

FIGHT FOR VACCINE DIPLOMACY IN THE GLOBAL WORLD OF IPR AND TRADEMARKS

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*Submission: 4/27/2022
Accept: 5/1/2022*

ABSTRACT

The article aims to shed to light on the topic of vaccine diplomacy and the role of IPR and trademarks in vaccine crisis. The research design is explanatory. The data collection methods and the data analysis methods have been discussed. The quantitative analysis has shown that the “regression model” was insignificant as the higher prices of the vaccines allowed the countries to enjoy the profit as the imposition of IPRs forces the poor countries to buy from the “developed countries”. The qualitative analysis tends to show the imposition of IPRs creates barriers for the less developed countries to have vaccines

Keywords: *vaccin dolopmacy, intelletual property rights, trademarks*

1. INTRODUCTION

The 2020 COVID-19 outbreak has caused imbalance among countries in the world and has led towards one aim of vaccination. To be protected from the COVID-19 virus, people are required to be vaccinated all over the world. However, vaccine diplomacy is a much more critical matter when it comes to “Intellectual Property Rights” (IPR) and trademarks.

The topic of the research emphasis on the fight for vaccine diplomacy in the world of IPR and trademarks. In other words, the struggle of the countries towards getting all of their citizens vaccinated during the COVID-19 pandemic has become a crucial factor. However, the IPR and trademarks of the vaccines manufactured in pharmacies have created a barrier to accessibility of common people (Mercurio, 2021).

Countries like South Africa and India have projected the notion “World Trade Organisation” (WTO) to suspend IP rights related to COVID-19 vaccines so that all middle-income countries can get access to it. It is essential to secure the health and safety of all the people across the world by providing vaccines.

The issue is that middle income countries are struggling to manufacture or get access to vaccines for protecting and securing the health of citizens from the COVID-19 outbreak. Vaccine diplomacy is raging in the worlds of IPR and trademarks as it has created a barrier to accessibility and affordability of the vaccines (Adikari & Wijesinghe, 2021).

It is an issue because thousands of people are suffering from the deadly COVID-19 virus and the countries are relentlessly trying to provide vaccines to all. However, middle income countries are not able to access proper vaccines to provide the citizens and secure their health. It is an issue now as countries appeal to WTO for suspending restrictions of IPR and allow manufacture of vaccines in all countries for easy access.

2. LITERATURE REVIEW AND RESEARCH MODEL

2.1. Literature review

Vaccine diplomacy: Vaccine diplomacy reflects upon the strong roots of cooperation among multinational corporations and countries that has led to the vaccine donations during the COVID-19 pandemic. It focuses on the various aspects of the diplomatic relations of the countries and organisations to serve the people of the world in the tough times of COVID-19 outbreak. However, through vaccine diplomacy, it has been found the unwillingness of several countries to donate vaccines and fund to low and middle-income countries for support.

Jecker and Atuire (2021) stated that the COVID-19 pandemic has resulted in a turmoil whereby 45% of the deaths have occurred in South Africa and South-east Asia due to the virus infections (BBC, 2021). Lack of vaccine support and vaccine inequality continue in the developing countries.

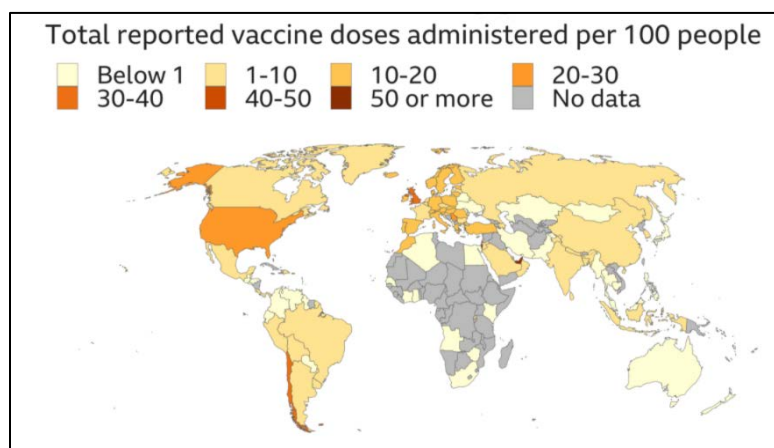


Figure 1: rate of vaccinations around the world
 Source: BBC (2021)

Vaccine diplomacy has required all the countries to support each other during these tough times of need whereby the high-income countries can support the developing countries with medical facilities. Choudhary and DED (2021) insisted that the pandemic has caused the downfall of the economy which has impacted the lack of financial resources to provide medical facilities to the people.

