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Original article

A CROSS-SECTIONAL STUDY ABOUT FACTORS CONTRIBUTING TO USE OF ANTIBIOTICS AMONG RESIDENTS OF MOROTO PARISH IN PALABEK GEM SUBCOUNTY, AGED FROM 18-65 YEARS IN LAMWO DISTRICT (UGANDA).

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Abstract

Background
The objectives of the study were; to determine the demographic factors leading increased use of antibiotics, to assess the knowledge of the residents of Moroto parish in Palabek sub-county on antibiotic use and to determine the socio-economic factors that lead increased use of antibiotics among residents of Palabek Gem sub-county.

Methodology
A descriptive cross sectional design and self-administered questionnaire well designed were used on 50 respondents obtained through random sampling technique. The data obtained were presented through tables, graphs and pie charts and then analyzed.

Results
Majority of respondents (54%) were women, most of the respondents (42%) were between 18-30 years. Poor knowledge on causative agents treatable by Abs and good knowledge on ABR shown by 82% respondents. 86% of the respondents were low income earners. There is generally increased use of Abs with women taking the lead. 58% of respondents do not show respect to doctors' decision of not prescribing Abs if it is not relevant. The study also revealed that there is easy access to Abs as reported by 68.0% of respondents,78.0% of respondents shared Abs with family members while Leftover Abs were highly used by 78.0% of respondents.

Conclusion
There is high use of Abs. There's easy access to Abs with Clinics and Pharmacies noted as a chief source though leftover antibiotics are also being widely used. The respondents had an average and staggering overall knowledge on Abs use which is not pleasing. Most of the respondents do not value doctors' decisions of not prescribing Abs.

Recommendation
The government to put more efforts in controlling use of Abs both among the population and the medical workers all together. And also studies on the community members to find out their views/ opinions on strategy that help best curb the increased use of antibiotics.

Keywords: *Antibiotics use, Residents, Moroto parish*
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Background

Antibiotics are substances produced by a micro-organism that can kill or inhibits growth of another micro-organism. According to (Saliba-Gustafsson, et al., 2019) Since their discovery, antibiotics have saved lives and reduced suffering. However, their considerable overuse and misuse has in part contributed to development of antimicrobial resistance, threatening their effectiveness globally.

Globally, a study done in Syria on knowledge, attitude and practice on antibiotic usage stated that unchecked, antibiotic resistance can halt and potentially reverse decades of medical progress with severe repercussion on patients' outcome and healthcare expenditure both on an individual and societal level

According to a study in Malta, approximately 700,000 deaths are registered from antibiotic resistant infections every year. This AMR related mortality is predicted to rise to 10 million people per year by 2050 (Altorkmani, et al., 2021)

In Syria, although there are regulations prohibiting sale of antibiotics without prescription, most pharmacies do not adhere to these regulations and this is evidenced by a study conducted in Aleppo, Syria which reported that 85.5% of pharmacies in the city prescribe antibiotics to patients without prescription (Altorkmani et al, 2021).
In Africa, antibiotics are among the commonest medicines used. A survey on predictors of antibiotic use in five African countries showed that 90% of individuals with

acute illness sought care outside the home with 95% receiving medicine and 36% received antibiotics, of which 30% accessed the antibiotics without prescription and one in four individuals obtained antibiotics from un informal dispensers (Dache, Dona, & Ejeso, 2021)

Several multi-country surveys in African settings found out that amoxicillin, co-trimoxazole and metronidazole are the most widely used antibiotics. In Ethiopia, access to healthcare services has improved in the past two decades. However, a report from Ethiopian Drug Administration and Control Authority has shown that there are insistences of unreasonable use of antibiotics by the community, patients, as well as the healthcare providers. As stated by the baseline survey conducted by the Food, Medicine and Healthcare Administration and Control Authority of Ethiopia, about two-thirds (70%) of patients who visited outpatient clinics have had one or more antibiotic prescription (Dache, Dona, & Ejeso, 2021)

In East Africa, specifically in Kenya, the overall prevalence of antibiotic use was reported to be 46% which was higher than that of HICs. Also recent pint-point survey results in two public referral hospitals in Kenya reported 68% and 55% prevalence of antibiotic use. Beta-lactam antibiotics amoxicillin/ clavulanic acid and ceftriaxone were the most used antibiotics in this survey. (Omulo, et al., 2022)

In Uganda, despite accessibility and financial challenges, there are still reports of higher and unnecessary use of antimicrobials among patients. Example of such practices includes; use of antibiotics for fever not associated with malaria, non-bloody diarrhea and non-pneumonia upper respiratory infections that are commonly caused by virus. Uganda also reported resistance against commonly used antimicrobials including ampicillin, ciprofloxacin, and ceftriaxone used for bacterial infections, artemether-lumefantrin commonly used for malaria as well as isoniazid and rifampicin used for tuberculosis. This resistance results to use of second and third line antimicrobials which are more expensive and not readily available in health facilities to treat these bacterial infections (Musoke, et al., 2021)

As observed globally and within African settings, the general antibiotic use has been high yet it is the major predisposing factor to the development of AMR and this is the case in Uganda. In Moroto parish Palabek Gem sub-county, it has been observed that antibiotic use is high yet no research has so far been done in this area to find out the reasons for this observed trend of antibiotic use and therefore this study aims to find out reasons for the increased antibiotic use and how the problem can be effectively handled.

