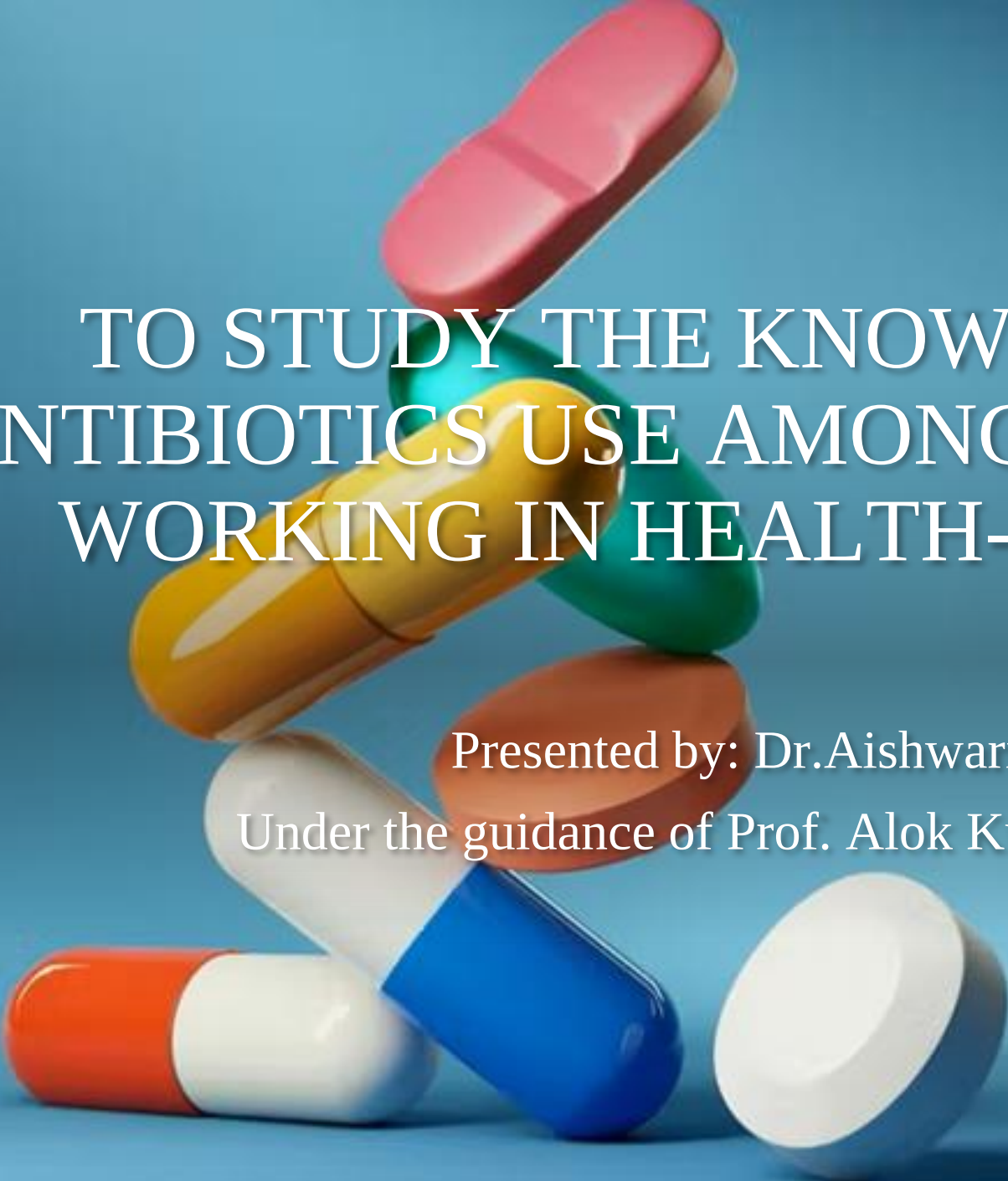


A stack of various pills and capsules in different colors (red, yellow, green, orange, white, blue, and red/white) is arranged in a vertical stack on a blue background. The pills are of different shapes and sizes, including capsules and tablets.