Countries enlisted in the WTO have taken measures to ensure that vaccines are available to all. However, there is a crisis for accessing vaccines and many developing countries are struggling to gain vaccines due to restrictions of IPR and trademarks. South Africa is reported to have zero access of COVID-19 vaccines due to the lack of financial resources.

Impact of IPR and trademark on vaccine accessibility: Intellectual property rights provide security and claim to a new invention and provide rights to the patent in the “World Trade Organizations”. As a result, no one else can claim a certain discovery or invention of their own and only the registered patents will be able to claim that. So, due to the above stated reason the price of certain inventions or discoveries rise and the developing countries are not able to gain access to these costly things (Budileanu, 2021). This is the reason that IPR should be removed from COVID19 vaccines so that all the countries are able to gain access to the required medical facilities. Removing the IPR means the cost of the vaccine can be set as per the manufacturing cost with minimal profit.

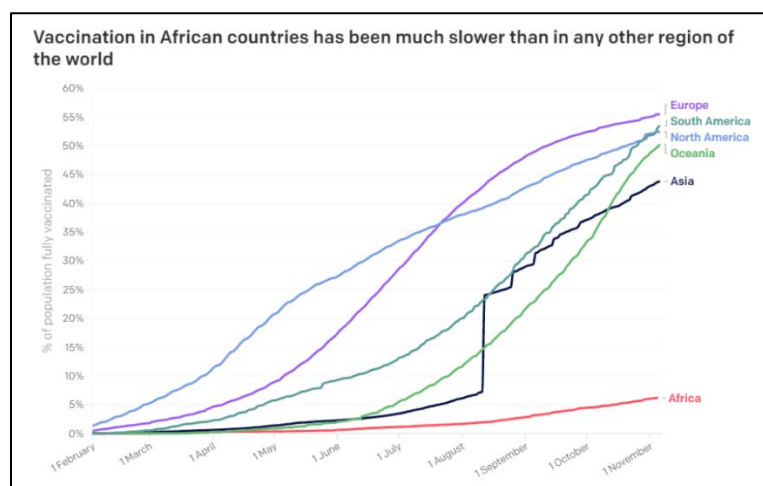


Figure 2: Slower rate of vaccination in Africa due to lack of accessibility
 Source: Budileanu (2021)

IPR may be the key to keeping up-to-date vaccines but it is more important that everyone is able to get the vaccine as soon as possible. As per the news updates, South Africa and India had proposed to the WTO to suspend the IPR on vaccines and Covid treatments as

many low- and middle-income countries are not able to gain access to it. Ranjan (2021) opined that there is an identified crisis of proper treatment to the COVID-19 virus affecting millions of people and causing deaths of thousands. The IPR and trademark has a direct impact on vaccine access of all nations registered in the WTO. The “TRIPS agreement” has focused on the availability of the vaccines and the proposal had reached a conclusion of temporary waiver of the IPR on vaccines.

Temporary waiver of the IP rights on Covid-19 vaccines: The study has a lot of contradictions regarding whether IPR and trademarks are causing the lack of vaccine availability to the developing countries. However, it is understood that many of the developing nations are not able to purchase or access vaccines due to high prices of the vaccines. Therefore, it is required to provide the countries and the manufacturer's responsibility to produce similar vaccines at low price so that everyone can get vaccines (Su et al. 2021).

The proposal of temporary waiver of the IP rights on vaccines during the pandemic was to resolve the issue of vaccine crisis. Two of the largely populated developing countries South Africa and India have tried to propose an alternative for the citizens considering the health and safety protocols.

