

**AN ANALYSIS OF FACTORS
CONTRIBUTING TO SUCCESSFUL
IMPLEMENTATION OF FLU VACCINE
PROGRAMMES IN IRELAND**

BY

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DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of the MSc in Pharmaceutical Business & Technology, is my own; based on my personal study and/or research, and that I have acknowledged all material and sources used in its preparation. I also certify that I have not copied in part or whole or otherwise plagiarised the work of anyone else, including other students.

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DATED: 03-06-2021

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LIST OF ABBREVIATIONS

WHO	World Health Organisation
CDC	Centers of Disease Control and Prevention
HCW	Health Care Worker
GP	General practitioner
ILI	Influenza Like Illness
TIVE	Trivalent Influenza Vaccine Efficacy
VPD	Vaccine Preventable Disease
UVG	Under Vaccinated Group

ABSTRACT

INTRODUCTION *Influenza is a contagious respiratory illness caused by the influenza virus. Influenza epidemics result in higher hospitalization and medical costs, as well as higher labour absence and poorer productivity. Vaccination is a simple, safe, and effective way to protect people from contagious viruses when they make contact with them. This study focuses on the factors that contribute to the successful implementation of flu vaccine programmes among the Irish population. The study also focuses on the perspective of Irish population towards flu vaccine as well as the situation in Ireland regarding the Flu. The study was conducted in Ireland's capital, Dublin.*

OBJECTIVE *To outline the situation in Ireland with regard to Flu vaccinations, to identify the major determining factors for the effective implementation of flu vaccination programs among Irish citizens and to identify the perspective of Irish population towards flu vaccinations.*

METHODOLOGY *It is a cross-sectional quantitative study. The primary data was collected through the survey conducted with the help of a closed ended questionnaire. 185 people participated in the survey and their response to the questions were considered as the basis of this study.*

RESULTS *Result of the study found that the factors including Place to get vaccination, source of information, mandatory vaccination programmes, cost, time, safety issues etc plays a critical role successful implementation of flu vaccine programmes in Ireland.*

CONCLUSION *The vaccine coverage in the country can be improved by providing maximum education, awareness programmes and campaigns by tackling myths, hurdles, and misunderstandings of flu vaccination.*

CHAPTER- 1

INTRODUCTION

1.1 BACKGROUND

As the first World War came to an end, a viral disease of immense infectiousness, that we now believe to be the H1N1 influenza virus, affected one billion individuals over the world and killed more than 100 million people. It transmitted at rapid rate, and occurred parallel waves in different areas of the globe. It arrived in the late spring and summer of 1918. It then emerged in full force in the autumn and early winter of that year, reappearing for one more lethal battle in the initial months of 1919. In Ireland, more than twenty thousand individuals died as a result of influenza in 1918 and 1919. Furthermore, the outbreak can be blamed for a rise in deaths from associated diseases, most especially pneumonia. The registrar-general, Sir William Thompson, acknowledged that the reported influenza mortality rate was an optimistic calculation, and there is evidence to suggest that further influenza fatalities in Ireland were unlicensed, due to other diseases, or possibly not registered at all. The total figure is likely smaller than the number of Irish soldiers killed during the First World War, but it reflects casualties in the War of Independence and Civil War. The very first outbreak, which reached Ireland in early summer 1918, was the lowest detrimental but it was strong enough for the closure of schools and industries. It had entered Ballinasloe, Tipperary, Dublin, Derry, and Cork by the ending of June according to studies. Nonetheless, the first surge had gone by middle of July. The second wave, which lasted from half of October to December, was the most serious of the three, and, as with the first, Leinster and Ulster were hardest hit. The almost equally extreme latest wave, that extended from middle of February to mid of April 1919, hit Dublin and the western nearby islands once more (mainly in Mayo and Donegal). When the flu spread across cities and towns, classrooms, libraries, and other community spaces were shut, and legal proceedings were rescheduled. Corporations stopped on an irregular basis due to employee sickness. Healthcare facilities and care home health centres failed to keep up with the influx of patients, pharmacists worked full time to dispense medications, and mortuaries, gravediggers, and cemeteries had to wait in line to bury the deceased. Many regions struggled greatly across all 3 phases, especially Dublin, where troops returned from war may have played a major role.

Influenza mortality is usually higher among the aged and young, and this year's outbreak targeted otherwise healthy adolescents. In 1918, citizens ages 25 to 35 accounted for 22.7 percent of all influenza fatalities in Ireland but in 1919, the number was 18.95 percent. According to the registrar-general, there have been more male than female influenza death in Ireland, in comparison to the rest of the UK, where marginally more woman than men fatalities were confirmed. Every year Flu illness were reported with various strains and killed many Irish citizens. In the beginning of 20th century, eight cases of influenza like illness were reported by sentinel practices. Influenza occurrence among Irish population fallen in the end of march, 2019, and is now below normal. The consultancy number decreases to 13.9 per 100,000 population on week 9 from the revised rate of 25.8 per 100,000 population registered the prior week. During this influenza season, influenza A(H1N1) pdm09 was the main virus in spread, although both influenza A(H1N1) pdm09 and influenza A(H3N2) are now co-circulating, though at lowered rates. Since the influenza-like illness (ILI) prevalence were less than the average thresholds (18.1 per 100,000 population) for the last five weeks (since around week 10 2021), and there is no indication of influenza spreading in the environment. In the weeks of 11 and 12 (21/03/21 and 28/03/21) there was no proof of influenza viruses spreading in the population in Ireland. (Dorney, 2013)

1.2 FLU

Seasonal flu (also referred to as influenza) is a particularly contagious disease caused by the flu virus. The illness infects the lungs and upper respiratory tract, resulting in an increased fever, joint pain, fatigue, nausea, and tiredness. Health issues usually lasts up over a week. Infected individuals need to remain in beds before the symptoms improve. Residents of all generations are affected by the flu. Flu can lead to severe consequences like pneumonia in some patients. The Influenza virus is a contagious virus. If you are in good condition, you should be able to improve in seven days. However, the flu can be deadly, causing extreme sickness and mortalities. Flu symptoms cause chest infections, pneumonia, earhole infections, and, in rare cases, acute encephalopathy. Severe flu effects are more common whether you have an underlying medical problem or are 65 and older. Pregnant ladies are even more likely to develop flu disorders. Every winter, around 200 and 500 citizens, predominantly elderly people, dies in Ireland through flu. Annually, flu affects approximately 3 and 5 million cases of acute illness and up to 646, 000 deaths worldwide. The influenza virus is transmitted to

others by respiratory droplets. This can occur 1-2 days prior symptoms appear and up to five days after they appear. Flu can live on work surfaces and things, particularly in cold and moist environments. The virus is caught by contacting a virus-infected area and then rubbing the lips, eyes, or noses. The strain will survive for up to 1 day on a solid floor and 30 min on a flat layer. Being vaccinated against the flu is a convenient and reliable solution to prevent flu, delay hospitalization, and minimize flu induced sickness and death. Some individuals were most likely to have difficulties if they have the flu.

Flu vaccine is given for the following categories:

- Citizens with 65 years and above
- Pregnant mothers
- Children aged between 2 and 12 years (new for 2020/2021)
- Infants with 6 months and above or adults with a long-term medical issue such as
- Chronic heart syndrome
- Chronic hepatic disease
- Kidney failure
- Respiratory disorders
- Tragic overweight
- Immune suppressants due to illness or medication (which include chemotherapy) is raised with Down syndrome
- Reside in a care home or other long-term care institution

Other individuals should also have the vaccination to defend themselves, their relatives, and others they care about. This people also include who:

- Works in hospitals
- Caregiver or stay with somebody who is at threat of flu due to a long-term medical condition

- Caregiver or live with those who have Down syndrome
- Those who have direct interaction with pigs, chickens, or waterfowl must get the vaccination. (WHO, 2020)

1.3 FLU VACCINE

The seasonal flu vaccine defends towards four flu virus variants. Those are the viruses that are most capable of spreading during flu season. Every year, kids and adolescents who are at risk of having the flu and its consequences will get the vaccination. Every autumn, users must get a new vaccine. This is due to the fact that flu virus variants vary. This is why it is referred to as seasonal flu. Even so, it is commonly known to as the flu. Flu vaccine is available from the GP, local pharmacy, healthcare worker who works in a health department or as a peer vaccinator. The vaccination stimulates the immune systems in the production of antibodies. When you have received the flu vaccine and made touch with the influenza virus, the vaccination will protect yourself from becoming ill. Within two weeks, the flu vaccine begins to work. Annually, people must get vaccinated against the flu. This is due to the fact that the antibodies that shield you deteriorate over time. Flu strains will also vary from one year to the next. Having vaccinated against the flu is the safest approach to cover yourself. This will not defend against all flu viruses, and the extent of safety will differ. As a result, it is not fully safe, and you can still catch the flu. However, if you catch the flu after getting the vaccine, this will be relatively mild and users will heal quicker. Flu vaccines typically minimize the chances of infections by 40-60%. Flu vaccines also serve to minimise:

- Degree of sickness
- Influenza risks
- Hospitalizations due to the flu
- Appointments of intensive care units

For more than 60 years, flu injections have been administered to millions of citizens globally, even women who are pregnant. Vaccine reactions are usually moderate. Since getting the vaccine, people may feel a moderate temperature and muscle pain for a few days. The arms

could still be a little swollen where the injection was given. Serious side effects of the flu vaccine are somewhat uncommon.

Individuals must stop having the flu vaccine if you are:

- had a serious allergic reaction (anaphylaxis) to a past influenza vaccine
- are taking medication as combination checkpoint inhibitors, such as ipilimumab + nivolumab.
- If fever is more than 38 degrees Celsius, patients can wait unless they feel fine before getting vaccinated.
- If the patients are allergic to chickens, they can contact the doctor about getting the vaccine. (HSE, 2020)

1.4 AIM AND OBJECTIVE

Knowledge of Flu Vaccination in the general public makes it beneficial for medical professionals and decision makers to make the requisite improvements to health promotion activities and thus reduce the disease outbreak. This study aims to analyse factors that lead to the effective implementation of flu vaccine programs among Irish population in Dublin. Also, the research focuses on the perspective of Irish citizens towards flu.

CHAPTER- 2

CRITICAL LITERATURE REVIEW

There have been many studies conducted all over the world regarding the effective implementation of flu vaccine. These studies provide an outline about the factors that causing the successful implementation of flu programmes. As above mentioned, there are many determinants that helps in the effective execution of flu vaccine initiatives. One of them is by educational programmes. Effective awareness and patient counselling results in high vaccine intake and this play a key role in the successful implantation of flu vaccine among Irish citizens. Overcoming challenges and implementing the key factors discovered by the research findings may help in enhancing vaccine uptake and hitting the relevant WHO goals. Understandings of vaccination efficacy, prevention, and adverse reactions were more important than knowledge of seasonal flu and immunization. Advice from physicians, families and colleagues, and free vaccines were all important factors in vaccination uptake.

This is a review of some articles that have been published based on the three topics that is the situation in Ireland with regard To Flu vaccinations, major determining factors for the effective implementation of flu vaccination programs among Irish citizens, the perspective of Irish population towards flu vaccinations. To learn all about these areas, it is essential to analyse the aspects that influenced the successful execution of flu vaccination programs. Certain papers and journals outlining the indicators of flu vaccine were also analysed for this purpose. These studies were conducted in Ireland, so reading these publications would aid in demonstrating a method for analysing the elements that contribute to a successful flu vaccination program among Irish people.

2.1 MAJOR DETERMINING FACTORS FOR THE EFFECTIVE IMPLEMENTATION OF FLU VACCINE PROGRAMMES

ROGERS (2018) performed a cross-sectional analysis with 158 undergraduate community health learners at a major university in California. The research examined at public health students' views and opinions about seasonal influenza vaccines, as well as seasonal vaccination rates in this community. About 88 percent of people said they were motivated to get the seasonal influenza vaccine. Of the students who did not get the vaccination, 49.4 percent assumed it could bring them the flu, 30.4 percent believed it could cause serious side effects,

and 28.9 percent claimed they would not be at possibility of acquiring the flu. The current report's findings indicate that it could be useful to include more information to public health students with the goal of alleviating safety issues and rising societal pressure to help improve vaccination acceptance and rates in this community. The report continues by stating that the expense of vaccine, accessibility to immunization, safety issues, the awareness of vaccination among the general population, and other social or cultural factors all have an impact on the successful adoption of flu programs. Increasing flu vaccination uptake by tackling beliefs, challenges, and misinformation may increase vaccination coverage not only among community health graduates, but also in the community served by these future health care professionals. (Rogers *et al.*, 2018)

KUMAR (2021) Influenza and COVID-19 are also serious illnesses with major health consequences. Social networking, which has been an immensely popular medium in recent decades, can be used to share information and raise concerns of preventative measures. The researchers created a complex dissemination model to explore the effect of social media, specifically tweets from the social networking site Twitter, on the rate of influenza and COVID-19 cases of infections and mortality. They added a social media aspect to the SEIR-V model to improve the precision of incidence rate and gather information into whether social media is a valuable tool for these viral infections. The study discovered that social media has a beneficial impact on minimizing the transmission of infectious disease in terms of peak duration, peak severity, overall infection, and total mortality; and the findings have revealed that social media's impact has a non-linear association with the replication number R_0 , which would be exacerbated when a vaccine becomes accessible. The results suggest that social media plays an important role in the awareness of disease outbreak and emergency preparation, and that it adds to the community by advising appropriate practice in the response to related crises. (Kumar *et al.*, 2021)

