

To Study The Awareness of Immunization Schedule

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ABSTRACT

The study assessed the level of awareness regarding immunization schedule in university students. Vaccination is one of the most important steps in a child's life to ensure a safe future free of diseases. The success of smallpox eradication and now of polio eradication programs in the country are a testimony to this. The present study explores the awareness of immunization schedule among different gender and different education background population. The study indicated a clear difference in the awareness level regarding immunization schedule based on the gender and the academic background of the subjects. The female respondents were found to be more aware.

KEY WORDS: Vaccine, immunization, polio, small pox.

1. INTRODUCTION

A vaccine is a natural arrangement that gives dynamic obtained invulnerability to a specific malady. An antibody commonly contains an operator that takes after an infection causing microorganism and is regularly produced using debilitated or slaughtered types of the organism, its poisons, or one of its surface proteins [1]. The operator fortifies the body's safe framework to perceive the specialist as a risk, crush it, perceive and pulverize any of these microorganisms that it later experiences [2].

In this modern era, vaccines are the greatest achievement of the mankind. Vaccines are one of the cost-effective health-related intrusion. Vaccination is one of the most important steps in a child's life to ensure a safe future free of diseases. The success of smallpox eradication and now of polio eradication programs in the country are a testimony to this [3]. Immunization

can be termed as a way to modify a person's immune system by making it strong enough to fight against the foreign particles termed as an immunogen. It is a way of protecting the human body against infectious diseases through vaccination. It prepares our body to fight against diseases in case we come into contact with them in future. Babies are born with some natural immunity which they get from their mother and through breastfeeding. This gradually wears off as the baby's own immune system starts to develop. Immunization gives extra protection against various diseases [2] . Vaccination is the most common technique used for immunization [4]. Immunization forms one of the most important and cost-effective strategies for the prevention of childhood sickness and disabilities and is thus a basic need for all children. Vaccines are mainly prepared by weakened or killed pathogens, like bacteria and virus or a part of it whose administration trigger the antibody production in the body and provide cellular immunity to the body and which is not capable of causing any harm to the body [3, 5, 6]

2. METHODOLOGY

Study area - The study was carried out in Lovely Professional University and a nearby area named Maheru. Study category- Under this survey study we included

- 1) Males
- 2) Females

These categories of students and people were of different educational backgrounds i.e. Pharmaceutical Sciences, Humanities, Engineering, and others. The survey study was conducted in such a way that a set of questionnaire was designed and that questionnaire was distributed among the people and was collected from them after completion. The questionnaire which was distributed to the students and normal people was containing the questions about-

Diseases preventable by Vaccination, Role of Vaccination in newborns and the child's immune system, Vaccine given at different stages of life and some general questions on OPV(Oral Polio Vaccine).

The results obtained from the questionnaires were separated and on the basis of the information obtained from the questionnaire, certain conclusions were obtained with the help of some statistical and percentage calculations.

3. RESULT AND DISCUSSION

3.1 Awareness Study Among Population

1. Among the following which one is a Vaccine Preventable Disease?

- a) Chicken Pox
- b) Pneumonia
- c) Typhoid
- d) All of the above

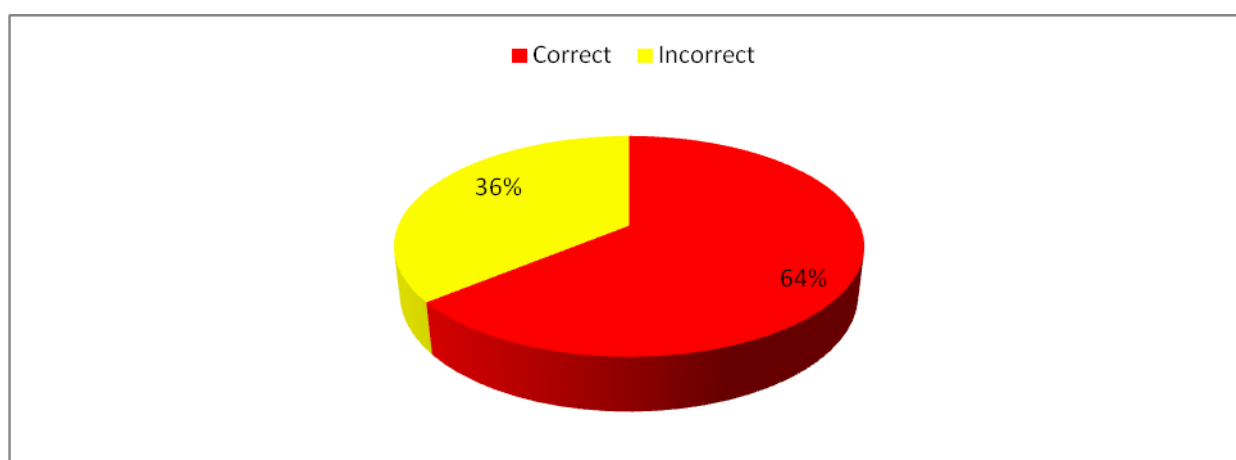


Fig. 1: Pie-chart showing overall percentage of correct and incorrect answers of Question 1

From the Pie-Chart we can say that 64% people were familiar with the diseases preventable by vaccine and 36% of the people were not familiar.