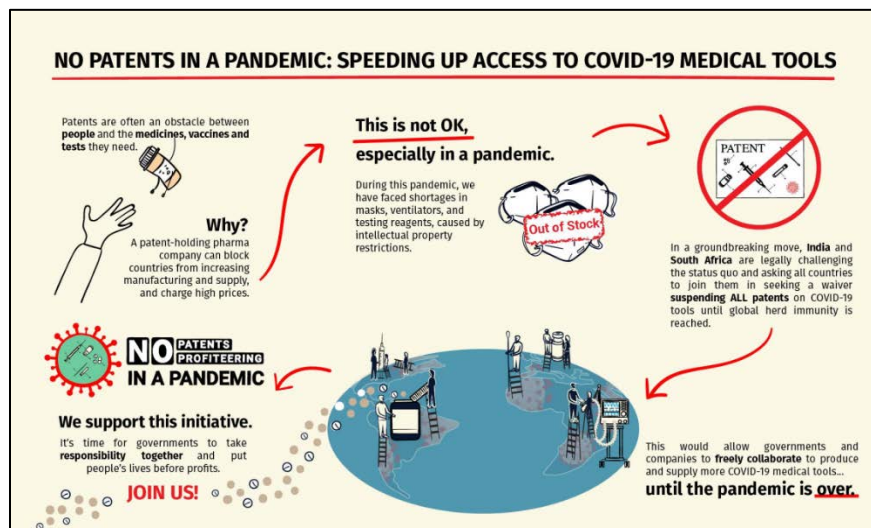


Figure 3: Lack of vaccines due to IPR
 Source: CGDEV (2021)

Similarly, it can be understood that various implications of the waiver can cause the vaccine creators to stop production and development on the same. It has been consulted among various diplomatic relation analysts that waiver can hamper the research and development (R&D) of the pharmaceutical sector. Thereby, there is a potential rise of contradiction among

the countries registered in the WTO platform (Cgdev, 2021). The need of vaccines in the countries is crucial at the moment.

Role of TRIPS in vaccination access: The treatments and medical facilities required for prevention of the Covid-19 virus are subject to patent protection as registered in the WTO's "Trade Related Aspects of Intellectual Property Rights" (TRIPS Agreement). The role of "TRIPS agreement" is to secure the rights and claim of a patent or inventor and provide legal trademark to an invention. Therefore, the patents have the right to decide upon the prices of the vaccines required for prevention and containment of the virus. In accordance with Chattu et al. (2021), this created a contradiction among many low- and middle-income countries who are having trouble to gain access to the vaccines. They have pleaded with the WTO to consider suspending the TRIPS agreement and the legal scriptures to speed up the process of vaccine manufacture.

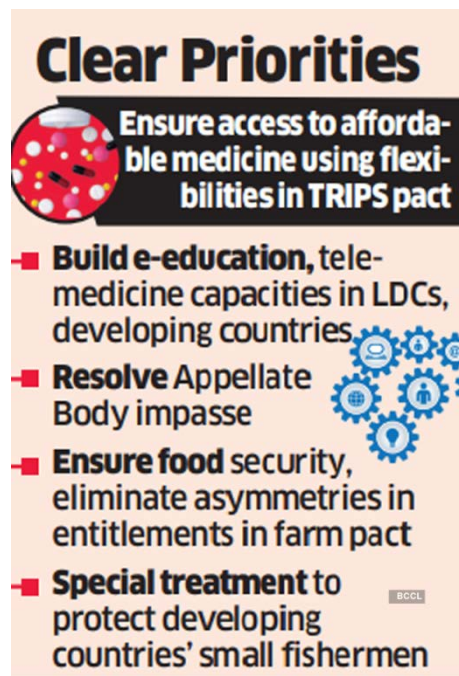


Figure 4: Ensuring access of vaccines to all developing countries
Source: De Menezes (2021)

Despite multilateral commitments to provide full access and guarantee to covid 19 vaccines, there is a crisis of vaccines and increased inequality. As per the views of De Menezes (2021), the unequal production and distribution of the vaccines is affected by the "TRIPS agreement" largely and propositions have been presented to waiver the legal boundaries of IPR temporarily considering the crisis situation.

Potential hamper of research and development in pharmaceutical sector due to the waiver: The research emphasizes the role of rich countries of the world in patent diplomacy; however, South Africa and India can play a role of catalyst in the same for gaining support and cooperation. According to Singh et al. (2022), the main concern is to reduce the prices of the vaccines, increase the production and supply of the facilities and create even distribution to ensure health and safety measures. However, concerns have been raised that the potential temporary waiver of the “TRIPS agreement” can hamper the research and development (R&D) of the pharmaceutical sectors.

It is understood that dissolving the rights of the patents can actually reduce the rate of manufacture and production of required vaccines and this can cause problems in the prevention protocol of COVID-19 virus (Oser, 2021). However, the lack of affordability and accessibility also plays a huge role in this aspect and the countries need to acquire proper medical facilities.