TO STUDY THE KNOWLEDGE OF ANTIBIOTICS USE AMONG EMPLOYEES WORKING IN HEALTH-IT SECTOR

Presented by: Dr.Aishwariya

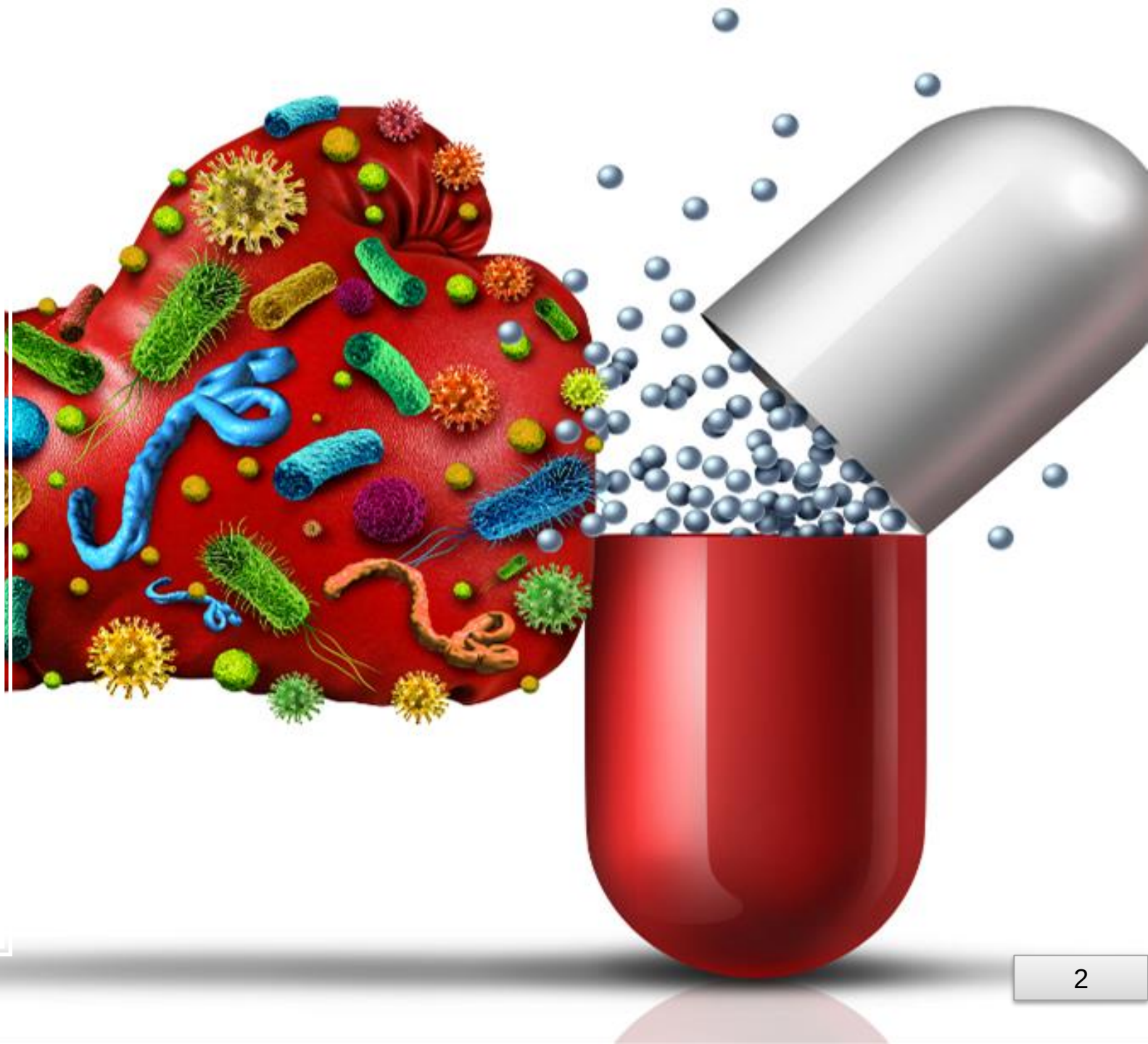
Under the guidance of Prof. Alok Kumar Mathur