2. You should keep your children up-to-date on Vaccinations because-

- a) Your child is protected from many dangerous diseases
- b) The society benefits from reduction in spread of diseases
- c) Risk from vaccinations is minuscule compared to risk from the diseases they prevent
- d) All of the above

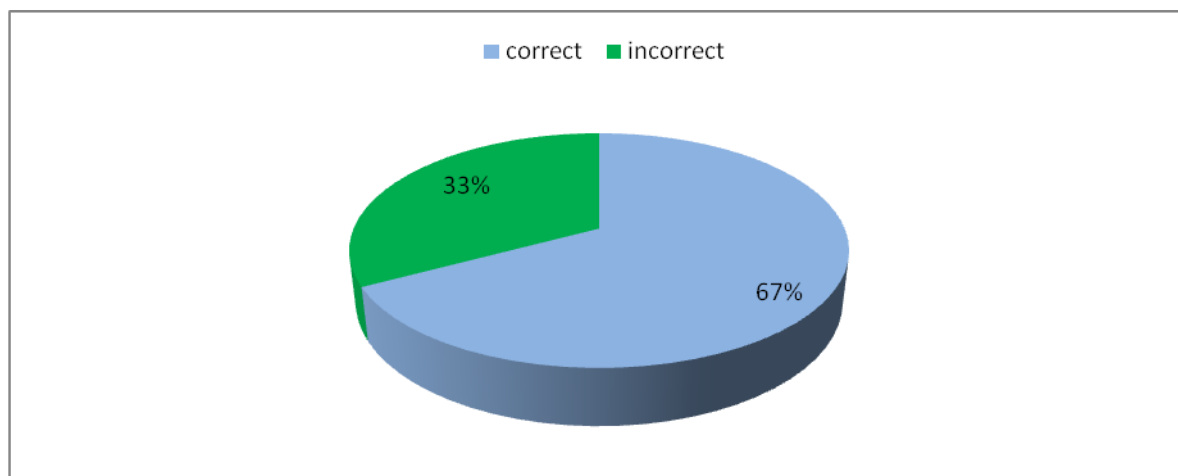


Fig. 2: Pie-chart showing overall percentage of correct and incorrect answers of Question 2
From the Pie-Chart we can say that 78% of the people were aware of the importance of routine vaccinations and the rest 22% were unaware of the importance of vaccination.

3. Injectable (Inactivated) Polio Vaccine is safer than Oral Polio Vaccine.

- a) The statement is correct
- b) The statement is partially correct
- c) The statement is wrong
- d) The statement is partially wrong

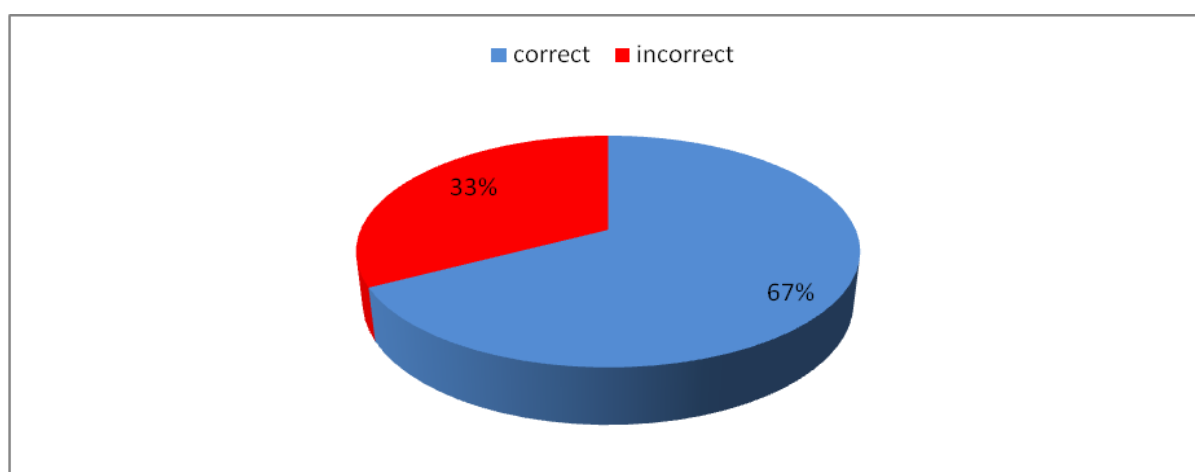


Fig. 3: Pie-chart showing overall percentage of correct and incorrect answers of Question 3

Injectable Polio Vaccine (IPV) is much safer and effective than oral polio vaccine. Injectable polio vaccine are generally inactivated and it is not live. It has no risk of Vaccine Associated Paralytic Poliomyelitis (VAPP). IPV shows a good immune response in most of the children. Normally it doesn't show any adverse reaction. Pie-Chart clearly indicated that 81% of the people don't know about injectable polio vaccine and its uses. Only 19% of the people were able to give the correct answer.