Specific Objectives

To determine the demographic factors contributing to use of antibiotics among residents of Moroto parish in Palabek Gem sub-county.

To assess the knowledge of the residents of Moroto parish in Palabek sub-county on antibiotic use

To determine the socio-economic factors contributing to use of antibiotics among residents of Moroto parish Palabek Gem sub-county.

Significance of the study

The result of this study will provide information to be used for developing evidence-based strategies for future needs in terms of policy and education changes to reduce antibiotic overuse as well as literature which will be used for future studies in the related topics. Also results obtained from this study will be submitted to UAHEB as a partial fulfilment of the award of a diploma in pharmacy.

Methodology

Study design

A descriptive cross-sectional study design was used simply because data collection using the method takes shorter period of time and it compares different population groups at a single point in time and different variables at the same time.

Study area

The study was conducted in Moroto Palabek Gem sub-county Lamwo district, Northern Uganda. Palabek Gem sub-county is located 28km from Lamwo district headquarter. The study was conducted from "August 2022 to May 2023"

Study population

The study population comprised of all residents of Moroto parish aged 18- 65years of age who consented to the study.

Sample size determination

The sample size was determined by Kish and Leslie 1965 as shown below.

$$n = \frac{z^2 p(1-p)}{d^2}$$

Where;

Z is the significance level at 95% which is 1.96

P is the estimated prevalence of antibiotic use in Uganda which is 74%

d is the margin of error which is 12%

$$n = \frac{(1.96^2)0.74(1-0.74)}{(0.1215)^2}$$

$$n = 50.06$$

$$n = 50$$

Therefore, the sample size is 50 participants

Sampling technique

The study used both cluster sampling method and Simple random sampling method. Cluster sampling method was used to ease the data collection process since there were many villages within Moroto parish and therefore the villages was first categorized in to clusters then simple random sampling employed to select the respondents since it gives every respondent an equal chance of participating in the study without any bias.

Sampling procedure
Moroto parish was divided in to four clusters each of which consisted of two villages neighboring each other to minimize on transport costs and from each cluster, unique numbers were assigned to each member which was written in similar piece of papers and folded and put in a bucket. A blind folded researcher then picked from the bucket one paper without replacement until he got required number of respondents. The procedure was repeated for all the clusters. Equal number of respondent was selected from each cluster to achieve the total of 50 respondents to participate in the study. Ten participants were sampled per day and the data collection process took five days.

Data Collection Method
The researcher and the research assistance used both quantitative and qualitative methods of data collection so that no relevant data is left.

Data Collection Tools
A semi structured questionnaire well designed by the researcher was administered to the selected respondents from whom primary data were collected. Both open and close-ended questions was used.

Data Collection Procedure
A letter obtained from the research committee of IPI school was presented to the concern office at Palabek Gem sub-county headquarter, to allow the researcher to carry out data collection in the parish. Two Research Assistants were trained to help in the data collection process. Both verbal and written consents were obtained from the participants after which the questionnaires were distributed to them as they were requested to provide correct information during filling. An appreciation inform of thanks was said to them. The filled questionnaires were collected and kept in a safe place prior to data analysis.

Dependent variable
Increased antibiotic use among residents Moroto parish in Palabek Gem Sub County.

Independent variable
Demographic factors leading to increased use of antibiotics (age, gender and unemployment)
Knowledge on antibiotic use
Socioeconomic factors leading to increased use of antibiotics (income levels, access to health care services and doctor-patient relationship).

Quality Control
The questionnaires were pre-tested on 10 respondents in a pilot study, mistakes detected were corrected to ensure that the questionnaire were clearly understood by the respondents and these questionnaires were administered by trained research assistants. Random sampling method was used to select samples to eliminate bias. Ample time was given for the data collection process to ensure that the process went to completion without the pressure of time. There was proper monitoring of the data collection process to ensure that there was correct filling to completion of the questionnaires. Only residents of Moroto parish aged between 18-65 participated in the study.

Data Analysis and Presentation
Data was collected, analyzed manually using a scientific calculator, and excel software. The data was presented using figures, tables, pie charts, bar graphs in order to provide summarized and simplified pictures about the outcome of the study.

Ethical Consideration
Before the actual research, a proposal was written and submitted to the research committee of International Paramedical institution for approval upon which a letter of introduction was given to the researcher which was presented to the local council of Moroto parish, Palabek Gem sub-county for permission to be granted to the researcher. Consent was sought from the respondents before the commence of data collection. Also data collection process employed use of numbers of respondents instead of names to conceal their identity and the information obtained were kept confidential.

