



iGEM IIT Roorkee

Question wise Survey Analysis



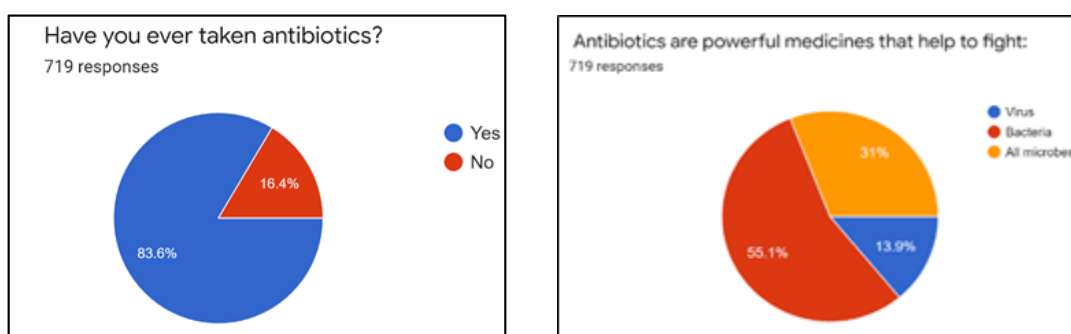
Question-wise Analysis

Pre-Webinar Survey

The survey included some personal information like School, to keep an account that a maximum number of students filled the survey, age of the respondent to categorize students and get an idea of their knowledge based on age and gender to get a comparison among them on the general knowledge of AMR and employment to get to know how the knowledge is divided on the basis of employment.

Q1. Have you ever taken antibiotics?

According to the survey, a large number of students were familiar with antibiotics and had taken them, with 83.6% of students have taken antibiotics by the age of 18.



Q2. Antibiotics are powerful medicines that help to fight?

- A. Virus
- B. Bacteria
- C. All Microbes

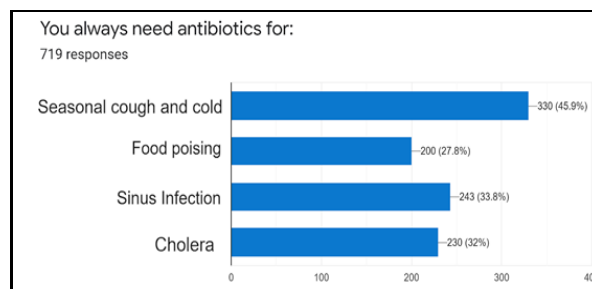
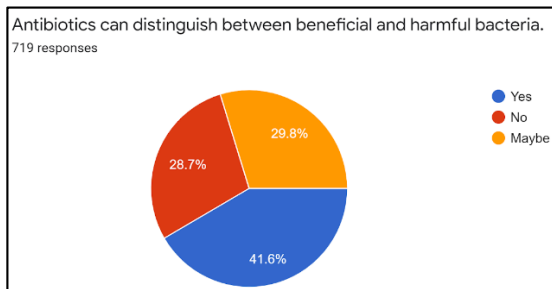
In India, people take antibiotics without doctor's prescription and even for viral fever, cold and cough. To know if future generation is aware about the proper use of antibiotics, we asked them if it was used for virus, bacteria or all microbes.

According to the graph, only 55.1% of students were aware of the fact that antibiotics are taken to treat ONLY the Bacterial infections while 31% of students marked that it was used to treat all microbial infections.

Q3. Antibiotics can distinguish between beneficial and harmful bacteria.

According to many reports and doctors review, we came to know that the general public takes antibiotics even for a sore throat. They don't realise the impact antibiotics have on their body and therefore we wanted to know if students are aware that antibiotics don't have a sense of good and bad bacteria.

According to the responses, a majority of students i.e. 41.6% think that antibiotics can differentiate between the good and bad bacteria, while only a handful of 28.7% students knew that antibiotics work on all the bacteria, without knowing if it is beneficial or harmful for the body.



