

Knowledge, Attitude and Practice of Pharmacy Professionals Against Dispensing Antibiotics Without Prescription in Ethiopia

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INTRODUCTION

Antibiotic resistance is a global public health threat that warrants immediate intervention. According to the World Health Organization latest estimate, the annual worldwide death toll due to antimicrobial resistance can be as high as 50,000.

Dispensing of antibiotics without prescription (DAWP), is a major contributor to the overuse and misuse of antibiotics. Community pharmacies and drug stores are the main sources of antimicrobials and pharmacy professionals, playing a major role in DAWP impacted by myriad factors. Although, DAWP in the developed world is minimal, the problem is much higher in Africa and other low-income countries.

There is paucity of information regarding the knowledge, attitude and extent of practice of pharmacy professionals towards DAWP in Ethiopia, and gaining insight into this could help in pinpointing potential areas that contribute to DAWP.

OBJECTIVES

To assess the knowledge, attitude and practice of community pharmacists and pharmacy assistants towards Dispensing Antibiotics Without Prescription (DAWP) in Addis Ababa, Ethiopia

MATERIALS AND METHODS

Study Design, period and setting

A cross-sectional study was carried out and data was collected on December 04, 2021 in Addis Ababa, Ethiopia.

Data collection instrument, quality assurance and procedure

The data collection tool was prepared after through review of electronic databases, and the content and face validity of the tool was checked by experts from Ambo University School of pharmacy. A pre-test was conducted on 25 community pharmacists and pharmacy assistants to evaluate the reliability of the instrument, the Cronbach's alpha score was 0.86.

The data was gathered during the eighth national pharmacist's day, which was held on December 4th, 2021, in Addis Ababa, Ethiopia, with the theme "Pharmacists Your Medicine Experts and Health Service Front Liners."

All pharmacists and pharmacy assistants who attended the conference and who were willing to participate in the study were included in the study. Pharmacy professionals with less than 6 months of experience working in the community pharmacy were excluded from the study.

The data was collected by five pharmacists (BPharm).

Data Analysis

Data was analyzed using SPSS V26 and descriptive statistics (mean, percentage, standard deviation) was used to describe the data, and binary logistic regression was used to predict determinants of DAWP practice. A p-value less than 0.05 is declared as statistically significant.

RESULT

Socio-demographic characteristics

Of the total 175 community pharmacy professionals approached, 158 competed the study, giving a response rate of 90.3%.

The mean $\pm$ SD age of the study participants was 31.76 $\pm$ 7.88 years, range from 23–60 years. Majority of the participants were degree holders (96, 60.8%), and more than two thirds (106, 67.1%) of the respondents have 2–5 years' of experience in the community pharmacy.

Knowledge towards DAWP

Almost all respondents were aware that DAWP contribute to the development of antibiotics resistance (151, 95.6%), and that antibiotic resistance is becoming a public health issue (149, 94.3%).

A higher percentage of respondents recognized that DAWP is a major contributor to the development of inappropriate use of antibiotics by the patients (138, 87.3%), that DAWP is not legal practice in Ethiopia (137, 86.7%), and that pharmacist should stop DAWP (146, 92.4%).

Attitude towards DAWP

The most common reasons given by study participants for DAWP were that most patients do not want to consult prescribers unless the infection appears serious (84, 53.2%), there are patients who cannot afford to consult a prescriber (83, 52.5%), and regulatory agencies have poor control mechanisms (82, 51.9%)

Practice towards DAWP

The extent of DAWP was found to be 67.7%. More than one third (61, 38.6%) of the pharmacy professionals responded they never educate patients or care givers about adherence and the importance of completing the full course of treatment. Almost one-quarter (35, 22.2%) of the respondents admitted they always DAWP

