

INDIVIDUAL AND SOCIO-ECONOMIC FACTORS CONTRIBUTING TO ANTIBIOTIC MISUSE AMONG YOUTHS AGED (18-30) YEARS IN BUNAMWAYA VILLAGE, MAKINDYE SSABAGABO, WAKISO DISTRICT. ACROSS SECTIONAL STUDY.

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Abstract

Background

Most patients generally practice a lot of irrational drug use and the most commonly misused medicines are antimalarials and antibiotics. Therefore, this study aimed to assess the individual and socioeconomic factors contributing to antibiotic misuse among youths aged 18-30 in Bunamwaya Village, Makindye Ssabagabo, Wakiso District.

Methodology

The researcher used a descriptive cross-sectional design, employing quantitative data collection methods. A self-administered questionnaire was used to collect data from 50 respondents who were randomly sampled. Data was analyzed using the Microsoft Excel program and data was presented in the forms of tables, pie charts, and graphs.

Results

The majority of the participants 23(46%) were aged between (23-27) years, with close to 31(62%) of the respondents being males and 16(32%) having attained primary level of education. The established individual factors were; Feeling better before completing the dosage 35(70%), Feeling that combined use of antibiotics was more effective than using one antibiotic 36(72%) and 40(80%) were not aware that overuse of antibiotics leads to resistance.

The study also showed that; 25(50%) of the participants mentioned that their economic status strongly influenced their healthcare decisions, and 43(86%) said that they had ever used antibiotics without completing the prescribed dosage due to financial constraints.

Conclusion

Factors such as feeling better before completing the dosage, beliefs that the combined use of antibiotics is more effective than using one antibiotic, lack of awareness that overuse of antibiotics leads to antibiotic resistance and financial constraints strongly influenced antibiotic misuse.

Recommendations

The Ministry of Health should ensure maximum health education about the dangers of misusing drugs in communities. The MOH should also ensure that there are adequate drugs and healthcare providers in health facilities.

Keywords: Antibiotics, Youths, misuse, Bunamwaya.

Submitted: 2024-06-15 Accepted: 2024-08-08

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Background.

Antibiotics are a class of antimicrobial drugs designed to combat bacterial infections by either killing or inhibiting the growth of bacteria (Begum et. al., 2021). They are a crucial component of modern medicine and have played a significant role in reducing illness and mortality caused by bacterial infections (Mancuso et. al., 2021). Antibiotics target specific aspects of bacterial biology, such as cell wall synthesis, protein production, or DNA replication, disrupting the bacteria's ability to survive and reproduce (Naveed et. al., 2020).

The misuse of antibiotics refers to the inappropriate or excessive use of these drugs, which can lead to a range of negative consequences such as the emergence of resistant bacterial strains (Mittal et. al., 2020). Misuse can occur in

various forms such as over-prescription, self-medication, incomplete treatment courses, sharing medications, and agricultural misuse, just to mention but a few (Wazaify et. al., 2017).

According to the World Health Organization (WHO), about 80% of antibiotics are used in the community, and a significant proportion of this use is deemed inappropriate or unnecessary (Xavier et. al., 2022). The assumption is that across Europe in countries like England, France, Germany, and others, a third (33%) of the population consumed antibiotics without a medical prescription. In some of these countries, more than 40% of the antibiotics were obtained without medical advice. In contrast, the equivalent survey conducted across the EU in 2022 revealed that only 8% of respondents consumed antibiotics without a prescription (Pormohammad et. al., 2020).

In Africa, irrational use of antibiotics is largely in the form of non-prescription scale and a significant number of people visit drug outlets before seeing a health worker when they become ill (Ndaki et. al., 2021). (Tuyishimire et. al., 2019) from his study in Rwanda on antibiotics use, reported that the major reason for self-medication with antibiotics was "illness not serious enough to have a consultation" (50.72%).

In Uganda, antibiotic resistance is a growing problem, as it is in many countries around the world. There is a scarcity of data on antibiotic misuse, however a community-based study in Northern Uganda evaluating self-medication found that up to 75.7% of respondents had practiced self-medication, commonly for antimalarials, metronidazole, and cotrimoxazole indicating that the mostly misused drugs were antibiotics (Nabaweesi et. al., 2021). Therefore, this study aimed to assess the individual and socioeconomic factors contributing to antibiotic misuse among youths aged (18-30) years in Bunamwaya Village, Makindye Ssabagabo, Wakiso District.

