apny bussiness ko prefer karna hota hai aur agr insan mar jae tou uska ultimate faeda doctors ko e hota hai. Doctors ny ab insano ki zindigaiyn k sath khelna shuru kar dya hai aur ab isko bussiness le rhy hain. Aur jesy k ham janty hain k agar corona wla person mar jta hai tou usk ghar walon ko ussy milny ki koi ijazat nahi hoti aur na hi usy dafnany ki ijazt hoti hai. Tou dkhye kya story aur kya game hai isk pechy. R ye ak Fact hai.”

"Doctors experience the human body. And when a person kills then they will get befitted because they are selling persons' organs of the body like eyes, heart, kidney etc to the foreign countries and take benefit by earning money. Doctors now start taking the persons' lives very lightly. They do not have any concern with humans' life, rather they prefer to continue their business and if a person dies then ultimately doctors will have a benefit or profit. Doctors are playing nowadays with humans' life and taking them as a business. And As we know that if a Covid person has died then there is no permission for their family members to meet with him/her even not allowed to bury that person. To see what's the story or game behind this, and this Fact".

Different Respondents have different myths and have their perceptions regarding covid-19 vaccines. They are of the view that they are explaining facts very clearly.

6.2. Non-Muslims Political Conspiracy (like, Jewish, Britishers, Americans) against Muslims to destroy our economy in the name of vaccines:

(i) Attack on Muslim Population

(ii) Destroy the Economy and the Political System in the name of vaccines.

Case Study 3

Name: Mirza Aamir Baig, Age: 50, Gender: Male, Cast: Mughal, Education: Matric, Socio-Economic Class: Lower Middle, Religion: Islam, Marital Status: Married, Profession: Labor, Acceptance or Refusal of vaccines of Covid-19: Refusal

A fifty years old Man on 17th July 2021. He was not a vaccinated person and he refuses vaccines he thought that everyone must have to refuse the covid-19 vaccines because in the name of vaccines we are taking 20 percent other germs in the first dose and then 20 percent in the second then in total 40 percent other germs who can damage our internal system and in addition, these vaccines also infect us with various diseases. A myth was that when covid-19 exists like in the first wave and second wave then why didn't get vaccines and recover by following some precautionary measures, So we recover ourselves by cleaning our homes, wearing masks, and maintaining distance. He assumed that there is no covid-19 existence and if yes then we all are used to that environment and by following some precautionary measures we will recover. But injecting vaccines into people is a "Conspiracy of Non-Muslims against Muslims to harm the Muslims and direct attack on the decreasing population of Muslims and our economy". According to him, China has recovered by following precautionary measures instead of getting vaccines for covid-19 and other countries also like that but yeah they have made vaccines and sold them to Pakistan and then harm the people because when people get vaccinated they will get other diseases and ill or die and when they will die population overcome and when they will ill then they can't be able to work so economy also suffers. He also had experienced a death case of their friend's son who had gotten covid-19 vaccine then after some days he had admitted to the hospital and doctors said that his mind and heart blood has become thin and then after tests, he got the disease of Brain hemorrhage and then after 1-week getting vaccine of covid-19 he died and the age of that died guy was 25-28. He defines covid-19 vaccines with one word that is basically "Biojunk". He believed

that covid-19 vaccines are very harmful to everyone because there are lots of side-effects of that vaccines and the main thing is that it's a conspiracy of Non-Muslims towards us for damaging our economy and population too. This person is highly against the covid-19 vaccines because he thought that the vaccination process is a conspiracy of Non-Muslims toward the Muslim economy and Population too, and he called vaccines junk. His perceptions are totally in the refusal of covid-19 vaccines.

6.3. Beliefs and Barriers associated with Covid-19 vaccination among the General Population:

6.3.1 “Medical Pluralism”:

Medical pluralism can be nicely-described as the service of one or more medical systems or the usage of each traditional and complementary and alternative medication (CAM) for health and infection (CAM) remedies, now regarded to be not unusual in America). Women have been requested approximately their use of 11 CAM domains for health reasons, which include vitamins and dietary supplements (except every day more than one nutrient or general doses of vitamins A, B, C, E, or calcium); a unique eating regimen, which includes entire ingredients, macrobiotic, or different vegetarian eating regimen (except for diets to shed pounds, inclusive of Weight Watchers or Jenny Craig); medicinal herbs or teas; treatments or practices associated with a specific way of life or culture, which includes:

- Chinese medication,
- Ayurveda,
- Native American healers,
- Curanderismo,

- Homeopathic treatments; yoga/meditation/tai ji; chiropractic treatments; guide treatments, which include rubdown or acupressure; energy cures, together with Reiki or healing contact; acupuncture; And some other treatments now not generally approved with the help of a clinical physician/ or by a medical doctor. Medical variety amongst females as a cultural norm should be accepted. Communication in scientific or efficient or medical encounters ought to be more advantageous. Specifically, exposure costs of CAM usage to conventional clinical carriers need to be expanded, particularly for females who are pregnant and people with heart disorders and cancer. Because many females use nutritional extras and herbs on the side of conventional medications, it's far more important to address the risks and advantages of poly-pharmacy at several levels of the general public health system. (Christine Wade, 2008 Jun).

6.3.2. Different understandings of People to cure disease like not only by Allopathic (Biomedical) but Homeopathic (Herbs) and several other ways.

While studying Medical Anthropology we can see different Methods of Treatment not only Biomedical but Homeopathic (Herbal) Treatment too. So in this, we will study three different systems in which we will see how people understand the disease and what are the ways that they use for treatment. Now, these Systems are as Given Below:

- (1) Chinese Medical System.
- (2) Greek Medical System.
- (3) Hinduism “Ayurveda” Medical System.

(1) Chinese Medical System (TCM)

- (i) In TCM, the balancing is done between two opposite forces YIN & YANG.

(ii) Yin symbolizes the cold, slow, and passive principle, while Yang signifies the hot, excited, and active principle.

(iii) Amongst the major conventions in TCM are that health is attained by maintaining the body in a "balanced state" and that illness is due to an internal imbalance of yin and yang.

(iv) This imbalance indicates obstruction or blockage in the flow of qi (or vital energy) in end-to-end pathways known as meridians.