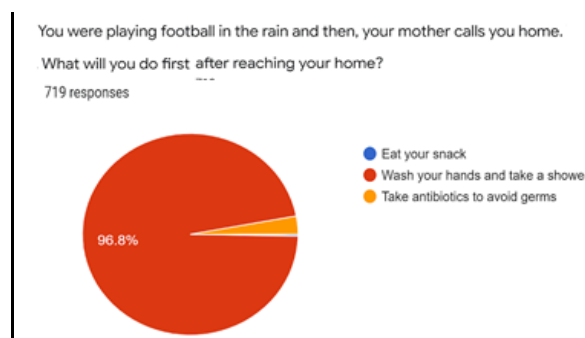
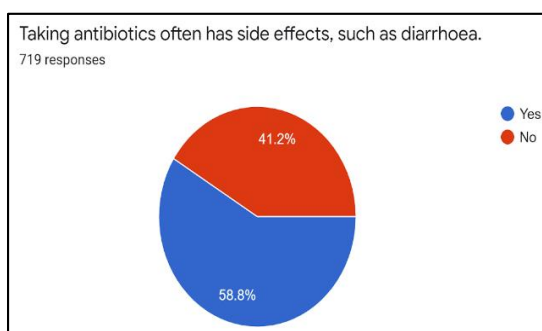
Q4. You always need antibiotics for:

- Seasonal cough and cold
- Food poisoning
- Sinus infection
- Cholera

After talking to the general public and some of the doctors we came to know that antibiotics are prescribed for almost all the infections just for mere satisfaction of the patients. According to the survey answers, students thought that taking antibiotics during seasonal cough and cold is most favourable and least during a food poisoning

Q5. Taking antibiotics often has side effects, such as diarrhoea.

According to some studies in India, people are not aware of the side effects of antibiotics as they take them very frequently and without even a doctor's prescription. According to the survey answers, 41.2% of students were unaware of the fact that antibiotics have side effects such as diarrhoea. This can be a very alarming situation as the time is not far away when antibiotics will stop working and even a small cut would be life-threatening if people keep taking antibiotics as they do now!



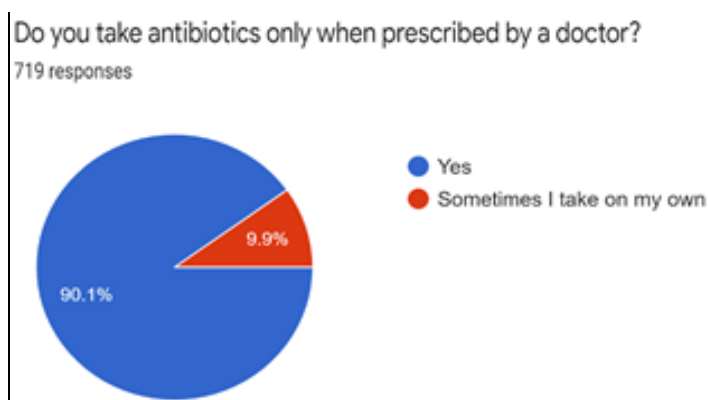
Q6. You were playing football in the rain and then, your mother calls you home. What will you do first after reaching your home?

- Eat your snack
- Wash your hands and take a shower
- Take antibiotics to avoid germs

According to the reports, good number of students were aware that it's important to wash hands before meals.

Q7. Do you take antibiotics only when prescribed by a doctor?

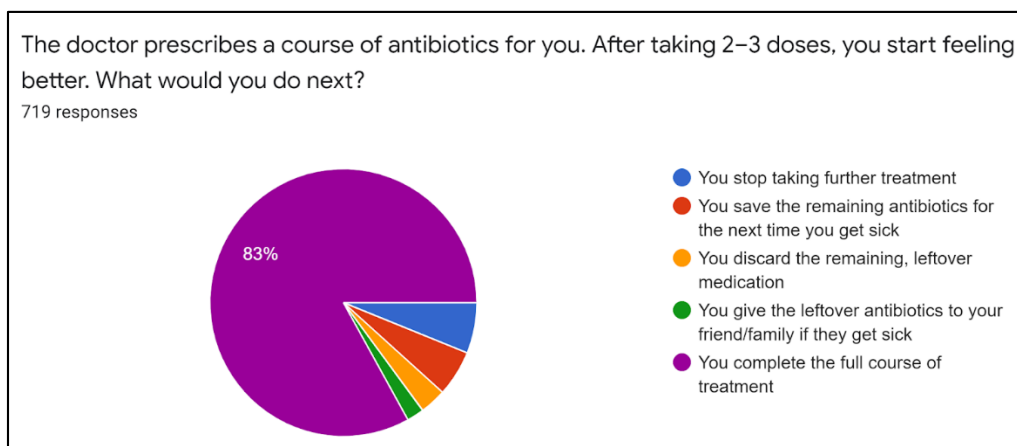
According to studies, antibiotics are excessively used in India so, to get a note if the general public intends to take antibiotics without a proper prescription, we asked the students. The survey answers represented that 90.1% of students did not take antibiotics on their own, i.e. without a prescription. While 9.9% of students prefer to take antibiotics on their own.



