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The Level of Awareness on the Antibacterial Therapy Among Adults in Cablong Sta. Barbara Residents

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Abstract

Introduction: Research in Antibacterial Therapy is vital due to its ability to combat infectious diseases effectively. This medicine was impacted on the world particularly in the public health. Inappropriate or improper antibiotic use contributes significantly to the development and spread of antibiotic-resistant bacteria. To safeguard the future, it must continue to invest in research to combat antibiotic resistance and ensure the efficacy of antibiotics for generations to come. Objective: The time to act is now, for the consequences of inaction are too alarming to contemplate. Hence, the researchers conducted this study to assess the level of awareness of antibacterial therapy among adults. Method: The research design that was used in this study was descriptive and the setting was in a rural area, where it is characterized by its limited access to healthcare facilities providing a suitable setting, to investigate insights into how Antibiotic resistance manifests in undeserved and distant communities. The respondents consist of 50 adults and research sampling that was used in this study was purposive. Result: The results revealed that the majority of the respondents are least aware in terms of the Antibacterial therapy. These adults were evaluated concerning their level of awareness and knowledge about the antibacterial therapy. Furthermore, the respondents are not fully aware of the Antibacterial Therapy. Some of them buy antibiotics without a doctor's prescription and ask for antibiotics from their friends, family, and relatives. They are not also highly aware of the consequences of antibiotic use, such as long hospital days, higher medical costs, and antibiotic resistance. Conclusion: Findings also showed that there is a significant relationship between higher educational attainment and the category of use and misuse of Antibacterial therapy.

Keywords:
Antibacterial Therapy, Awareness, Antibiotic resistance

INTRODUCTION

Health is necessary for survival and it is a fundamental requirement for individuals to lead a fulfilling and productive life. However, human health is dependent on a number of factors (Lakna, 2019).

The discovery and development of antibiotics have had a profound impact on medicine and public health, leading to a significant reduction in mortality from bacterial infections. However, the overuse and misuse of antibiotics have also contributed to the rise of antibiotic-resistant bacteria, making responsible antibiotic use and continued research into new antibiotics critical for the future (Wuraola,2021). One of the most pressing global health threats is the rise of antibiotic resistance. The impact on public health, economies, and global stability underscores the urgent need for research. Scientific inquiry drives the development of treatments, informs public health strategies, and empowers individuals to make responsible choices regarding antimicrobial use.

According to Beaney (2023), despite a decreased in antibiotic use in England from 2014 to 2020, the most recent surveillance data reveal a reversal of this decreasing trend, with an increase in the frequency of antibiotic-resistant infections and accompanying mortality between 2021 and 2022. Of course, antibiotic misuse is the primary cause of the creation of resistant microorganisms.

In addition, access to healthcare can be limited for some Filipinos, particularly those in remote or underserved areas. In such cases, individuals may resort to self-medication with antibiotics due to the challenges of accessing healthcare facilities and qualified healthcare providers. Furthermore, antibiotics are effective against bacterial infections but have no impact on viral infections like the common cold or flu. Despite this, some Filipinos, like people elsewhere, may use antibiotics to treat viral illnesses, believing it will help them recover faster. This misuse can be another factor contributing to antibiotic resistance. Some Filipinos may not be fully aware of the risks associated with antibiotic misuse, including antibiotic resistance. Public health campaigns and education efforts can help address this lack of awareness (Robredo et., al, 2020)

This study aims to improve the understanding, effectiveness, and responsible use of antibiotics. The research title suggests an investigation into the level of awareness and understanding among a specific population or group regarding Antibacterial Therapy. The researchers opt for the topic to yield valuable insights and contribute to the development of evidence-based treatment guidelines for specific infectious diseases to guide clinicians in prescribing antibiotics appropriately.

METHOD

1. Design

Descriptive research was used in this study because it describe the characteristics and/or behavior of sample population. By utilizing descriptive research, the researchers can ascertain the community's adult residents' level of awareness regarding Antibacterial Therapy and establish everything the readers need to know apart from how antimicrobial resistance will happen (Berdida et al, 2022).

2. Number of samples and sampling techniques

Included in this study are the adults and residents of the selected Barangay in Sta. Barbara, Pangasinan, particularly parents, will be the key respondents, since seeking healthcare, interacting with healthcare providers and decision-making are the adults' responsibilities.

Excluded in this study is the other individual living in this community such as minors, older adults, and not residents of the community being a respondent of the study as part of the research investigation.