Introduction

- Antibiotics are medicines that fight infections caused by bacteria in humans and animals by either killing the bacteria or making it difficult for the bacteria to grow and multiply.
- These are ineffective against viruses such as common cold , influenza.
- The use of antibiotics have been since ancient times mainly by civilizations in Egypt, Nubia, China, Serbia, Greece and Rome.
- The first antibiotic was discovered by Alexander Fleming in the year 1928 which acted as a miracle drug during wartime.
- Antibiotics have been used worldwide, as per the report of WHO, which stated that daily 1000 doses are being consumed over people in 65 countries wherein Mangolia has the highest consumption with a rate of 64.4.

Antibiotic resistance

Antibiotic resistance occurs when bacteria change in response to the use of the medicines. It develops when the microbes alter their genetic makeup to protect against the antimicrobial effects. It is the bacteria which becomes antibiotic-resistant and not the human or the animal. Such bacterial infections are difficult to treat in comparison to the non-resistant bacteria which in turn raises medical cost, increasing the hospital stay, and also increases the chances of mortality.



Factors contributing to AMR

Antibiotic
overuse

Antibiotic
misuse

Self
medication

Food
production

Mutation

Transmitted
resistance

Environmental
pollution

LITERATURE REVIEW

TITLE	AUTHOR	DATE/YEAR	OBJECTIVE	FINDINGS
Awareness of Antibiotic Use and Resistance in Jordanian Community	Derar H. Abdel-Qader ¹ , Abdullah lbassam ² , Najlaa SaadiIsmael ³ , Asma’ A. El-Shara’ ³ , Aisha Shehri ⁴ , Fahdah Shuqair Almutairi ⁴ , Dalal M. Al-Harbi ⁴ , Muna Mohammed Al Zahrani ⁴ , Li-Chia Chen ⁵ , Nadia Al Mazrouei	September 30, 2020	The main objective of the study was to analyse the level of awareness, attitude, and understanding concerning antibiotic usage and AR in Jordan's affluent and impoverished districts.	The questionnaire was completed by 620 homeowners (310 per region). Pharmacists were viewed as major influencers on householder decisions, with 80.32 percent of individuals who took antibiotics in the previous year taking it directly from the pharmacy. The Jordanian population has a limited awareness of antibiotic usage, with just 14.2 percent of the respondents in West Amman while 2.9 percent in East Amman disagreeing with the statement Antibiotics work on most coughs and colds. West Amman residents had a much better understanding of AR than East Amman residents; 82.3 percent of West Amman respondents agreed with the statement-Antibiotic resistance occurs when bacteria change in some way that reduces or eliminates the effectiveness of the antibiotic, in comparison to 31.9 percent of East Amman respondents.
Is health literacy associated with antibiotic use, knowledge and awareness of antimicrobial resistance among non-medical university students in Egypt? A cross-sectional study.	Aya Mostafa,Abdurrahman Abdelzاهر Salma Rashed, Salma I AlKhawaga Shadwa K Afifi, Shaimaa AbdelAlim, Shaimaa A Mostafa, Taha A Zidan	March 1, 2021	The purpose of this study is to look at the levels of health literacy (HL) and their relationship to antibiotic usage, antibiotic knowledge, and antibiotic resistance awareness among Egyptian university students.	“Only 1% of participants had adequate HL. Antibiotic knowledge was lacking in 79.7% of pupils. 39.9% of students reported consuming antibiotics without getting it prescribed by a physician in the previous month. 92.2 percent of students were unaware of antibiotic resistance, while 30.6 percent had heard the term antimicrobial resistance.”