Q8. The doctor prescribes a course of antibiotics for you. After taking 2–3 doses, you start feeling better. What would you do next?

- a. You stop taking further treatment
- b. You save the remaining antibiotics for the next time you get sick
- c. You discard the remaining, leftover medication
- d. You give the leftover antibiotics to your friend/family if they get sick
- e. You complete the full course of treatment

We realized that many patients do not complete the given course and stop in between as they start feeling better, not realizing that it makes the bacteria even stronger than before as it has just weakened but then it would mutate and develop resistance against the antibiotic.

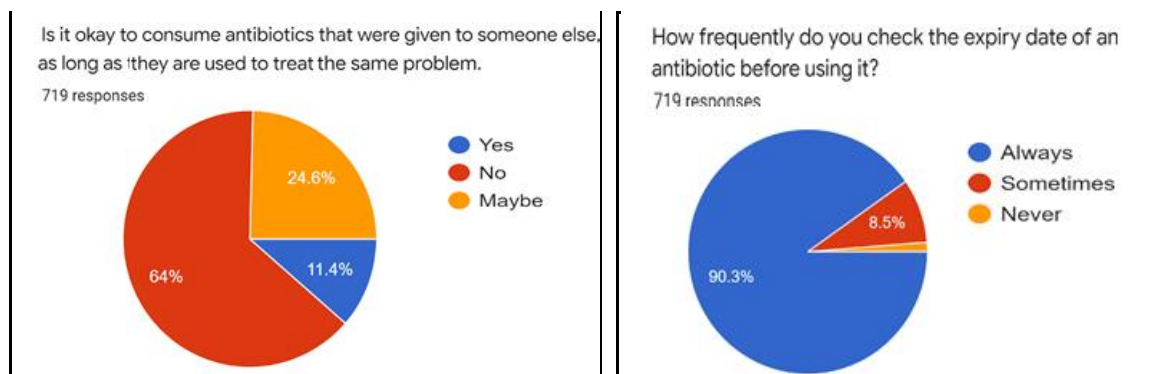


Q9. Is it okay to consume antibiotics that were given to someone else, as long as they are used to treat the same problem?

After talking to our family and relatives, we got to know that people usually take some antibiotics given by relatives and friends thinking that they are dealing with the same disease

without considering the fact that medicine doses are given considering the age and other physiological parameters of the patients.

After inferring the students' answers, we were surprised that most of them were aware of the fact, but still antibiotic consumption is very high in India.



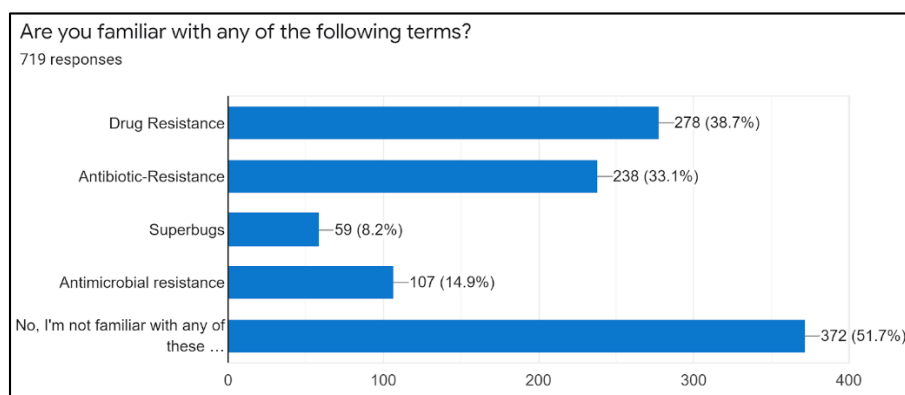
Q10. How frequently do you check the expiry date of an antibiotic before using it?

To check whether students are familiar with the protocols before taking a medicine we asked them if they checked the expiry date on the packet. Graph showed that a good number of students were aware enough to check the expiry date on the medicine before taking it.

Q11. Are you familiar with any of the following terms?