Result Presentation

Demographic characteristics of respondents

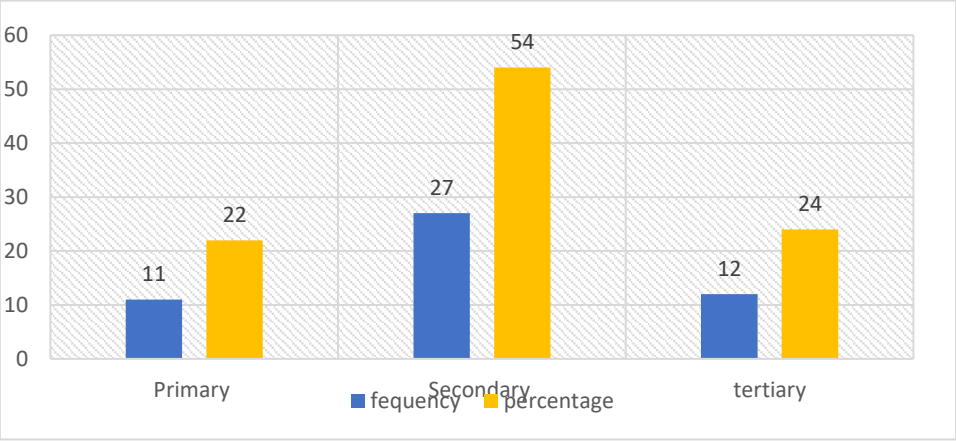
Table 1. Showing demographic characteristics of respondents (N=50)

Variables		Frequency	Percentage (%)
Gender	Female	27	54.0
	Male	23	46.0
Age group	18-30 years	21	42.0
	31-45 years	18	36.0
	46-65 years	11	22.0
Employment status	Employment	31	62.0
	Not employment	19	38.0

Out of 50 respondents who participated, 27 (54%) were females while 23 (46%) were males giving a fair representation of the sample size.
Out of the 50 participants, 21 (42%) were between the age of 18-30 years, 28 (36%) were between 31-45years and 11 (22%) were between 46 and 65years.

The result of the study also showed that out of the 50 participants, 31 (62.0%) participants were employed while only 19 (38.0%)participants were not employed

Figure 1. A graph Showing Education levels of respondents (N=50)



The study also showed that out of the 50 participants, 12 (24%) of them were highly educated at tertiary levels, 27 (54%)of them had an intermediate level of education at secondary levels and 11 (22%) participants had a low levels of education.

Knowledge on antibiotic use

Table 2. Showing the knowledge on antibiotic use (N=50)

The study showed that 44 (88.0%) of respondents heard about antibiotics before while 16 (32%)never heard about antibiotics before.

Variables		Frequency	Percentage(%)
Ever heard of antibiotics before	Yes	44	88.0
	No	6	12.0
Antibiotics treat diseases caused by	Bacteria	24	48.0
	Both viruses and bacteria	14	28.0
	I don't Know	11	22.0
	Viruses	1	2.0
Antibiotics are used to treat;	Cold and cough	23	46.0
	Fever and pain	18	36.0
	Flu	9	18.0
Antibiotic treatment can be stopped when;	All doses were completed	40	80.0
	I don't know	3	6.0
	I feel better no symptoms	7	14.0
Antibiotics can be harmful to human body	Yes	24	48.0
	No	26	52.0
Antibiotics are attainable from clinics without doctor's prescription	Agree	12	24.0
	Disagree	13	26.0
	Strongly agree	18	36.0
	Strongly disagree	7	14.0
Bacteria can develop resistance against antibiotics	Yes	41	82.0
	No	9	18.0

When asked on which microorganism is treated by antibiotics, 24 (48%)respondents said bacteria, 14 (28%) respondents said that antibiotics treat both bacteria and viruses while 11 (22%) respondents did not know which disease causative agents are treated with antibiotics yet on the other hand, only 1 (2%)respondent said antibiotics treat diseases caused by viruses.