LITERATURE REVIEW

TITLE	AUTHOR	DATE/YEAR	OBJECTIVE	FINDINGS
Public Health Literacy, Knowledge, and Awareness Regarding Antibiotic Use and Antimicrobial Resistance during the COVID-19 Pandemic: A Cross-Sectional Study	Suhaib M. Muflih ^{1,*} , Sayer AlAzzam ¹ , Reema A. Karasneh ² , Barbara R. Conway ^{3,4} and Mamoon A. Aldeyab ³	13 September 2021	The purpose of this study was to investigate the knowledge and awareness of general public about antibiotics and antibiotic resistance in Jordan during the COVID-19 epidemic.	More than half of the participants, according to the data, were well-versed in antibiotic usage and resistance. Antibiotics and antibiotic resistance were better understood by those with sufficient health literacy. The great majority (88.5 percent) knew at least one antibiotic resistance phrase; nonetheless, 53.2 percent thought antibiotic resistance was an issue in other countries. The participants in this study reported mistakenly utilizing antibiotics to treat sore throats, colds, and flu. The participants were well-versed with antibiotic resistance solutions and their health consequences. Antibiotic resistance awareness was shown to be significantly linked with age, education, health literacy, and antibiotic knowledge.
Antibiotic Use and Resistance Knowledge: Awareness Among the General Public in Jazan, Saudi Arabia	Abdulaziz Jali, Alshomokh Hakami, Najwa Dahas, Mashaël Mahnashi, Afnaniddiq, Halimah Alsomaili, Abdulaziz H. Alhazmi	December 12, 2021	The purpose of this study was to assess Jazan Province's knowledge and attitudes concerning antibiotic usage and resistance.	According to the results, 543 participants stated, and the majority of them take Abs with a prescription (n = 280; 75%). Around 40% correctly recognised that Abs can only cure bacteria and not viruses, whereas 44% rejected that Abs can treat all coughs and common illnesses. Then, when it came to resistance knowledge, we discovered that those who had heard of Abs resistance comprised more than half of the participants (56 percent) and had superior information about Abs use. Furthermore, more than half of people who had heard of Abs resistance properly identified the antibiotic susceptibility test, and almost two-thirds could answer questions concerning Abs resistance.

LITERATURE REVIEW

TITLE	AUTHOR	DATE/YEAR	OBJECTIVE	FINDINGS
A public awareness study about antibiotic consumption habits and antibacterial resistance in north-eastern region of Cyprus	Mehmet Ilktac1, Mohamad Tamim Tarabishi1, Pembe Ozbirtan1, Canan Gulcan1, Gulden Celik2	25 April 2020	The proposed study sought to assess residents' awareness of antibiotics and the problem of antibiotic resistance in the north-eastern area of Cyprus.	“In all, 47.9 percent (336/701) of those surveyed had used antibiotics in the previous six months. Approximately 70% of those surveyed were found to have intermediate/high knowledge of antibiotic usage. In all, 66 percent of the public had heard of antibiotic resistance, with 64 percent having intermediate awareness of the subject. University graduates were more likely than elementary school graduates to have heard the term antibiotic resistance.”
A survey of public knowledge and awareness related to antibiotic use and resistance in Sweden	Malin André, Åsa Vernby, Johanna Berg, Cecilia Stålsby Lundborg	01 April 2010	To investigate the general public's understanding of antibiotic therapy and awareness of antibiotic resistance in Sweden.	“74.7 percent of the population responded. Antibiotics heal common colds faster, according to 19.1 percent of respondents; this perception was stronger in those who had not previously received antibiotics. A large majority, 80.7 percent, believed that microorganisms may develop drug resistance. Trust in physicians was strong, with 87.0 percent of respondents trusting the doctor not prescribing an antibiotic over the doctor providing an antibiotic (81.0 percent). The respondents expressed some uncertainty about the meaning of the phrases bacteria and viruses in connection to the prescription decision.”

Rationale

Antimicrobial resistance is a global public health issue that has been magnified by antibiotic overuse worldwide. It is the root cause of serious infections, complications, extended hospital stays, and increased mortality. New resistance mechanisms are evolving and spreading throughout the world, posing a danger to the way of treating common infectious diseases among working individuals, as their stress rate is very high with respect to their work. Thus, they are more prone to getting sick and misusing antibiotics for their rescue. Therefore, it is essential to understand and assess the knowledge regarding antibiotic use and its resistance among working professionals.

Aim of the Study

The fundamental focus of the research is to investigate the knowledge of antibiotic usage among working professionals in the health IT industry.