- Drug Resistance
- Antibiotic-Resistance
- Superbugs
- Antimicrobial resistance
- No, I'm not familiar with any of these terms

After interacting with people in our surroundings, we got to know many people were not familiar with any of the terms mentioned above. So, to check for it we directly students about the same.

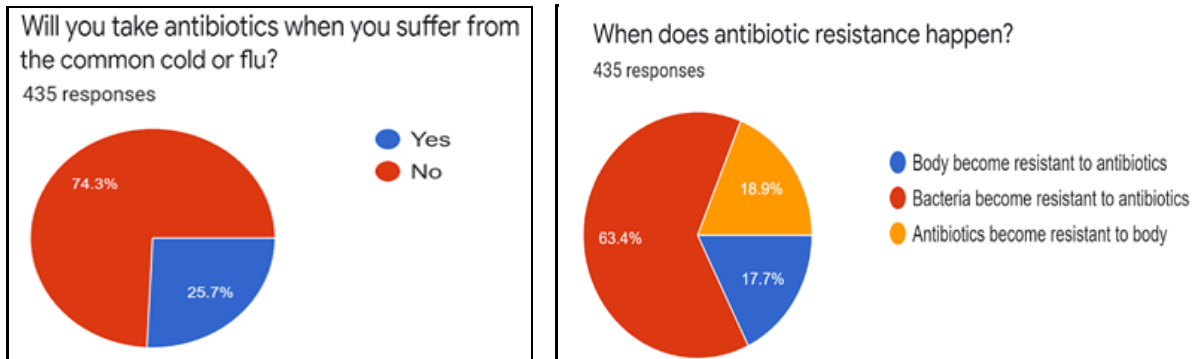


According to their answers, 51.7% of students were unaware of the terms completely. Seeing the seriousness of the situation we decided to conduct a webinar for students on Antimicrobial Resistance and Synthetic Biology.

POST-WEBINAR SURVEY ANALYSIS

Q1. Will you take antibiotics when you suffer from the common cold or flu?

Since many students thought that antibiotics can treat common cold and flu, we incorporated the fact the antibiotics only kill bacteria and not the virus and common cold & flu are, mostly, caused by virus. We saw excessive growth amongst the students as now 74.3% of students answered correctly.



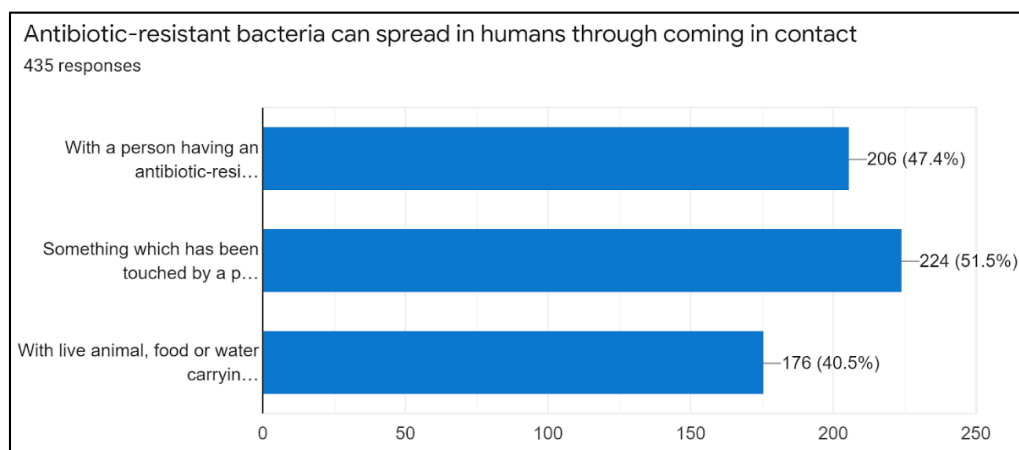
Q2. When does antibiotic resistance happen?

- Body become resistant to antibiotics
- Bacteria become resistant to antibiotics
- Antibiotics become resistant to body

We wanted to infer how much students grasped from our ppts therefore we asked them a few basic questions about antibiotic resistance and got a good response as 63.4% of students know were aware of the term properly.

Q3. Antibiotic-resistant bacteria can spread in humans through coming in contact.