Pricing of vaccines and crisis for proper medical facilities during COVID-19 pandemic: Given the public health crisis, the government should directly decide the prices for vaccines and other essential medical products which are related to COVID-19 because if it's not done then it can create corruption risks throughout the system. With the views of Neumann et al. (2021), transparency in the pricing of vaccine products should be the most important thing to avoid price gouging and other corrupt practices.

The involvement and inclusion of a different group of people – at a minimum both women and men – in the vaccine decision-making and deployment processes. This will ensure equity in terms of access and the quality of the COVID-19 vaccine and that the governments should adopt an inclusive approach in their recovery efforts of the patients and people who are getting the vaccine or not (Who, 2021).

2.2. Research model

The topic requires to focus on the aspect of Leadership Theory as here, diplomacy is the main concern in the world of IPR and trademarks. Leadership stance has been taken by South Africa and India to mitigate the issues of vaccine crisis in low-income countries. It has been proposed to guarantee the proper scaling of the production of vaccines and ensure timely distribution of the vaccines to all countries. It also ensures the proper affordability and accessibility of the COVID-19 vaccines across all developing nations (Kanat-Maymon et al. 200).

However, there is a lack of financial resources in developing countries due to the downfall of the economy as a result of the pandemic restrictions. In the latter part of 2020, WTO decided to waive the TRIPS agreement and IPR on vaccines to lead towards prevention and containment of the COVID-19 outbreak.

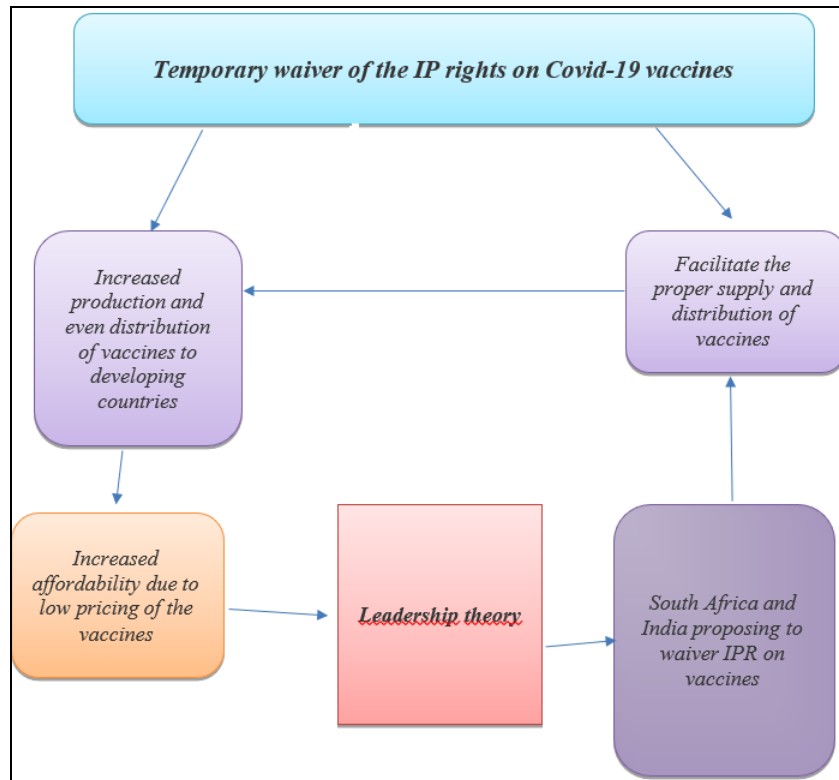


Figure 5: Conceptual Framework

The study does not focus on the crisis for proper medical facilities as many people were getting infected and there was a lack of beds and doctors, even lack of nurses was a big concern. Disruption in the availability of Oxygen and ambulances as hospitals were out of capacity of providing everything.

3. RESEARCH METHODOLOGY

Research approach is required to be adopted by the researcher in a dissertation to develop a plan for conducting the study. It is a curriculum for the researcher to develop a proper plan of separating the keywords of the topic, understanding the aims and objectives of the study and gathering details of required actions. The main concern is to reach a suitable conclusion to the study and critically analyses the context of the topic. There are inductive, deductive and abductive research approaches usually adopted by researchers in their studies (Woiceshyn & Daellenbach, 2018).

Among three types of research approaches, deducted approach has been obtained to facilitate the conduction of the research. It has allowed the researcher to understand the topic and adopt real time data for analysis and discussion.