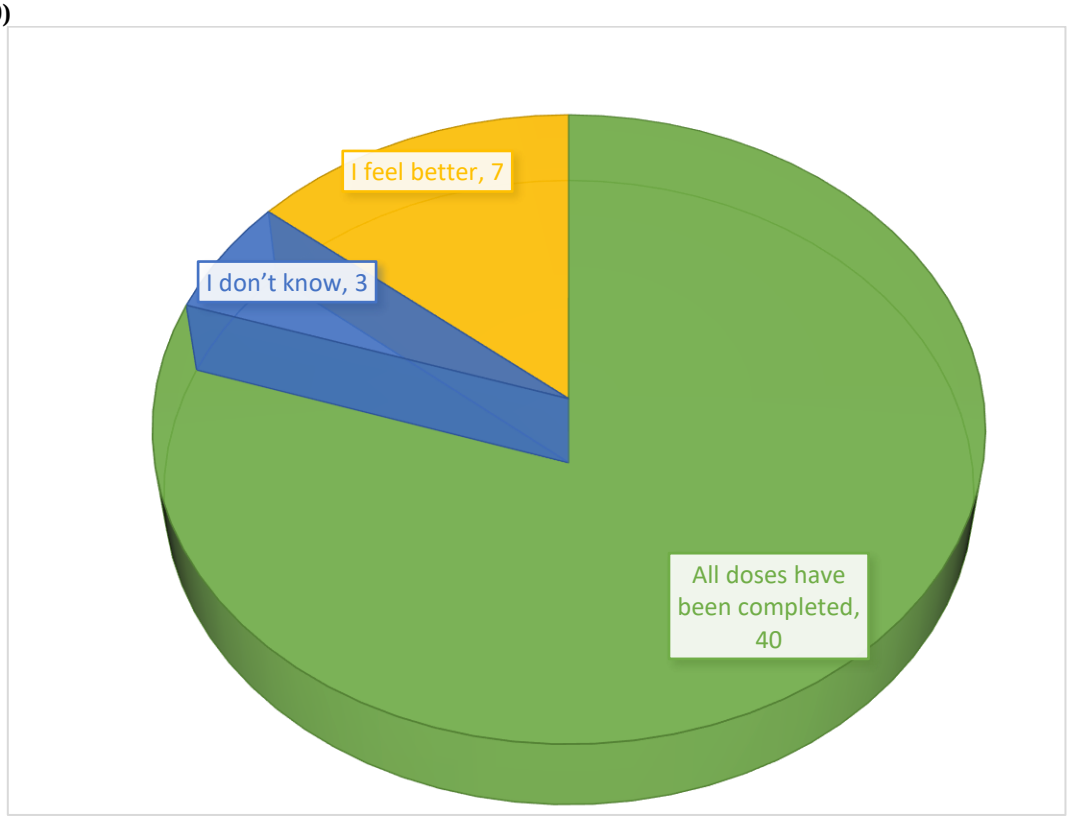
The result of the study also showed that majority of respondents 23 (46%) of respondents used antibiotics for cold and cough, 18 (36%) of them used antibiotics for fever and pain while 9 (18%) of respondents could use it for flue. Also only 23 (46%) of respondents believe that Abs can be harm full to human body while majority 27 (54%) of respondents believe that they are not harm full.

A pleasing result was obtained from the respondents when assessed on their knowledge on when Abs treatment can be stopped with 40 (80%) respondents providing correct responses that the treatment with Abs can be stopped when all doses have been completed. 3 (6%) respondents did not know when exactly to stop treatment with Abs, 7 (14%) respondents said that Abs treatment can be stopped when they feel better and the symptoms are gone.

When assessed on their ideas on whether one can buy Abs from clinics without doctors' prescription, 12 (24.0%) respondents agreed, 18 (38.0%) strongly agreed, 13 (26.0%) of them disagreed and 7 (14.0%) respondents strongly disagreed.

Forty-one respondents (82.0%) correctly said that bacteria can develop resistance against Abs while 9 (18%)respondents incorrectly said that bacteria can not develop resistance against Abs.

Figure 2. A pie-chart showing respondents' ideas on when antibiotic treatment can be stopped.
(N=50)



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Socioeconomic factors contributing to antibiotic use

Table 3. Socioeconomic factors of respondents contributing to use of antibiotics.
(N=50)

Variables		Frequency	Percentage(%)
Distance of health center from home	Within 5km	12	24.0
	Further than 5km	38	76.0
Use of antibiotics by any of the family members.	Yes	50	100
	No	0	0.0
Antibiotics shared	Yes	41	82.0
	No	9	18.0
Antibiotics are easily attainable from the community	Yes	34	68.0
	No	16	32.0
Antibiotics used in the last 3months	Yes	31	62.0
	No	19	38.0
Sources of antibiotics	Clinics/Pharmacies	28	56.0
	Health workers	22	44.0
Leftover antibiotics from family and friends used	Yes	39	78.0
	No	11	22.0
Doctors' decisions not to prescribe antibiotics trusted	Yes	21	42.0
	No	29	58.0

The study revealed that all (100%) of respondents reported that antibiotics have ever been used in the family. When asked whether antibiotics are easily attainable from the community, 34 (68%) of respondents accepted whereas 16 (32%) refused and said that antibiotics are not easily attainable from the community.

The study result obtained also reported use of antibiotics in the last three months by 31 (62%) of respondents while 19 (38%) of respondents never used Abs in the last three months.