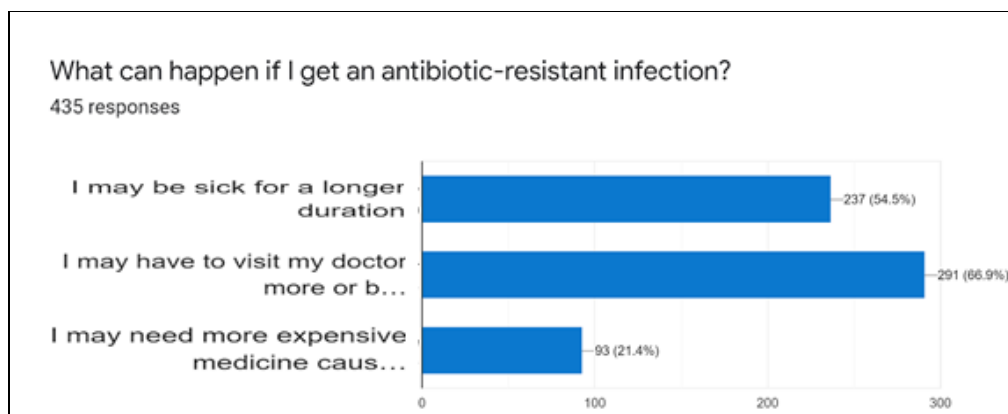
- With a person having an antibiotic-resistant infection
- Something which has been touched by a person having an antibiotic-resistant infection (hands of health workers, instruments in healthcare facility with poor hygiene)
- With live animal, food or water carrying antibiotic-resistant bacteria



Antibiotic resistance is a communicable disease and can spread through all of the above transmission methods. Students were educated about the same.

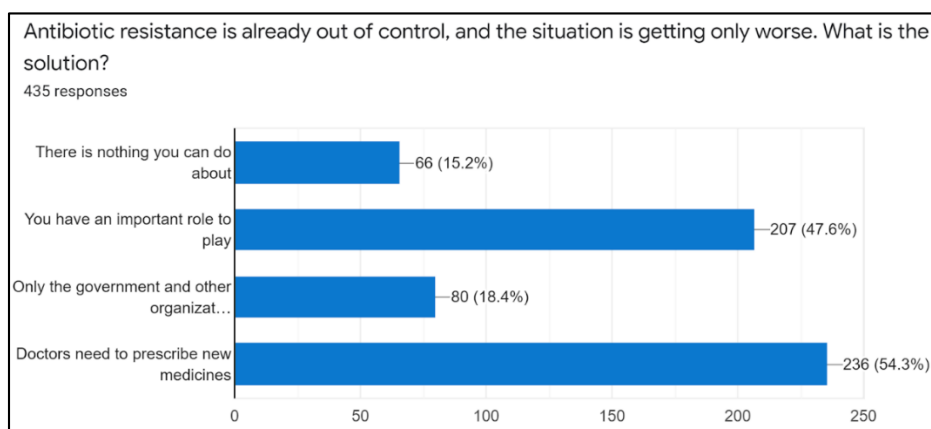
Q4. What can happen if I get an antibiotic-resistant infection?

This question checked if the students were familiar with the consequences of AMR infection and the response was positive.



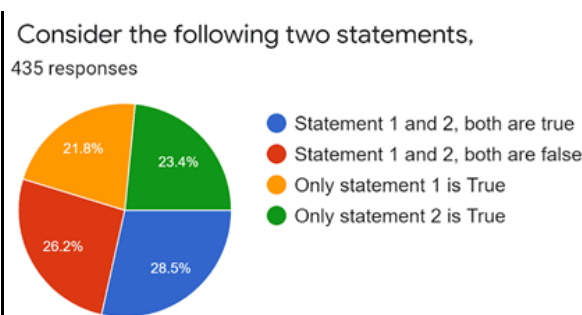
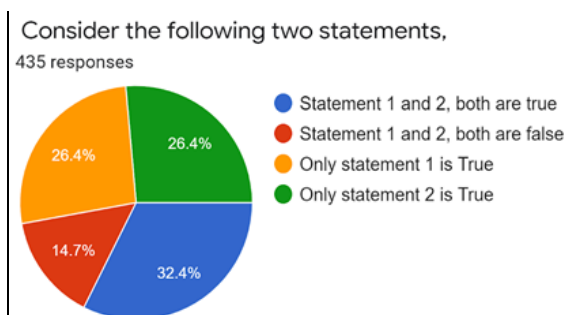
Q5. Antibiotic resistance is already out of control, and the situation is getting only worse. What is the solution?