Methodology

Study design and rationale

A descriptive cross-sectional design was adopted, with a quantitative method of data collection. This helped to ease and quicken the data analysis process. Cross-sectional design enabled the collection of data at a single moment in time.

Study setting and rationale

The study was carried out in Bunamwaya village, Makindye-Ssabagabo sub-County-Wakiso District. Nearby sub-counties include Kyengeru to the West, Makindye division to the East, Lubaga to the North, and a section of L. Victoria to the South. The distance of the study area is about 11.7km from Kampala via Wankulukuku and old Masaka roads. The health facility in the area is Bunamwaya Health Center II. The economic activities in Bunamwaya include small-scale retail businesses, boda-boda, and many other entities. The study area was chosen because of the increased microbial resistance to antibiotics raised in the area as reported by health workers.

Study population

The study was carried out among youths aged (18-30) years in Bunamwaya Village Makindye Ssabagabo in Wakiso District.

Sample size determination

The sample size was determined using Roscoe's (1975) recommended criteria. Roscoe's guidelines state that a sample size ranging from more than 30 to less than 500 is suitable for most behavioral studies. The sample size of 50 participants was chosen since it enabled the researcher to collect data on time and suited the resources available for data collection.

Sampling technique

Data was collected using a simple random sampling method. This was defined as a sampling procedure that gives each person in the study population to be selected. On each day of data collection, papers labeled "Yes" or "No" were put in a box and shaken. Any participant who picked the paper with a Label "Yes" were enrolled in the study. This procedure was considered because of its ease and accuracy of representation; selecting subjects completely at random from the larger population produced a sample that was representative of the group being studied. This was repeated until the desired sample size of 50 respondents was reached.

Inclusion criteria

The study included only youths aged (18-30) years in Bunamwaya Village Makindye Ssabagabo in Wakiso District who were present at the time of data collection and consented to the study.

Exclusion Criteria

The study excluded those who were sick and, hence unable to participate in the study.

Definition of variables

Independent variables

The independent variables were individual and socioeconomic factors contributing to antibiotic misuse.

Dependent variables

The dependent variable was antibiotic misuse among youths aged (18-30) years.

Research instruments

The researcher developed a self-administered questionnaire which was used as the data collection method for study participants. This tool provided individuals with autonomy and maintained their privacy and confidentiality. The questionnaire comprised a mix of both open-ended and

closed-ended questions in English language which were translated by the researcher to respondents during data collection in the local language (Luganda).

Data collection procedure

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After obtaining an approval letter from the Research and Ethics Committee of Kampala University School of Nursing and Health Sciences, the researcher went on to seek permission from the local authority of Bunamwaya village. During this process, the researcher provided a comprehensive explanation of the study's purpose. The village leaders introduced the researcher to the study participants. Before commencing the study, the researcher ensured that the study objectives were clearly explained to the respondents, and their consent to participate in the study was obtained. This promoted efficiency and upheld the privacy of the participants during the data collection phase. Once permission and consent were secured, the researcher continued with data collection.

Data analysis

Analysis of data was done manually using pen and paper. During this phase, data was reviewed, organized, coded, tallied, and tabulated. Subsequently, it was transferred to a computer using Microsoft Office applications, specifically Microsoft Excel. The data was presented in the form of tables, graphs, and pie charts, allowing for a thorough validation of the information's accuracy. Following this, the data was subjected to interpretation.

Data management

Data management procedures involved a thorough examination of all completed questionnaires. Coding and editing were conducted on-site before departing the study area to identify and rectify any errors or blank spaces, thus reducing the likelihood of errors during data entry. To ensure the security and confidentiality of the collected data, the questionnaires were securely stored and accessible only to the researcher.

Ethical considerations

After the approval of the research proposal, the Research and Ethics Committee of Kampala University School of

Nursing and Health Sciences provided an introductory letter to the researcher. This letter was then taken to the authority of Bunamwaya village, who then introduced the researcher to the respondents. The study officially began once the research objectives had been clearly explained to the respondents, ensuring their comprehension and voluntary consent to participate in the research.