4. Getting so many Vaccines will overwhelm any child's immune system.

- a) The statement is correct
- b) The statement is partially correct
- c) The statement is wrong
- d) The statement is partially wrong

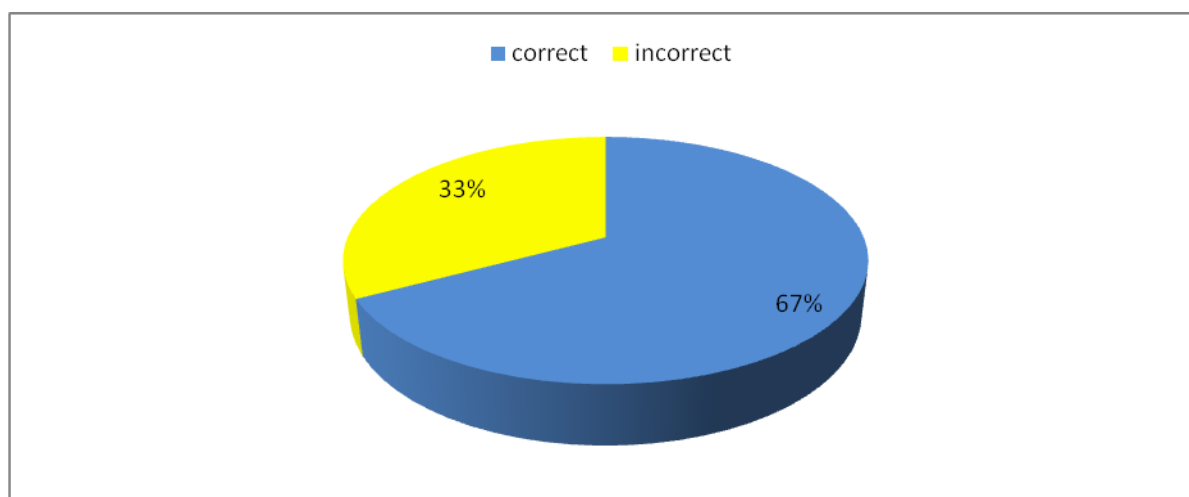


Fig. 4: Pie-chart showing overall percentage of correct and incorrect answers of Question 4

It is a misconception in many of the people that getting so many vaccines will overwhelm any child's immune system. To prove the statement, many scientific data proves that many vaccines at a time do not cause any severe health problem. Based on this it is recommended to take all the vaccines on time. Here, only 16% of the people have given the answer correctly and the rest 84% were not able to answer it correctly.

5. Which of the statement is correct?

- a) Vaccine can provide 50-60% disease protection

- b) Vaccine can provide 100% disease protection
- c) Vaccine can provide 70-75% disease protection
- d) Vaccine can provide 20-25% disease protection

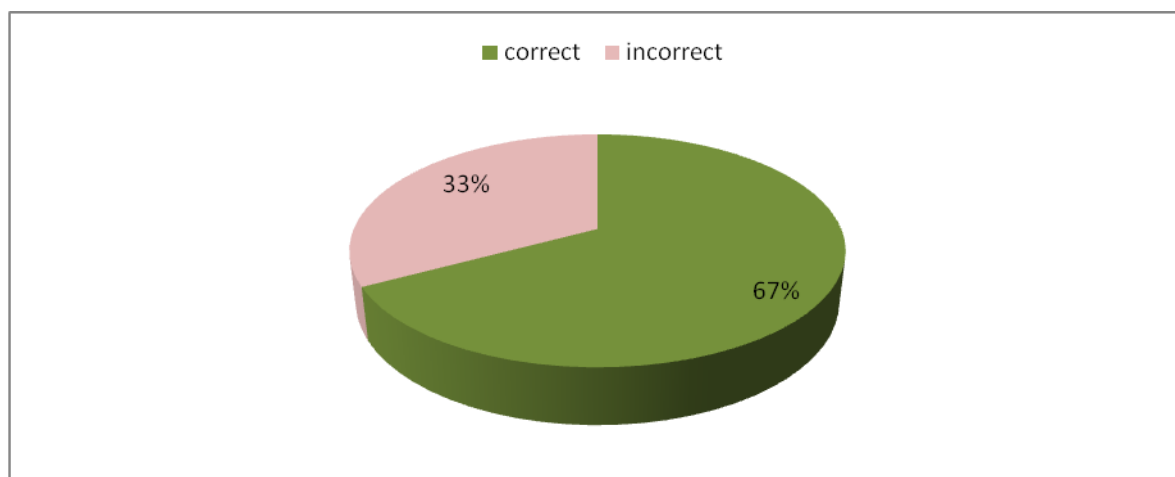


Fig. 5: Pie-chart showing overall percentage of correct and incorrect answers of Question 5
Result showed that 67% population aware that the vaccine can provide 70-75% of disease protection only.