Now that the familiarity was established, we checked for their sense of responsibility to save the world from another big pandemic. This diabolical question did confuse the students and we got a scattered graph.



Q6. Consider the following two statements:

- Antibiotics can distinguish between beneficial and harmful bacteria.
- Antibiotics can cause side effects like diarrhoea.



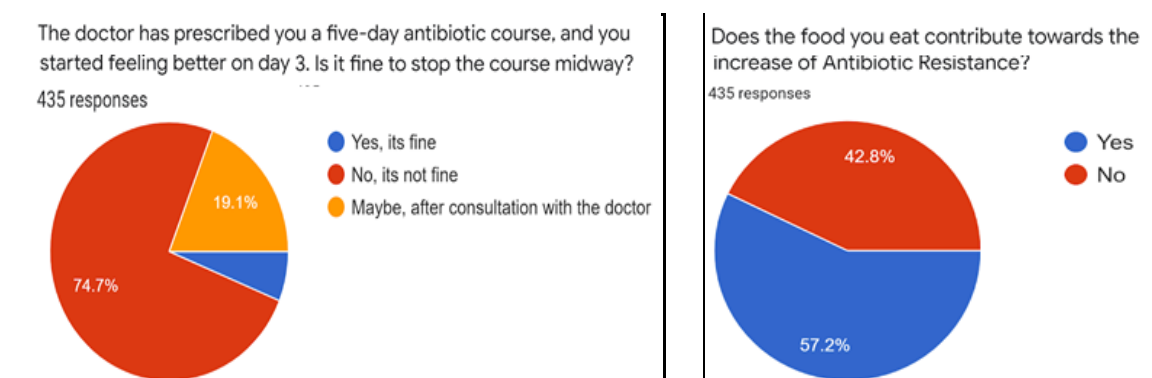
Q7. Consider the following two statements:

- a. Antibacterial cleaners may make germs stronger against antibiotics.
- b. Alcohol-based sanitizers do not contribute to antibiotic resistance and they have an equal effect on virus and bacteria.

Q6 & Q7 checked for the concept clarity and remembering power of the students. Both the questions had similar results, showing the confusion among options. On interacting, we got to know that they had understood the question wrong and on explaining they answered well.

Q8. The doctor has prescribed you a five-day antibiotic course, and you started feeling better on day 3. Is it fine to stop the course midway?

The situation-based question checked the analysing ability of students for AMR infection treatment course. The majority of children were right about the question.



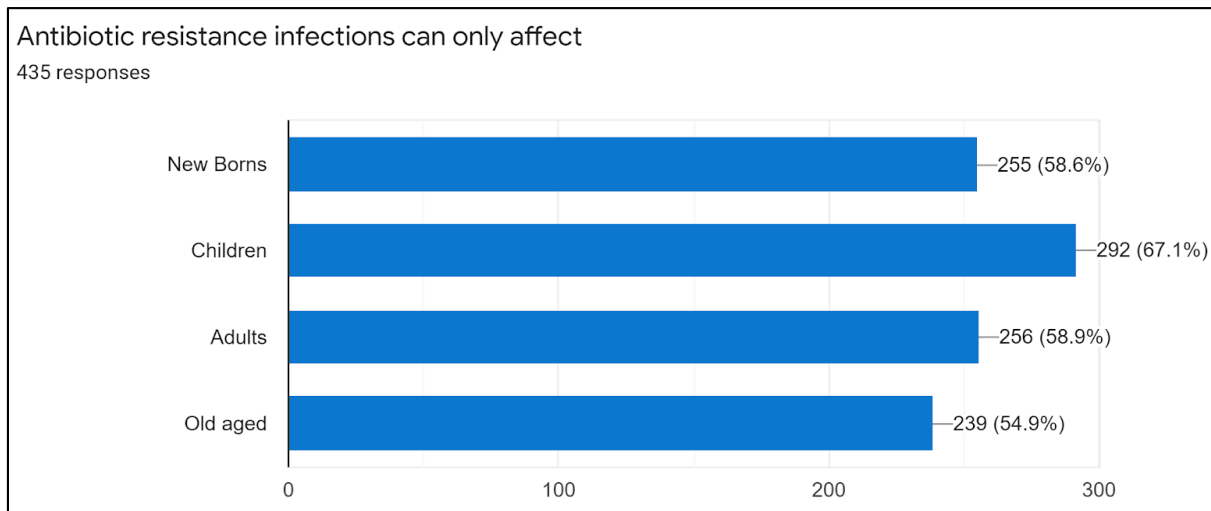
Q9. Does the food you eat contribute towards the increase of Antibiotic Resistance?