Purposive sampling procedures are used in this study to ensure that particular types of cases of individuals are included in the research study's final sample. Using a purposive technique it is justified that the study's goals and objectives were met, some types of individuals may have significant and divergent opinions about the concepts and problems under investigation, necessitating their inclusion in the sample. (Mason, 2002). The research included 50 adults in Barangay Cablong. The study aims to depict the level of awareness on the Antibacterial therapy by the adults who often buy antibiotics. This methodological decision supports the credibility of the results that showcase the adults' practices and behavioral concerns.

The study was conducted at the Barangay Cablong, with a population of approximately 3,618 residents and it is a remote barangay in the municipality of Sta. Barbara, Pangasinan. The area is characterized by its limited access to healthcare facilities providing a suitable setting to investigate insights into how Antibiotic resistance manifests in undeserved and distant communities. The study aims to assess the level of knowledge of the residents regarding Antibacterial Therapy with the goal of improving awareness of healthcare for the local population.

3. Instruments

The instrument that was used in the study is in the form of a questionnaire, to gather accurate and valid data which is formulated by the researchers based from the statement of the problem of the research study with the help of the research adviser for correction, construction of grammars, and suggestions. The research study used a descriptive

research method thus, questionnaire as an instrument suits the study to gather data from the respondents.

The questionnaire was composed of three parts: The first part is where the researchers identify the demographic profile of the respondents that contains age, gender, marital status, employment status, highest educational attainment, and monthly income. Then, the second part is composed of the questions containing the use and misuse of Antibacterial therapy, sources of antibiotic, risk factors of Antibiotic resistance. The third part contains the challenges encountered among the respondent of the level of awareness of antimicrobial usage.

The research questionnaire underwent evaluation by expert validators to ensure its integrity, quality, and accuracy in gathering research data. This process aimed to identify any errors, suggest corrections, improve grammar, and provide recommendations for a more precise and reliable study outcome. Expert validators, selected for their relevant expertise, thoroughly reviewed each item in the questionnaire, assessing its clarity, relevance, and appropriateness for the intended audience. Their feedback was documented systematically, guiding iterative revisions until a final version was agreed upon, enhancing the questionnaire's validity and reliability.

Furthermore, researchers coordinated with seven (7) licensed experts who are qualified to validate the research questionnaire with equal interest, background, and outstanding relevant experience in the given field. Validators in this study consist of the following professional individuals: One of them is a Doctor of Medicine in the Philippines and currently practicing his field of expertise at Luzon Medical Center. Another expert is a Registered Nurse and she is currently working as a Chief Nurse at Luzon Medical Center. The third expert is a Professor of the medical laboratory, Science, pharmacy and biology in University of Luzon, Dagupan City. The fourth expert is a Registered Nurse as a nursing supervisor, currently working at Luzon Medical Center. Next is expert is a Registered nurse currently working at Luzon Medical Center as Assistant chief Nurse. The sixth expert a professor of college of nursing at University of Luzon. The last expert is Registered nurse, who work as pharmacist for 2 years and now currently working as a nurse. Before the actual data collection, the researchers conducted a pilot test to check the internal consistency of the combined questionnaire; the Cronbach Alpha yielded a score of 0.84, for the item questionnaire. With all the data that have been gathered, these warrant the researchers to use the combined tools to measure the prevalence of SWD among the respondents.

4. Data collection process

The research was conducted in Cablong, Sta. Barbara and before the survey was conducted, a letter of request was sent to the department’s dean for approval. The researchers also sent out a letter for respondents which include the significant of their study. The respondents were given enough time to complete the surveys after they were sent out. Following the completion of the questionnaires, the survey was collected, and the findings were totaled and tabulated. The data gathered for this review served as the foundation for the analysis and interpretation that follows.

5. Analysis

The data collected in the survey were organized using excel sheet, and the data from the archived were manual encoded in an excel sheet. The data were cross checked by 4 members of the research team to avoid missing data and to establish accuracy.

6. Research ethics

The researchers obtained informed consent from all participants, with a permission form detailing the study's aims, potential benefits, and the expected duration of the questionnaire, which was acknowledged as the main inconvenience. No incentives were employed, and participants retained the freedom to withdraw at any stage of the study. The survey was administered between the third and fourth weeks of January 2024.