(v)TCM practitioners classically use:

- Herbs,
- Acupuncture,
- Massage,

to help clear "qi" in patients to bring the body back into harmony and wellness. Acupuncture and moxibustion (In this specific MUGWORT leaves are used for the burning of an herb above the skin to apply heat to the acupuncture point). The Chinese Materia Medica (the catalog of natural products used in TCM). Massage (Manipulation). (by Melinda Ratini, on February 20, 2020)

(2) Greek Medical System

It is also known as "UNANI System ". It is all about harmony. (EUCRASIA: BALANCING, DYCRASIS: IMBALANCING". In this, Empedocles' idea that all-natural substances consisted of four elements: earth, water, air, and fire, that idea of four elements gives ancient Greek doctors the ability to create the theory of four "humor" or "liquids". These four humors are as given below: Blood, Phlegm, Yellow bile, and Black bile. The idea then established of keeping these 4 humors in balance

as a requirement for good health. The prehistoric Greeks later connected each humor to a season, an organ, a temper, and an element, as seen below:

Table 7: Humors of the Greek Medical System

HUMOR	ORGAN	TEMPER	SEASON	ELEMENT
Black bile	Spleen	Melancholy	Cold	Dry Earth
Yellow bile	Lungs	Phlegmatic	Cold & Wet	Water
Phlegm	The Head	Sanguine	Warm & wet	Air
Blood	Gallbladder	Choleric	Warm & Dry	Fire

Source: Article “Medical Systems” (Brazier, on November 9, 2018).

The theory advanced that when all the humors were stable and blended appropriately, the individual would experience perfect health. Subsequently, the disease would occur when somebody consumed too much or too slight of one of the humors. This theory continued to be popular in Western Europe till the 17th century. Nevertheless, while the ancient Greeks pushed medicine onward in various ways, the concept of humor posed a problem to advances in medical practice. It was not until 2,000 years ago that

scientists decided the theory was false. Hippocrates was the father of western medicine (Brazier, on November 9, 2018).

(3) Hinduism “Ayurveda”:

It is the teaching of traditional medicine in INDIA called "AYURVEDA". Ayus means 'Life' and Veda means 'Science'. It is the science of life. Health is Multidimensional. It is a state of equilibrium. It is a balancing "TRIPOD " (Body, Mind & Spirit). Maintaining a balance holistically is a remedy to improve the lifestyle. This system is inclusive. It has 3 "DOSHAS" known as:

(i) Vatta,

(ii) Pitta,

(iii) Kaph;

When Single Dosha is Dominant it is called "PRAKRITI". When dual dosha is dominant it is called "Vikriti", but the main is to maintain 'Body Equilibrium'. "Ayurveda" endeavors to synchronize and harmonize the Body, Mind and spirits for happy material existence, Proper secular Conduct, and Spirit Salvation through a correct understanding of the true relationship between Man & his biosphere, and the ultimate source of his perception and existence. Ayurveda, a system of Traditional Indian Medicine (TIM), literally explains from Sanskrit "knowledge of life" or more accurately "systematic knowledge of the lifespan". Ayurveda is a Whole System of Medicine. Ayurveda is completely acknowledged by the World Health Organization (WHO) as a medical science similar to Traditional Chinese Medicine (TCM) and has combined a huge wealth of experiential healing knowledge. Ayurveda is instantaneously a science, medicine, and a spiritual method. Ayurvedic concepts are constructed on anthropologic assumptions including dissimilar levels of existence in healing approaches. Thus, Ayurveda can be understood in harmony with the basics of a Whole Medical System. (C. Kessler, 28 Nov 2013).

Oriental people's understanding of health is that the person is basically a 'combination of body, mind, and soul'. So, if a person is sick, therefore he must have to maintain a harmonious relationship within himself and his surroundings. Integrative Medicines are used to integrate the "Whole person" including a person's

physical symptoms, social environment and Psychological Well Being (inner state of being mental) into the process of diagnosing and treating illness. This is basically a holistic approach. Holistic concept involves all possible human components including:

- How they interact,
- How they fit into total existence;

The medicine that treats the person should be holistic not only physical condition. E.g. Taiwanese they said that;

- An inferior Physician treats symptoms,
- Average Physician treats illness,
- Superior Physician heals the whole person;

Person became sick from an “Asian Perspective”, traditionally such as Chinese or Hindus individuals, believe that a person became sick because their Inner and Outer forces are out of balance. So “Chinese Traditional understanding” and “Hinduism Ayurveda” both are of the view that regarding a balance of a person’s mind, body and soul as foundation of a good life. So following is comparison between Traditional Chinese understanding and With Hindu thought:

Table 8: Comparison between TCM & Ayurveda

Chinese Medical System (TCM)	Hinduism Medical Understanding “Ayurveda”
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<p>(1) Maintenance of Balance between “YIN & YANG” within ‘microcosm and macrocosm’ is the key of a persons’ health.</p>	<p>(1) Maintain a Balance between internal and external forces, physical mental, social and spiritual.</p>
<p>(2) According to the Chinese Approach, The Medicine is to “restore the balance of YIN &YANG within the body”.</p>	<p>(2) The HINDU approach will strive to ‘restore the harmony among the mind, body and spirit Systems.</p>
<p>(3) They believed that all living things are composed of TWO integral forces YIN & YANG, If the Balance between these two is broken, disease will occur.</p>	<p>(3) Hinduism “Ayurveda” depicts the body, mind and spirit as a “tripod”, supporting the world structure.</p>
<p>(4) It has five elements:</p> <p>(i) Earth</p> <p>(ii) Water</p> <p>(iii) Fire</p> <p>(iv) Wood &</p> <p>(v) Metal</p>	<p>(4) It also has five elements:</p> <p>(i) Earth (Bhomi)</p> <p>(ii) Water (Jal)</p> <p>(iii) Fire (Heat, Agni)</p> <p>(iv) Air (wind, Vayu)</p> <p>(v) Sky and space (Akash)</p>
<p>(5) “Tao” is the concept of Truth, ultimate reality, the course of nature,</p>	<p>(5) “DHARMA”, the foundation of TRUTH & “BRAHMAN”, the ultimate</p>

reality of things.	reality.
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(C. Kessler, 28 Nov 2013).

6.3.3. Understanding of people to cure disease by Religious ways:

The connection between religion and health has been of ancient interest in the health, social, and behavioral sciences, covering a period of >100 years. In recent years, some books have been published, and main journals in public health and medicine have presented empirical research, literature reviews, and special issues on these and linked topics. While religion and health were once considered marginal to serious scientific investigation, they are presently enjoying an exceptional level of research interest and fame. In the health and medical sciences, there is growing acknowledgment that religious and spiritual concerns are significant for understanding health-related behaviors, attitudes, and beliefs and are mainly salient for persons whose health is cooperated. However, there are numerous programmatic efforts that examine the connections between religion and health and that reveal sophisticated theoretical, methodological, and analytic methods or attitudes. (Chatters, Volume 21, 2000)

Victor Frankl, Psychoanalyst who transliterated of his practices in a Nazi awareness camp, wrote: “Man is not demolished by distress; he is demolished by anguish without sense” (Christina M. Puchalski, 2001 Oct;) In Ethiopia, individuals practice indigenous medical systems as an alternative health care facility end to end with the biomedical health services . In spite of its existence and continued practice, indigenous medicinal information as well as education, training and investigation in the area, have lacked approved acknowledgment and support. (Mesfin H. Kahissay, 2017 Jan).