TEASDALE AND YARDLEY (2011) To investigate people's attitudes, expectations, thinking, and psychological and situational variables that may affect reactions to federal advice for handling flu epidemics. Eleven focus groups were performed with a sample size of 48 people. Participants were asked to share their views of the flu pandemic as well as governmental recommendations on appropriate interventions for handling the Flu pandemic. Contextual

research revealed that participants remained doubtful of the efficacy and effectiveness of government guidelines for handling the Flu pandemic. They voiced questions towards self-diagnosis and raised questions about the potential efficacy and expense of instructions to remain at homes if ill and get vaccinated. They concluded that the government guidance is a subset of health contact with the general population. People participate in an active method of assessing policy advice in spite of its reliability, effectiveness and costs. To boost long term pandemic preparation, measures should be taken to evoke and answer widespread doubts and fears about taking suggested advice. (Teasdale and Yardley, 2011)

CDC (2021) Centers for disease control and prevention suggests that the use incentives for flu vaccine promotion increase participation rates by delivering vaccinations at lower or reduced cost, supplying food and drinks at the centre, or hosting a competition for the organization with the highest number of vaccinated workers. Promotion of the flu vaccine in the clinic can be achieved by posters emphasizing the benefits of flu vaccines may be placed in public places, cafes, and other high-traffic locations, an article in corporate correspondence (e.g., newsletters, internet, email, websites, etc.) can explain the treatment centre as well as flu precautions, advertising posters/flyers in high-traffic areas announcing the location / place of the clinic, effective communication from government executives and corporate leaders can promotes vaccines to staff participation in clinics attendance and also by the use social media to enhance flu vaccines uptake.(CDC, 2021)

MERECKIENE (2007) conducted a study and concluded that, in order to improve the adoption of vaccinations, further work is required to raise knowledge between general practitioners, relevant health practitioners and persons employed in vaccination programs. The absorption of influenza vaccines in other countries is equivalent or slightly smaller than the levels recorded in Ireland. Influenza vaccination is approved for health care staff (HCWs) and patients at long-stay care facilities. Reasonable checks are also required to improve the absorption of influenza vaccines by HCWs members. These data programs are useful for reliable success assessments in relation to the absorption of vaccines. This starkly contrasts with the US and Aussie experiments which recorded pneumococcal vaccine abundances of 63.7 per cent and 51.1 per cent respectively. Factors connected with the absorption of influenza vaccines are established in foreign research. Influenza vaccine is recommended for HCWs as it can spread disease to

susceptible patients. Both vaccinations are free of cost for patients in greatest risk. Accomplishing high level of usage of influenza vaccines among HCWs is challenging. The absorption of HCW flu vaccine was 20.0 percent. As pneumococcal vaccine is prescribed for all adolescents over this age, this result is alarming, demonstrating the need to increase information from health practitioners and the community. The percentage of Irish citizens aged 18-64 that belongs to potential risk categories is uncertain. Influenza vaccine exposure is currently available for people aged 65 or above. Vaccine acceptance by participants between the ages of 18 and 64 years with a health threat was weak for both vaccinations. The research study concluded that, Influenza vaccination is recommended for the patients of long-stay care centres and healthcare professionals (HCWs). (Mereckiene *et al.*, 2007).

K.W. TO (2016) The extent of influenza vaccine uptake among health professionals varies greatly across the globe, ranging between 5% to >90%. Standard aspects influencing vaccine uptake rates include perceptions of vaccine effectiveness and adverse effects. These causes can have an effect on perceptions and behaviours of HCWs on a personal and social basis. The prevalence of other non-seasonal influenza pandemics, like avian influenza, has an effect on vaccination coverage as well. To increase vaccine uptake, several measures have been adopted, the most significant among which include the implementation of local government policies, the perpetuation of treatment protocols, and universal vaccination policies. Mandatory vaccine programs, which are seen in some parts of North America, have resulted in higher vaccination rates, but they are not without complications. Regular educational programs and promotions have had a minor influence in particular. Such techniques that have been found to increase vaccine uptake rate include the provision of accessible vaccination services, such as mobile vaccine carts, and mentors of senior HCWs obtaining vaccination. To convince HCWs to engage in a vaccine program, a multidimensional framework is taken, particularly in areas with low uptake rates. (To *et al.*, 2016)

WANG (2017) stated that the transmission of influenza from healthcare workers to patients may cause serious injury or mortality. Despite the fact that the majority of healthcare workers agree they must be vaccinated towards seasonal flu, the Centres for Disease Prevention and Control (CDC) reports that only 79percent of total of workers were vaccinated during the 2015–2016 period. Vaccination coverage in organizations that did not support or sell the vaccine were as poor as 44.9 percent, relative to rates of even more than 90 percent in

organizations with universal vaccination programs. Laws requiring influenza vaccines for healthcare workers have both moral and legal explanations. Implementing such initiatives entails a multifaceted solution that includes outreach campaigns, easy accessibility to vaccinations, vaccination education, leadership assistance, and effective coordination that focuses on consumer health. Compulsory influenza vaccine for health professionals is an important move toward protecting patients. Patients that work with healthcare professionals are frequently at an increased risk of influenza problems. Vaccination is the best possible method for defending against influenza, and research suggests that institutional programs and legislative action will successfully raise vaccination rates among healthcare workers, lowering the risk of transmitting in healthcare settings. There are legal and ethical precedents for institutional mandatory influenza policies and state laws, although successful implementation requires addressing both administrative and attitudinal barriers. (Wang *et al.*, 2017)

GAWRYS (2021) The purpose of this research was to investigate the awareness, perceptions, and behaviours of influenza vaccine amongst HD patients from two separate dialysis centres. Infections maximize the risk of morbidity and mortality in haemodialysis (HD) patients. In spite of beneficial effects of vaccines, this form of preventive treatment remains underutilized. This cross-sectional sample included 193 patients (mean age 63.6 years) who willingly decided to engage in an online survey about influenza vaccine. The results showed that 45 percent of patients received annual flu vaccinations on a daily basis. 87.4 percent of this audience thought vaccines were successful. This viewpoint was closely tied to the intensity of scheduled immunizations. Patients who have been immunized irregularly or never rejected vaccinations for the below justifications. 29.2 percent were afraid of adverse effects, 26.4 percent believed vaccination was unsuccessful, and 22.6 percent lacked knowledge regarding vaccination. Vaccination benefits are poorly understood by HD patients. As a result, educational programs are essential. Effective vaccine awareness and counselling of patients who oppose this form of treatment play a critical role in raising HD health care services. (Gawrys *et al.*, 2021)

CLEARY (2014) A retrospective cohort research was conducted at the Coombe Women and Infants University Hospital in Dublin, using scheduling, childbirth room, and new-borns division discharge information. Singleton births of mothers who were pregnant prior to the flu epidemic (December 2008–September 2009) and after the outbreak (December 2009–

September 2010) were recorded. On admissions to the delivery unit, details on vaccination recordings and type of vaccine were obtained. Maternal features correlated with vaccine were determined using logistic statistical analysis. Pregnancy results for vaccinated and unvaccinated women were contrasted, with adjustments made for differences in maternal features. In the time of pandemic, 2996 (43.5%) of the 6894 pregnant mothers confirmed vaccinations at birth. More than 70 per Vaccination yields were attained in the early weeks of the initiative. 246 [8.2 percent], 1709 [57.0 percent], and 1034 [34.5 percent] were vaccinated during the first, second, and third trimesters, collectively. There was really no link found between pregnancy vaccinations and harmful birth results. Immunized females were least likely to experience a preterm birth than unvaccinated females. He concluded that Pregnant lady's demographic characteristics conditions affected influenza vaccine uptake. In an epidemic scenario, high vaccine uptakes are attained. Future awareness programs efforts should offer accurate advice on vaccine protection during breastfeeding, maintain reliable vaccination guidelines from healthcare providers, and make vaccination easily accessible in order to maximize adoption rates in subpopulations that are less likely to be immunized. There was no link found between vaccine and unfavourable pregnancy effects. (Cleary *et al.*, 2014)

ANASTASIOU AND HEGER (2021) performed a linear prevalence and probit model's calculation to investigate the factors that influence vaccine uptake, Furthermore, informative studies are used to investigate how the factors for not getting a vaccine vary depending on the healthcare framework. High awareness about the efficacy and protection of vaccines raises the risk of getting a vaccination over the last 5 years by 26 percentile points (pp), moderate information raises it by 15 pp. In the case of the flu, government guidelines raise this risk by 6 percentage points on average, although having paid for a prescribed vaccine out of pockets reduces it by 10 percentage points on average. Furthermore, the reasons for not vaccinating vary greatly across healthcare programs, and television is the main source of vaccine details. He concluded that the confirmed vaccination coverage in Europe fell well behind expectations set by official guidelines. Increasing vaccine awareness and providing free vaccines will help to boost vaccination rates. A special emphasis should be placed on targeting people who can face access challenges, such as living alone or being unemployed. (Anastasiou and Heger, 2021)

C.L. KIRDALE (2016) performed a study and the results shows that, boosting the distribution of influenza vaccine has been and continues a concern globally. Now there are several cases of nations pursuing a pharmacist-led influenza vaccination service to increase vaccine uptake of at-risk communities. England, Portugal and the United States are positive examples of how their experiences of introducing this service can now be discussed prospectively and learned from it. The objective of this study is to provide information that can help address challenges to the implementation and delivery of such programs in countries that are new to practice. Implementation is informed by a variety of legislative mechanisms underlying the allocation of pharmacist-led influenza vaccine, strategies of compensation, preparation and operational procedure. Practical concerns, such as the services available, how medical information are kept and how patients and other medical groups are involved, also have an impact. These responses indicate how neighbourhood healthcare professionals can be qualified to administer influenza vaccines efficiently, and combined with their accessibility and ease, they can offer similar services to those currently delivered by family physicians and nurses to provide influenza vaccines for the care of citizens. (Kirkdale *et al.*, 2016)

YEUNG (2016) A comprehensive research study was conducted on information published in the datasets EMBASE, MEDLINE, and Electronic Theses Digital Resource up until November 2013. To evaluate the scientific consistency of the experiments, a vital assessment system was developed. 23 papers fulfilled the inclusion criterion and were chosen for result review, with 21 being objective experimental trials. Age advancement and the presence of chronic conditions is closely associated with vaccine coverage. Understandings of vaccine effectiveness, safety, and side effects were more significant than awareness of seasonal flu and its immunization. Advice from clinicians, family and friends, as well as free vaccination, were major elements in vaccination uptake. This study concluded that perceptions of vaccine effectiveness, protection and serious incidents, recommendations from general medical practitioners, family and lose companions, and free immunization are all altering variables that are closely correlated with influenza vaccination in adults aged 18–64. (Yeung *et al.*, 2016)

2.2 SITUATION IN IRELAND WITH REGARD TO FLU VACCINATIONS

SMETANA (2017) study results show that, Influenza vaccine is a common and severe annual epidemic, resulted in massive mortality rates and financial loss across the population; elderly and immunosuppressed individuals are especially prone to severe complications and fatalities. The emerging dynamics of an ageing population globally have significant consequences for health policy and medical development. For example, prevention efforts by immunization are successful in minimizing the risk of influenza disease amongst these seniors. Even so, owing to immunosensitive associated with ageing, elderly people could not be properly covered by vaccines. In fact, reluctance between younger people raises the risk of emerging viral infections and, as a result, consequent exposures. Study research concluded that, it is evident that the production of more immunologic vaccinations is an essential and worthwhile undertaking, and medical trials appear to show that the existing composition of seasonal influenza looks extremely successful in minimizing morbidity and mortality that when suited to circulated pathogens. (Smetana *et al.*, 2017)

CZECH (2020) The concept of community aging has resulted in increased medical requirements as well as staff shortage and finances of medical care, necessitating some practical improvements in the healthcare paradigm in many nations. This is especially true in the context of a pandemic, such as flu or, more recently, COVID-19. As well as social education, preventive vaccines are the most successful means in battling the contagious diseases presenting a particular danger to seniors. Despite this, most EU states have a poor degree of vaccine coverage. This is mostly attributed to patients' lack of access to vaccines. Implementing vaccines in pharmacy and by approved pharmacists has substantially increased vaccine uptake levels and herd immunity in certain countries, thus also reducing the expense of managing diseases and the associated problems and decreasing the incidence of ineffective antibiotic treatments. This article discusses the role of pharmacists in the prevention of infections, highlighting the observable benefits of including pharmacists in preventing vaccinations, as well as reviewing the models of introducing and administering vaccinations in pharmacies in specific countries, and portraying vaccine guidelines established by foreign or national organizations. (Czech *et al.*, 2020)

GUALANO (2021) stated that per year, thousands of people die as a result of flu. Despite the fact that healthcare workers (HCWs) are a source of infection for patients, vaccine coverage amongst them is poor. Mandatory vaccine has been proposed, but there are still concerns. The purpose of this systemic review was to determine HCWs' acceptance of compulsory vaccination and to examine related features. MEDLINE, Scopus, Embase, PsycInfo, CINAHL, and Web of Science have been used to find studies on the topic. PRISMA guidelines were adopted. The comprehensive study comprised 52 experiments and the meta-analysis comprised 40 of the 13,457 scientifically testable documents discovered. The pooled ratio of HCWs adopting the strategy was 61 percent (95 percent CI: 53 percent - 68 percent), but there was significant variation across continents (from 54 percent in Europe to 69 percent in Asia) and professions (from 40 percent in nurses to 80 percent in students). Vaccinated HCWs complied with forced vaccines more often than non-vaccinated HCWs. More experiments with mandatory vaccination approval as the primary outcome are required, but the findings of this research indicate that in certain contexts, the majority of HCWs support mandatory vaccination. This, along with the impact that a flu outbreak might bring if it intersected with pandemics with identical signs, necessitates a rethinking of universal vaccines. (Gualano *et al.*, 2021)