The research design adopted for this research is explanatory. Explanatory design has helped to fully gain insight into the topic of the research and also develop concrete views on the same (Hunter, McCallum & Howes, 2019). The research design has helped to explain the factors such as IPR and trademarks affecting the manufacture and distribution of Covid-19 vaccines to the developing countries. Secondary quantitative and qualitative data has been adopted to facilitate the proper conduction of the study and analysis of the research objectives. The main aim is to answer the research questions properly and recommend useful strategies to mitigate the identified challenges faced by vaccine crisis in the low- and middle-income countries.

The method of collecting the data is described. In this paper, secondary data have been collected. Both the qualitative and quantitative data have been used. The data have been collected from secondary sources. Google Scholar ProQuest has been used (Cardno, 2018). From these secondary sources, the numeric data and the statistical figures have been collected as the quantitative data and the information the knowledge along with the theories have been collected as the qualitative data. In this paper, secondary data have been used as the pandemic situation creates difficulties in collecting the primary data and both the qualitative and quantitative data have been collected as this gives the broader overview of the subject while the numeric data help to give evidence against the information as well as the visual representation.

In this paper, qualitative and quantitative data have been collected from secondary sources like Google Scholar and ProQuest. In doing so, some keywords like 'vaccine', 'IPR', 'Covid-19 Vaccine' and many more have been used. The data has been stored safely in the laptop in the secure folder to maintain the data protection as well. It has been seen that the data leakage would not occur. The secondary data allowed the researcher to gain knowledge about vaccine diplomacy in the IPR and trademarks. The data protection has been maintained up to the mark and it has been seen that the tools and techniques fit perfectly for the paper.

In this paper, the secondary data have been chosen and to analyze the secondary data, the thematic analysis has been chosen (Neuendorf, 2018). It has been useful for this paper as this allowed the researchers to go deep into the particular subject. One of the major factors of

this paper is that both the secondary qualitative and quantitative data have been chosen. For the analysis of the quantitative data, quantitative data analysis methods have been followed. According to the thoughts of Braun and Clarke (2019), this gave the researcher the visual and graphical representation of the data as well as the statistical figures to understand the subject from the point of view of the numbers.

4. RESEARCH RESULTS

The findings of the “secondary quantitative data” are stated below. From the above graph, it can be seen that the prices of the vaccines are very high for countries like China, the US, and Japan. The trade of vaccines for these countries has increased even though the prices for the vaccines are high. As stated by Thambisetty (2021), this has happened because the vaccines of these countries have been imposed “Intellectual Property Rights” and “Patents” on them.

This helps the countries who have implemented IPRs on their vaccines to prevent the other countries from implementing their process of developing the vaccines and not depending on these countries. Thus, the countries, by implementing IPRs dominate the market of vaccines, thus allowing the countries to make a profit from the trade. The countries like “India” which have not implemented IPRs on their vaccines have suffered in terms of trade even though the prices of the vaccines are lower.

This happens because not implementing the IPRs and patents on their production of vaccines allows others to develop a method of producing the vaccines based on the strategy used by the countries that have not implemented IPRs and allow others to sell the vaccine at a lower price (Asadet et al., 2021).

The regression analysis tends to understand how the prices of the vaccines of the countries that have implemented IPRs on the trade of the vaccines globally. The equation is given as “ $y = -137.62x + 1008.9$ ”.

Table 1: Regression Statistics

Multiple R	0.114
R Squared	0.013
Adjusted R Squared	-0.128
Standard Error	493.966
Observations	9

Source: Self Made

From Table 1, it can be seen that the value is 0.114, thus showing that there is very little “positive relationship” between price and trade. The R squared and the Adjusted R-squared is 0.013 and -0.128 respectively. The interpretation is that the price of the vaccines after the implementation of IPRs have impacted the trade of the vaccines. The higher prices of the vaccines allow the countries to see an increment in the trade and the lower prices of the vaccines has allowed the countries to see a fall in the trade due to the implementation of IPRs on the vaccines.

Table 2: ANOVA

	DF	SS	MS	F	Significante F
Regression	1	22547.22	22547.22	0.092	0.769
Residual	7	1707813	243973.3		
Total	8	1730361			

Source: Self Made

From Table 2, the value of “F-stat” is 0.092 thus there is very little “variation” among the “means” of the variables and does not tends to show the “significance” of the data, The p-value of “F-stat” is 0.769 showing that the model is not “significant” as the higher prices of the vaccines tends to increase the trade of the vaccines due to the implementation of IPRs on vaccines.