Results

Demographic data of the respondents

Table 1 shows that, most 23(46%) of the respondents were between (23-27) years of age, while the least 10(20%) were between 28 and 30 years of age. Regarding gender, majority 31(62%) of the respondents were males, whereas the least 19(38%) were females. Concerning level of education, most 16(32%) of the respondents had primary level of education, whereas the least 9(18%) had tertiary level of education. About employment status, most 24(48%) of the respondents were not employed, while the least 11(22%) were students.

Individual factors contributing to antibiotic misuse among youths aged 18-30 years in Bunamwaya Village Makindye Ssabagabo in Wakiso District

Figure 1 shows that, majority 33(66%) of the respondents mentioned that the rate of practicing self-medication with antibiotics was high in their community while the minority 5(10%) mentioned that it was low.

Table 2 shows that majority 35(70%) of the respondents mentioned that feeling better before completing the dosage was the main reason for antibiotic misuse while minority 15(30%) mentioned lack of awareness about antibiotic risks. Figure 2 shows that more than a half 29(58%) of the respondents mentioned that they were not sure whether most colds require antibiotics, whereas only 10(22%) mentioned that they believed that most colds require antibiotics.

Figure 3 shows that, majority 36(72%) of the respondents stated that combined use of antibiotics is more effective than using one antibiotic, while the minority 8(12%) stated that it does not.

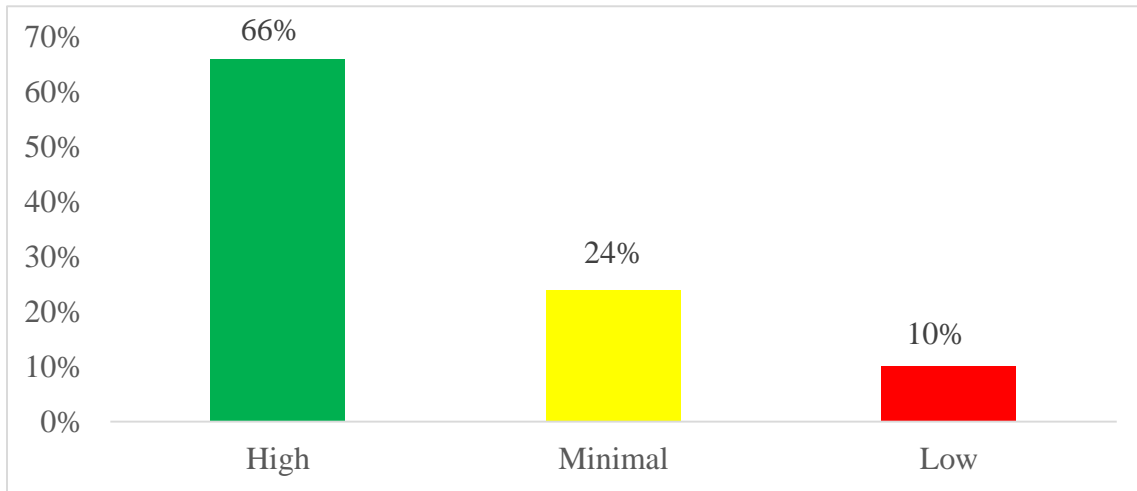
Figure 4 shows that, majority 40(80%) of the respondents mentioned that they were not aware that overuse of antibiotics leads to antibiotic resistance, while minority 4(8%) mentioned that they were aware.

Table 1: Shows demographic data of the respondents. (n=50).

Variable	Category	Percentage (%)	Frequency (f)
Age (years)	18-22	17	34
	23-27	23	46
	28-30	10	20
	Total	50	100
Gender	Male	31	62
	Female	19	38
	Total	50	100
Level of education	Non-formal	10	20
	Primary	16	32
	Secondary	15	30
	Tertiary	09	18
	Total	50	100
Employment status	Employed	15	30
	Not employed	24	48
	Student	11	22
	Total	50	100

Source: Primary data, 2024.

Figure 1: showing extent of practicing self-medication with antibiotics (n=50).