Types of antibiotics and indication for DAWP

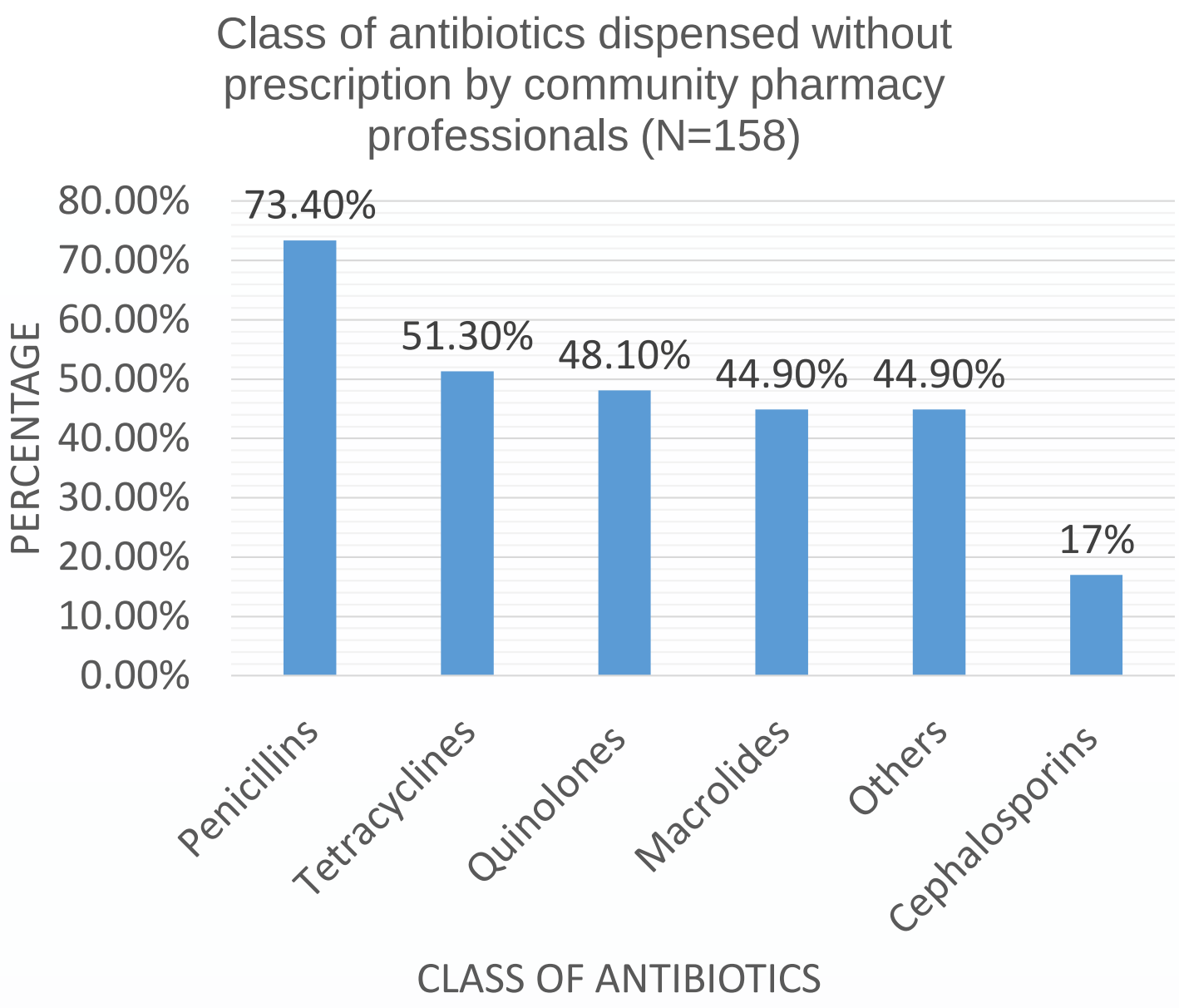


Table 1: Route of administration and Indications of antibiotics dispensed without prescription, Addis Ababa, Ethiopia (N= 158).

Variables	Yes n (%)	No n (%)
Route of administration		
Oral	139(88)	19(12)
Parenteral	14(8.9)	144(91.1)
Eye or Ear drop	86(54.4)	72(45.6)
Topical	111(70.3)	47(29.7)
Indications for antibiotics		
Common cold or flu	121(76.6)	37(23.4)
Diarrhea	112(70.9)	46(29.1)
Toothache	100(63.3)	58(36.7)
Ear Nose Throat infection (ENT)	81(53.3)	77(48.3)
Eye infection	82(51.9)	76(48.1)
Urinary Tract Infection (UTI)	57(36.1)	101(63.9)
Topical Wounds	85(53.8)	73(46.2)
Others	26(16.5)	132(83.5)

Predictive factors associated with DAWP

A binary logistic regression showed that study participants, with educational background of masters and above had a 64.6% of lower tendency to DAWP (AOR= 0.354, 95% CI: 0.013–0.744, P= 0.045).

On the other hand, compared to pharmacy professionals employed by private community pharmacies, those employed by government hospitals had an 86.7% lower risk DAWP (AOR= 0.133, 95% CI: 0.024–0.725, P= 0.020).

Pharmacy professionals with two to five years of community pharmacy experience had a 25.5% lower likelihood of DAWP (AOR= 0.745, 95% CI: 0.595–0.933, P= 0.010)

CONCLUSION

Despite the majority of community pharmacy professional are aware that DAWP is illegal and contributes to antibiotic resistance, they commonly DAWP for common cold and diarrheal diseases.

Pressure from patients, poor controlling mechanism from regulatory side and unaffordability of clients/patients to visit prescribers are the major reasons for DAWP.

This study recommends strict enforcement of existing antibiotic supply policies, as well as ongoing educational support for community pharmacy professionals on the judicious use of antibiotics and the importance of antimicrobial stewardship.

REFERENCES

1. Bronzwaer SLAM, Cars O, Udo Buchholz SM., et al. The relationship between antimicrobial use and antimicrobial resistance. *Emerg Infect Dis*. 2002;8(3):278–282. doi:10.3201/eid0803.010192
2. Global Action WHO. Plan on Antimicrobial Resistance. *Microbe Mag*. 2015;10(9):354–355.
3. Morgan DJ, Okeke IN, Laxminarayan R, Perencevich EN, Weisenberg S. Non-prescription antimicrobial use worldwide: a systematic review. *Lancet Infect Dis*. 2013;23(1):1–7.
4. Nusair MB, Al-azzam S, Alhamad H, Momani MY. The prevalence and patterns of self-medication with antibiotics in Jordan: a community-based study. *Int J Clin Pract*. 2021;75(1):1–25. doi:10.1111/ijcp.13665
5. Bahta M, Tesfamariam S, Weldemariam DG, et al. Dispensing of antibiotics without prescription and associated factors in drug retail outlets of Eritrea: a simulated client method. *PLoS One*. 2020;15(1):1–10. doi:10.1371/journal.pone.0228013
6. Servia-Dopazo M, Figueiras A. Determinants of antibiotic dispensing without prescription: a systematic review. *J Antimicrob Chemother*. 2018;73(12):3244–3253. doi:10.1093/jac/dky319 .

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