Table 3: Coefficient

	Coefficients	Standard Error	t-stat	P-Value	Lower 95%	Upper 95%
Intercept	447.946	449.278	0.997	0.352	-614.429	1510.321
X Variable 1	-4.646	15.282	-0.304	0.769	-40.783	31.491

Source: Self Made.

Table 3 shows that the p-value of the independent variable is 0.769, which helps to understand that prices of the vaccines are not showing the impact it should have on the trade of the vaccines as some countries have implemented IPRs on the vaccines forcing the others to buy the vaccines from them even at a higher price.

The thematic analysis tends to show the themes of the research based on the objectives. Theme 1 is generated from Objective 1. The theme tends to show how the availability of vaccines is impacted when there are no IPRs. The impact is that the vaccines will be easily available for all the people at a price that all the people could afford, thus stopping the pandemic. The implementation of IPRs has allowed the countries to exploit the other countries.

Theme 2 is generated keeping Objective 2 in mind. The second theme tends to see that the implementation of IPRs and Patents by the countries in the development of vaccines creates

barriers for the countries who have imposed IPRs on their production thus impacting the lives of the poor people.

Theme 3 is generated in keeping Objective 3 in mind. The result of the analysis is that the “less developed countries” are largely impacted with the imposition of IPRs on the vaccines by the “developed countries” as this forces the poor countries to buy at higher prices thus allowing only the rich people to buy the vaccines and hampering the poor people in buying the vaccines and also hampers the trade of the country.

Theme 4 is generated from Objective 4. The analysis tends to show that to stop the pandemic, the imposition of IPRs should be stopped and all the countries should make vaccines for all.

As stated by Abbas (2020), the price of the vaccines after the implementation of IPRs on the vaccines produced by the countries should impact the trade of all the countries positively as all the countries implement IPRs on their vaccines. On the other hand, as shown by Marceau and Parwani (2021), the implementation of IPRs and “rights for patents” would not be possible for all the countries that are developing vaccines as some of the countries are not very developed in the field of “medicine” and “technology” and also some of the countries have bought the materials from other countries that have forced these countries not to implement IPRs and Patents on their vaccines.

The outcome that was received by conducting the analysis was not what was expected. The outcome was that some of the countries like “China, the US, EU and Japan” have imposed IPRs on the production of the vaccines, while the countries like “India”, “South Africa” and many other countries have not implemented IPRs and Patents on their vaccine production as these countries are not very well developed in the fields of “medicine” and “technology”, which forced these countries to bring the materials and the method of producing the vaccines from the other countries, preventing these countries to impose IPRs and Patents on their vaccines.

The expected outcome as stated by Ferchen (2021), was that the price of the vaccines and the trade of the vaccines would be positive and also that the “regression model” would be significant. On the other hand, as shown by Novotná (2021), the expected outcome was that the implementation of IPRs and Patents on the techniques of producing the vaccines by each of the countries, those who have implemented IPRs and Patents on their production of vaccines would see a rise in their trade of the vaccines than rest of the countries.

The research tends to show that the countries like “the US” have enjoyed the increase in the trade of the vaccines because these countries have imposed IPRs on their methods of producing the vaccines thus forcing countries like “India” not very developed in “medicine” and “technology”, forcing to buy the vaccines at a price which is higher in the “global market”, thus hampering the countries.

The research thus shows that the model is “insignificant” at a 5% level thus showing that the implementation of IPRs on vaccines by the countries allows them to enjoy huge profits from the sale of the vaccines to the countries who have not imposed IPRs on their production of vaccines thus preventing many of the people of these countries from getting vaccinated due to the higher prices of the vaccines caused by the imposition of IPRs.

As shown by Mešević (2021), the expected theme tends to show that the implementation of IPRs and Patents on the production of the vaccines by countries tends to negatively impact the trade of the vaccines. The research helps in understanding that the vaccines in the pandemic caused by the “coronavirus” are very vital for the survival of humans. Imposing IPRs on the methods of producing the vaccines hinders the process of vaccines by the “less developed countries” and also forces these nations to increase the prices of the vaccine, preventing many poor people from getting vaccines, thus increasing death.