BARRET (2012) By using Irish medical professional's influenza sentinel surveillance, they performed a case-control study to measure the 2010-2011 trivalent influenza vaccine efficacy (TIVE). Patients and influenza-like illness (ILI) with laboratory-confirmed illness were included in the study. Patients which screened negative for flu served as control. Sentinel general practitioners (GPs) obtained swab samples from patient populations with ILI, as well as their vaccine records and other personal attributes. The TIVE was calculated as $x100\%$. Of the 60 sentinel GP practices, 22 showed interest in taking part in the report, and 17 (28 percent) enrolled at least one ILI individual. They used 106 cases and 85 controls in the study. In 2010 and 2011, seven controls (8.2 percent) and one influenza case (0.9 percent) were vaccinated. TIVE against such a flu sub - type was calculated to be 89.4 percent, indicating a protective impact against GP-attended research lab reported influenza. This data analysis can be used to evaluate the efficacy of influenza vaccines on a yearly basis; however, sample size and vaccination distribution could be improved to achieve accurate and updated results. (Barret *et al.*, 2012)

JORGENSEN (2018) collected data on seasonal influenza vaccine guidelines, dose delivery, and targeted demographic exposure were collected from two methods: MS data from the EU Union and European Economic Area were obtained from vaccination coverage assessments comprising seven years (2009–2015) released by the Vaccine European Modern Integrated Collaborative Project and the European Organisation for Disease Control and Prevention. Data was valid from 49 of the 53 MS. With the exception of two, all had a national influenza vaccine program. When compared to low-middle-income countries, high-income nations delivered a significantly greater number of vaccinations per person. Vaccination is promoted for elderly people, people with chronic diseases, healthcare professionals, and pregnant ladies in the majority of countries. Children is mentioned in less than 50% of government decisions. Despite legislative advice flu vaccination rates remain low. Lower vaccination rates are not only a failed ability to avoid influenza in vulnerable populations, but they could also have a detrimental impact on disease outbreak preparedness. To enhance efficacy and reverse negative patterns, a better awareness of the obstacles to flu vaccination is required. Besides that, the introduction of vaccine coverage reporting is important for measuring program performance and effects. (Jorgensen *et al.*, 2018)

2.3 PERSPECTIVE OF IRISH CITIZENS TOWARD FLU VACCINE

FOURNET (2018) Even though the significant regional immunization programs in Europe, some populations remained unvaccinated, with ungrounded groups and some faith organizations often participating in vaccine-preventable disease outbreaks (VPD). They characterized a UVG as a community of people who hold the same views or reside in culturally interconnected societies in Europe, have traditionally low vaccination rates, and have undergone VPD incidents from 1950. Utilizing various search terms variations, they checked the databases MEDLINE, EMBASE, and PsycINFO. The very first systemic analysis selected study that identified a population in Europe with an epidemic or poor vaccine coverage for a VPD, and the next prospective study chose reports that defined potential causes correlated with non-vaccination in these groups. They choose 48 papers out of 606 and 13 articles from a total of 406 from first and second searches. The study founded 5 UVGs: Anthroposophist, Romans, Irish Travelers, and Orthodox Jewish societies. The most recorded vaccination causes were presumed non-severity of typical "early life" infections, anxiety of vaccination health consequences, and a need for more knowledge on, for examples, the possibility of vaccination.

There are a number of medical convictions and vaccine challenges in each UVG listed. Furthermore, some of these classes share common influences. Communication techniques targeting these related factors, such as informing people about the dangers of being vaccinated and not being vaccinated, addressing their questions, and fighting vaccine misconceptions prevalent among participants of a particular UVG through a credible source, will create a trustworthy partnership with these communities and improve their vaccination uptake. Other measures, such as expanding access to health care, may also improve vaccination rates for Roma and Irish travellers. (Fournet *et al.*, 2018)

HUGH (2013) conducted a study and the goal was to explore the predisposing, encouraging and requiring elements involved with seasonal influenza in elderly Irish adults. Predisposing, facilitating and requiring variables are predictors of vaccine adoption in this research. History of Flu vaccination is an efficient method to minimize influenza-related morbidity and mortality. Coefficients have been classified as genetic predisposition (age, gender, residency, family status), facilitating factors (education, job, carer compensation, medical card condition, and private health). In Ireland, like in other nations, it is prescribed yearly for various classes, such as greater than or equal 65 years of age and those with chronic illnesses. Those with a doctor's prescription were much more willing to undertake vaccinations, indicating a possible economic obstacle to health care in Ireland. Consumption was tested in the prescribed categories, for all ≥ 65 years of age, of respiratory illness, heart conditions and diabetes, body mass index of ≥ 40 kg/m², or upon acceptance of carer benefit. The 1st phase of the Irish Prospective Aging Research (TILDA) is a population-based study design of 8175 elderly people (≥ 50) utilizing heterogeneous distributed selection. Flu vaccine is provided completely for free to those from the approved classes who hold a 'health card' or 'physician card,' an appears to mean system for community preventive care. A survey method of 62% among qualifying residences has been attained. Univariate regression analysis was performed using Stata 12. (Mc Hugh *et al.*, 2013)

AKAN (2016) This cross-sectional analysis was carried out among June and September of 2014. E-mail was used to contact the physicians. The research subjects were given a self-reported questionnaire with 50 items addressing possible variables that could have affected their choice to undergo vaccinations, such as perceived threat, seriousness of the potential risk,

potential advantage, perceived challenges, response efficacy, behaviours, social pressures, and personal effectiveness. Out of 596 participants, frequently immunized doctors made up 27.3 percent of the responses. The respondents age limit was about 41 to 49 years, and its duration was almost 17 to 24 years. Working length, age, chronic illness history, and living with someone over the age of 65 were all factors that contributed to improved vaccine compliance. There were disparities between the compliant and noncompliant classes in almost all key components, including perceived danger, severity of the riskiness, potential advantage, expected obstacles, behaviours, social factors, and personal effectiveness. Multi-regression analysis showed that vaccine enforcement was improved by risk tolerance, operational influences such as time and expediency of vaccinations. The perceived need to be vaccinated yearly, on the other hand, had a detrimental impact on vaccination conduct. Methodologies intended to increase the influenza vaccine rate for doctors which do not take into consideration a variety of reasons are more likely to fail. It is both appropriate and essential to include behavioural and operational considerations in the preparation and execution of policies aimed at increasing the vaccine ratio among physicians. (Akan *et al.*, 2016)

BLANK (2009) Conducted a community-based face-to-face interactions, mobile surveys, or postal questionnaires were performed in eleven EU nations along with Ireland. About 2000 prominent adult individuals were surveyed per region and cycle. Virtual analysis was used to analyse information about children's vaccine status. Five priority groups were selected for the study. Over the 2007/08 period, vaccine prevalence percentages in the normal community increased from 9.5 percent to 28.7 percent. Just slight improvements were observed as compared to the prior season. The senior study population has the highest exposure (70.2 percent) in the UK and the least (13.9 percent) in Poland. Severely sick people were vaccinated at a scale ranging from 11.1 percent to 56.0 percent. Vaccination rates were relatively poor for medical professionals. Kid's vaccine uptake was minimum in Ireland (4.2 percent) and best in Germany (19.3 percent). Participants from both nations became conscious of the virus's severity. Those who had not been immunized thought they were unlikely to get sick. The biggest motivating force for vaccines was recommendations from a family doctor or a nurse. Over 2007/08, flu vaccine coverage varied significantly across regions not just in the general community but also in risk categories. In total, coverage increased marginally relative to the prior year. Overcoming obstacles and enforcing the main factors found by the studies may aid in increasing vaccine uptake and achieving the related WHO targets. (Blank *et al.*, 2009)

ZHOU (2018) The influenza virus, which triggers infectious respiratory problems, continues to be a significant strain on healthcare services and the economies. The most cost-effective approach to treat the illness is with a seasonal influenza vaccine. However, exaggeration of infection rate, as well as debate about vaccine protection and efficacy, undermine consumer optimism in vaccinations. Measures are needed to re-establish community interest and increase vaccine uptake. Adapting influenza vaccine vaccinations to various communities' immune responsiveness and vaccination history will increase vaccine safety and effectiveness. In pre-clinical and clinical studies, consistent advancement has been achieved in next-generation flu vaccination design elements aimed at strong and long-lasting acquired immunity. Even so, significant testing and legislative effort would be expected before achieving the target of a fully standardized vaccine. (Zhou *et al.*, 2018)

2.4 CONCEPTUAL FRAMEWORK

The above-mentioned articles give an idea about the factors that influencing the successful implementation of flu vaccine in Ireland and the perspective of Irish citizens towards flu vaccine. According to the Rogers study, it is confirmed that the that the cost of the vaccines, access to vaccinations, safety concerns, general public understanding of vaccines, and other sociocultural considerations all have an effect on the effective implementation of flu services. Improve influenza vaccine uptake by addressing misconceptions, barriers, and misunderstanding may result in increased vaccination coverage not only between public health, but also to future medical practitioners. Kumar noted that social networking has a positive influence on reducing the spread of contagious diseases in terms of peak time, peak intensity, overall illness, and risk of mortality. The findings indicate that social media serve a significant part in pandemic flu awareness and emergency planning, and that it contributes to the public by recommending appropriate practice in the field. Centre for disease control and prevention (CDC) suggests that, Vaccine uptake can be increased by Posting the importance of flu vaccinations in public spaces, restaurants, and other high-traffic areas, and an announcement in corporate communications (e.g., newspapers, twitter, emails, blogs, etc.) can describe the care facility as well as flu warnings and advertising blog posts in high-traffic areas stating the clinic's location, clear messaging from public leaders and business representatives will

encourage vaccines and staff interest in clinic enrolment, and even by using social media to increase flu vaccine uptake.

Effective implementation is also achieved by proper education and awareness about the vaccine. Mereckiene and TO suggests that regular educational services and campaigns, have had a great effect. The availability of accessible vaccination programs, such as mobile vaccine carts, and senior mentors are examples of strategies that have been shown to improve vaccine uptake rate. Wang also supports the above statement by stating vaccination is the most effective way to protect against flu, and data indicates that systemic interventions and regulatory intervention can effectively increase vaccination coverage for health professionals, reducing the risk of transmission in hospital environments. There are legal and ethical precepts for institutional mandated influenza protocols and state legislation, but effective adoption necessitates overcoming both administrative and behavioural hurdles. These statements were found to be useful in this study as it helped to analyse the impacts of these elements. MEDLINE, Scopus, Embase, PsycInfo, CINAHL, and Web of Science have been used to find studies on this topic.

According to Jan Smetana findings of the study, it is clear that developing more immunologic vaccines is an important and worthwhile endeavour, and medical studies seem to demonstrate that the current seasonal influenza composition seems to be highly effective in reducing death rates. Barrett supports the point by stating the data collection by TIVE will be used to assess the effectiveness of influenza vaccinations on an annual basis; however, sampling size and vaccination coverage should be increased to obtain more reliable and up-to-date outcomes. Jorgensen also promote the point by adding that a greater understanding of the barriers to flu vaccination is needed to improve effectiveness and reverse harmful trends. Aside from that, the implementation of vaccination coverage monitoring is critical for assessing program success and outcomes.

Fan Zhou stated that reasonable progress has been made in pre-clinical and clinical trials in next-generation flu vaccine designs focuses on high and long-lasting adaptive immunity. Nonetheless, substantial research and regulatory effort are needed before achieving the goal of a fully standardized vaccine. But Tesdale made a point that to boost long term pandemic preparation, measures should be taken to evoke and answer widespread doubts and fears about taking suggested advice.

The findings of the preceding studies aided in determining the indicators for the successful introduction of a flu vaccination program in Ireland, as well as residents' attitudes toward vaccines and the scenario in Ireland. Incorporating factors such as age and sex, will aid in obtaining a clearer picture of the subject. This makes this study more relevant.

2.5 CONCLUSION

From the above articles and publications, it is clear that education and proper awareness is the key element for the effective implementation of flu vaccination. The reason behind this is regular education and promotion among general population had a great influence in the uptake of vaccine. Secondly, the price of vaccination, access to vaccine facility, safety issues, general community perception of flu shots, and other sociocultural factors all have an impact on the successful delivery of flu services. Another crucial factor is that social media plays a critical role in pandemic flu prevention and emergency plans, and it benefits the society by recommending best practices in the sector. Next factor is by overcoming myths, hurdles, and misunderstandings can result in expanded vaccination coverage not only among public health professionals but also among upcoming health professionals. Finally, Vaccine coverage can be boosted by Publishing the benefit of flu vaccinations in public places, shops, and other crowded areas, as well as an announcement of commercial publications (e.g., journals, tweets, emails, articles, etc.) with describing the treatment facility as well as flu alert and promoting blog posts in high-traffic areas specifying the clinic's location, effective messages from public executives and business leaders improves vaccine uptake. Mandatory vaccine programs, which are seen in some parts of North America, have also resulted in higher vaccination rates without any complications. The biggest motivating force for vaccines was recommendations from a family doctor or a nurse. To sum up proper awareness, education, social medias and government policies can definitely increase the health status of the people.