Respondent Interview 11:

One of the respondent Gul e zahrah who was from Peshawar and her language was “PUSHTO”, Her age was 42, Married, Housewife narrated that:

“Jab hamein pata hai k mout tou ani hi ani hai tou hamein ussy darna bilkul b nahi chahye aur apny Rub par pura bharosa rakhna chahye. Aur phely k door me konsa ye Doctors ya ye vaccines thein tou kya log survive nahi karty thy? Ya bemariyan nahi hoti thein? Haan logon k pass aur tareqy hoty thy aur specially log duaen parhty thy wazeify karty thy apny rub par bharosa krta hwy tou wo definitely thek ho jaty thy. Tou ye vaccines zarori nahi hain blkul bhi ham sbko duaen parhni chahyen Allah pak ka kalam parhna chahye namaz parhi chahye usi sy e ham thk ho jaen gy inshaallah isk ilwa ksi bhi chez ki zarorat nahi.”

“When we know that death is definite then we should never have any kind of fear and must have to Trust on God. And decades ago, if we see, then Were there any doctors or vaccines, then people had not survived? Or no diseases? Yes people have other ways to cure themselves especially Prayers and “Wazaify” has been done by the people by keeping trust on God they had definitely recovered. Then these Covid-19 vaccines are not necessary not at all, we have to offer prayers and recite “KAALAMS” then we will definitely recover (I.A) nothing is required other than that.”

6.4 Negative Effects of Covid-19 vaccines:

To regulate the gender and age based inequalities in side effects among healthcare workers in reply to COVID-19 (Sinopharm) vaccination. Whole 216 healthcare workers were vaccinated against COVID-19 by administering the Sinopharm vaccine during February and March 2021 at Infectious Diseases Department of Holy Family Hospital Rawalpindi were registered in the study through consecutive sampling. Data for this cross-sectional descriptive study was collected pertinent to age, gender and side properties of Sinopharm vaccination. The information concerning vaccination side properties were inquired through telephonic calls. To determine, Side properties resulting from the Sinopharm vaccine among our healthcare personnel were minimal.

Luckily none of them were criticized for serious aftereffects. Despite the COVID vaccination, our healthcare workers should severely obey to COVID SOPs amidst pandemic in order to avoid catastrophe in future. (Umar, 2021).

6.4.1. “Covid-19 Vaccines affect People Natural immunity, Now People fully dependent on artificial immunity”.

Vaccines can defend your immune system against viruses without making you vile. They securely boost your immunity by using a destroyed or weakened version of a germ to teach your body’s defenses to fight back against the actual thing. Even though they can bring on side properties, they infrequently make someone seriously ill. Many vaccines can cause side effects like: Mild fever, Red, tender skin at the place where you got the volley. Occasionally, a response that can include fever, rash, joint pain, and swollen lymph nodes. (Neha Pathak, January 20, 2022).

While it’s correct that natural active immunity can make you immune to a sickness after just a single case of infection, there is a problem: You have to get vile. And many illnesses can cause serious health problems that can disturb you, sometimes for life. For example, in some people, chickenpox can cause lung toxicities (pneumonia), blood infections (sepsis), and a bump of the brain (encephalitis). Before a vaccine was established, this common childhood infection resulted in 10,000 hospitalizations every year. You can avoid dangers like these by getting all the vaccines your doctor commends. (I.B.I.D). Due to the Covid vaccines people have lost their own natural immunity and are now dependent on artificial immunity.

Respondent Interview 12:

One of the respondent Atiqa Khalid, age was 33, Housewife narrated that:

“ Jesy jesy corona ki new waves ati jaa rhi hain usk liye new booster vaccine bhi ban rahi hain jiski waja sy society k log vaccines par vaccines lgwa rhy hain aur har wave ki ka lag dose hi banti ja rhi hai jiski waja sy log vaccines par vaccines lgwaty

hwy Artificial immunity par dependent karty ja rhy hain aur is tarhan sy logon ki apni natural immunity par ghera asa par raha hai. Isi waja sy in vaccines sy avoid karna chahye ta'ak hm apni natural immunity ko bacha sqen destroy hony sy.”

“As such as coronavirus new waves has upcoming then novel booster vaccines has furthermore making so because of this people of culture are receiving injections and vaccines and every single wave has its own different dosage creation so due to this people took vaccines on vaccines and then dependent on Artificial Immunity and then in this way individuals natural immunity is suffering and severely affecting. That’s why we need to avoid these vaccines so that to protect our own immunity from abolition.”

Respondent refused and denied this vaccination process because she is of the view that vaccines are destroying our natural immunity.

Conclusion of this chapter: In this chapter, 16.67% people have shown hesitancy towards vaccines, People have different kinds of Myths and 23.33% people are refused or highly against of covid-19 vaccines with different perceptions. Respondent Interviews are there in this chapter plus case-study has also been mentioned.

7. Factors causing COVID-19 vaccine hesitancy and acceptance among Pakistani population:

7.1. Factors influence the Intention to the use of Covid-19 Vaccines:

This chapter studied the factors related with acceptance of the COVID-19 vaccine compared to hesitance in the Pakistani people and precisely concentrating on the perceived beliefs, knowledge, concerns, risk, and security perception involving to the COVID-19 vaccine.

The deficiency of knowledge, thoughtful, and perception of the risk, safety partially clarifies the low rate of vaccine acceptance in the Pakistani population as compared to the people who have hesitancy towards vaccines. Approaches to increase awareness of the benefits of vaccination would target persons in the inferior socioeconomic group and persons with chronic disease.

Precautionary measures for instance social distancing, quarantine of disbelieved and confirmed cases, transportable restrictions, authoritarian and smart lockdowns, compulsory use of face masks, and sanitization practices have been suggested and prescribed to control the spread of COVID-19. These trials had subjective and altered the way of life and subsequently affected person's physical, psychosocial and economic security. Because of the willpower of the pandemic condition, these vaccines recognized early supervisory endorsements by countrywide drug and pharmaceutical movements in December 2020 and vaccination stages have been trolled out in many countries speedily after. The word vaccine hesitancy is well-defined by the World Health Organization (WHO) as 'postponement in acceptance or else refusal of vaccination regardless of the accessibility of vaccination packages'; in opposition, vaccine acceptance denotes to the likeliness to acquire vaccinated. Vaccine hesitancy is not a original marvel and has been one of the topmost global health extortions well before the COVID-19 outburst. The points of hesitancy fluctuate across time and place, dependent on several factors for instance complacence, accessibility, and confidence. (Farooq Ahmad Chaudharya Department of Community Dentistry, 08 Jul 2021)

The objective of this is to scrutinize the factors related with acceptance of the COVID-19 vaccine compared to hesitance in the Pakistani population and precisely focusing on the perceived beliefs, knowledge, concerns, risk, and security perception relating to the COVID-19 vaccine.