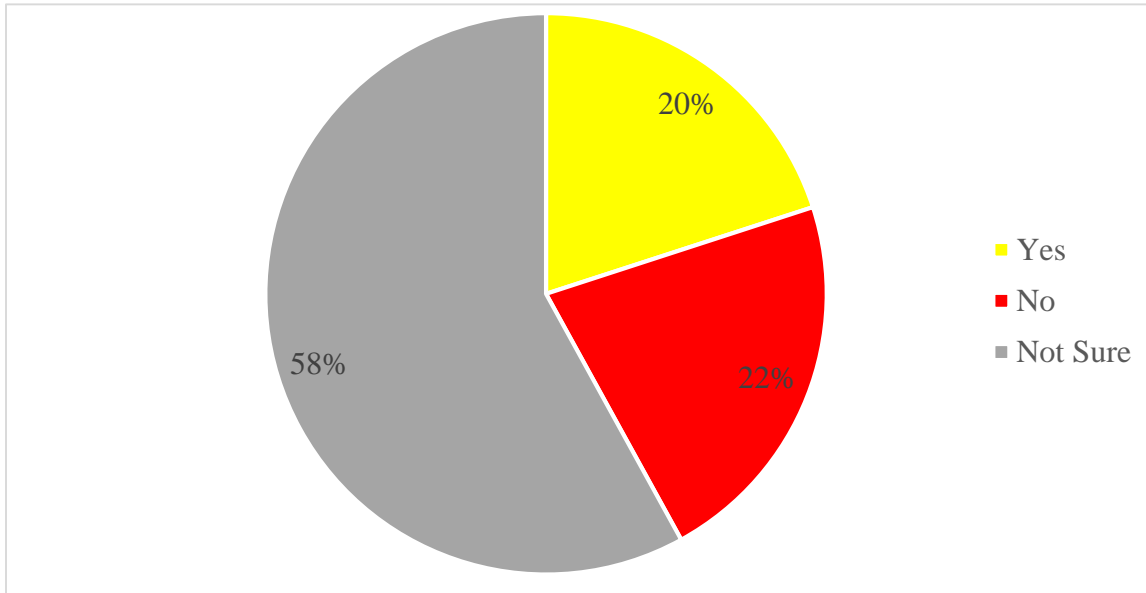
Source: Primary data, 2024.

Table 2: Shows main reasons for antibiotic misuse (n=50).

Variable	Frequency (f)	Percentage (%)
Feeling better before completing the dosage	35	70
Lack of awareness about antibiotic risks	15	30
Total	50	100

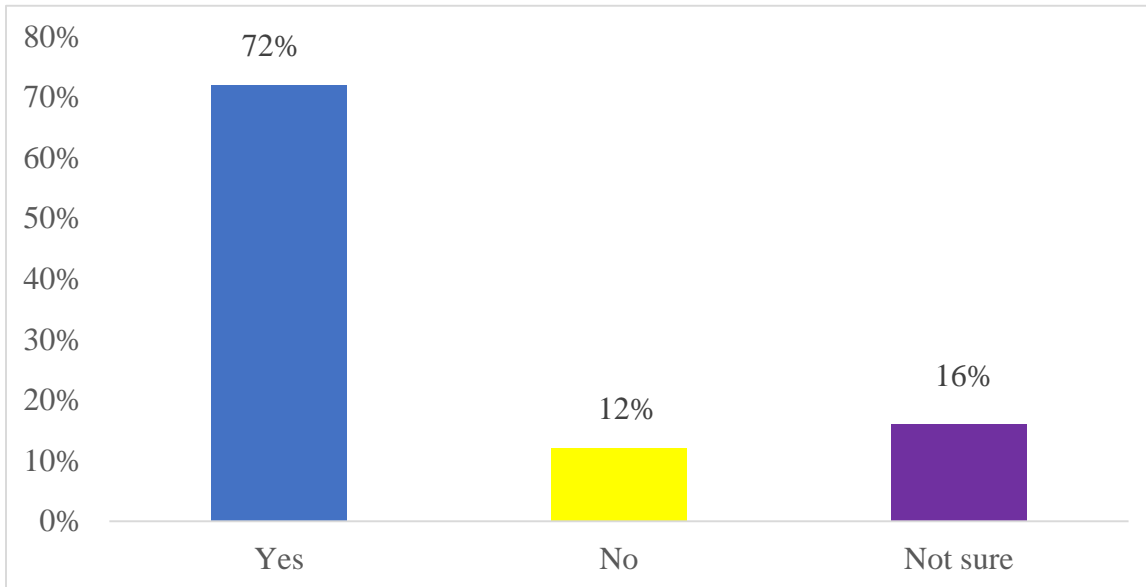
Source: Primary data, 2024.