CHAPTER- 3

RESEARCH METHODOLOGY

The aim of the study is to outline the situation in Ireland with regard to flu epidemics and to identify the effectiveness and acceptance of flu vaccines with particular reference to social and demographic factors. In order to reach a conclusion for the above aim it is important to identify the factors that contributing the successful implementation of flu vaccine programmes in Ireland. Various data collection techniques can be used to produce this primary data. The primary data for this study was collected through a survey. Literature review was the first part of the study and it was the primary source. From the literature review it is found that the importance of some factors for an effective implementation of flu programmes. Many studies were conducted all around the globe highlighting the importance of these factors, but no studies were conducted in Ireland or any parts of the world to identify the factors that contributes to an effective implementation of flu programmes. So, to identify the factors that contributing the successful implementation of flu programmes in Ireland this study is done.

This study was performed within the general community in Dublin using questionnaires as the survey method. As this a COVID-19 situation, the collection of data was quite difficult. The questionnaires were circulated through e-mails, WhatsApp and LinkedIn. But due to the current situation only 185 participants responded to the questionnaires. Closed-ended questions with multiple choices are provided for the participants. This helps the participants to respond in an easier and quicker manner. The responds provided by the participants are easier to compare and this helps to obtain a measurable data. For this quantitative research method is used. This survey is classified as a cross-sectional analysis since it was completed at a single point in time and was a population-based survey. As this is cross-sectional study the representative group of individuals are selected randomly. And the opinions are collected through online survey.

3.1 RESEARCH APPROACH

In this study, the questionnaire type of survey was chosen. The questions were created in compliance with the study's basic necessities. The survey's main goal was to analyse the factors contributing the effective implementation of flu programmes in Ireland. The major determinants for the analysis are calculated using the survey responses. To make it easy for participants, the queries were closed ended with choices. The survey was circulated via email,

WhatsApp and LinkedIn. The interviewer and the responders both considered the questionnaire survey to be easy. It provides reliable and straightforward answers to the key study goals and thereby leads to data collection. It can be defined as a faster and effective method of data collection. The questionnaire responses will be used to determine the factors the causing the effective execution of Influenza vaccine programmes.

3.2 PROBLEM SOLVING

The survey questions were written in a simple manner that is appropriate and readable for people of all ages. The survey approach used makes it easier to analyse the primary data gathered. The responses are entirely subjective. Each individual's point of view is collected and was considered to be useful in reaching a decision. The factors that lead to the successful implementation of flu prevention programs among Irish people were investigated. The majority of people were aware of the flu programs, which achieved attention as a result of the outbreak of coronavirus. The challenge encountered during the survey was that some residents were completely unaware of the flu vaccination and flu programs offered in the nation. The questionnaire responses were analysed to determine the factors that contributed to the successful establishment of flu vaccine programs in Ireland.

3.3 QUANTITATIVE DATA COLLECTION

Quantitative data is a type of data whose value is measured in form of numbers by the use of surveys, interviews, or questionnaires which is distributed among a random population. Information collected from these surveys are easier to analyse and the obtained data can be consistent, precise and reliable and it also helps to highlight the key findings in the result. The study also provides realistic observations about key gaps in the information collected as well as how the research study can fill the existing gaps and make appropriate confirmations about obtained data. Quantitative analysis is carried out to provide an overview of the theory applied to the study in order to adequately explain the theoretical context. This form of research also helps in collecting information with larger sample size and more accurate results can be collected from the study. One drawback is that when conducting a quantitative research, model for analysing and collecting data has to be carefully selected. Any error or mistake in execution

can lead to invalidating all the results. Also, data could be insufficient to clarify complicated problems.

As previously stated, questionnaires were used to gather quantitative data in this study. The analysis was carried out in Dublin, Ireland's country's capital. The survey involved individuals of age above 18 and were divided into different age categories. The respondents were briefly explained about the survey's aims and objectives. Factors that contributing to the effective implementation of Flu vaccine programmes in Ireland along with the perspective of Irish population towards Flu vaccine and the situation in Ireland were collected during the study. The study research had a sample size of 185 people.

3.4 INTERVIEW QUESTIONS

The questionnaires for the study were designed to be as simple as possible. The queries were simple enough for a group of individuals to understand. The questionnaire contains 17 questions that aid in the collection of primary data that needed to achieve a conclusion. It comprises of critical questions that include each respondent's personal views on the use of influenza vaccine resources offered in the region and other factors that leading to the successful implementation of Flu programmes were examined. By analysing these answers will be able to understand the current scenario in Ireland along with the viewpoint of Irish citizens towards flu and the major factors for the maximum implementation of Flu vaccine programmes in Ireland. The details obtained from respondents would assist the researcher in gaining an understanding of the perception, experience, awareness, and usage of flu vaccines by adults and the older population in Ireland. Also, more detailed questions about the place they got the vaccination, source of information, side effect experienced, the intention of participant for receiving the vaccination, who can provide the most trusted source of Flu vaccine information, importance of mandatory vaccination, role of healthcare workers/family friends/social medias on providing information to the general community is analysed. The detailed questionnaire used for the study is included in the appendix.

3.5 ETHICAL CONSIDERATIONS IN THE SURVEY

It is significant to understand the ethical aspects of a thesis before undertaking one. Ethical concern is often an unavoidable element in the analysis report. Without the ethical component, a study is incomplete. The various forms of ethical concern include study query feasibility, voluntary engagement and approval, sampling, anonymity, and possibility of injury. The validity of the study questions is an ethical consideration since they must be precise in order to address the research goals. Each individual's involvement in a study is entirely voluntary. Until enrolling any participants in the study, their informed consent must be received. The respondents must be told about the research objectives as well as the fact that they will withdraw from the study at any time if they really want it. The confidentiality of the respondent's records must be protected. The risk-benefit ratio must be measured, and the risks associated with the research must be minimized so participant welfare should be the primary target. In this study, participants' awareness of Flu vaccinations and use of flu vaccine facilities in Ireland were gathered using a closed-ended questionnaire, which aids in assessing people's influenza vaccination rates. The research priorities guided the development of the questions. Everyone who took part in the survey did so willingly. Prior to the start of the research, the objectives and a brief introduction were given. From each and every individual, informed consent was collected. They were told that they might leave the survey at any moment of time. All throughout report, the confidentiality of the information collected presented is upheld. The information provided was only used to reach a conclusion in this study. Respondent's identity or any other private details was not collected at anywhere in the study. There were no proven risks in the sample when calculating the risk-benefit ratio since the questionnaire only gathered personal opinion and information about the subject discussed above.

3.6 DATA ANALYSIS

The final and most critical step of a research project is data collection. The gathered information derived from the survey should be translated to an accessible format so that it can provide a closing statement to the research objectives and thereby aid in reaching a conclusion. The methodology for quantitative and qualitative studies differs. The questionnaires distributed through mails, online platforms are collected and analysed through quantitative research method. To begin the evaluation of actual data in a quantitative sample, the first step is to become familiar with the collected data and the objectives of this research. Since the survey

had a closed-ended multiple choice questions, it was easier for participant for responding to the questions and for the researcher to analyse the data. As the information collected from the survey is numerical data, the results are represented as pie charts and bar graphs by the use of google forms and the numerical data is also labelled in the diagram.

CHAPTER- 4

RESULTS AND DISCUSSION

The analytical results are an essential component of the report. As it is a quantitative analysis, the findings are largely determined by the numerical responses of the participants. These responses are represented as bar graphs and pie charts. Since the questionnaires were multiple choice and closed-ended, it helps to analyse the data much easier and to obtain a measurable data. The study was carried out in Dublin, Ireland's capital. Involvement in the study was entirely voluntary. A total of 185 people from various parts of Dublin responded to the survey. The answers received were exciting and differed according to various factors such as age, sex, and so on. In the other side, there were individuals who were completely ignorant of any vaccines in the medical sector. Each answer provided by the participants aided in drawing a conclusion to this study. The questions were distributed via email, WhatsApp, and LinkedIn. Also, the questionnaire was developed specifically based on the study's aims and objectives. The response rate of the survey is high (69%) because of more personal touch.

4.1 GENERAL CHARACTERISTICS

➤ DEMOGRAPHICS

As previously stated, the overall number of individuals involved in the research was 185. These people were divided into age classes of 18 to 34, 35-50, 51-64, 65 and older. This grouping was useful in determining the basic features of each category in relation to the study objectives. Figure 1 depicts the number of people in each category.

The figure 1 shows that more than one half of the participants were belonged to the age group of 18-34. It was then followed by the age group 35-50 and the percentage of participation was 16%. Along with more than one quarter of individuals participated in the age group of 51-64. The least participation was among the age category of 65 and above and the percentage was only 10 percent. Most of the citizens participated in the survey had a minimal knowledge about Flu vaccinations and the service provided in Ireland.

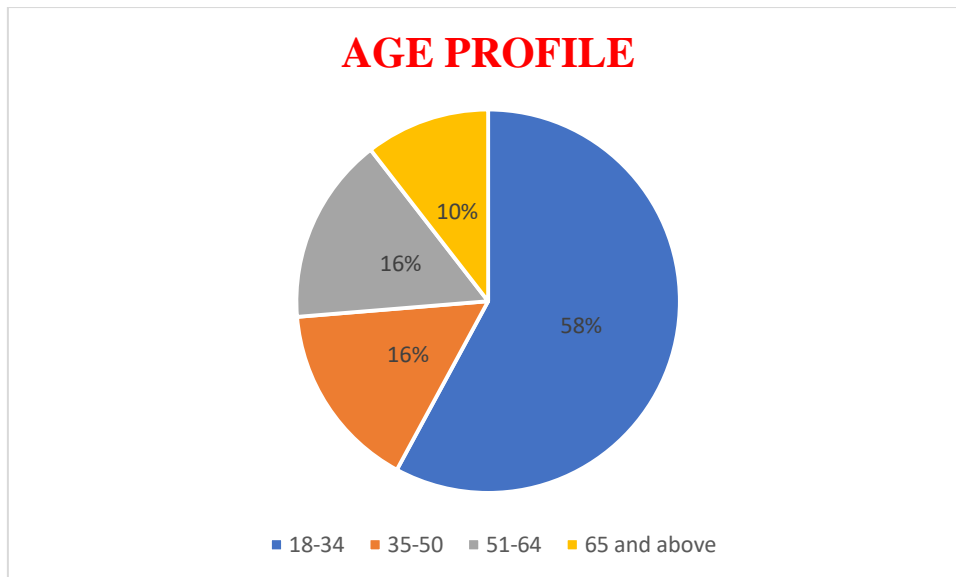


Figure 1: Age profile

Figure 2 categorizes the respondents based on their gender. This division is thought to be useful because it gives a general perspective of the participants on flu vaccine awareness based on gender. As a result, it is possible to determine if males or females are more informed about the subject. More than one half of the participant were females, followed by males with a total of 45%.

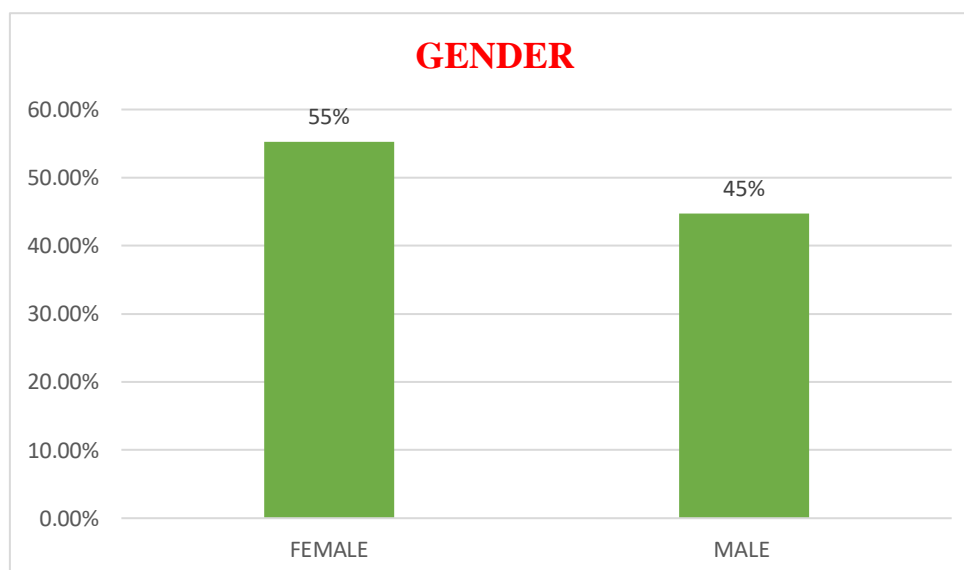


Figure 2: Gender

➤ **SITUATION IN IRELAND WITH REGARD TO FLU VACCINATION**

Figure 3 indicates the percentage of individual who are aware of the latest flu vaccines programmes in Ireland. The given graph below it implies that, among the total 185 participants 58% of the participants are not aware about the latest Flu vaccine programmes which means that the overall citizens in the Ireland are not familiar about the current Flu vaccine programmes in Ireland. Only 43% of the respondents polled for that they are aware of flu vaccinations campaigns in Ireland.