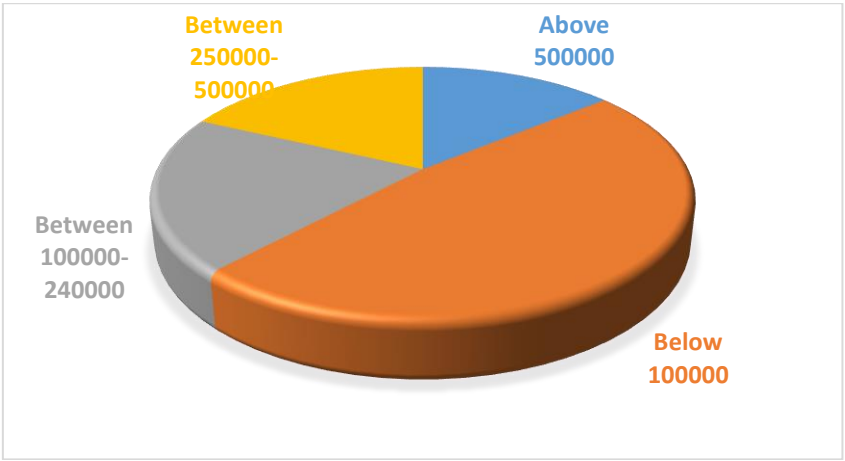
The study result also revealed that majority 28 (56%) of respondents obtained antibiotics from clinics/pharmacies whereas 22 (44%) of the respondents obtained antibiotics from other public health facilities. Also study showed that Abs are shared by 41 (82%) of respondents with only 9 (18%) reported to have not shared Abs.

When asked whether they have ever shared antibiotics with family members, 38 (76%) of the respondents accepted that they had shared antibiotics with family members while only 12 (24%) never shared antibiotics.

The study also revealed that leftover antibiotics were highly used, that is to say 39 (78%) of respondents used leftover antibiotics whereas only 11 (22%) of respondents never used leftover antibiotics.

When asked about whether the respondents trust doctor's decisions if he/she decides not to prescribe antibiotics to them, the study revealed that 29 (58.0%) respondents do not trust decision while only 21 (42.0%) respondents trust doctor's decisions.

Figure 3. A pie-chart showing monthly earnings of respondents.
(N=50)



According to the data obtained, the monthly earning of 24 (48.0%)respondents were below a hundred thousand Uganda shillings, 10 (20.0%) respondents had a monthly earning of between 100000-240000 Uganda shilling, 9 (18.0%) respondents had monthly earning of between 250000-500000 Uganda shillings, while only 7 (14.0%)

respondents had a monthly earning of above five hundred thousand Uganda shillings.

Discussion

Demographic factors influencing increased use of antibiotics among reside

The objective of the study was to determine the demographic factors contributing to increased use of Abs. The study revealed that out of (88%) of respondents who used Abs for cold, cough and fever, majority (72.7%) were females and only 27.3% were males. This study also revealed that 75% of those respondents who frequently use Abs were female. This finding indicates that Abs use is higher in females than in males and this is probably because of increased cases of respiratory symptoms in women. This finding agreed with the findings of one of the recent Dutch studies (Pienkowska & Hryniewicz, 2021) which also reported a higher use of Abs among the women than in men and this was attributed to a higher incidents of respiratory symptoms

which always occur in women. However, the findings of this similar study did not correlate with the study result obtained in a study in Cameroon which established a contradicting report that men use more Abs than women.
The finding also revealed that younger respondents (<45 years of age) used Abs more than the older ones. This is probably because they are within the age group with more sexual activities and so would have a higher risk of self-medication with Abs. This study result agreed with a result obtained in a study conducted (Ekambi, et al., 2019) in Cameroon which found out that younger respondents (<35 years of age) use more Abs than the older ones since they have a higher risk of self-medication with Abs.
According to the result of the study, majority(62%) of respondents were found to have used Abs in the last three months. Out of these,majority(72%) where foun to be employed. This showed that antibiotic use was high among the employed respondents than among the unemployed ones. This study result agreed with a study result obtained in a study done by (Pienkowska & Hryniewicz, 2021) in Poland where more frequent use if Abs was observed among the employed repondents. This was mainly due to respondents urgent need to return back to work since most of the employees would not want to have a cut off of salary due to missing days.

Knowledge on antibiotic use among residents.