7.1.1. Demographic Factors:

Despite the fact COVID-19 vaccine acceptance has been inspiring general; some persons are either one hesitant on the way to, or refuse, the vaccine. Protection Motivation Theory (PMT) has been practical to influenza vaccine acceptance, but here is an absence of research put on PMT to COVID-19 vaccine acceptance. Furthermore, prior research has recommended that coronavirus conspiracy beliefs also demographic factors may play a part in attitudes to the vaccine. This study directed to predict COVID-19 vaccination aim using PMT, Covid virus conspiracy beliefs, and then demographic factors. Moreover, vaccinated and unvaccinated persons were paralleled in relative to their corona virus conspiracy beliefs. Intermediations and campaigns addressing COVID-19 vaccine acceptance should employment strategies growing individuals' perceived strictness of COVID-19, perceived vulnerability, and perceived ability to become vaccinated, whereas declining perceived prizes of not receiving vaccinated. Moreover, corona virus conspiracy beliefs would be addressed, as these look to play a role for certain vaccine-hesitant entities. (Ling, 2021 Sep 7)

There is an article in which a very short research has taken place titled: "Demographic factors associated with acceptance, hesitancy, and refusal of COVID-19 vaccine among residents of Sukkur during lockdown: A cross sectional study from Pakistan". The objective of that study was to evaluate the demographic factors related with COVID-19 vaccine acceptance, hesitancy, and refusal among the overall Pakistani population. This cross-sectional investigation was accompanied throughout the months of February-March 2021 during pandemic. Sample dimensions remained 479. Snowball sampling approach was recycled for data collection. Reading questionnaires were dispersed online by means of E-mail, Twitter, Facebook, and What's-App. The overall result was that COVID-19 vaccine acceptance remained 40.5%, vaccine hesitancy is located 29%, and vaccine refusal stayed 30% amongst the reading participants. Paralleled to younger, the vaccine hesitancy and refusal

remained advanced in adult people of age > 30 years ($\chi^2 = 7.45, p = .02$). Paralleled to males, vaccine refusal was in elevation among females ($\chi^2 = 7.45, p = .02$). Vaccine refusal remained higher in people with fewer educated <12 paralleled to more education ($\chi^2 = 28.68, p < .0001$). Mature people, females, and a lesser amount of education groups are at additional risk of COVID-19 infections by reason of vaccine hesitancy and refusal. We endorse these groups must be focused in COVID-19 vaccine education/teaching (awareness) programs. (Ayaz Ali Samo, 2022 Feb 1)

7.1.2. Social Factors:

Major interventions for getting a COVID-19 vaccine include vaccine hesitancy, skepticism, refusal, and anti-vaccine movements. Several studies have been directed on arrogances of the public towards COVID-19 vaccines and the probable influencing factors. Coronavirus disease 2019 (COVID-19) is a infectious and pathogenic viral infection. Vaccination inspires the immune system to develop antibodies to fight an exact infectious agent in the body. They have been used to eradicate and significantly decrease morbidity and mortality associated with different infectious diseases by providing advantage to those who get vaccinated and also protecting populations through reducing broadcast of the disease. Via crowd immunity, a high approval of COVID-19 vaccines can also help defend people who cannot get a vaccine such as those with collaborated immune systems and young children. Getting efficient results from a vaccine does not exclusively rely on accessibility/approval, but also be contingent upon the public's acceptance and readiness to get vaccinated. Other major interventions to getting a vaccine include vaccine caution, skepticism, refusal, and anti-vaccine movements. In 2019, vaccine hesitancy was identified as one of the ten challenges to global health, and this concern has grown throughout the COVID-19 pandemic while prior studies looked at predictors of vaccine acceptance and uptake, it is worth noting that emergency-released vaccines differ from established vaccinations in many aspects and newer vaccines are usually met with greater skepticism. Several studies have been conducted on attitudes of the public towards COVID-19 vaccines and potential influencing factors. It is imperious to explore the different features swaying attitudes and sensitivities of people related to COVID-19 vaccines. Vaccine refusal has a variety of causes which differ depending on regional, cultural, and social factors Understanding different vaccine attitudes is particularly significant as diverse

vaccine refusal strategies that address the needs of different groups can be developed. (Ghadir Fakhri Al-Jayyousi, 24 May 2021).

7.2. Forecaster of Covid-19 vaccines Acceptance and Hesitancy:

The hesitancy towards vaccination with the COVID-19 vaccine remains a problem worldwide. Lack of clinical judgments for the vaccine, fear of vaccine side effects, and reports of the presence of active viruses in vaccines are some leading hindrances that hinder the success of the COVID-19 vaccine campaign. Vaccine hesitancy is a major hurdle in the face of the COVID-19 vaccination programs. (Khan YH, 2020). The vaccination program campaigns include announcements on social media and television to increase the population's awareness of COVID-19 vaccines and show the importance of public vaccination to bound the spread of coronavirus infections. (I.B.I.D).

As the lockdown is not possible for some countries because it mess up economic conditions, vaccination may be the way to limit the epidemic infection. Due to poor knowledge between populations about types of vaccine, its dosing commendations, the poor obligation to hygiene practices, the national and international health organizations are organizing operations to increase the public awareness level about the COVID-19 vaccines. (Elgendy MO, 2020).

At the beginning of the availability of the vaccine doses, there was little vaccination program campaign analysis, providing the chance to study the public awareness with COVID-19 vaccines. But now, there is more exposure and an increase in public awareness. (La V-P, 2020).

The COVID-19 pandemic is still threatening the world. A vaccine is a great courage to find a solution to control the virus infection. Many coronavirus vaccines are now available. However, to be effective, a vaccine must be suitable and usable among the majority of the people. (Mannan DKA, 202). Pregnant women who wanted to be vaccinated must discuss with their physician and weigh the potential risks and benefits of vaccination according to their health cases. However, for persons who

planning for pregnancy, there are no theoretical concerns related to the effects of the COVID-19 vaccine on fertility. There is no need to delay pregnancy after the COVID-19 vaccination. (Rasmussen SA, 2021).

“There is no scientific basis for taking aspirin or anticoagulant drugs with the AstraZeneca vaccination” was answered by a lot of participants. However, a prior study reported that early launch of congealing treatment results in a rapid response without thrombotic obstacles. (Thaler J, 2021).