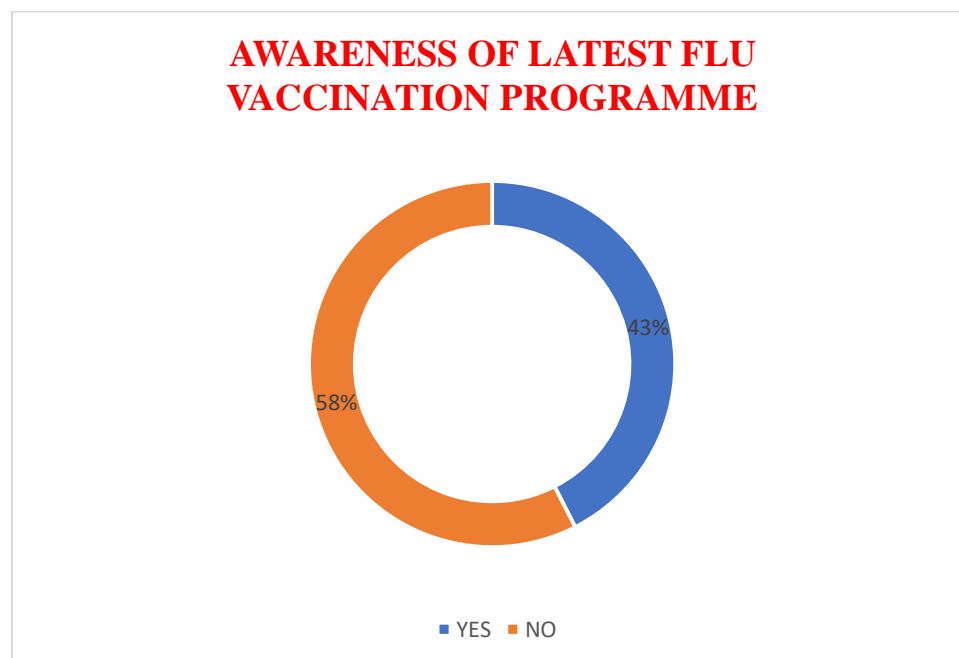


Figure 3: Awareness of latest flu vaccination programme

Figure 4 indicates the source of information on flu vaccination among Irish citizens. From the graph below, it is showing that 36 % individuals polled that their source of awareness of Flu vaccinations was through social medias. Hence it is showing the importance of social medias for the promotion of vaccinations. 33% participants also said that their source of awareness of vaccinations was through healthcare workers. The remaining participants i.e., 31% also mentioned that their information source was by family/friends. From the graph it is observed that the healthcare worker, family/friends and social medias plays a major role in the effective implementation of flu vaccine programmes.

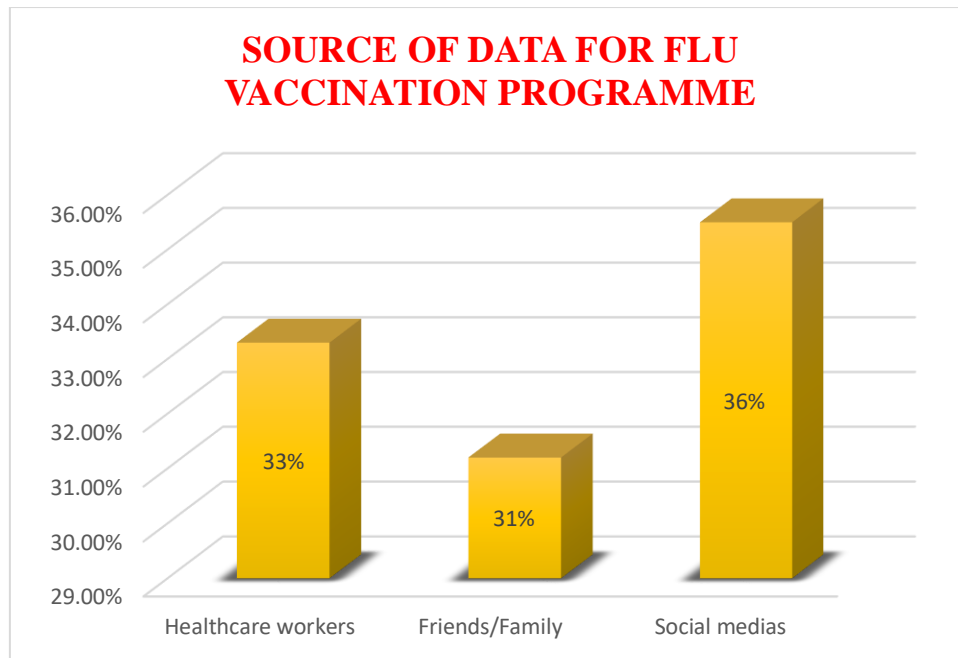


Figure 4: Source of data for flu vaccination programme

Figure 5 indicates that at what kind of place did the participants get the most recent flu vaccination. 43% of the total participants polled for pharmacy. 24 percentage of participants said they got the recent flu vaccinations through health centres. The remaining 20 % of total participants responded for hospitals. 11% of respondents polled that they got the flu vaccinations through doctor’s office. Only 2 percentage of participants sod that they are not aware about the place they receive the vaccine. From the graph below it implies that the pharmacy’s, health centres, hospitals, doctor’s office are the main areas in which the Irish citizens are more vaccinated. Among them pharmacy’s play a key role in vaccinating the Irish populations.

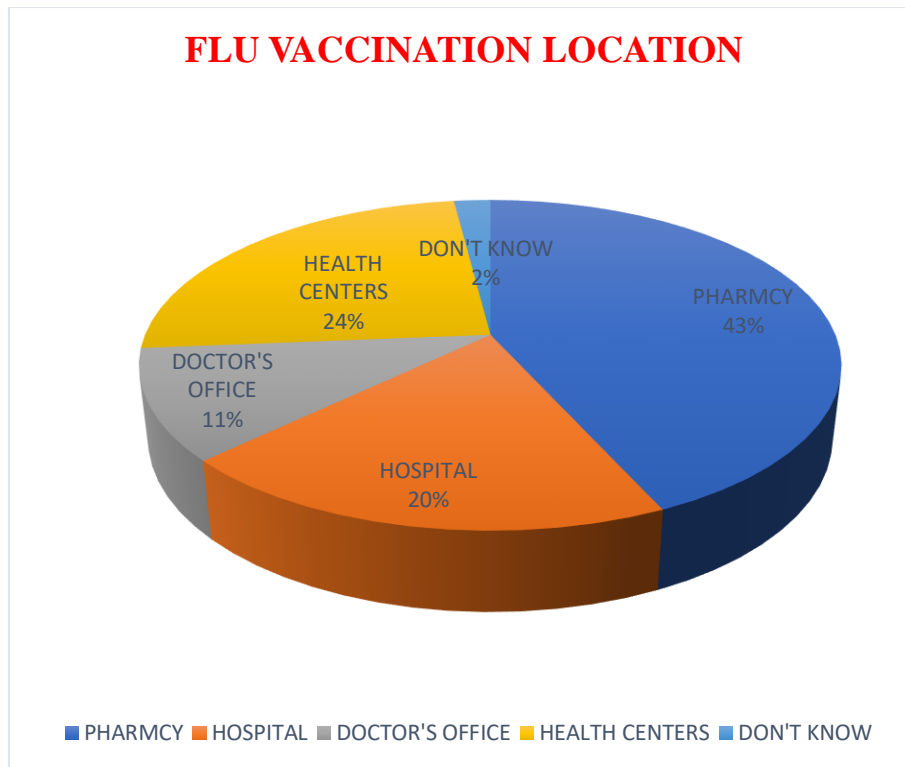


Figure 5: Flu vaccination location

➤ **MAJOR DETERMINING FACTORS FOR THE EFFECTIVE IMPLEMENTATION OF FLU VACCINE PROGRAMME AMONG IRISH CITIZENS**

Figure 6 represents that percentage of participant responded for the statement “Vaccines are expensive for me right now”. Cost of vaccine is an important factor for the effective vaccination programmes. 33% participants said that they strongly disagree the above statement. 29% of participants says they disagree the statement. But on the other hand, 27% individuals strongly agrees that the cost of vaccine are expensive for them right now. The remaining 11% also agrees the statement.

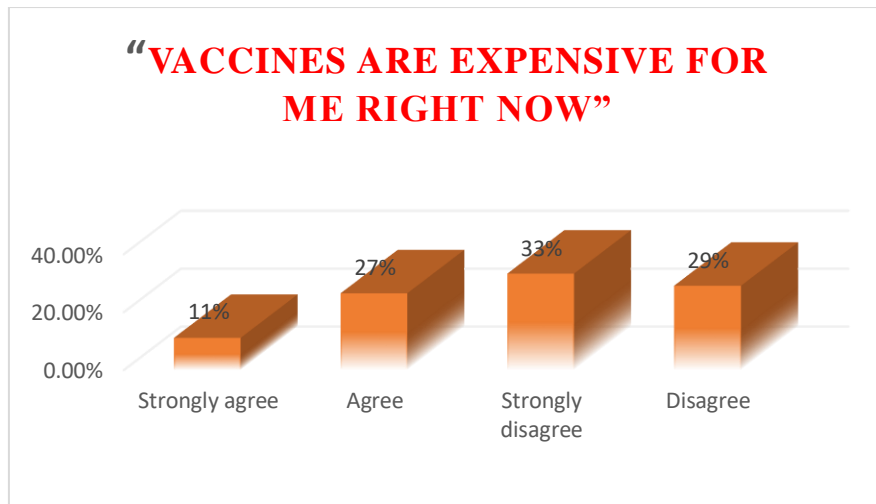


Figure 6: “Vaccines are expensive for me right now”

Figure 7 depicts the percentage of participants who reacted to the statement, “I don’t have time to get a flu vaccination”. Compliance to a timetable is important for ensuring optimum efficacy toward vaccine-preventable outbreaks in the population. From the total participant 48 percentage of citizens says they strongly disagrees the above statement and 25% of respondents polled they disagrees the question. As majority of people stated that they disagree the query, hence it is identified that the general population had time to get the vaccination. Only 21% people mentioned that they agree the above statement and the remaining 6 percent of population said they strongly agrees the question.

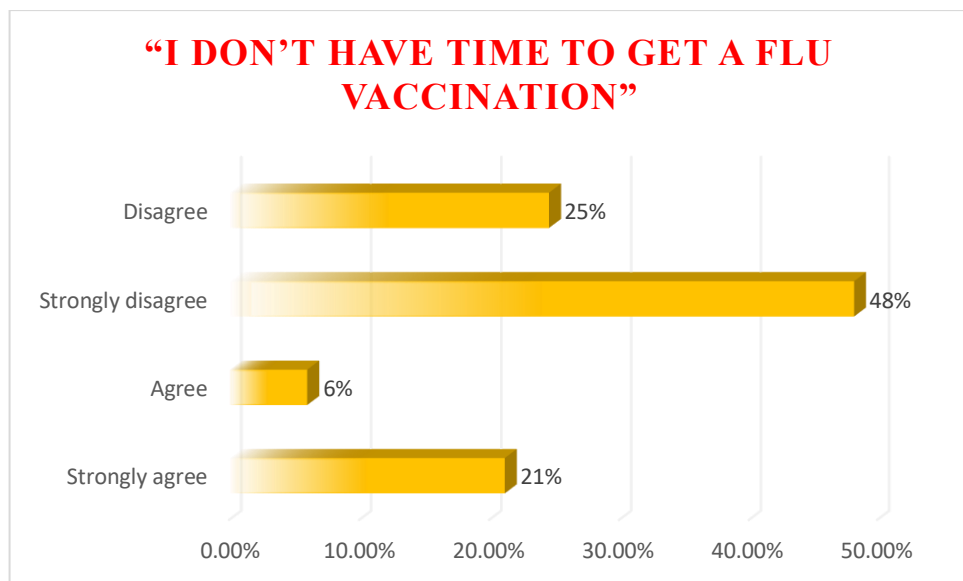


Figure 7: “I don’t have time to get a flu vaccination”.

Figure 8 below shows the percentage of subjects who responded to the argument “I don’t know where to receive a flu vaccination”. The flu shot is usually accessible at a variety of sites, including doctor's offices, community health services, university medical clinics, several colleges, flu clinics, and nearby pharmacies. From the survey around 57% of participants disagrees the statement and almost 32 % of respondents also strongly disagree the statement. Only 6% of participants polled that the agrees and the remaining 6% participants strongly disagrees the statement.

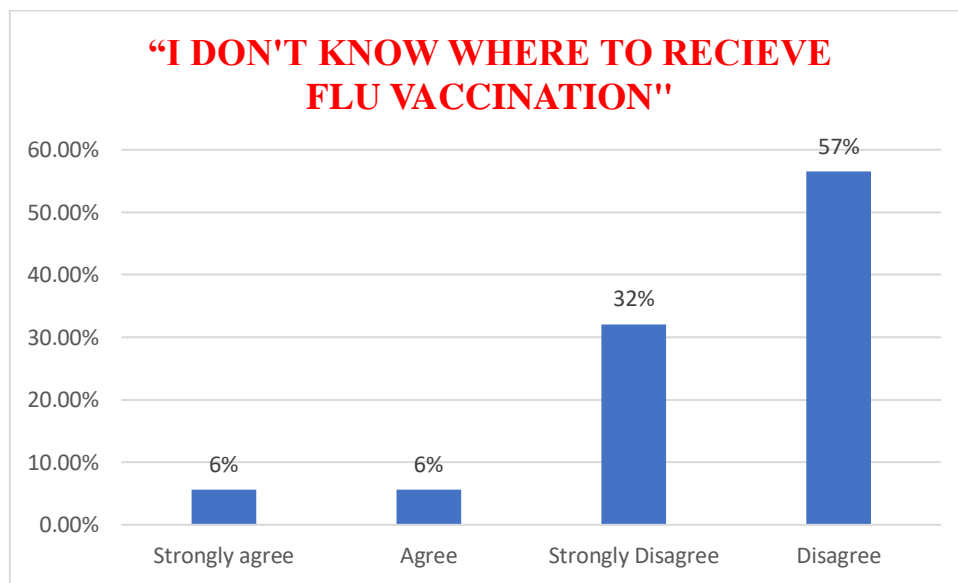


Figure 8: “I don’t know where to receive a flu vaccination”.