The result of the study revealed that the word "antibiotics" is a familiar word to respondents as majority of the respondents had heard about Abs before. A study conducted in Taiwan, China also found out that antibiotics have ever been heard about by all respondents (Chen, Hwang, & Sinica, 2015). This could probably be due to high circulating Abs in the community.
When asked on which microorganism is treated by antibiotics, 24 (48%)respondents said bacteria, 14 (28%) respondents said that antibiotics treat both bacteria and viruses while 11 (22%) respondents did not know which disease causative agents are treated with antibiotics yet on the other hand, only 1 (2%)respondent said antibiotics treat diseases caused by viruses. This indicates that the respondents had a poor knowledge on the causative agents treatable by Abs. This finding agreed with the result of study conducted in Saudi university where most of the respondents also didn't know which agents are treated by Abs.
A pleasing result was obtained from the respondents when assessed on their knowledge on when Abs treatment can be stopped with 40 (80%) respondents providing correct responses that the treatment with Abs can be stopped when all doses have been completed. 3 (6%) respondents did not know when exactly to stop treatment with Abs, 7 (14%) respondents said that Abs treatment can be stopped when they feel better and the symptoms are gone. This finding revealed that majority of respondents knew when antibiotic treatment could be stopped while only few didn't know. This is probably due to frequent instructions which were always being provided to respondent whenever they could obtain Abs from health facility. This finding disagreed with the result of obtained from two studies that is; by Akbar et al, 2021 in Saudi university and (Wang, Lin, Xaum, Lu Li, & Zhou, 2018) where most respondents could just stop treatment with Abs once symptoms resolve.
When asked on their views about the statement "Abs can treat all cases of cold and cough", 21 (42%) respondents said the statement is true, 17 (34%) respondents correctly refused and said that Abs cannot treat all cases of cold and cough while 12 (24%) respondents did not know whether the statement is true or false. This finding indicates that a greater percentage of respondent would employ Abs for cough and cold and this correlates with the finding of a study by Akbar et al, 2021 in Saudi university where about 66.7% of respondents used Abs for cough and cold.
The result of the study also showed that majority of respondents,33 (66%) respondents knew that Abs are effective for fever and pain while 17 (34%) respondents know that Abs are not effective for fever and pain. As observed above, most respondents could use Abs for pain and fever and this finding correlates with that obtained from a similar study conducted in Saudi university which showed that 58.8% of respondents incorrectly used Abs for pain.
The study also showed that majority 52.0% of respondents did not know that Abs can be harm full to the body and described them as a master class of drugs which are effected against all diseases. This result is similar to a result obtained by (Barker, Brown, Ahsan, Sengupta, & Safdar, 2017) in a study conducted on the community members of Haryana.
When assessed on their ideas on whether one can buy Abs from clinics without doctors' prescription, 12 (24.0%) respondents agreed, 18 (36.0%) strongly agreed, 13 (26.0%) of them disagreed and 7 (14.0%) respondents strongly disagreed. This finding means that majority of the respondents could obtain Abs with ease without prescriptions which agreed with the result of a study conducted (Papadimou, Malmqvist, & Ancillotti, 2022) in Greece where respondents reported easy access to Abs even without prescription.

Forty-one respondents (82.0%) correctly said that bacteria can develop resistance against Abs while only 9 (18%)respondents incorrectly believed that bacteria can not develop resistance against Abs. This finding correlates with that obtained in a study conducted by (Jali, et al., 2021) in Saudi Arabia which found out that about 93% respondents correctly believed that bacteria can develop resistance against Abs. Out of the 82%, further analysis on ways through which this resistance come about revealed that 82.9% pointed out under dosing while 17.1% said continuous /excessive use of Abs as ways through which bacteria can become resistance to Abs. This finding shows that only a few percentage of respondents consider excessive use of Abs as a predisposing factor for development of resistance.

Socio-economic factors influencing antibiotic use

The study also revealed that most, (86%) of respondents had their household monthly income of below 500000Ugx with only (14%) having monthly household income of above 500000Ugx. These respondents with household income of less than 500000Ugx were found to obtain Abs from pharmacies and this was attributed to the high cost of cost involved in a systematic process of acquiring medical care which prompt respondents' decisions to seek treatment directly from pharmacies without doctors' consultation or prescription. This study result agreed with that obtained (by Barker et al, 2017) from a study conducted on the community members of Haryana where most respondents with household income of less than $375 per month could ignore doctors' consultation and obtain treatment directly from pharmacies.

This study also revealed a contradicting result from a study result obtained by (Aseidu, et al., 2020) in Ghana where distance further than 5-20km from a health facility, a recommended WHO standard was observed to be a factor driving respondents to obtain treatment from unapproved sources of antibiotics. This is because most of the households(respondents) are located within 20km radius from the health facility.

The study also revealed that most respondents do not respect doctors' decision since out of 50 respondents, (58%) do not trust doctors' decision in case he/she decides not to prescribe Abs with only (42%) respondents could do so. This means that, these respondents would go further looking for Abs even if not recommended by medical workers owing to their own believes that they need them. This result agreed with a result of a study conducted by (Olalla, et al, 2021) in Spain where respondents believe in their ability to recognize situations in which Abs are required and end up acquiring them either from left over or accessible sources without medical workers' recommendations.

The study also showed that majority 68.0% of the respondents reported easy access to Abs and this could be due to low restriction governing Abs dispensing enabling the community easily get Abs whenever they need. This easy access was also reported by (Larissa, et al., 2019) in a study conducted in Latino neighborhood in New York with the same explanation of access even without prescriptions in community pharmacies.