6. Which of the following vaccine is given at birth?

- a) BCG
- b) Hepatitis B Vaccine
- c) PCV Vaccine
- d) Measles Vaccine

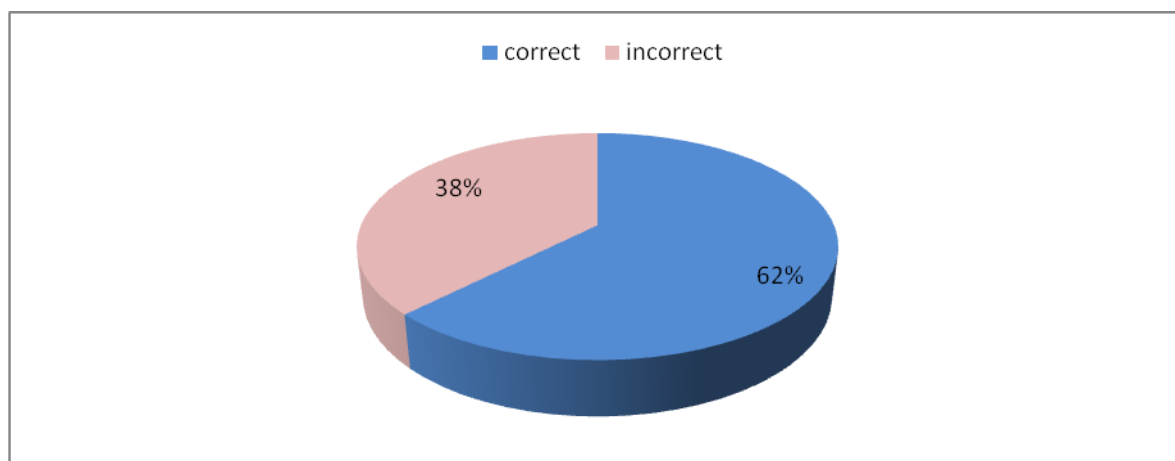


Fig. 6: Pie-chart showing overall percentage of correct and incorrect answers of Question 6 BCG Vaccine. BCG vaccine is the vaccines that provide immunity or protection against TB. BCG Vaccines are given to the newborn babies to protect them from a severe form of Tuberculosis. Here, 62% of the total number of people during the survey had attempted the question correctly and the rest 38% incorrectly.

7. Which of the following is given 6 weeks after birth?

- a) Oral Polio Vaccine
- b) Hepatitis B Vaccine
- c) Both a & b
- d) None of the above

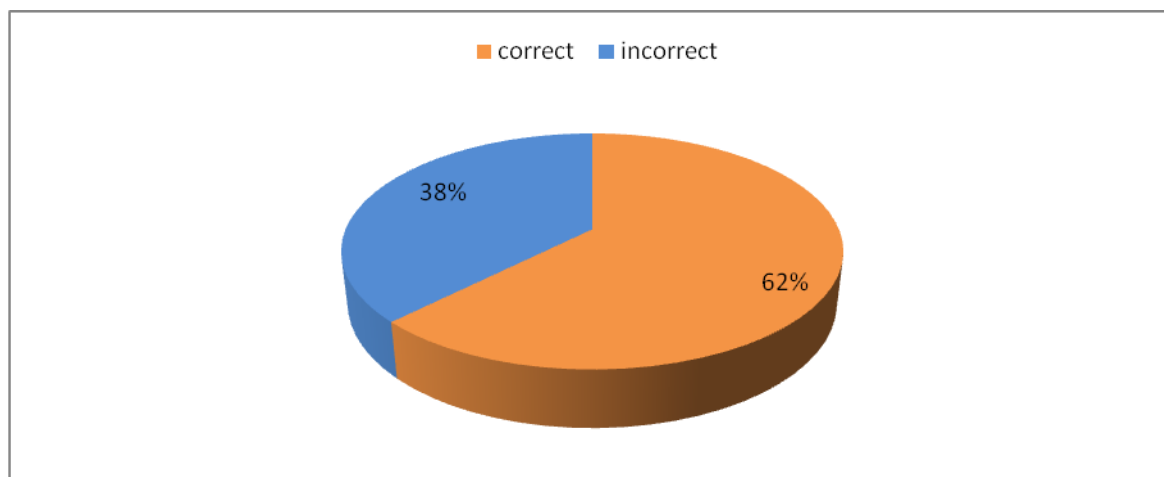


Fig. 7: Pie-chart showing overall percentage of correct and incorrect answers of Question 7 According to the immunization schedule both the vaccine are should be administered to the child after completion of the 6 weeks after birth. Oral polio vaccine is mainly administered to protect the child from poliomyelitis and the hepatitis vaccine to protect the child from Hepatitis B Virus. During the survey, 62% of the people attempted the answer correctly where the rest 38% were incorrect.