Figure 9 below represents the percentage of subjects responded to the statement “I believe that as a result of the flu shot, I may actually get the flu”. From the total participants 36% of individuals responded that they strongly agree the statement and 33% of participants agrees the statement. But 25% of subjects says they disagree the statement and the remaining 6% of subjects strongly disagree the statement. From the survey it is clear that more believes and myths ore going about flu vaccine among general people in Ireland and in order to overcome all these believes proper awareness and education has to be given.

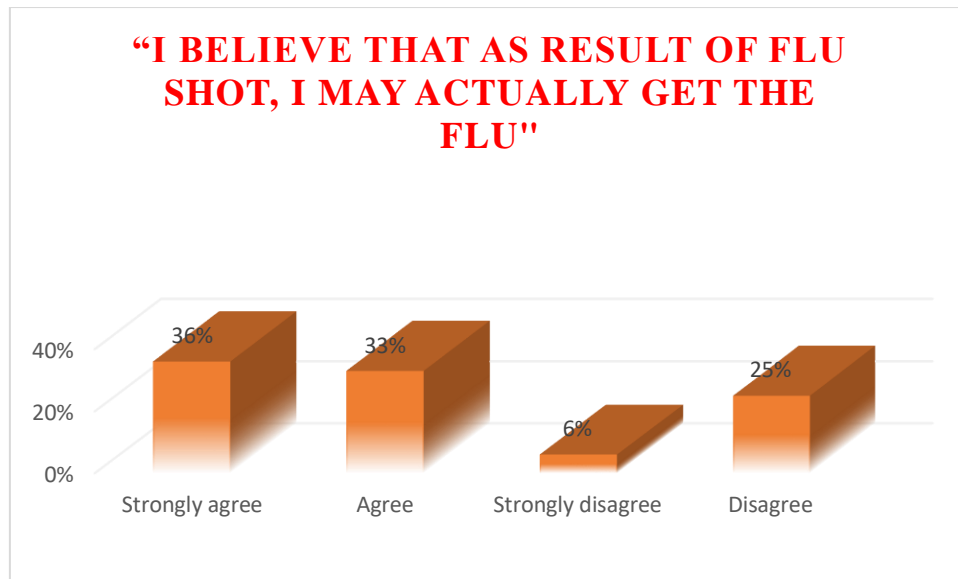


Figure 9. “I believe that as a result of the flu shot, I may actually get the flu”

Figure 10 below indicates the percentage of participants responded for the statement “I believe that vaccine may have dangerous side effects”. Among the survey 28 percentage of individuals that took part in the survey says they strongly agree the above statement. Also 37% of participants says they agrees the statement. on the other hand, 24% of total respondents strongly disagrees the above statement and the remaining 11% of individuals disagrees the statement. Severe adverse effects of the flu vaccine are somewhat uncommon. Since receiving the vaccine, patients may experience a moderate fever and pain in joints for a few days. The arm could still be a little sore where the shot was given. But during the survey more than 70 percent of participants believes vaccine might have severe adverse effect. These myths and believes can be fully avoided by proper awareness and education.

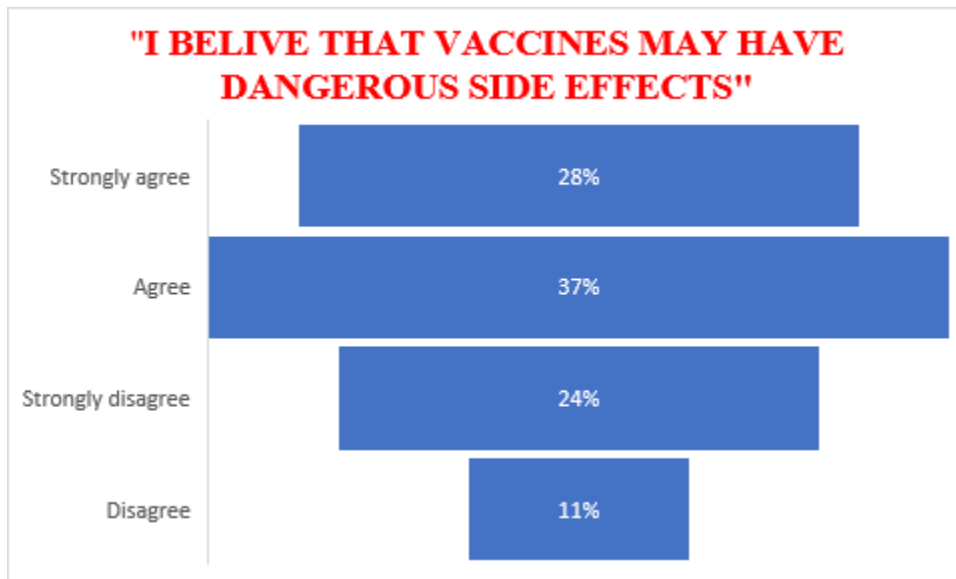


Figure 10. "I believe that vaccine may have dangerous side effects".

Figure 11 shows the percentage of subjects responded for the comment "I was not informed that flu vaccine might be important" Amongst the total participants 43% of people polled that they strongly agree the comment and 30% of respondents says they agrees the statement. Likewise on the other side 17% of individuals polled they strongly disagrees the comment and the remaining 10% of subjects disagrees the above statement.

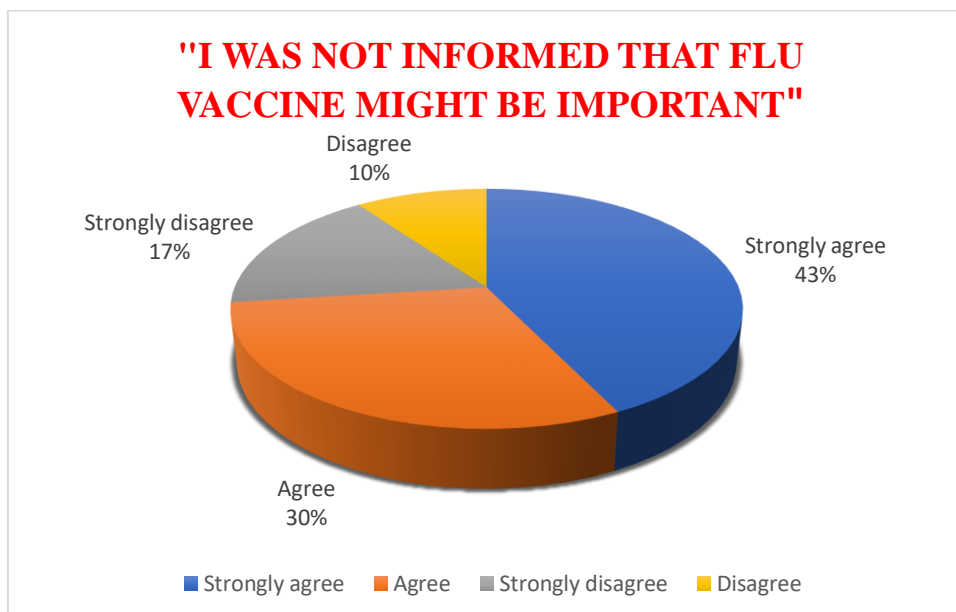


Figure 11. "I was not informed that flu vaccine might be important"

➤ **PERSPECTIVE OF IRISH CITIZENS TOWARDS FLU VACCINATIONS**

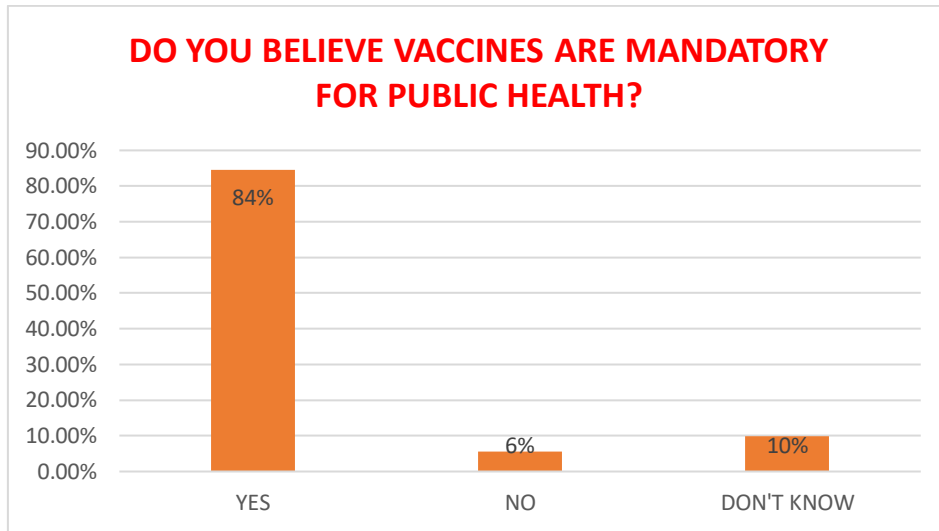


Figure 12: Do you believe vaccines mandatory for public health?

Figure 12 represents the percentage of individual who believe vaccine are mandatory for public health. If majority of the individuals are vaccinated, then it makes very difficult to spread the virus. From the survey, around 84% of participants says vaccines are essential for the community health. But Almost 10% of the respondents are not aware about the effectiveness of mandatory vaccination. The remaining 6% of the respondents raise that the vaccines are not essential for the public health. From the total survey it is evident that in order to prevent from the flu virus vaccines are mandatory for the human health.

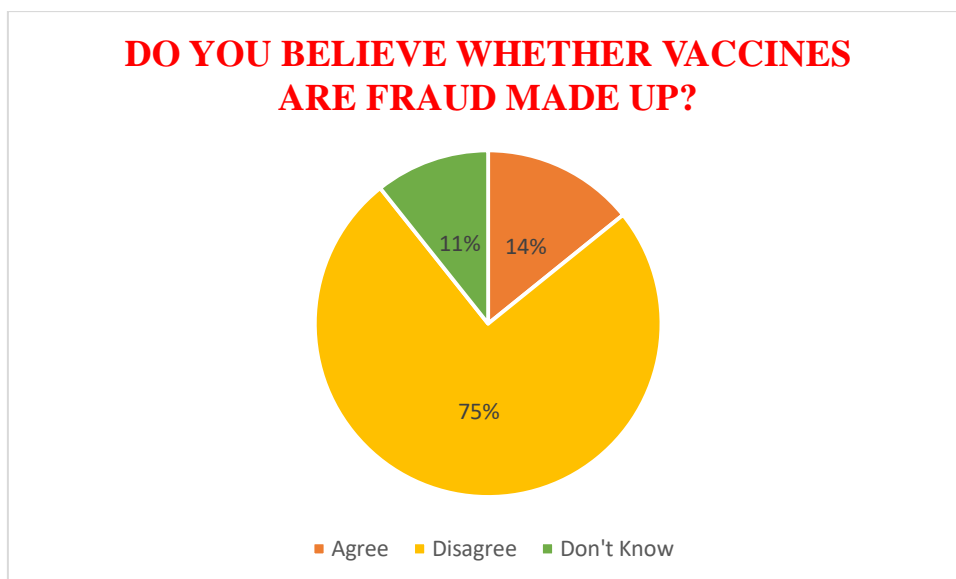


Figure 13: Do you believe whether vaccines are a fraud made up?

Figure 13 indicates that the percentage of participants responded for the argument “Vaccines are a fraud made up in order to profit the pharmaceutical industry”. From the total 200 participants 75% of subjects disagree the statement. 14 percentage of participants agrees the statement and the remaining 11% of respondents are not aware about the statement. From the whole survey majority of subjects believe that vaccines are not a fraud product for the pharmaceutical industry benefits.

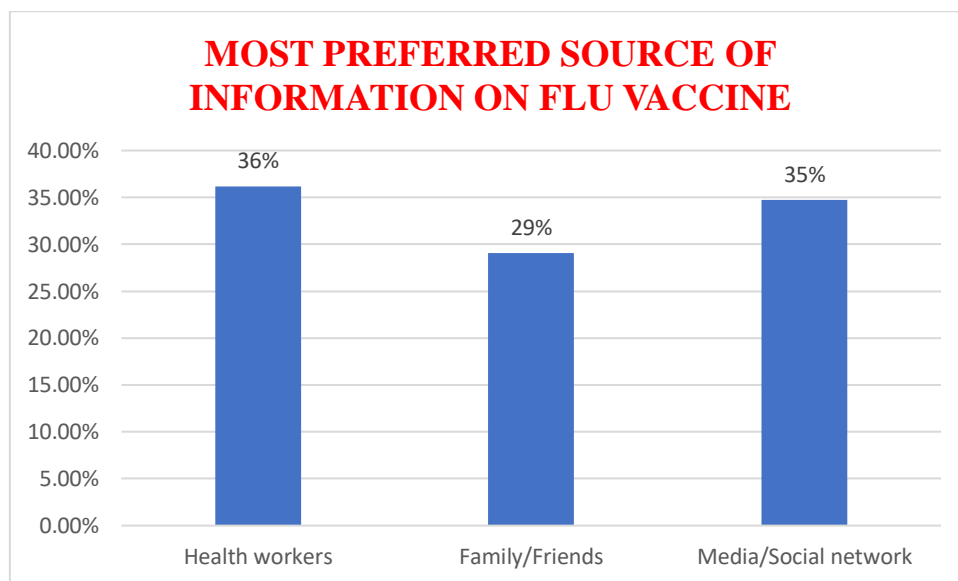


Figure 14. Most preferred source of information on Flu vaccine

Figure 14 represents the which is the most trustworthy source of influenza vaccine. Nearly 36% of subjects said healthcare workers is their most trusted source of information about immunizations. 35% of participants polled for media or social network and the remaining 29% of participants says that friends or relatives was their main source of vaccine information. So, from this total poll it is evident that healthcare providers, social media platform and family relatives or friends plays an important role in providing a credible source of information about vaccines and its effectiveness.