Figure 2: showing whether respondents believed that most colds require antibiotics (n=50).



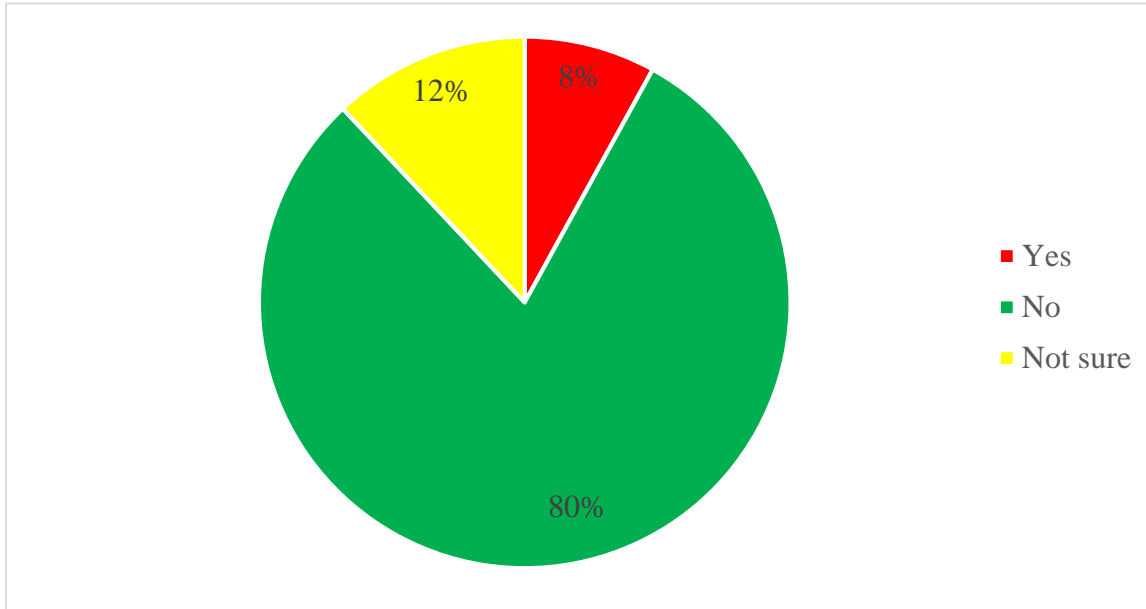
Source: Primary data, 2024.

Figure 3: showing responses to whether combined use of antibiotics is more effective than using one antibiotic (n=50).



Source: Primary data, 2024.

Figure 4: showing responses to whether respondents were aware that overuse of antibiotics leads to antibiotic resistance (n=50).



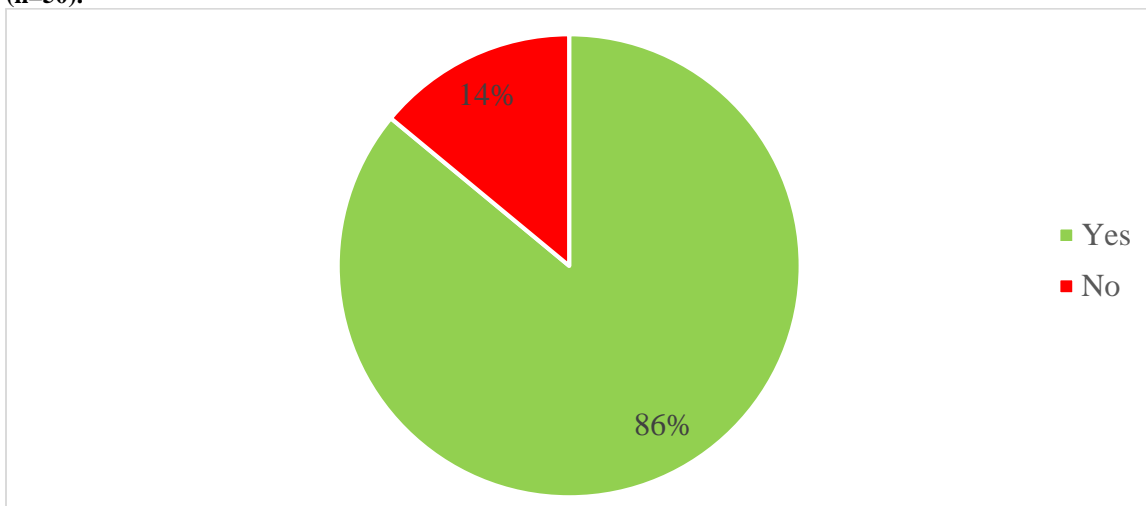
Source: Primary data, 2024.