7.3. Reasons; Why Respondents avoid Vaccination:

There are many different reasons that people have to avoid vaccination process. Some of the reasons are discussed below:

7.3.1. Vaccines side effects and extent of risks:

Resembling any vaccine, COVID-19 vaccines can cause side effects, maximum of which stand mild or moderate and get away inside a few days on their own. As per exposed in the results of clinical trials, more severe or enduring side effects are probable. Vaccines are constantly observed to notice hostile events. Testified side effects of COVID-19 vaccines have typically be situated mild to moderate and have keep on no longer than a insufficient days. Representative side effects consist of pain at the vaccination site, fever, fatigue, headache, muscle pain, chills and diarrhea. The probabilities of any of these side effects happening after vaccination fluctuate according to the definite vaccine. COVID-19 vaccines defend against the SARS-CoV-2 virus merely, so it's still significant to keep yourself in good physical shape and well. (WHO, 31 March 2021).

Respondent Interviews:

Most of the Respondents narrated the same words when they had taken the doses of vaccines.

“Vaccines ki dose lgwani k bad hamri body ko suffer krna prta hai hamy bukhar hta hai hamri bazu me dard hta hai pait sa khrb hta hai ajeeb c weakness feel hti hai sar dard karta hai jesy utha ni jata kisi b kam k lye aur pait tou asy khrb hta hai jesy k haiza hgya ho. Islye hamara tou yhi e khena hai k vaccine lgwani hi ni chahye iska asar bura prta hai insan me kam krny ki himt ni rhti aur time waste hta hai”

“After taking the vaccine dosage our figure suffers. We get fever and pain in our arm abdomen. It affects something like a strange feeling like weakness and headache too, like being unable to stabilize the body for work and abdomen affects like that affected by diarrhea. That’s why our point of view is that don’t get vaccinated because it has a lot of side effects and the individual is not in that position to work and time has been wasted.”

So as we see that people face some difficulties and some effects in their bodies after taking the vaccine dose and they absorb this negatively so due to this phenomena people have different perception or like people hesitate or like to avoid the vaccination process due to the mild points.

7.3.2. Lack of Knowledge of Vaccines:

Lack of knowledge and distrust to vaccines symbolize a challenge in attaining the vaccination attention requisite for population insusceptibility. Among the barriers to worldwide vaccination, misrepresentation concerning the benefits, medicinal alignment and adversative effects of vaccination parameters patient understanding, and the rise in anti-vaccination measure was primarily caused by believes that injections do more damage than good to children, particularly in case of concerning vaccination by autism. Altered demographic collections have diverse outer and personal influences that are revealed in their cognitive practices. That is why it is essential to adjust the manner of notifying each individual group almost the vaccine. (Silva Guljaš, 2021 Jun 7).

One of the Respondant Bina narrated that:

“ Sary doctors Paghal hain jo ye keh rhy hain k vaccine lgwani chahye jab k hamy

pata hai k ktni sari sazishen isk pechy chal rhin tou ham q lgaein vaccine? Aur bhut sy doctors to mily hwy hain lakin jo nahi mily hwy inka dmagh kharb hogya hai ye logon par experiences kr kr k dkh rhy hain aur zyda parh parh kr tajurby kr kr k in ka amna dmagh khrb hgya hai inhy pata hi nahi hai k kya thk hai kya galt islye kaha jta hai k zyda prhai b insan ko pagal kr deti hai islye zyda prhna e nahi chahye. Itna prh prh kr Phd kr k krna e kya hai jab yhi Phd apko pagal e kr dy phr bas ap naam k doctor hoty ho ata jata kuch bhi nahi bas ulta paghal hoty ho”.

“All doctors are mad, who are saying that we must get vaccinated, as we know that there are a number of conspiracies behind this. Why do we get vaccinated? Most of the doctors are in a team or a part of this conspiracy team and those who are not they are mad they are experiencing the humans of these vaccines. Due to the experiences they are going into a mad situation they do not know what is right and what is wrong. So that’s why saying that more education is going to make people so that’s should not get more educated. What you will do when that PhD level makes you mad then you are the doctor by name only but don’t know about anything but make you mad.”

This respondent is highly in the refusal of vaccination because she felt insecure from the doctors and unable to believe medicines and vaccines of covid-19.

7.4. Factors influencing Covid-19 Acceptance:

The Theory of reasoned action (TRA) justify individual behavior by emphasizing the value of beliefs in foretell behavior. Accordant to TRA, an individual’s cognition toward the conclusion of the behavior and personal norms (the belief of the person’s social environment) pretend individual behavior purpose. Positive vaccination cognition will gain the rate of COVID-19 vaccine acceptance. Those who designate to receive the COVID-19 see high perceived benefits in doing so for the goal of protecting themselves and others in their social group, express vaccination cooperation. Increasing public and individualistic awareness is the most essential factor in the fight against diseases, crime, and social unfairness. People are either unconscious of or awful of the contemporary vaccination program. (Taslima Akther, January 12, 2022).

Belief in conspiracy theories and COVID-19 vaccination: Conspiracy theories are explanations for momentous events that involve secret secret plan by powerful malicious groups. Usually accepted conspiracy theories claim that environmental condition occurrence is a hoax; NASA faux the moon landings. A conspiracy belief is the unwarranted assumption of a conspiracy when other explanations are much likely. Conspiracy beliefs about the beginning and attention of HIV/AIDS had a negative effect on attitude toward preventive measures and adhesiveness to treatment programs. Fearfulness about the safety device of childhood vaccinations contributed to a drop in polio vaccination rates in many countries. (I.B.I.D)

Impact of conspiracy beliefs on attitude toward vaccination: Faith in anti-vaccine collusion theories reduces vaccination intentions. Anecdotes about COVID-19 vaccine expansion delays, or that vaccines will be freely available only to supporters of the ruling government, may foster distrust between government shareholders and the broad public. This could affect the implementation of any vaccine-related strategy. (I.B.I.D).

Impact of conspiracy beliefs on COVID-19 vaccine acceptance: Conspiracy beliefs are widespread and can have negative consequences because perceived social norms have a strong influence on individuals. Social effect is the procedure by which perceptions of what other people think and do influence beliefs and behaviors. Societal ethics executive presentation by implicitly major what is and is not a Rumors and intrigue philosophies can contribute to vaccine anxiety. Negative captions about vaccine effectiveness historically inclined vaccine authorization. Anecdotes about vaccination movements being used for political purposes are not new, and such rumors affected vaccination campaigns in some countries. One prevalent story holds that serious phases of medical trials in the vaccine expansion were skipped because pharmacological companies would not compensate participants for adverse side effects experienced during the trial acceptable in a given context. (I.B.I.D)

Awareness: Awareness is the range to which an aim population is aware of a modernization and formed a general awareness of what it involves. The concept of consciousness first appeared in innovation dispersal theory, which states that the

decision-making process for adopting new technologies includes awareness, attitude formation, decision, implementation, and confirmation. By adding to an entity's attitude toward behavior, the behavioral norms of an individual user's social group have a strong influence on the individual's behavioral intention. (I.B.I.D).