Figure 15 below indicates the percentage of participants responded for the intention to get vaccinated against influenza virus. Vaccines against the flu has been proven to minimize the incidence of flu infection, hospital stays, and mortality. From the total 185 participants 49% of participants says vaccines are for personal protection. 28% subjects believes that vaccines can limit the spread of disease. At the same time 14% respondents says their intention to get vaccines is only because they are safe and the remaining 9% of participants says they took

vaccines because it is free. From the survey it is clear that flu vaccine helps people from protecting from the serious flu illness.

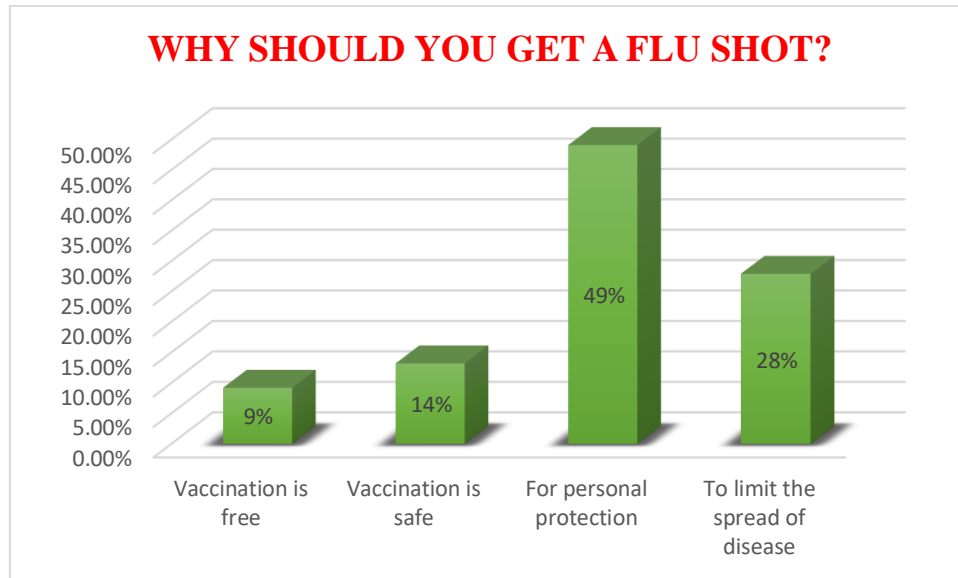


Figure 15. Why should you get a Flu shot?

Figure 16 below indicates percentage of participant intention to get the flu vaccination next time. From the total survey 58% of subjects have a plan to get the flu vaccination and the remaining 42% of participants had no plan to get the flu vaccination next time. This shows the proper awareness programmes had to be given about the importance of vaccination.

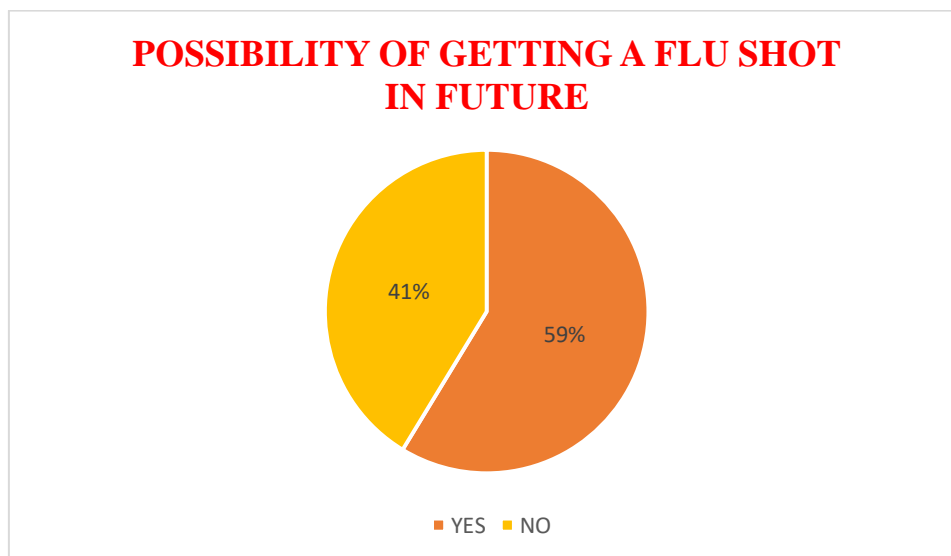


Figure 16. Possibility of getting a Flu shot in future

Figure 17 indicates the percentage of participants responded for the need of public awareness about flu vaccination. From the total survey 88% of participants said they want a public awareness about the flu vaccine and the remaining 12% of respondents think there is no need of public awareness about the vaccination.

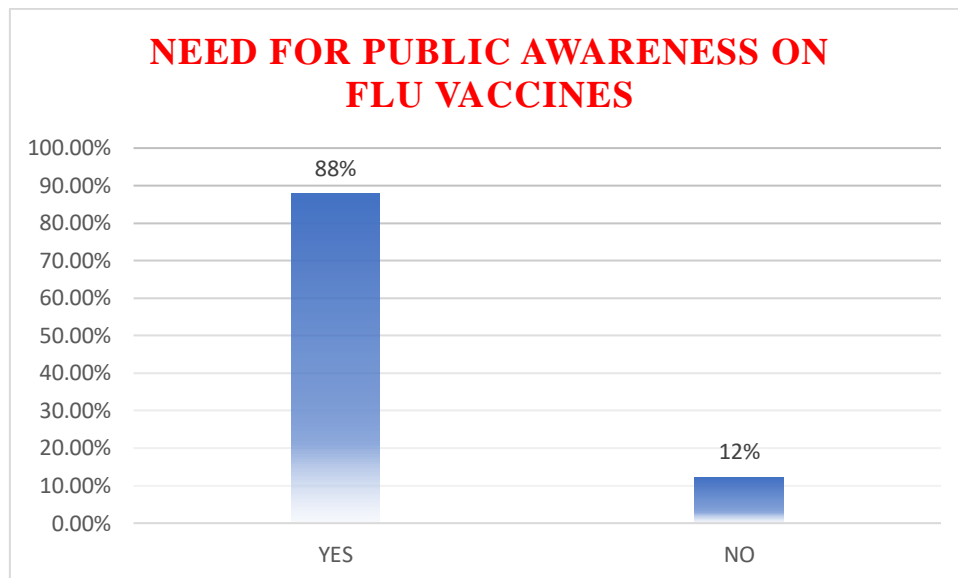


Figure 17. Need for public awareness on Flu vaccines

4.2 DISCUSSION

The aim of the study was to outline the factors that contributing the effective implementation of Flu programmes in Ireland among general population and to identify the Irish public's attitude toward flu vaccines. The study's findings were somewhat close to those of other surveys performed in other places around the world. The research group consisted of people from Dublin, Ireland's capital. The study had 185 participants in total. The whole participants in the study were categorized into four groups. Group 1 was among is 18 to 34, Group 2 between 35-50, Group 3 was 51-64, and group 4 was 65 and older. 58% of those surveyed were between the ages of 18 and 34. It was followed by the age group 35-50, with a participation rate of 16%. More than one half of those were between the age group of 51 and 64. The age group 65 and older has the lowest participation rate, with just 10%. According to this survey with respect of age it is clear that the majority of those who took part in the study had a basic knowledge of

flu vaccines and the services available in Ireland. But, individuals between the ages of 18 and 34 were more likely to respond than the senior citizens. When comes to the gender of respondents in this study, 55 % of participants were females and 45% of subjects were males. However, there is no gender disparity in attendance and in the study, respondent categorization based on gender had no effect. As a result, it is known that the both men and women are knowledgeable of flu vaccinations and their importance.

Awareness of flu vaccination programmes is an important factor to prevent the spread of disease. From the 185 participants fifty eight percent of participants are unaware of the current Flu vaccine programs, implying that the majority of Irish people are unaware of the latest Flu vaccination programs. Just 43% of those interviewed were aware of flu vaccine drives in Ireland. The Public Health Agency (PHA) is advising anyone who is willing to receive the free flu vaccine to do so. The flu vaccine program has been extended to help minimize the spread of flu and reduce flu-related hospitalisations at a time when the medical system is under pressure due to COVID-19. It would also further minimize the possibility of catching both the flu and the coronavirus at the same time. The HSE had taken many measures to minimize the chances of spreading flu virus during autumn and winter in order to protect ourselves, our friends, and everyone we come into touch with. But most of the individuals are not at all knowledgeable about the latest flu measures and the awareness programmes that started by the department. In order to tackle the situation more effective campaign programmes has to be distributed among the Irish citizens and more educative programmes from the health department had to be established.

Source of awareness is also an important factor for the effective implementation of flu programmes. From the survey 36 percent of those interviewed said they informed about flu vaccines through social networks. As a result, it demonstrates the significance of social media in the advancement of vaccines. 33 percent of participants said health professionals were their primary source of vaccine information. The remaining 31 percent of participants said they got their details from family/friends. Centre for disease control and prevention CDC (2021) also suggest that public awareness through social medias can increase vaccine uptake. Yeung (2016) also states that advice from clinicians, family and friends were major elements in vaccination uptake. According to the survey, it is concluded that the healthcare workers, family/friends, and social media play a significant part in the successful delivery of flu vaccine programmes.

Place of taking vaccination also plays a major role in implementation of flu programmes. From the total survey, Pharmacy was chosen by 43 percent of those interviewed. Twenty-four percentage of participant state they received their most recent flu vaccine at health centres. The remaining 20% of participants polled for hospitals. 11 percent of those interviewed said they had their flu shots from a doctor's clinic. Just 2% of participants are unaware of when they will administer the vaccine. According to the survey the primary places in which Irish residents are most vaccinated are pharmacies, health-centres, hospitals, and doctor's offices. Among them, pharmacies play an important role in vaccinating the Irish community. The similar results are obtained from Kirdale (2016) and they conclude that several countries are promoting a pharmacist-led national Flu immunization service to improve vaccine uptake in various populations. Also, Czech (2020) study results highlights the role of pharmacist in prevention and administration of Flu vaccines in Pharmacies among the general community in various countries and portraying vaccine guidelines established by different organisations. Since 2011, voluntary pharmacists in Ireland have been offering flu vaccinations. Ease of availability; efficiency (longer operating hours, without the need for any scheduling, etc.); faith in pharmacist; and price are all reasons for visiting a pharmacy for flu vaccine. So, more pharmacy-based vaccine programmes have to implemented for the effective implementation of flu programmes.

Cost of the flu vaccination is a factor that influence in the successful implementation of flu programmes. The average price is €34. However, regardless of whether they have an insurance card or GP card, or if they are part of an at-risk demographic, the vaccine is free. If they are one of the groups that the HSE highly recommends for vaccination, both the shot and the appointment are free. During the survey it is clear that almost half of the participants say the cost of vaccines are expensive for them. Due to high cost some of the individuals are regretting to take the vaccination. So, more programmes had to be effectively implemented to give an awareness about the flu vaccination and its importance.

Scheduling a time to take the vaccination is another key factor. Users should take flu vaccine before flu viruses circulate in the population because antibodies need around 2 weeks to build in the body to offer immunity toward flu. Planning had to be taken to get vaccines earlier in the fall, before the flu season starts. During the survey more than 60% of participants polled that they have time to get the vaccination but the remaining population says they don't have the time to take the vaccination. This is only due to the inadequate education about the importance of flu vaccination among the Irish population. Some of the participants are not

aware about the timely administration of flu vaccine. Getting flu shots keeps away from getting flu and the spread of disease.

Flu vaccine protects lives of millions of people and reduces millions of infections per year, but vaccination coverage is low for a variety of factors. One of the most popular misconceptions that causes people to stop getting the flu shot is that it would give them the flu. But it is obviously not true. The virus in the shot is inactive, and dormant viruses cannot spread disease. Flu vaccines administered by needle are made of either inactive viruses or a single protein from the influenza virus. The nasal spray vaccine includes live viruses that have been weakened to the point where they may not cause disease. During the survey more than 65% of the respondents say while taking the flu shot, they may get the Flu. In order to tackle the situation more effective awareness programmes had to be given from the health department to the general public. Also, through social medias more information had to be given to the community.

The influenza vaccine has one of the highest safety histories of any vaccine, with the number of adverse effects being minor. Discomfort and tenderness at the injected site are the most frequent complaints after flu vaccine. There was some argument over the safety of flu vaccines. However, data from experts, physicians, and health agencies suggests that they are a healthy and reliable way of avoiding flu. During the survey more than 60% of subjects said they believes that vaccines are having severe side effects. This is purely a misconception about the flu vaccination. Because serious adverse effects are not yet reported. The situation can only overcome by providing maximum awareness and increasing the importance of vaccinations through media network.