Objective

To assess the knowledge of employees working in health IT about antibiotic use and their resistance.

Methodology

- Research design: A cross-sectional, descriptive research was conducted to evaluate personnel working in the health IT sector's awareness of antibiotic usage and antimicrobial resistance.
- Study population: The sample includes employees of 5MNCs working in health IT sector, Bangalore
- Study setting: The hive, VR Bengaluru, Whitefield, Bangalore
- Study duration: The research was conducted over a period of 3 months from March 2022 to June 2022.
- Sampling method: Convenience sampling
- Sample size: 100 employees over 5 MNCs working in health IT sector.
- Data type: Primary data was collected for the study.
- Data collection : The data was gathered through a self-administered questionnaire. The questionnaire consisted of 3 sections. The first section consisted of socio-demographic questions, the second and last section comprised of knowledge-based questions about antibiotics and its use and antimicrobial resistance.
- Data analysis: The responses were collected and cleaned and screened using MS-Excel. Graphical representations were used for depiction of correlations.

Results

Age (In years)

100 responses

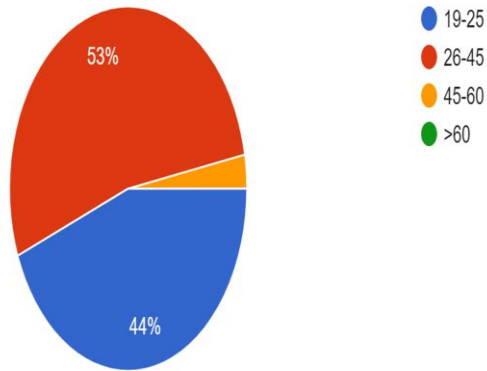


Figure 1: Age of the respondents

Educational background

100 responses

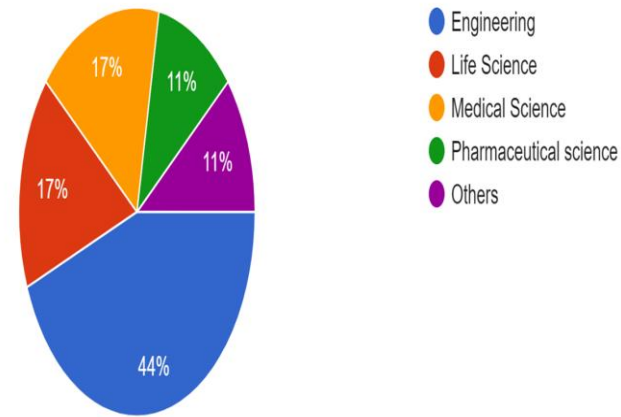


Figure 2: Educational background of the respondents

Area Residence

100 responses

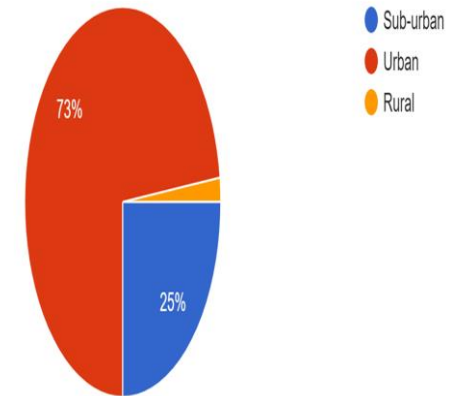


Figure 3: Area residence of the respondents

Results

Age group(in years)	2-5 times	More than 5 times	Never	Once
19-25	23	11	2	8
26-45	33	8	4	8
45-60	2	1		
Grand total	58	20	6	16

Table 1: Annualized intake of antibiotics as per age group

Age group(in year)	Consult a friend or family	Directly go to a pharmacy	Get checked and prescribed by a doctor	Others
19-25	11	31	2	-
26-45	8	33	10	2
45-60	-	2	1	-
Grand total	19	66	13	2