Another advance question to see if they learned what was taught to them through webinars. The graph showed a positive result of around 58%.

Q10. Antibiotic resistance infections can only affect

- A. New Born
- B. Children
- C. Adults
- D. Old aged

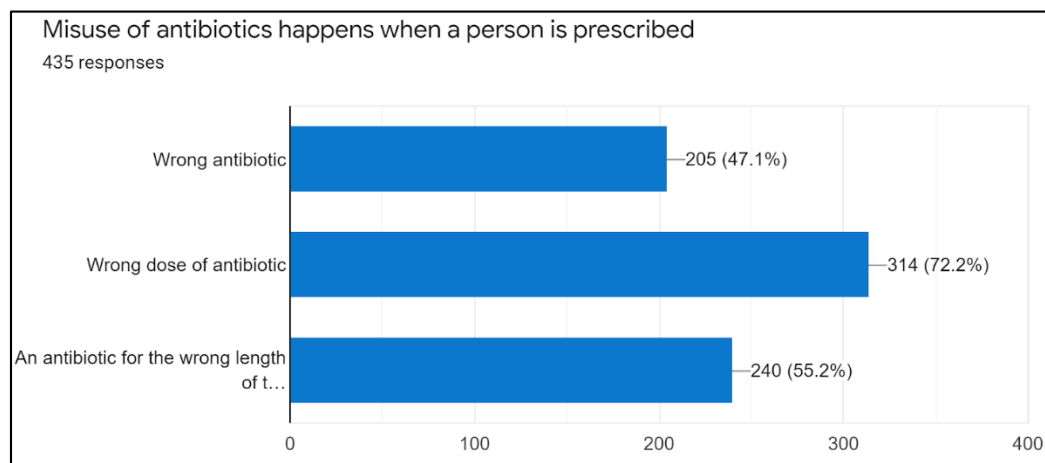
Though, every human being can get Antibiotic resistant infections but this was tricky question demanding the maximum number of cases in which of the above categories.



Q11. Misuse of antibiotics happens when a person is prescribed

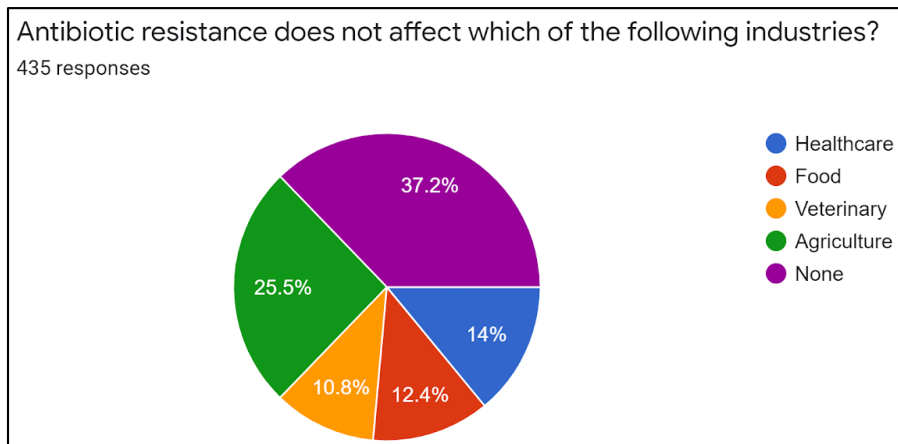
- Wrong antibiotic
- Wrong dose of antibiotic
- An antibiotic for the wrong length of time

The question involved a short answer space as well to observe student's views on misuse of antibiotics. Though the graph shows the all the three correct option, the written answer suggested that students were well aware after the webinar that all three options are correct.



Q12. Antibiotic resistance does not affect which of the following industries?

- Healthcare
- Food
- Veterinary
- Agriculture
- None



Since all the sectors i.e. Healthcare, food, veterinary, and agriculture are affected due to the issue of AMR, the answer to the question was none. And approximately 40% of students got it right. While other students misread the question and selected one of the four above stated industries, which we got to know once we discussed it later.