Giving proper information about vaccination to the public is also a factor for the effective implementation of flu programmes. During the survey more than 70% of participants polled that they are not informed about the flu vaccination. Educational status has repeatedly been described in the literature as one of the determining factors of flu vaccine acceptance. It is possible that the general public with a higher degree of education is more able to consider healthier habits. Furthermore, it is likely that these people are more conscious of these future risks with influenza infection and, as a result, respond to immunization. Individuals with a strong level of education are more inclined to understand vaccination and flu vaccines. Furthermore, increased awareness on the issue may encourage vaccine acceptance. Despite the fact that greater flu-related awareness can increase the probability of flu vaccine coverage. It

is likely that those who accept influenza vaccination educate themselves more than those that don't, resulting in a higher degree of awareness about flu.

All the above factors like Cost, time to get vaccination, proper awareness on importance of vaccination and safety concerns all plays a critical role in the implementation of flu programmes. The result obtained from the survey was quite similar to the Rogers (2018) study. The study states that the price of the vaccines, access to immunization centres, health and safety issues, general public perception of vaccines, and other sociocultural considerations all have an effect on the effective implementation of flu services. Improving flu vaccination uptake by addressing misconceptions, barriers, and misunderstanding may result in increased vaccination coverage in all populations.

Mandatory Flu vaccinations is another key to the successful execution of flu programmes. Compulsory influenza vaccination seems to be the only method that has been shown to reach vaccination uptake rates above 95 percent. From the survey 84.5% percentage of participants believe that vaccines are mandatory for the public health. The study result was similar to K.W.TO (2016) study. He concluded the study by stating implementation of mandatory vaccination programmes in some part of North America results in high vaccine coverage without any complications. Gualano (2021) study also supports the mandatory Flu vaccinations. Per year, thousands of citizens are killed by the flu. It is a dangerous virus, and the vaccination is the only safeguard that fight against the virus. The condition can only be prevented by compulsory flu vaccinations. For that proper awareness should be given to the general communities.

Vaccines for influenza protection have been approved by the Us FDA. If you ever get the flu, there have been FDA-approved antiviral medications that are legally available to cure the disease. The CDC recommends these medications used against newly emerging influenza viruses. They are more effective when begun shortly after the onset of signs. Flu antiviral drugs are available by prescription and are used to avoid or cure the flu. They come in the form of tablets, beverages, inhalers, and intravenous infusions. The various products available in in all types of ages. During the survey participants asked a question about whether vaccines are a fraud made up in order to profit the pharmaceutical industry. 75% participants polled that they disagree the statement. The vast number of respondents in the study agree that vaccines are not a deceptive commodity designed to support the drug companies.

Source of information about the vaccination is another key for the effective implementation programmes. According to the poll, 36 percent of respondents believe that healthcare professionals have the most accurate information on the influenza vaccine. 35 percent of those interviewed said they got vaccination knowledge from the media or social networks, while the remaining 29 percent said they got it from friends or family. Thus, based on the results of this survey, it is clear that medical professionals, social networking sites, and family members or friends play a vital role in providing a reliable source of knowledge about vaccines and their efficacy. It is because healthcare workers can give many information about the vaccination to the general public during the hospital visits. Also, family and friends also can educate others by their experience and their knowledge. The result obtained from the study resemble with Yeung (2016) study and result concluded that recommendations from general practitioners, family and loose campaigns helps to understand the effectiveness, safety and side effect of vaccinations. Kumar (2021) on his study also states that social media has positive impact on providing knowledge on viral infections and preventing the transmission. Nowadays as the use of social networking sites are increased there are more relevant informative sites to check the information about the vaccinations. Thus, all these factors are an important factor in the maximum vaccine coverage rates.

Personal intention for vaccine uptake is the next factor for the efficient execution of flu programmes. Vaccines toward the flu have been shown to reduce viral infection, hospital visits, and deaths. Vaccines are used for personal security, according to 49 percent of the participants. 28 percent of those polled agree that vaccination will help to reduce disease transmission. At the same time, 13 percent of respondents say they will get vaccines solely because they are safe, while the remaining 10 percent say they will get vaccines because they are free. From the whole survey it is understood that intention about vaccine uptake varies but all the factors above help in the prevention of flu. Hence the more vaccine uptake can be increased.

Maximising the future pandemic influenza vaccination uptake is another factor for the efficient enforcement of Flu programmes. In the overall poll, 58 percent of persons expect to get the flu vaccine next time, while the remaining 42 percent have no plans to get the immunization in the upcoming year. This demonstrates the insufficient vaccine awareness programs that were needed. Since flu strains are continually evolving, the vaccine formulation is updated each year and revised as needed depends on which influenza viruses are causing people to become ill, the degree to which those viruses are circulating, and how the prior season's vaccine protected against such virus. And major complications may be recovered from with rest and medical

attention. Anyone with serious flu symptoms should see a physician. Every other year, a person should get a flu shot to minimize their chances of having the flu again.

Public awareness is the most important factor for the proper execution flu vaccination programmes. According to the results of the poll, 88 percent of participants want public awareness about the flu vaccine, while the remaining 12 percent believe there is no necessity raising attention about the vaccines. The study result sounds similar with the Fournet (2018) study. They stated that proper communication by informing the people about not being vaccinated, addressing the questions and misconceptions of participants improves the vaccination uptake. The best way to protect against flu is to have a seasonal flu vaccination campaign to raise awareness annually. The reason for this is that frequent awareness and advertising among the general public has a significant impact on vaccination coverage. Overcoming misconceptions, roadblocks, and misinterpretations will also result in increased vaccination rates not only between public health practitioners but also among future medical practitioners.

CHAPTER- 5

CONCLUSION

Seasonal influenza vaccination is the most effective and protective measure to be taken against influenza virus. This study result gives an information on the factors that contributing to the successful implementation of flu programmes in Ireland along with the perspective of Irish citizens towards flu vaccine. Influenza vaccination acceptance is the only method to achieve a high vaccination uptake rate and this can be increased by a creating a positive attitude towards the general community. Therefore, measures to be taken to enhance the vaccine perceptions for general public and should be effectively introduced in order to increase immunization coverage.

First and foremost, factor for the effective implementation of maximum flu coverage can be achieved by proper awareness and educational programmes by health departments. Comprehensive influenza vaccination program should be implemented and provide a substantial education and training on influenza regarding both the benefit of getting vaccinated and risk of not getting vaccinated should be effectively communicated to the general community. Because every year vaccination should be received as the virus change and the vaccine is updated every year. Immunization educational materials are intended to complement personal education and advice from healthcare provider. Proper communication and education among healthcare providers with patients, friends and relatives are the key players in keeping themselves and the neighbours healthy also for protecting the health of the public. By this effective method the vaccination coverage can be increased. Second factor is by mandatory vaccination. Through the mandatory vaccination programmes, the vaccine coverage can be increased to a necessary level. Compulsory vaccine policies should be adopted to prevent the spread to the viral disease from the policy makers. The immunization, as per the centres for disease control and prevention (CDC), has been the most reliable way to avoid getting ill with the virus. Immunisation to flu has shown to minimise the chances of flu infections, hospital admissions, and deaths. Mandatory vaccines will also shield themselves and the population from virus transmission. So, more vaccination campaigns should be effectively implemented by the government

Another factor for increasing the vaccine uptake can be done by tackling the socioeconomic factors. From the survey it is clear that almost half of the participants said the cost of vaccines are expensive for them. So that the individuals are regretting to take the vaccination due to the

high cost of vaccines. Proper measures have to be taken from the government to tackle the social and economic barriers by proper immunization programmes and educating the public about the importance of taking vaccination. Next factor for the successful execution of flu programmes can be achieved by addressing the misconceptions and attitudes towards the public against flu vaccines. From the survey most of the respondents said they may get flu while getting a flu shot. But this is absolutely incorrect. The misconceptions and negative attitude towards the flu shot is only due to the lack of awareness and education. So, the government and health providers have to address the situation to increase the high vaccine uptake in order, to prevent the spread of disease. Also, the respondents in the survey are more conscious about the dangerous side effects of getting flu after flu vaccine administration. Usually, flu vaccine is not having severe side effect. Anywhere in the world had not reported a major side effect after getting a flu shot. So, this condition also can only be prevented through maximum awareness program and campaigns.

Another important factor from the study is found that the importance of getting aware through social medias. The social networks allow a transparent and social communication about the public health. This makes easier for the individuals to track the importance of vaccinations, risk of not getting vaccinated, possible side effects, experience shared from other individuals, latest government policies, information from health departments, current condition of the nation and all the other preventive measures. Also, by publishing posters, blogs specifying the importance of getting vaccination and place to get vaccinated also can improves the vaccine coverage.

Place to get vaccination is also an important factor that founded from the study. Most of the vaccinations are provided through pharmacies, doctors office, health centres and hospitals. But from the study result it is evident that most of the individuals are getting their vaccines from pharmacies. Voluntary pharmacists in Ireland have been providing flu vaccines since 2011. The convenience of accessibility, reliability (longer working hours, no need for scheduling the time), trust in the pharmacist, and expense are all reasons to visit a pharmacy for flu vaccine. As a result, more pharmacy-based vaccination programs must be introduced in order to effectively administer flu programs. At the same time there are individuals that taking their vaccinations from other health departments like hospitals, health centres etc. Hence, all the place that provided for taking the vaccinations has it on importance. Thus, proper information's should be provided to the individuals in order to increase the vaccine uptake and also for taking vaccines in the future.

To sum up, all of the above variables, such as cost, duration to get vaccinated, adequate vaccine awareness, and safety issues, all play a vital role in the implementation of flu programs. According to the report, the cost of vaccination, proximity to immunization centres, health and safety concerns, general public awareness of vaccinations, mandatory vaccinations, use of social medias and other sociocultural factors all have an impact on the successful delivery of flu services. Improving flu vaccination uptake by tackling myths, hurdles, and misunderstandings can result in expanded vaccination coverage across all populations.

5.1 PROS AND CONS OF THE STUDY

There was no research conducted in Ireland on analysing the variables that contributing to the successful execution of flu programs, as well as Irish citizens' opinions on flu. Although there have been many studies conducted in various parts of the world related to certain factors that aid in vaccine coverage. But there have been no studies conducted for highlighting all of the above factors, and this distinguishes the study from others. But on the other side there has been many limitations for conducting this study. The study is conducted among some areas of Dublin, but the overall study was to analyse among Irish population. The next limitation was by the age group selected. The study mainly focused on age category above 18 years old. But Flu vaccines are also used by the infants and children. So, their opinions are not collected in this study. The last drawbacks of this study are that it was conducted in a limited period of time and therefore the sample size was concise to 185. Due to COVID-19 situation the study can't take with a larger sample size.

5.2 FUTURE RECOMMENDATIONS

Influenza is a disease that had significant issues with the public. Flu vaccination is the only method to prevent this viral disease and had to be taken annually because of the constant mutation of the virus. Strong government guidance, awareness campaigns, proper communication to public can significantly increase the vaccine coverage. Since good health-risk awareness programmes is vital to maintaining a public health during the time of an outbreak. The policy makers must create a faith and trust by delivering full pandemic information to the community throughout the entire phase of the outbreak. Also, the authority

should provide all single details about risk, current status of the nation and importance of preventive acts or interventions, and efficiency of immunizations to the public in order create general picture of the scene. It is not recommended to dismiss the real danger and threat to the public for reducing anxiety and concern. For successfully reaching the effective measures to the public, details should be published and distributed in strong coordination with local health departments, medical providers, and the media. This would raise trust in the authorities and increase vaccine adoption. Also, as of current covid 19 situation the rates of flu infection trend go down due to the personal hygiene and social distancing. So, if the trend is continued, the infection rate can be controlled in future. More research is needed to investigate these relationships during future pandemics.

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APPENDIX

SURVEY QUESTIONNAIRE

1. AGE

- 18- 34()
- 35-50 ()
- 51- 64()
- 65 and above ()

2. GENDER

- MALE ()
- FEMALE ()

3. Are you aware of Flu vaccinations?

- Yes
- No
- Don't know

4. If yes, what was the source of awareness?

- Healthcare workers
- Family/Friends
- Social medias

5. From where did you received the latest Flu shot?

- Doctors' office
- Health department
- Health centres
- Hospitals
- Pharmacy
- Don't know

❖ How well you agree with the statements

6. "Vaccines are expensive for me right now"
 - Strongly agree
 - Agree
 - Strongly disagree
 - Disagree
7. "I don't have time to get a flu vaccination"
 - Strongly agree
 - Agree
 - Strongly disagree
 - Disagree
8. "I don't know where to receive a flu vaccination"
 - Strongly agree
 - Agree
 - Strongly disagree
 - Disagree
9. "I believe that as a result of the flu shot, I may actually get the flu"
 - Strongly agree
 - Agree
 - Strongly disagree
 - Disagree
10. "I believe that vaccine may have dangerous side effects"
 - Strongly agree
 - Agree
 - Strongly disagree
 - Disagree
11. "I was not informed that flu vaccine might be important"
 - Strongly agree
 - Agree

- Strongly disagree
- Disagree

12. Do you believe vaccines are mandatory for public health?

- Yes
- No
- Don't know

13. "Vaccines are a fraud made up in order to profit the pharmaceutical industry". Do you agree or disagree with the statement?

- Agree
- Disagree
- Don't know

14. Who do you think provide the most credible source of Flu vaccination?

- Personal physician
- Local/regional healthcare institution
- Pharmacist
- Friends/relatives
- Media/social network

15. Why did you intend to get vaccinated against the Influenza virus?

- Vaccination is free
- Vaccination is safe
- For personal protection
- To limit the spread of disease

16. Do you intend to get Flu vaccine in the future?

- Yes
- No

17. Do you believe there is a need of public awareness on Flu vaccines?

- Yes
- No