8. Which of the following vaccine is given on 14 weeks after birth?

- a) Hepatitis B Vaccine
- b) PCV₇ Vaccine
- c) Measles Vaccine
- d) Both a & b

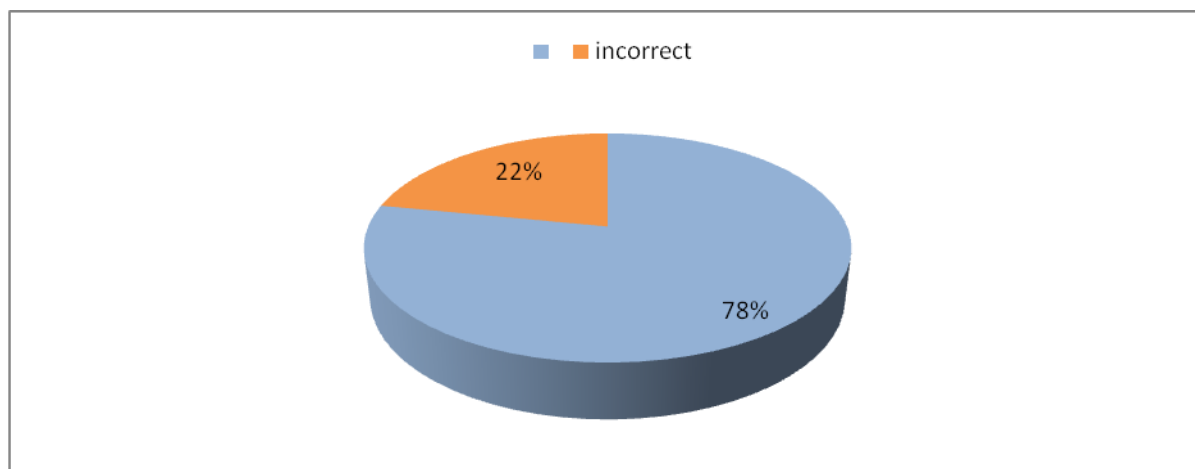


Fig. 8: Pie-chart showing overall percentage of correct and incorrect answers of Question 8

PCV₇ vaccines prevent the diseases caused by the various strain of antibiotic-resistant bacteria. It also prevents the child from the various pneumococcal diseases and the hepatitis vaccine is administered to protect the child from hepatitis B virus. During the survey, it is observed that only 39% of the people were aware of the fact that both hepatitis B and PCV₇ vaccine were given on 14 weeks after birth and 61% of the people were unaware of the fact.

9. Which of the following vaccine is given on 9months after birth?

- a) Measles Vaccine
- b) DTaP/IPV Vaccine
- c) Hepatitis B Vaccine
- d) None

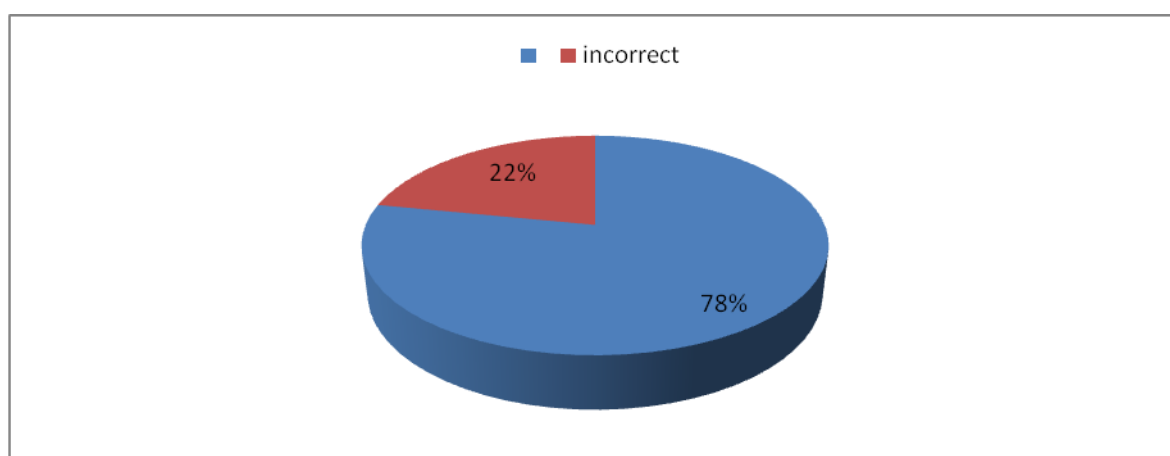


Fig. 9: Pie-chart showing overall percentage of correct and incorrect answers of Question 9

Measles vaccine which is also known as measles mumps rubella vaccine (MMR) is the most protective and effective measure used to protect the child from measles, mumps and rubella virus. According to the World Health Organization (WHO) 2 dose of MMR is enough to protect a child from measles. The first dose of the vaccine is given in the age of 9 months after birth followed by the second MMR vaccine at the age of 4-6 years. During the survey, 45% of the total people correctly answered the question whereas the rest 55% were incorrect.

10. Oral Polio Vaccine/ OPV can be administered through

- a) Orally
- b) Intramuscularly
- c) Intravenously
- d) Both Orally and Intramuscularly