The respondents were guaranteed the security of the data they submitted. The data is in possession of the primary researcher in charge of data handling. The data will be stored on a secure laptop and can only be accessed by individuals involved in data processing. A formal request letter could be addressed to the principal researcher asking permission to use the data in a larger study.

RESULT

The result depicts that among the fifty (50) respondents, the results reflected that majority of the respondents are within age of 55-60 with the total percentage of 30%. The findings show that 56% of the majority of respondents are female. That simply serves to highlight the fact that women are responsible in decision making in the house. With the percentage of 58% it shows that majority of the respondents are Married. Among all the respondents 34% of them are unemployed. The finding also shows that majority of the respondents are only high school graduate with a percentage of 42%. With the percentage of 64%, most of the respondents has a monthly income of below 10,957. The majority of the respondents are least aware in terms of the Antibacterial therapy; these adults were evaluated with regards to their level of awareness and knowledge about the antibacterial therapy. In terms of the relationship of the demographic profile to the level of awareness on antibacterial therapy. It shows that all of the following items in demographic profile and to the level of awareness on antibacterial therapy do not have a significant relationship. On the other hand, demographic profile showed that there is only one (1) item with significant relationship and these include the high educational attainment.

Table 1. Profil of the respondents (N=50)

Variables	n	%
Age		
19-24 years old	5	10
25-34 years old	13	26
35-44 years old	5	10
45-54 years old	12	24
66-60 years old	15	30
Gender		
Female	28	56
Male	22	44
Marital Status		
Single	13	26
Married	29	58
Separated	1	2
Widowed	7	14
Employment Status		
Student	3	6
Employed (full time)	4	8
Employed (Part time)	10	20
Self Employed	13	26
Retired	3	6
Unemployed	17	34
Highest Educational Attainment		
Post College Degree	4	8
College Graduate	11	22
Vocational	6	12
Senior High School	3	6
High School Graduate	21	42
Elementary	5	10
Monthly Income		
Below - 10,957	32	64
10,957 – 21,914	12	24
21,914 – 43,828	5	10
43,828 - Above	1	2

Tabel 2. The level of Awareness on Antibacterial Therapy in terms of Use and Misuse of Antibacterial Therapy

Variables	Mean	SD	Interpretation
1. Are you aware of the types of antibiotics and how do these works in our body?	3.34	1.29	Aware
2. Do you know when it's appropriate to take antibiotics, and are you fully aware of their intended use?	3.14	1.24	Aware
3. Are you familiar with the potential risks and side effects associated with antibiotic consumption?	2.9	1.19	Aware
4. Do you understand the importance of completing a full course of antibiotics, even if symptoms improve?	3.28	1.29	Aware
5. Are you aware of the difference between bacterial and viral infections, and when antibiotics are effective?	2.76	1.24	Aware
6. Are you aware of the difference between bacterial and viral infections, and when antibiotics are effective?	2.84	1.23	Aware
7. Are you fully aware of the consequences of misuse, such as long hospital days, higher medical cost and antibiotic resistance?	2.76	1.08	Aware
8. Do you know that consulting a doctor before starting	3.2	1.47	Aware

Variables	Mean	SD	Interpretation
or stopping antibiotics is important?			
Use and Misuse on Antibacterial Therapy	**2.02**		**Aware**

Tabel 3. The level of Awareness on Antibacterial Therapy in terms of Sources of Antibiotics

Variables	Mean	SD	Interpretation
1. Do you know that buying antibiotics in small store/pharmacies without a doctor's prescription is probihited?	3.92	1.21	Moderately Aware
2. Do you know that buying antibiotics with known pharmacist without the doctor's prescription is a common practice but is not advisable?	3.68	1.06	Moderately Aware
3. Do you know that purchasing antibiotics from online sources without a doctor's approval is not safe?	3.96	1.40	Moderately Aware
4. Do you know that buying a antbiotics provided by non qualified personnel is not appropriate?	3.58	1.21	Moderately Aware
5. Do you know that asking for antibiotics from your relatives and friends without a doctor's prescription is wrong?	3.2	1.32	Aware
6. Do you know that taking expired antibiotics is prohibited	4.02	1.31	Moderately Aware
Sources of Antibiotics	**3.73**		**Moderately Aware**

Tabel 4. The level of Awareness on Antibacterial Therapy in terms of Risk Factor of Antibiotic Resistance