7.4.1. Health Believe Modal (HBM) (acceptance):

The Health Belief Model (HBM) is a prominent context for examining human health behaviour. The HBM paradigm is made up of several subdomains, as well as perceived susceptibility, perceived severity, perceived benefits, perceived barriers, then cues to action. Perceived susceptibility denotes to a person's perceptions of how susceptible they are to infection, and perceived harshness refers to the probability of changing their health-related behaviours to stop potentially severe repercussions. In the framework of vaccine acceptance, perceived benefits denote to a person's views about the desirable returns as of getting vaccinated. In contrast, perceived barriers are beliefs that may bound a person's willingness to be vaccinated against a exact disease. Extraneous rudiments that influence specific health behaviour are identified as cues to action. The HBM model has been working as a key framework to analyze influenza vaccination acceptance behaviour in various diverse pieces of research. That is why evaluating important HBM framework mechanisms that influence the intention to take the COVID-19 vaccines could be supportive in increasing vaccination analysis. (Mosharop Hossian, February 11, 2022).

7.4.2. Approval of Covid-19 vaccines in Pakistan amongst health care employees:

Getting of the COVID-19 vaccine will impart an essential role in destroying the virus. In Pakistan, health care workers (HCWs) are the chief group to receive vaccination. This survey targeted at the level of getting to the COVID-19 vaccine and forecasters of non-acceptance in HCWs. The method that was used in: This was a cross-sectional study design and data were collected through 3rd December 2020 and February 14th, 2021. An English study was extent through social media podiums and management of associate hospitals along with snowball sampler for private hospitals. Results was Out of 5,237 responses, 3,679 (70.2%) accepted COVID-19 vaccination and 1,284

(24.5%) wanted to delay until more data was available. Only 5.2% of HCWs rejected being vaccinated. Vaccine getting was more in young (76%) and female gender (63.3%) who worked in a tertiary care hospital (51.2%) and were direct patient care providers (61.3%). The reason for rejection in females was doubtful vaccine effectiveness (31.48%) while males rejected due to prior COVID-19 exposure (42.19%) and side effect profile of the vaccine (33.17%). Logistic regression analysis verified age between 51–60 years, female gender, Pashtuns, those working in the specialty of medicine and allied, taking direct care of COVID-19 patients, higher education, and prior COVID-19 exposure as the forecasters for taking or refusal of COVID-19 vaccine. In conclusion, this investigation advises that early on in a vaccination drive, majority of the HCWs in Pakistan are willing to be vaccinated and only a small number of participants would actually reject being vaccinated. (Asmara Malik, 2021 Sep 15).

7.4.5. Greater distrust of Government sources, Health authorities and pharmaceutical industry

“Govt. should not be an implement for being vaccinated because there is no assurance of being 100 percent safe from covid-19 after vaccinated”.

Case Study 4:

Name: Sadia Fatima, Age: 33, Gender: Female, Cast: Qureshi, Education: Matric, Socio-Economic Class: Middle, Religion: Islam, Marital Status: Married, Profession: House-Wife, Acceptance or Refusal of vaccines of Covid-19: Refusal

A lady of age 33 years when met on 8th of July 2021, She was covid-19 negative and refused covid-19 vaccines. She was of the view that we must have to follow the social distancing, Masks wearing and cleansing home and environment clean and keep staying home avoid going outside. She thought that by these precautionary measures we can save ourselves then why do we get vaccinated? According to her, we all must not have a compulsion to be vaccinated because there is no guarantee of being 100

percent secure from covid-19 after being vaccinated. She was of the view that Family and society should not be forced to get vaccinated, it must be everyone's own choice for vaccination. She heard that a vaccinated person's blood will clot. She also got in news that due to covid-19 vaccines one person had croaked due to thickening in blood and that occurred after getting vaccinated. This respondent refuses vaccines and her perceptions are like everyone must have their own choice to get vaccinated but there should not be mandatory (compulsion) for all of us by Gov. High stages of COVID-19 vaccination hesitancy may severely bound the achievement of currently rolling vaccination programs' effectiveness, mainly when fueled by 'big pharma' and other scheme narratives popular on social media. (Chan, Jamieson, & Albarracin, 2020). The high part of the population unwilling to vaccinate, shared with the number of people are not capable to obtain the COVID-19 vaccine (e.g., for medical reasons), suggests that herd immunity may be out of reach. Some vaccination programs in the previous efficiently destroyed certain deadly diseases; however, this achievement was only probable thanks to the combination of mandatory preventive vaccination programs with coordinated education efforts. (Paterson, Chantler, & Larson, 2018). In some civilizations, there is also a reluctance to multinational companies, such as IPSOS. It may chief to the declining participation of some groups of probable respondents. On the other hand, an accountable and knowledgeable company such as IPSOS may consolidate such a global survey with consideration of those limitations. (Czarnecki, 13 January 2021).

Trust issues: Belief in conspiracy theories and the rejection of dominance can shape one's thought and personal identity. That in twist creates a risk of polarization. Abundant research struggle is focused on emerging an effective vaccine for fighting corona virus disease 2019 (COVID-19). Vaccine hesitancy is on the growth, varies crossways countries, and is related with conspiratorial worldview. Assumed the rise in COVID-19-related conspiracy theories, we meant to examine the stages of COVID-19 vaccine hesitancy and its relationship with beliefs on the origin of the fresh corona virus in a cross-cultural study. Here there is an article named: "COVID-19 vaccine hesitancy is associated with beliefs on the origin of the novel coronavirus in the UK and Turkey", in which researchers had conducted an online investigation in the

UK ($N = 1088$) and Turkey ($N = 3936$), and collected data on participants' willingness to vaccinate for a possible COVID-19 vaccine, beliefs on the beginning of the fresh corona virus, and quite a few behavioral and demographic forecasters (such as anxiety, risk perception, government satisfaction stages) that effected vaccination and origin beliefs. As a effect, in the entire data, 31% of the candidates in Turkey and 14% in the UK were hesitant about getting themselves immunized for a COVID-19 vaccine. In both states, 3% of the applicants rejected to be vaccinated. Similarly, 54% of the contributors in Turkey and 63% in UK assumed in the usual origin of the new corona virus. Believing in the ordinary origin importantly enlarged the chances of COVID-19 vaccine receiving. Hence the conclusion was that the results pointed at a concerning level of COVID-19 vaccine timidity/hesitancy, especially in Turkey, and recommended that extensive statement of the technical consent on the origin of the fresh corona virus with the community may benefit future campaigns directing or pointing COVID-19 vaccine hesitancy. (Salali, 19 October 2020). The COVID-19 pandemic has brought about in a global health crisis and lock-down measures to control the uninhibited conduction chain. Vaccination is an effective degree against COVID-19 contagions. Now there is another article titled: "The lived experiences of a COVID-19 immunization programme: vaccine hesitancy and vaccine refusal", In Malaysia amongst the national immunisation programme (NIP) which happening in February 2021, there were climbing fears regarding the pervasiveness of vaccine hesitancy and refusal, and consequently, vaccine uptake amid Malaysians. These study objectives to explore the lived practices of Malaysians concerning vaccine hesitancy and refusal, and enabling factors that might increase vaccine acceptance and acceptance. The Methods in this study was Qualitative employed in the hermeneutic phenomenological study project. "Purposive sampling", strategies were used to employee Malaysians that had straight involvements with friends, family members and their public who were hesitant or refusing to agree to take the COVID-19 vaccines. A 'semi-structured interview guide', was settled based on the skilled knowledge of the detectives and existing literature on the issue. A sequence of focus group interviews (FGIs) was lead online eased by a multidisciplinary group of professionals. The group interviews were writes out verbatim and analyzed. So the result was that in this, 59 participants took part in 7 FGIs. They originate that "incongruence" was the complete thematic connotation that linked all the 3 key