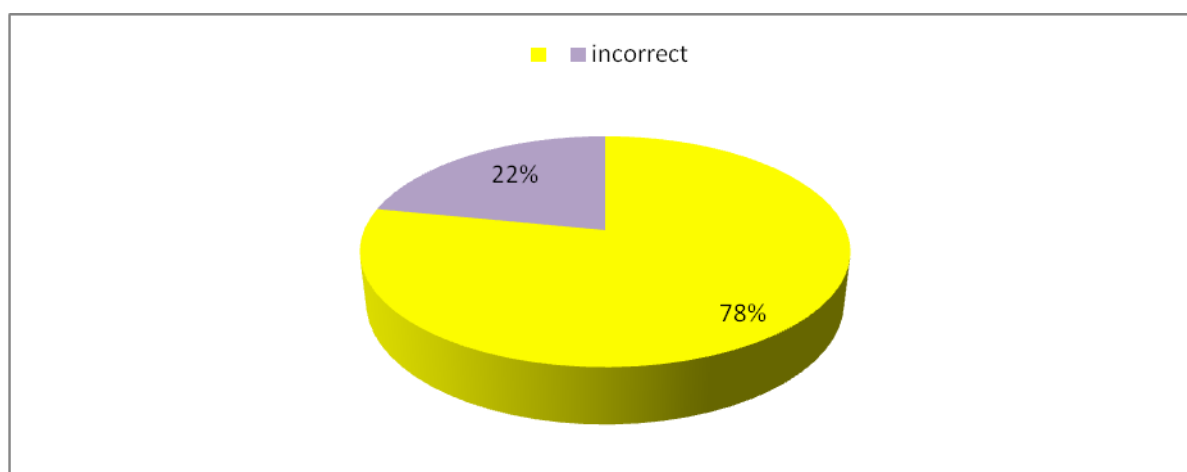


Fig. 10: Pie-chart showing overall percentage of correct and incorrect answers of Question 10 OPV/Oral polio vaccine is administered orally. OPV is mainly administered to protect the child from poliomyelitis. There are two types of OPV, the first which uses weakened poliovirus and it is administered orally and the other is inactivated polio virus (IPV) which is administered subcutaneously. During the survey, 78% of the total people were aware of the route of administration of the OPV and answered the question correctly and the rest 22% were incorrect.

3.2 Awareness Analysis on The Basis of Gender

Table 1:

Awareness analysis on the basis of Gender

Questions	Percentage of girls	Percentage of boys
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	answered correctly	answered correctly
1. Among the following which one is a vaccine preventable disease?	60	67.64
2. You should keep your children up-to-date on vaccinations.	93.33	85.29
3. Injectable (Inactivated) polio vaccine is safer than oral polio vaccine.	20	17.64
4. Getting so many Vaccines will overwhelm any child's immune system.	10	20.58
5. Which of the statement is correct about vaccine	73.33	61.76
6. Which of the following vaccine is given at birth?	60	64.7
7. Which of the following is given 6 weeks after birth?	86.66	41.17
8. Which of the following vaccine is given on 14 weeks after birth?	26.66	50
9. Which of the following vaccine is given on 9 months after birth?	53.33	38.23
10. Oral Polio Vaccine/ OPV can be administered through	70	85.29

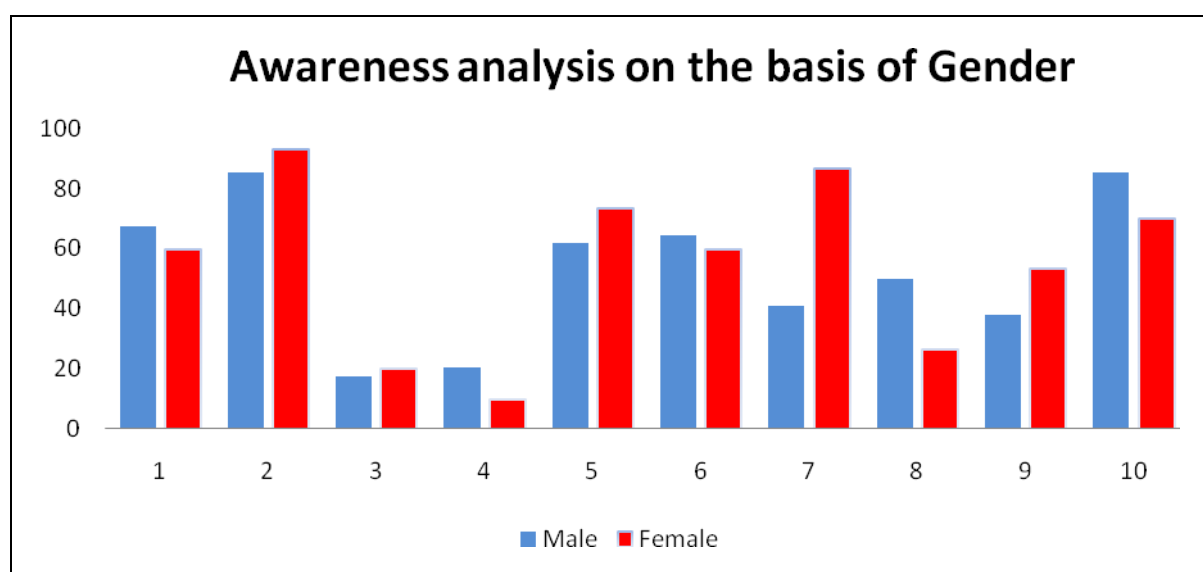


Fig. 11: Graphical Representation of the awareness analysis on the basis of gender

From the Table and the Graph, we can analyse the following points-

1. In the Question 1, Among which of the following is a vaccine-preventable disease, 67.64% of the male candidate and 60% of the female candidate of the survey have attempted the answer correctly.