The expected outcome as stated by Sharma and Varshney (2021), was that the countries that tend to impose IPRs on the production of the vaccines create a barrier in the implementation of the vaccines. Thematic research also shows that the imposition of IPRs and Patents by the countries tends to have barriers to the production of the vaccines. The countries who have imposed IPRs on the vaccines allow these countries to gain huge profits from selling the vaccine, and the countries who have not imposed IPRs on their production of vaccines are forced to buy vaccines from the countries at a higher price thus hampering the process of vaccination in the country.

The expected outcome as stated by Ito (2021), is that the imposition of IPRs and Patents helps the countries who have imposed IPRs on the production of the vaccines but hampers the ‘less developed countries’ also. Thematic analysis tends to show that the “developed countries” have imposed IPRs and Patents on their vaccines that allow them to sell the vaccines at a higher price as IPRs and Patents ensure that the vaccines are unique and are very effective in treating the disease and thus forces the “underdeveloped countries” to buy the vaccines at a higher price.

The expected outcome as shown by Banik (2021), the implementation of IPRs and Patents prevents the vaccines to be afforded by all the people to stop the pandemic. Thematic analysis helps in understanding that the government of all the countries should stop imposing IPRs on their vaccines and help in the availability of the vaccines for all the people and stop the pandemic.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The above analysis tends to understand the impact of IPRs and Patent implementation on the production of the vaccines by the countries and how the “diplomacy” for the vaccines has created tension among the global markets. The conclusion is drawn based on secondary quantitative and qualitative data analysis. From the analysis of the quantitative data, it can be concluded that the model for the analysis “regression model” is not significant at the 5% level as the “p-value” is more than 0.005.

The model tends to show that there is very little variability among the “independent” and the “dependent” which is the price and trade of vaccines done by different countries of the world respectively. The model tends to conclude that the imposition of IPRs and Patents have impacted the trade of the vaccines negatively. Countries like "China, the US, the EU and Japan", being advanced nations, have good means of “technology” that can be used by these countries for the development of vaccines.

The imposition of IPRs and Patents allows these countries to gain huge profit by selling the vaccines to the world and also helps these countries to dominate the global market. The less advanced countries like “India” are being forced to buy the vaccines from these countries at a higher rate thus impacting the vaccination process and also forcing the nations to reduce their trade of vaccines.

The qualitative analysis helps to conclude that the requirement of vaccines in the pandemic happening with the spread of the “coronavirus” is a necessity and all countries should cooperate. The thematic analysis helps in concluding that even though the imposition of IPRs and Patents helps the countries to secure the method of producing the vaccines as well as benefits the countries, it also creates a hindrance for other countries to buy the vaccines from these countries.

The analysis concludes that the imposition of IPRs by the advanced nations creates barriers for the less advanced countries in the development of the vaccines at the time of shortage and thus forces them to buy the vaccines at a higher price. The poor people from these nations could not afford the price of the vaccines and thus the death of the people in the poor countries rose. The analysis tends to conclude that the countries which impose IPRs on their vaccines should remove the IPRs and work with every government of the world to increase the availability of vaccines and thus stop the pandemic.

5.2. Recommendations

The analysis tends to implement some recommendations that can help the countries to reduce the challenges they face from the imposition of IPRs. Some of which are stated below.

As stated by Crombie (2021), the countries should implement the strategy of producing the vaccines together. This means that two more countries should join hands together for the development of vaccines. By joining hands, countries can implement the use of each other resources available and can also use the resources from the partner country in case of shortage of the resources. In this way, the cost of the “raw materials” for the production of the vaccines reduces and as a result, the partner countries are benefitted. This allows the “less developed countries” to provide vaccines for all and also at a proper rate.

Countries to reduce the impact of IPRs on the availability of the vaccines should sign an agreement with others which stated that each country should not impose IPRs on their methods of producing the vaccines at the time of pandemic as this causes the “less developed countries” to suffer (Sekalala et al., 2021). Instead, the countries should focus on increasing the development of vaccines and should be delivered in every country. This helps the “less developed countries” a lot and helps the countries to reduce the pandemic. The agreement should also be that there should be no “price discrimination” in setting the price of the vaccines just for earning profits.

As stated by Clark et al. (2019), the “developed countries” instead of imposing IPRs on the techniques by which they have developed the vaccines, should not impose IPRs on the techniques and share their methods of developing the vaccines to every country as this can help the countries to develop vaccines in terms of needs and thus helps the people to be vaccinated thus reducing the pandemic. The reduction of the challenges of IPRs on vaccines can help in reducing the pandemic.

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