themes. These themes contain firstly, the incongruence between the goals and execution of the 'National Immunization Program', which tinted the gap between truths and desires on the ground. Secondly, the incongruence between Trust and Mistrust exposed a trust scarcity in the government, COVID-19 newscast, and younger people's preference to survey the instances of native vaccination "heroes". Thirdly, the incongruence in message presented the populace's diversified views regarding authorized media and resident social media. Then the conclusion was this study providing rich information on the composite picture of the COVID-19 vaccination program in Malaysia and its influence on vaccine hesitancy and refusal. The inter-related and dissimilar factors clarified the operative difficulty and complication of the NIP and the design of an actual health communication campaign. Recognized gaps such as logistical implementation and message strategies should be renowned by policymakers in implementing moderation plans. (Nee Nee Chan, 14 February 2022). A current post in the *Journal of Public Health* rightly claimed that the Catholic Church can help in building public trust in COVID-19 vaccines in the Philippines.(JMW., 2021).This paper claims that religious leaders, not only the Catholic Church, but even among altered major religions, can help in building public trust in COVID-19 vaccine in the Philippines. In previous waves, the Department of Strength identifies 'vaccine hesitancy' as one the reasons for the outburst. Moreover, as the Philippines seeks COVID-19 vaccines, previous concerns, such as the 'Dengvaxia controversy', still remains. The Philippines Department of Health DOH is working to struggle COVID-19 immunization concerns as the Dengvaxia controversy continues to intimidate vaccine confidence in the country. (Corpuz, June 2021)

8. Conclusion:

This chapter sums up the study. It signifies a summary of the arguments, reflections on the themes and implication of the research.

8.1 Summary of the Arguments:

A virus which came into being with no visual contact to the human eye but creating casualties in every single country and challenging scientists hundred years of proud-ish work and intellect, an amalgamation of different kind of symptoms creating a fear across globe, producing theories and theories, creating sagas of confusion and confliction, dividing people into different concepts trying to innovate ideas to satisfy themselves. Denial of the testification and existence and denial of the presence of a unique kind of disease that the world was totally unaware of and they were unable to believe that with such modernization and sophistication our life has achieved any such thing could exist which is totally untouchable and UN-treatable.

While COVID-19 spreads destructively and unexpectedly through the globe, many societies have also perceived the extent of other viral phenomena like misinformation, conspiracy theories, and popular mass suspicions around what is truly occurring. In this we are able to see that how advertising to and have faith in facts resources, and anxiety and despair, are related to conspiracy and misinformation ideals in 8 countries/regions (Belgium, Canada, England, Philippines, Hong Kong, New Zealand, United States, Switzerland) in the course of the COVID-19 pandemic. Conspiracy theories emerged immediately after the first news of the COVID-19 outburst (Jay J. Van Bavel, 30 April 2020) and several of these stopped existing tensions within and amongst groups. Covid-19 is basically related to the “Ethno-medicine”. The entrance of COVID-19 as a new pandemic in the contemporary era has run the public to a new view of health.

“Vaccines by way of definition are biological mediators that create an immune response to an exact antigen derived from contagious disease-causing pathogens”.

Edward Jenner established the first vaccine in 1796 by means of cowpox to vaccinate against smallpox. “Yale Journal of Biology and Medicine”, articles focus on many diverse aspects of vaccine research and enlargement, fluctuating from understanding poor uptake of the influenza vaccine in at-risk inhabitants to using your immune system to recover the efficiency of anti-cancer vaccines. (Med., 2014 Dec) This study aimed to explore the different Perceptions, Prospects and challenges of Covid-19 vaccination process. In this, we can explore the Perceptions and attitudes of people

Regarding Covid-19 vaccines. Perceptions and behaviors are very important factors in order to understand any phenomenon in a socio-cultural context. In this, we can figure out the different barriers and hurdles against vaccination of covid-19 that, What are barriers in the people's way, and why do people refuse this vaccination? Are people experiencing this vaccine of covid-19 or people whose relatives have dangerous experiences that make them refuse and some people who want to vaccinate but they face some hurdles, some economic issues. In short, we can explore and figure out the Perceptions, attitudes and different barriers that people face in a way of vaccination against covid-19.

The Corona pandemic is a very broad topic to discuss. There are various aspects of this pandemic. To study each aspect needs much more time and it will be quite an expensive task, so the researcher tried to explore two major aspects of corona vaccination.

- To explore the perceptions and attitudes of people regarding covid-19 vaccination.

- To figure out the barriers and hurdles toward vaccination.

Through this Research government explores more regarding policy making. Like from this research the perceptions and attitudes and different barriers that the government will know will be very helpful for the government for making a new policy for the betterment of the people.

By knowing this all governments will be able to create a good environment according to the people's needs and to facilitate the individuals.

Medical Anthropology at all times finds solutions against the diseases. This factorial concept of disease looks to include the reasoning that aspects of disease connection such as natural science and atmosphere are beyond the spread of culture. A contemporary origin of culture, as acknowledged by maximum anthropologists, is expressively more amalgamated and all-inclusive. In modern medical anthropology, it is understood that all research, even the most subjective and systematic, is fixed in the culture and experience of folks who understand and publish the consequences. (Campbell, 2011 Jun.) The locale of my study is Rawalpindi.

8.2. Reflection of the Themes:

The study examined that 40% of people accepted the vaccination process of covid-19. They are aware of this vaccination process. They are in favor of Covid-19 vaccines. They know that vaccines boost the person's immunity and vaccines make antibodies in our body against the viruses. Acceptance of the coronavirus Vaccines is influenced by the effectiveness of the vaccine. Acceptance is comparatively more when the vaccine has a very great effectiveness, but it abridged only when the vaccine efficacy is a reduced amount of. If the COVID-19 vaccine has subordinate efficiency, governments will have to announce more approaches to encourage their population to develop vaccinations. Furthermore, since acceptance is related with apparent risk for COVID-19, it is also significant to raise the perceived risk in populations. They have very positive perceptions towards vaccines and they thought that everyone must have to get vaccinated. 20% people's perceptions are neutral towards this vaccination process.