Table 3: Shows how the economic status influences healthcare decisions (n=50).

Variable	Frequency (f)	Percentage (%)
Strongly influences	25	50
Somewhat influences	10	20
Does not influence	15	30
Total	50	100

Source: Primary data, 2024.

Figure 5: shows who ever used antibiotics without completing the prescribed dosage due to financial constraints (n=50).



Source: Primary data, 2024.

Table 4: Shows Social economic status of family(n=50).

Variable	Frequency (f)	Percentage (%)
Low	41	82.0
Middle	06	12.0
High	03	6.0
Total	50	100

Source: Primary data, 2024.

Socio-Economic factors contributing to antibiotic misuse among youths aged 18-30 years in Bunamwaya Village Makindye Ssabagabo in Wakiso District

Table 3 shows that a half 25(50%) of the respondents said that their economic status strongly influences their health care decisions while only 10(20%) said that their economic status somewhat influences their health care decisions.

Figure 5 shows that majority 43(86%) of the respondents mentioned that they had ever used antibiotics without completing the prescribed dosage due to financial constraints, while minority 7(14%) mentioned that they had not.

Table 4 shows that the majority 41(82%) of the respondents mentioned that the economic status of their families was low, while the minority 3(6%) mentioned that it was high

Discussion.

Individual factors contributing to antibiotic misuse among youths aged 18-30 years in Bunamwaya Village Makindye Ssabagabo in Wakiso District.

The study findings showed that the majority 33(66%) of the respondents mentioned that the rate of practicing self-medication with antibiotics was high in their community. This suggests a prevalent practice of antibiotic misuse, potentially driven by factors such as easy access to antibiotics without prescription or inadequate awareness about the risks associated with self-medication. This finding is higher than the findings by Mao et. al., (2015), in China and Vietnam who showed that the percentage of irrational use of drugs with antibiotics was 47.4% in China, indicating the high prevalence of self-medicated antibiotics. In addition, the majority of 35(70%) of the respondents mentioned that feeling better before completing the dosage was the main reason for antibiotic misuse. This indicated a lack of understanding or adherence to proper antibiotic usage guidelines. This behavior could stem from misconceptions about the necessity of completing the prescribed dosage or a desire for quick relief from symptoms. This finding is in agreement with Nabaweesi et. al., (2021), in Uganda who reported that about 33% of the

participants had not completed treatment dosage during their last course of antibiotic treatment because of feeling better (60%).

On the other hand, more than half of 29(58%) of the respondents mentioned that they were not sure whether most colds require antibiotics. This showed gaps in knowledge about appropriate antibiotic usage among the respondents. This suggests a need for targeted educational interventions to address misconceptions and improve understanding regarding the appropriate indications and usage of antibiotics. This finding is not in agreement with Duan et. al., (2021), in China who showed that 47% believed that most colds need antibiotics.

The study results also showed that the majority 36(72%) of the respondents stated that combined use of antibiotics is more effective than using one antibiotic. This indicated that respondents would seek for multiple drugs to treat themselves. This is probably because of gaps in knowledge about appropriate antibiotic usage among the respondents. This suggests a need for targeted educational interventions to address misconceptions and improve understanding regarding the appropriate usage of antibiotics. This finding is in agreement with Duan et. al., (2021), in China who reported that a proportion 44% of the population thought that the combined use of antibiotics was more effective than the use of one antibiotic.