The study result also showed that majority of respondents (56.0%) obtained Abs from clinics or pharmacies with only 44% got them from other health facilities. This was probably due to easy access even without prescription. However, in study conducted by (Olalla, et al, 2021) and (Barker, et al, 2017) where a similar result showing that Abs were mainly obtained from pharmacies by majority of respondents, it was mainly due to problems associated with distance to the public health facilities and to some extend poor hospitality of health workers. But for this study, distance was excluded from the factors since most of the respondents were within the same radius from the public facility.

The study also revealed that majority 82% of respondents involved themselves in sharing of antibiotics with both family members and friends hence taking inadequate dose of the Abs, overdose or even incorrect frequency which are all forms of inappropriate use if Abs. Similar studies including those done by (Larissa, et al., 2019) amongst Latino neighborhood in New York and by (Daniel, et al., 2017) in Philippines showed a similar result reporting high cases of sharing of Abs amongst respondents.

This study also revealed high use of leftover Abs from families and friends as seen in 78.0% of respondents. This was mainly due the habits of not completing the prescription and keeping the remains for future use. The dispensing format of Abs in most pharmacies and clinics where aim is much on profits made per day other right dosing was also reported as a factor. This result agreed with the result obtained by (Isabel, Efe, & Joshua, 2021)and by (Larissa, et al., 2019)

Conclusions

The study sought to find out the factors leading to increased use of Abs. The case study was Moroto parish Palabek Gem sub-county and the study found out that, most of the respondents were; female 54%, in category of 18-30years, of low income status, majority attained secondary level of education, most were employed, shared Abs with families and friends, used leftover Abs and did not follow doctors' decisions of not to prescribe Abs. The study found out that there is a high use of antibiotics among the respondents with the females being more susceptible than men with a percentage of 77.7%. Though most respondents knew when to stop the course of Abs treatment, there was still Inadequate knowledge on Abs use observed amongst respondents in general. Few respondents (48%) could identify microbial agents treatable by Abs. 86% respondents were low income earners. The study also found out that leftover Abs were highly used, there was high cases of sharing of Abs and that doctors' decision of not prescribing Abs were not followed

Therefore, with respect to the findings above, age, gender employment status income level easy access to Abs, leftover Abs, sharing of Abs affect use of Abs within the community and therefore they should form the basis for strategizing the use of Abs for attaining better outcomes of Abs treatments as well as reducing ABR.

Study Limitation

The study was greatly affected by time since time keeping was a big problem since most respondents could not keep time. Also, inadequate finance was a problem since the cost of stationary work was much in addition to transport costs

Recommendations

To the Ministry of Health

The Ministry of Health should encourage proper planning and organizing outreaches to create awareness to the community on causes, prevention or behavioral control/ managements of diseases treatable with Abs and overall use of Abs. This helps reduce on the rate of infections treatable with antibiotics hence reducing on the rate at which Abs are used. Also, the Ministry of Health should embrace restrictions that govern the dispensing and use of antibiotics. This will help reduce the unnecessary use of antibiotics.

Also, increasing financial budget on antibiotic campaigns by the Ministry of Health would be an important intervention which should be taken in to consideration. This helps improve man power in the fight against misuse of Abs.

To the health workers

The health workers should improve on the way they handle the patients such that they get to understand the exact patients' conditions which will help them in determining the treatment choice on whether Abs are needed or not.

Health workers should also take time and provide enough instructions to the patients on how to use antibiotics. This allows proper use of Abs by avoiding incomplete dosing, over dosing and all other forms of Abs misuse. They should also employ the use of treatment guidelines as this help to ease the decision making in providing treatment for the patients.

To the community members of Moroto parish Palabek Gem sub-county

The community of Moroto parish should take seriously and put in practice the different measures for diseases treatable with Abs as well as understand and put in to practice the instructions for the use of antibiotics provided to them by health workers so as to reduce on the errors associated with the use of antibiotics.

Acknowledgement

I would like to take this golden opportunity to thank almighty God for enabling me to be alive to date, thank my dear family members, my supervisor and everyone who had hand in research and pray that the good Lord blesses you abundantly.

List of Abbreviations And Acronyms

ABR- Antibiotic Resistance.
Abs- Antibiotics
ASPs- Antimicrobial Stewardship Programs.
BSA- Broad Spectrum Antibiotics.
DDDs- Defined Daily Doses
GDP- Gross Domestic Products
IPI- International Paramedical Institute.
LMICs- Low and Middle Income Countries
OTC- Over The Counter
RTIs- Respiratory Tract Infections

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Conflict of interest

The author declares no conflict of interest.