2. In the Question 2, You should keep your children up-to-date on Vaccination because; 85.29% of the male and 93.33% of the female were correct about the statement.
3. In the Question 3, Injectable (Inactivated) Polio Vaccine is safer than Oral Polio Vaccine; 17.64% of the male candidate and 20% of the female candidate of the survey have attempted the answer correctly.
4. In the Question 4, Getting so many Vaccines will overwhelm any child's immune system; 20.58% of the male were correct and only 10% female was correct.
5. In Question 5, Which of the statement is correct about Vaccine; 61.76% of the male and 73.33% of the female were correct about the statement.
6. In Question 6, Which of the following vaccine is given at birth; 64.70% of the males and 60% of the females were correct.
7. In Question 7, Which of the following is given 6 weeks after birth; 41.17% of the male candidate and 86.66% of the female candidate of the survey have attempted the answer correctly.
8. In Question 8, Which of the following vaccine is given on 14 weeks after birth; 50% of the males and 26.66% of the females have attempted the question correctly.
9. In Question 9, Which of the following vaccine is given on 9 months after birth; 38.235 of the males and 53.33% of the females have attempted the question correctly.
10. In Question 10; Oral Polio Vaccine/ OPV can be administered through; 85.29% of the males and 70% of the females were correct.

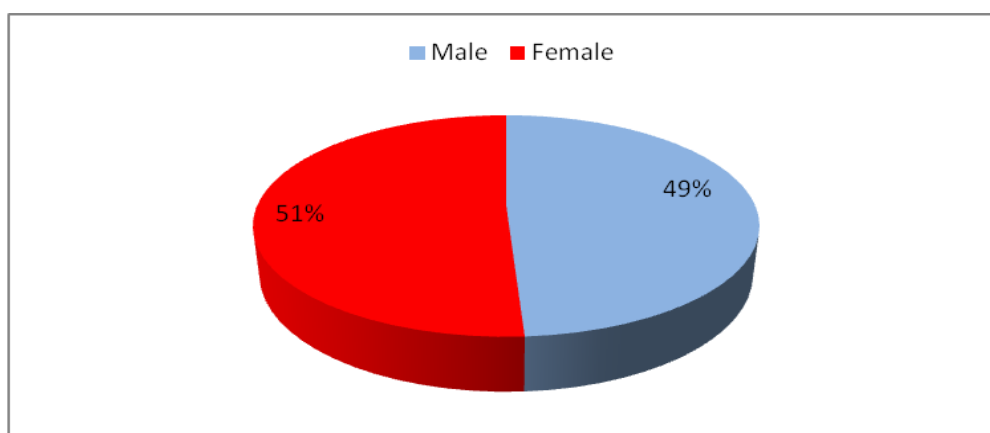


Fig. 12: Overall percentage of awareness in males and females

In this analysis, 53.29% of the male has given the answers correctly and 55.33% of the females have given the answer correctly. And overall 49% males and 51% females have given the answer correctly.

5.3. Overall Awareness Analysis on The Basis of Questions

Table 3:

Overall Awareness Analysis On The Basis Of Questions

Questions	Number of people with correct answer	Number of people with incorrect answers
1. Among the following which one is a Vaccine Preventable Disease?	41	23
2. You should keep your children up-to-date on Vaccinations because-	57	7
3. Injectable (Inactivated) Polio Vaccine is safer than Oral Polio Vaccine.	12	52
4. Getting so many Vaccines will overwhelm any child's immune system.	10	54
5. Which of the statement is correct about Vaccine	43	21
6. Which of the following vaccine is given at birth?	40	24
7. Which of the following is given 6 weeks after birth?	40	24
8. Which of the following vaccine is given on 14 weeks after birth?	25	39
9. Which of the following vaccine is given on 9months after birth?	29	35
10. Oral Polio Vaccine/ OPV can be administered through	50	14