16.67% people showed hesitancy towards the vaccination process and 23.33 % were in the against of vaccines. Hesitant and refusing people who have perceptions against vaccines have different concepts and beliefs, they thought that the vaccination process is like a conspiracy of non-Muslims towards Muslims. In the name of vaccines,

Doctors can inject new viruses in our body indirectly to attack our country's economy and population. They have a lot of perceptions which are already discussed above.

There are lots of factors that are influenced for the vaccination acceptance which includes, awareness, more education, environment, socialization etc., and hesitancy and refusal also have factors that are influenced which include lack of awareness, lack of education, lack of socialization and several others.

Discussion

Vaccines are an important approach to stop the growth of the Corona pandemic. From April 8, 2020, there remained additional than 100 COVID-19 inoculation applicants being established (Thanh Le T, 2020). This vaccine progress is happening at a fast step; preceding March 30, 2020, two vaccine contestants had arrived Phase 1 scientific trials (Lurie N, 2020) whereas on April 9, five vaccines applicants in whole were in Stage 1 scientific trials (Thanh Le T A. Z., 2020). In the area of south-east Asia, studies have remained accompanied to evaluate the acceptance of a vaccine in contradiction of contagious diseases (Harapan H, 2017). This current study was directed to comprehend in what way the COVID-19 vaccine, when accessible, will be acknowledged by the overall populace in Indonesia, by enquiring individuals about a theoretical vaccine—a method used in many historical studies (Harapan H & Mudatsir M, 2017). Understanding vaccine acceptance in Indonesia is significant, given the bulky populace and for the reason that the country has comparatively in elevation vaccine hesitancy for surviving vaccines and comparatively small vaccination analysis. (Yufika A, 2020).

Recommendations:

The study was conducted at the Rawalpindi to look the Perception, Prospects and Challenges towards Vaccination process. Based on the findings following recommendations have been proposed:

1. Explores the benefits of vaccination process and prospects and due to this how people have changed their thoughts.
2. Based on that research studies government must have to organize some awareness sessions in the different areas regarding vaccines.
3. There is a need to aware the people that not getting vaccines will be risky or harmful.
4. Discuss the benefits of vaccines.

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Respondent Profile

Name:

Age:

Gender:

Caste:

Education:

Socio-Economic Class:

Religion:

Marital Status:

Profession:

Time (Month/Year) since vaccination:

General Profile:

Q#1 Have you been vaccinated? Yes/ No

Q#2 What do you think should we get vaccinated? Yes/ No

Q#3 Did you get the corona virus or covid-19 positive? Yes/ No

Q#4 Has anyone in your family got the corona virus? Yes/ No

Q#5 Has anyone in your family been vaccinated? Yes/ No

Q#6 Do you believe that Covid-19 exists? Yes /No

Q#7 If you believe that Covid exists then what should be the precautions? Yes/ No

Q#8 Do you think that this corona virus is dangerous? Yes/No

Q#9 Do you think that vaccination can prevent coronavirus? Yes/ No

Q#10 Are you afraid of getting vaccinated? Yes/ No

Q#11 If you are a vaccinated person then did you face any hurdles in getting this vaccine? Yes/ No

Q#12 Have you faced any barriers or obstacles due to which you have had to refuse to get the covid-19 vaccine? Yes/ No

Q#13 Did you get any adverse effects after getting this vaccine? Yes/ No

Q#14 Do you think that this vaccine would be beneficial for you? Yes/ No

Q#15 Did you have any fears before getting vaccinated? Yes/ No

Q#16 Did any doctor tell you to get vaccinated? Yes/ No

Q#17 Before Vaccination your attitude was positive? Yes/ No

Q#18 (a) Did you refuse vaccination? Yes/ No

(b) If you refuse vaccination then was there something negative in your mind about the vaccine? Yes/ No

Q#19 (a) Did any of your elders stop you from getting vaccinated? Yes/ No

(b) If yes then what were their perceptions of them behind stopping this was logical? Yes / No

Q#20 Did you hear about this famous Virologist scientist, who said that every Covid-vaccinated person would die two years after the vaccination? Yes/ No

Q#21 In your opinion, vaccination is the right thing to do? Yes/ No

Interview Guide

Q#1 What is Vaccine of covid-19?

Q#2 What is the essence of vaccination and how would you define vaccination?

Q#3 Have you been vaccinated?

Q#4 Do you know who discover this vaccine and in which year?

Q#5 Which country first discover the covid-19 vaccine?

Q#6 When did this vaccine come into the market?

Q#7 How did you Explore about this Vaccine?

Q#8 Did you find any information about vaccines by using social media?

Q#9 How many types of Covid vaccines are there till now?

Q#10 Which Vaccine is more effective for developing immunity in human's body and why?

Q#11 If you already got your Covid-19 vaccine, are you wondering when the immunity kicks in and how long it lasts?

Q#12 Can you still catch Covid-19 and can you infect others?

Q#13 How long do you need to take precautions after vaccination?

Q#14 Do you face different barriers to vaccination, Justify?

Q#15 What are the barriers or what type of barriers that you faced while getting vaccine?

Q#16 What are your perceptions regarding the importance of covid-19 vaccination assessment?

Q#17 What do you think that should everyone must be vaccinated, what do you perceive till now?

Q#18 Did you face any hurdles in getting this vaccine, if you are a vaccinated person and how?

Q#19 How did you feel after getting this vaccine if you are a vaccinated person?

Q#20 Do you think that are there some side-effects that people faced while getting vaccinated?

Q#21 Did you get any adverse effects after getting this vaccine and what type of it, if you have been vaccinated?

Q#22 What did you think about getting vaccinated when you were not vaccinated?

Q#23 What did you think about this vaccine before getting it?

Q#24 Did you hear about this famous Virologist scientist, who said that every Covid-vaccinated person would die two years after the vaccination, what do you think about this?

Q#25 What were your attitudes before vaccination and after vaccination?

Q#26 Which covid-19Vaccine is best for you and why?

Q#27 Did any of your elders stop you from getting vaccinated? If yes then what were their perceptions of them behind stopping this?

Q#28 Why this Vaccination Process would be beneficial and how?

Q#29 Have you ever seen that any covid-19 vaccine affect anyone in your society?

Q#30 Could this vaccination process be harmful to us?

Q#31 Which vaccine did you get or you think that you must take this on what basis and why?

Q#32 Do you think that should we get this covid-19 vaccine?

Q#33 Why you didn't get this vaccine, if you are not a vaccinated person?

Q#34 Do you think that this vaccination process would be beneficial for future?