References

Akbar, Z., Alquwez, N., Alsolais, A., Thazah, S. K., Ahmad, M. D., & Cruz, J. P. (2021). Knowledge about antiiotics and antibiotic reisistance among health related studentsin a Saudi university. *The journal of infections in dveloping countries*, 1-9. doi:10.3855/jidc.12329

Altorkmani, A., Alzabibi, M. A., Shibani, M., Ismail, H., Sawaf, B., Dahar, N., & Ahmad Al-Moujahed. (2021, August 13). Assessing the Syrian Population's Knowledge Attitude and Practice Regarding Antibiotic Usage. *Avicenna Journal of Medicine, 11*, 1-7. doi:10.1055/s-0041-1732815

Aseidu, S. A., Oppong, F. B., Alma, T., Abdulai, M. A., Kaali, E. B., Gyaase, S., . . . Asante, K. P. (2020, March 24). Determinants of Inappropriate Antibiotics Use in Rural Central Ghana Using a Mixed Method Approach. *Frontier in Public Health, 8*, 1-11. doi:10.3389/fpbuh.2020.00090

Barker, A. K., Brown, K., Ahsan, M., Sengupta, S., & Safdar, N. (2017). Social determinants of antibiotic misuse: a qualitative study of community members in Haryana, India. *BMC Public Health*, 1-9. doi:10.1186/s12889-017-4261-4

Chen, C., Hwang, K.-L., & Sinica, A. (2015). Behaviour, atittude and Knowledge about antibiotic usage among residents of Chaghua, in Taiwan. *ResearchGate*, 1-8.

Dache, A., Dona, A., & Ejeso, A. (2021, August 10). Inappropriate use of antibiotics, its reasons and contributing factors among communities of Yirgalem town, Sidama regional state, Ethiopia: A cross-sectional study. *Sage open medicine, 9*, 1-9. doi:10.1177/20503121211042461

Daniel, A. B., Efren, C., Purita, L. Y., Magdaleno, T. P., Luz, C., Lucia, S. P., . . . April, M. Y. (2017). Prevalence and correlates of Antibiotic sharing in the Philippines: antibiotic misconceptions and community-level access to non-medicalsources of antibiotics. *Tropical Medicines and International Health*, 567-575.

Isabel, N. A., Efe, A. E., & Joshua, O. I. (2021). Accessibility and use of antibiotics among patients visiting community pharmacies in Benin city, Nigeria. *African journal of health, saftety and Environment*, 154-156.

Jali, A., Hakami, A., Dahas, N., Mahnashi, M., Siddiq, A., Alsomaili, H., & Alhazmi, A. H. (2021). Antibiotic Use and Resistance Knowledge: Awraeness Among the General Public in Jazan, Saudi Arabia. *Open Access Original*, 1-14. doi:10.7759/cureus.20369

Larissa, G., MD, P., George, G., Rodger, Z. M., Shivanki , J., Jean, L. R., . . . Barbara, W. T. (2019). Use of antibiotics without prescriptionin U.S.Popoulation. *Annals of internal Medicine*, 157-263.

Musoke, D., Namata, C., Lubega, G. B., Kitutu, F. E., Mugisha, L., Amir, S., . . . Gibson, L. (2021). Acsess, use and disposal of antimicrobials among humans and animals in Wakiso district: a qualitative study. *Journal of pharmaceautical policy and practice*, 1-12. doi:10.1186/s40545-021-00361-4

Olalla, C. V., Souto, L. L., Juan M, V. L., Lopez, A., & Adolfo, F. (2021, Feburary 4). Facors determining antibiotic use in the general population: A qualitative study in Spain. *PLOS ONE*, 1-11. doi:10.1371/journal.pone.0246506

Omulo, S., Oluka, M., Achieng, L., Osoro, E., Kinuthia, R., Guantai, A., . . . Luvsansharav, U.-O. (2022, June 16). Point-prevalence survey of antibiotic use at three public referral hospitals in Kenya. *Plos one*, 1-11. doi:10.1371/journal pone.0270048

Papadimou, D., Malmqvist, E., & Ancillotti, M. (2022). Socio-cultural determinants of antibiotic resistance: a qualitataive study of Greehs' attitudes, perceptions and values. *BMC*, 1-9. doi:10.1186/s1288-022-13855-w

Pienkowska, A. O., & Hryniewicz, W. (2021, July 29). Impact of Social, Economical, and Healthcare Factors on the Regional Structure of Antibiotic Consumption in Primary Care in Poland (2013-2017). *Frontier in Public Health*, 1-8. doi:10.3389/fpubh.2021.680975

Saliba-Gustafsson, E. A., Hampton, A. D., Zarb, P., Orsini , N., Borg, M. A., & Lundborg, C. S. (2019). Factors associated with antibiotic prescribing in patients with acute respiratory tract complaints in Malta: a 1-year repeated cross-sectional surveillance study. *BMJ open*, 1-10. doi:10.1136/bmjopen-2019-032704

Wang, X., Lin, L., Xaum, Z., Lu Li, & Zhou, X. (2018). Keeping Antibiotics at Home Promotes Self-Medication with Antibiotics among Chinese University Students. *International journal of Environmental research and Public Health*, 2-13.

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