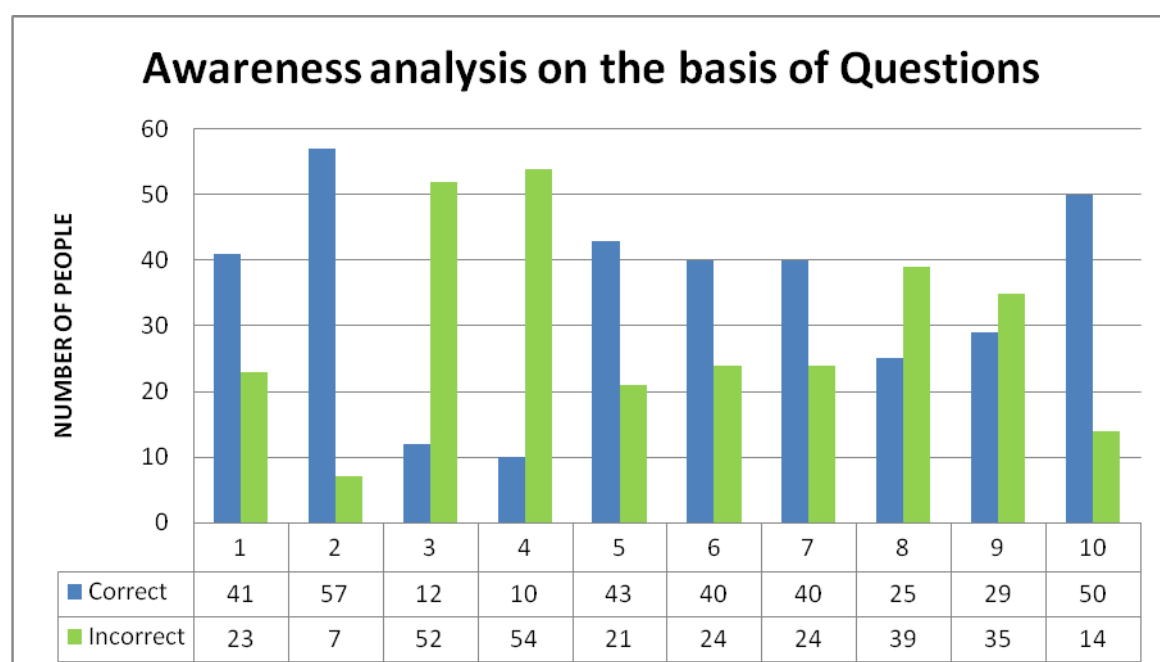


Fig. 13: Graphical representation of Awareness Analysis of the people on the basis of questions

From the Table and Graph, we can summarize the following points:

1. In Question 1, Among the following which one is a Vaccine Preventable Disease; out of 64 people, 41 individuals have attempted the question correctly and 23 individuals were incorrect.
2. In Question 2, You should keep your children up-to-date on Vaccinations because; 57 individuals were correct and the rest 7 individuals were incorrect.
3. In Question 3, Injectable (Inactivated) Polio Vaccine is safer than Oral Polio Vaccine; only 12 people were correct and 52 people were incorrect.
4. In Question 4, Getting so many Vaccines will overwhelm any child's immune system; only 10 individual have attempted the question correctly and the rest 54 were incorrect.
5. In Question 5, Which of the statement is correct about Vaccine; 43 people were correct and 21 people were incorrect.
6. In Question 6, Which of the following vaccine is given at birth; 40 people were correct and 24 people were incorrect.
7. In Question 7, Which of the following is given 6 weeks after birth; 40 individual have attempted the question correctly and the rest 24 were incorrect.
8. In Question 8, Which of the following vaccine is given on 14 weeks after birth; 25 people were correct and the rest 39 were incorrect.
9. In Question 9, Which of the following vaccine is given on 9months after birth; 29 people were correct and 35 people were incorrect.
10. In Question 10, Oral Polio Vaccine/ OPV can be administered through; 50 individual have attempted the question correctly and the rest 14 were incorrect.

5.4. Overall Awareness of The People on The Basis of The Survey About immunization

Total number of people participated in the survey = 64

Number of questions per person = 10

Therefore, Total number of questions overall = $64 \times 10 = 640$ questions

Number of questions attempted correctly (overall) = 347

Number of questions incorrect (overall) = 293

Now,

Percentage (%) of overall correct answers = $347/640 \times 100 = 54.21\%$

Percentage (%) of overall incorrect answers = $293/640 \times 100 = 45.79\%$

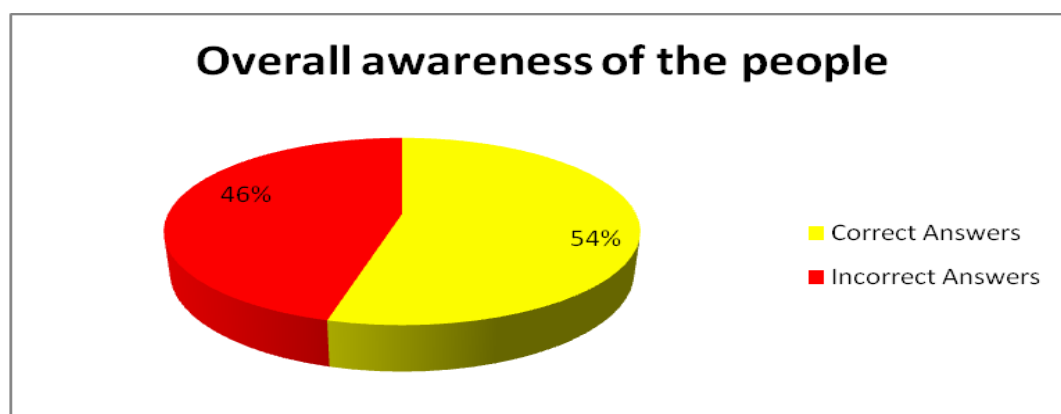


Fig. 14: Pie-chart representing overall awareness of the people regarding Immunization Schedule on the basis of the survey conducted.

4. CONCLUSION:

From the above discussion we can conclude that when the awareness was studied on the basis of gender, 53.29% of the male has given the answers correctly and 55.33% of the females have given the answer correctly. And overall awareness was 49% in case of males and 51% in case of females. When the awareness analysis was done on the overall basis of the survey it was found that 54.21% of the total people were aware regarding immunization schedule and 45.79% of the people were unaware.

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