Table 2: Source of antibiotic procured by respondents

Results

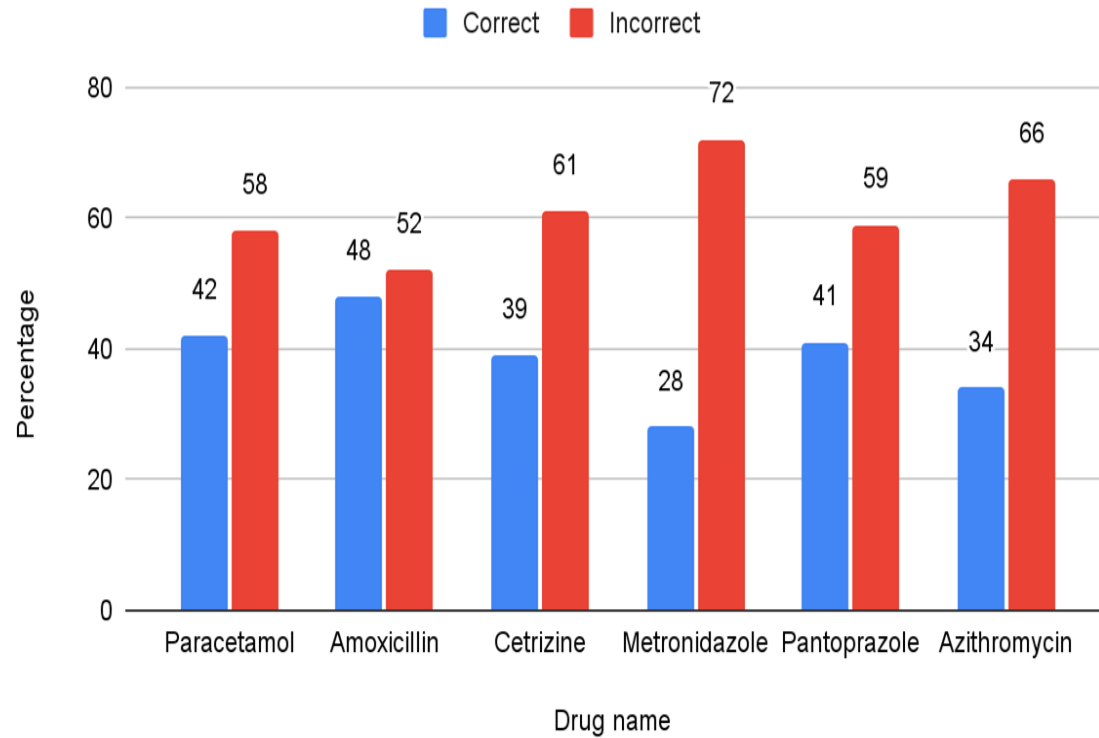


Figure 4: Knowledge of respondents in identification of antibiotics

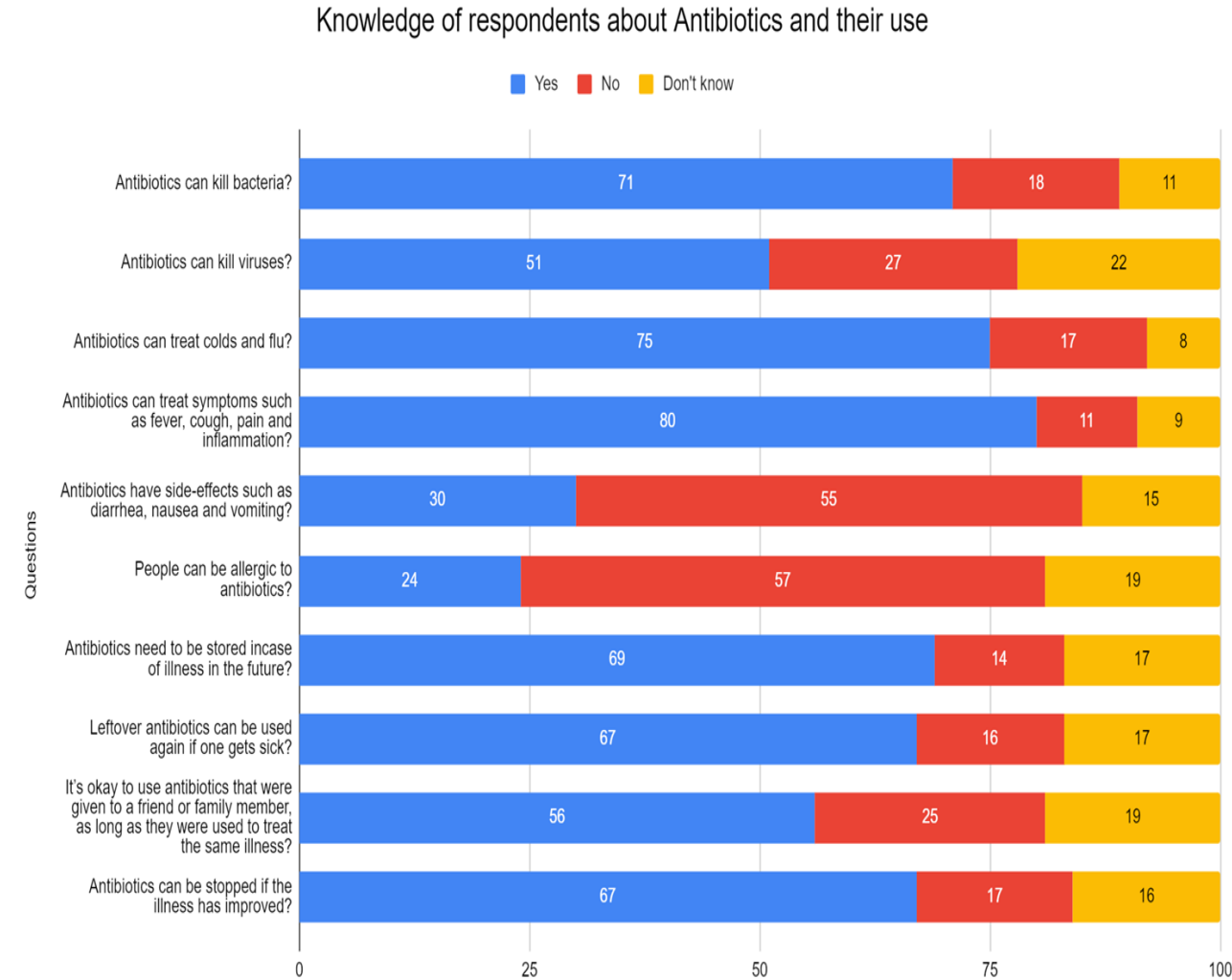


Figure 5: Knowledge of respondents on antibiotics and their usage

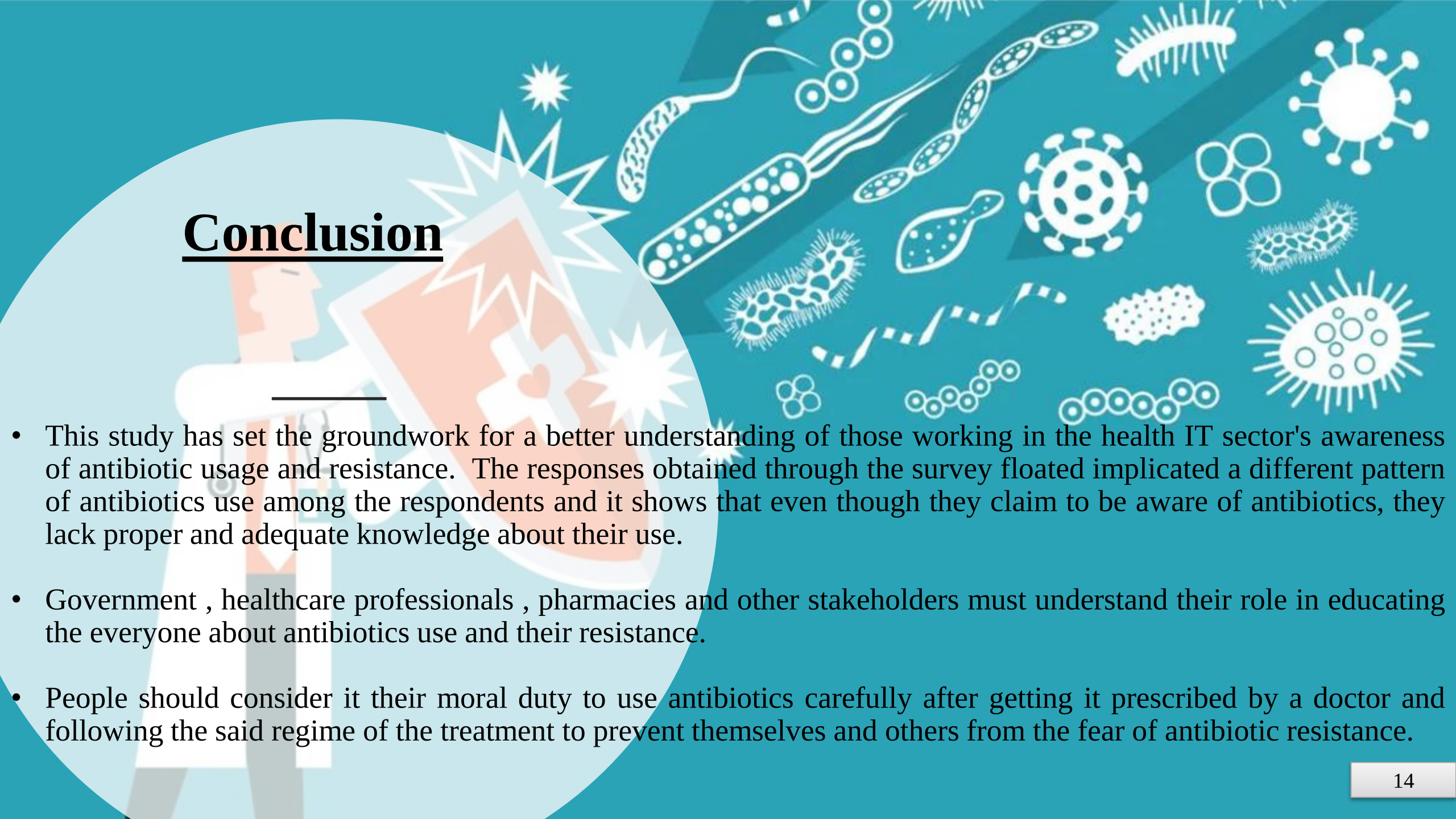
Results

Knowledge of antibiotic resistance	Expected answer	Correct answer	Incorrect answer
Antibiotic resistance occurs when your body becomes resistant to antibiotics and they no longer work as well?	True	36	64
When antibiotics are taken for the wrong indication such as incomplete course or lower doses, it can lead to antibiotic resistance?	True	30	70
Overuse of antibiotics can cause antibiotic resistance?	True	30	70
Bacteria which are resistant to antibiotics can be spread from person to person?	True	43	57