Furthermore, findings revealed that the majority of 40(80%) of the respondents mentioned that they were not aware that overuse of antibiotics leads to antibiotic resistance. This suggests the importance of raising awareness about the public health implications of antibiotic misuse. This finding is in line with Burtscher et. al., (2021), in Afghanistan who showed that poor knowledge of antibiotics and antibiotic resistance is a driving factor for the inappropriate use of antibiotics.

Socio-economic factors contributing to antibiotic misuse among youths aged (18-30) years in Bunamwaya Village Makindye Ssabagabo in Wakiso District.

The study findings revealed that a half 25(50%) of the respondents said that their economic status strongly influenced their healthcare decisions. This revealed the impact of socio-economic factors on antibiotic misuse behavior. This is probably because economic constraints may compel individuals to prioritize immediate financial

concerns over long-term health considerations, leading to suboptimal healthcare practices such as incomplete antibiotic courses. This finding is in agreement with Guan et. al., (2019), in Nigeria who revealed that 23.8% reported that irrational drug use of antibiotics was more among low social status people who did not have privileges to access health care from well-facilitated health facilities.

In addition, the majority 43(86%) of the respondents mentioned that they had ever used antibiotics without completing the prescribed dosage due to financial constraints. This highlights the role of economic factors in driving non-adherence to treatment regimens. Financial barriers to healthcare access can result in suboptimal treatment outcomes and contribute to the development of antibiotic resistance. This finding is in agreement with Mboya et. al., (2018), in Moshi municipality in Tanzania showed that the irrational use of antibiotics was 88.8%, with nonprescription usage being the most prevalent form and the factors that contributed to this was poverty which forced patients to self-medicate.

On the other hand, the study demonstrated that the majority 41(82%) of the respondents mentioned that the economic status of their families was low. This revealed the socio-economic disparities prevalent in the community. Economic vulnerability may exacerbate healthcare access barriers and perpetuate patterns of antibiotic misuse, indicating the need for targeted interventions to address socio-economic determinants of health. This finding is in agreement with Barker et. al., (2017), in India who showed that fifteen participants (75%) had a household income of less than \$375 per month.

Conclusion

The findings revealed the pervasive influence of individual and socio-economic factors contributing to inappropriate antibiotic use within the community. The individual factors were; knowledge, beliefs, and employment status. The established socio-economic factors were; economic status and financial constraints. Therefore, all the factors played a great role in antibiotic misuse among youth.

Recommendations

Youth should seek professional healthcare services rather than resorting to self-medication, emphasizing the importance of consulting healthcare providers for proper diagnosis and treatment.

Policymakers should enhance regulatory mechanisms to monitor antibiotic prescribing and dispensing practices, ensuring adherence to guidelines and preventing over-the-counter sales.

Health workers should provide patient education on antibiotic use, emphasizing the importance of completing prescribed dosages and the risks of self-medication.

Acknowledgment

I express my deepest gratitude to the Almighty Allah for enabling me to accomplish this work and I would also like to thank my close friends for their assistance with this report. I want to thank my supervisor Mr. Kibuuka Jacob Usuo for his assistance and cooperation in supervising me in producing this report.

I give the administration of Kampala University my sincere thanks for their dedication to imparting knowledge and skills to me as well as for their unflinching support and prayers as I put this study report together.

List of abbreviations

DNA: Deoxyribonucleic Acid

Et al: And others

EU: European Union

MOH: Ministry of Health

WHO: World Health Organization.

Source of funding

This research is not funded.

Conflict of interest

The authors declare no competing interest.