Variables	Mean	SD	Interpretation
1. Do you know that antibiotics that are obtained without a prescription pose a higher risk of Antibiotic Resistance?	2.88	1.23	Aware
2. Do you know that sharing antibiotics with others without the doctor's prescription increases the possibility of developing Antibiotic Resistance?	2.48	1.02	Aware
3. Do you know that taking antibiotics with intervals that last 1-2 days may lead to Antibiotic resistance?	2.48	1.17	Aware
4. Do you know that taking antibiotics as a first line medicine for a disease contributes to the development of Antibiotic Resistance?	2.56	1.16	Aware
5. Do you know that taking antibiotics even if not needed using to other disease can contribute Antibiotic resistance?	2.68	1.28	Least Aware
6. Do you know that using leftover antibiotics from previous illnesses may lead to Antibiotic Resistance?	2.46	1.27	Least Aware
7. Do you know that overuse of antibiotics is one of the factor of Antibiotic resistance?	2.54	1.64	Least Aware
8. Do you know that skipping doses of antibiotics contributes to the risk of developing Antibiotic Resistance?	2.24	1.19	Least Aware
Risk Factor of Antibiotic Resistance	**2.54**		**Least Aware**

Tabel 5. Challenges Encountered Among the Respondents on the Level of Awareness on Antibacterial Thjerapy

Variables	Mean	SD	Interpretation
1. How do you trust your provider of medicine?	4.20	1.35	Often
2. How often do you take correct amount of prescription of your antibiotic?	3.58	1.21	Often
3. How often do you encounter information about responsible antibiotic use in your daily life?	2.5	1.10	Rarely
4. How frequently do you discuss antibiotic use and its consequences with friends or family member?	2.22	1.18	Rarely
5. How frequently do you encounter advertisements or educational materials promoting responsible antibiotic use?	1.76	1.07	Never
6. How frequently do you participate in educational events or programs focused on antibiotic awareness?	1.92	1.09	Rarely
7. How often do you encounter illness that needs antibiotic therapy?	2.74	1.30	Sometimes
8. How often do you witness situations where individuals self-prescribe.	3.02	1.32	Sometimes
Challenges Encountered	**2.74**		**Sometimes**

Tabel 6. The relationship Between Demographic profile to the level of Awareness on antibacterial Therapy

Variables	r-value	p-value
Highest educational Attainment	0.599	<0.001

DISCUSSION

In terms of the relationship of the demographic profile to the level of awareness on antibacterial therapy. It shows that all of the following items in demographic profile and to the level of awareness on antibacterial therapy do not have a significant relationship. On the other hand, demographic profile showed that there are only one (1) item with significant relationship and these include the high educational attainment with a (p-value-0.599 r-value-<0.001).

In a related study done by Chow 2021, respondents were better informed on this could be related to their higher level of educational attainment and it showed that a lack of antibiotics knowledge was associated with non- adherence behaviors. Higher education can be said to influence deep information and approaches to the antibiotics therapy. Strategies include improving general education targeting people's knowledge, beliefs, and decision-making skills.

In addition, a similar study of Lim 2012 concluded that demographics groups with low educational attainment were prone to misconceptions and efforts to reach these groups of people should be a part of future educational campaigns.

CONCLUSION

Based on the findings of the study, the following conclusions are drawn:

The chosen respondents are the adults in Brgy. Cablong Sta. Bsarbara, Dagupan City. Most of them are aged ranging 55-60 years old female and majority are married.

The majority of the respondents are least aware in terms of the Antibacterial therapy; these adults were evaluated with regards to their level of awareness and knowledge about the antibacterial therapy. The adults are not fully aware about the use of the Antibiotics when it comes to Antibacterial Therapy. Some of them buy antibiotics without doctor's prescription and ask antibiotics to their friends, family, and relatives. They are not also highly aware about the consequences of antibiotic use, such as long hospital days, higher medical cost and antibiotic resistance.

Since they are using antibiotics, it is very important to educate them about the antibiotic use. According to the studies done on the adults in Brgy. Cablong, misuse of antibiotics were frequently done because they are located in the rural area which is far with health centers and they are more likely to ask antibiotic leftover to their family, friends and relatives or sometimes they self-medicate and use some old

prescription to buy antibiotics to some small pharmacies.

Based on the Pearson R value in the correlation analysis, it says that there is a significant relationship between the highest educational attainment and in the category of use and misuse of Antibacterial therapy with a ((p-value-0.599 rvalue- <0.001). The rest of the following item in the three (3) categories says that there is no significant relationship in terms of the demographic profile.

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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