If bacteria are resistant to antibiotics, it can be very difficult or impossible to treat the infections they cause?	True	26	74
Antibiotic resistance is an issue that could affect me or my family?	True	28	72

Figure 6: Knowledge of respondents on antimicrobial resistance

Suggestions

- To use antibiotics only when prescribed by a certified health professional.
- To follow the antibiotic regime completely and to not stop the use of antibiotics as and when the symptoms start to disappear.
- Never share or use leftover antibiotics.
- Not to buy antibiotics from the pharmacy without prescription.
- To follow the advice of the doctor about the use and indication of antibiotics.
- Avoid the use of antibiotics unnecessarily and keep washing your hands to keep free from germs and to prevent oneself from illnesses.



Conclusion

- This study has set the groundwork for a better understanding of those working in the health IT sector's awareness of antibiotic usage and resistance. The responses obtained through the survey floated implicated a different pattern of antibiotics use among the respondents and it shows that even though they claim to be aware of antibiotics, they lack proper and adequate knowledge about their use.
- Government , healthcare professionals , pharmacies and other stakeholders must understand their role in educating the everyone about antibiotics use and their resistance.
- People should consider it their moral duty to use antibiotics carefully after getting it prescribed by a doctor and following the said regime of the treatment to prevent themselves and others from the fear of antibiotic resistance.