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References

1. 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*, 17, 1–9.
2. Begum, S., Begum, T., Rahman, N., & Khan, R. A. (2021). A review on antibiotic resistance and way of combating antimicrobial resistance. *GSC Biological and Pharmaceutical Sciences*, 14(2), 87–97.
3. Burtscher, D., Van den Bergh, R., Nasim, M., Mahama, G., Au, S., Williams, A., Sattar, A., Penfold, S., Van Overloop, C., & Bajis, S. (2021). 'They eat it like sweets': A mixed methods study of antibiotic perceptions and their use among patients, prescribers and pharmacists in a district

- hospital in Kabul, Afghanistan. *Plos One*, 16(11), e0260096.
4. Duan, L., Liu, C., & Wang, D. (2021). The general population's inappropriate behaviors and misunderstanding of antibiotic use in China: a systematic review and meta-analysis. *Antibiotics*, 10(5), 497.
 5. Guan, X., Tian, Y., Song, J., Zhu, D., & Shi, L. (2019). Effect of physicians' knowledge on antibiotics rational use in China's county hospitals. *Social Science & Medicine*, 224, 149–155.
 6. Karimi, K. J., Ahmad, A., Duse, A., Mwanthi, M., & Ayah, R. (2022). Prevalence of Antibiotic Use and Disposal at Household Level in Informal Settlements of Kisumu, Kenya. *International Journal of Environmental Research and Public Health*, 20(1). <https://doi.org/10.3390/ijerph20010287>
 7. Mancuso, G., Midiri, A., Gerace, E., & Biondo, C. (2021). Bacterial antibiotic resistance: The most critical pathogens. *Pathogens*, 10(10), 1310.
 8. Mao, W., Vu, H., Xie, Z., Chen, W., & Tang, S. (2015). Systematic review on irrational use of medicines in China and Vietnam. *PloS One*, 10(3), e0117710.
 9. Mboya, E. A., Sanga, L. A., & Ngocho, J. S. (2018). Irrational use of antibiotics in the Moshi Municipality Northern Tanzania: a cross sectional study. *Pan African Medical Journal*, 31(1).
 10. Mittal, A. K., Bhardwaj, R., Mishra, P., & Rajput, S. K. (2020). Antimicrobials misuse/overuse: adverse effect, mechanism, challenges and strategies to combat resistance. *The Open Biotechnology Journal*, 14(1).
 11. Nabaweesi, I., Olum, R., Sekite, A. B., Suubi, W. T., Nakiwunga, P., Machali, A., Kiyumba, R., Kalyango, P., Natamba, A., & Igumba, Y. (2021). Antibiotic practices, perceptions and self-medication among patients at a National Referral Hospital in Uganda. *Infection and Drug Resistance*, 14, 2155.
 12. Naveed, M., Chaudhry, Z., Bukhari, S. A., Meer, B., & Ashraf, H. (2020). Antibiotics resistance mechanism. In *Antibiotics and Antimicrobial Resistance Genes in the Environment* (pp. 292–312). Elsevier.
 13. Ndaki, P. M., Mushi, M. F., Mwanga, J. R., Konje, E. T., Ntinginya, N. E., Mmbaga, B. T., Keenan, K., Sabiiti, W., Kesby, M., & Benitez-Paez, F. (2021). Dispensing antibiotics without prescription at community pharmacies and accredited drug dispensing outlets in Tanzania: a cross-sectional study. *Antibiotics*, 10(8), 1025.
 14. Pormohammad, A., Mehdinejadiani, K., Gholizadeh, P., Nasiri, M. J., Mohtavinejad, N., Dadashi, M., Karimaei, S., Safari, H., & Azimi, T. (2020). Global prevalence of colistin resistance in clinical isolates of *Acinetobacter baumannii*: A systematic review and meta-analysis. *Microbial Pathogenesis*, 139, 103887.
 15. Tuyishimire, J., Okoya, F., Adebayo, A. Y., Humura, F., & Lucero-Prisno III, D. E. (2019). Assessment of self-medication practices with antibiotics among undergraduate university students in Rwanda. *The Pan African Medical Journal*, 33.
 16. Wazaify, M., Abood, E., Tahaine, L., & Albsoul-Younes, A. (2017). Jordanian community pharmacists' experience regarding prescription and nonprescription drug abuse and misuse in Jordan—An update. *Journal of Substance Use*, 22(5), 463–468.
 17. Xavier, S. P., Victor, A., Cumaquela, G., Vasco, M. D., & Rodrigues, O. A. S. (2022). Inappropriate use of antibiotics and its predictors in pediatric patients admitted at the Central Hospital of Nampula, Mozambique. *Antimicrobial Resistance & Infection Control*, 11(1), 1–8.

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