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Prevalence and predictors of self-medication with antibiotics among adults in Santo Domingo and the National District, Dominican Republic: an online cross-sectional study

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Abstract

Background Antibiotic self-medication significantly contributes to increasing antimicrobial resistance, a critical public health challenge that is particularly affecting low- and middle-income countries. While antibiotic stewardship initiatives primarily target healthcare facilities, community-level antibiotic usage and pharmacy dispensing practices often lack adequate regulation. This study aimed to assess the prevalence of and identify sociodemographic factors associated with antibiotic self-medication among adults in Santo Domingo and the National District of the Dominican Republic.

Methods A cross-sectional study employing a convenience sampling approach was conducted in October 2024. Data were collected via a self-administered online questionnaire distributed to participants residing in Santo Domingo and the National District. Descriptive statistics, chi-square tests, and multinomial logistic regression analyses were applied to investigate the associations between sociodemographic variables and antibiotic self-medication behaviors.

Results Of the 687 participants surveyed, 14.6% ($n=100$) reported engaging in antibiotic self-medication within the preceding 12 months. Amoxicillin was the most frequently self-administered antibiotic (69%), primarily obtained from pharmacies (98%). The principal motivation for self-medication was convenience (56%). The most common symptoms prompting antibiotic use were sore throat (55%) and nasal congestion (23%). Multinomial logistic regression revealed that, compared to participants who did not use antibiotics, those in the low-middle-income (OR: 4.30; $p<0.001$) and middle-income (OR: 2.59; $p=0.026$) groups had significantly higher odds of self-medicating. Furthermore, compared to participants who obtained antibiotics via a doctor's prescription, those in the low-middle-income group also had increased odds of self-medication (OR: 2.39; $p=0.042$).

Conclusions These findings underscore the necessity for targeted interventions to mitigate antibiotic misuse. Public awareness campaigns, particularly within pharmacies and community centers, should emphasize the inherent risks

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associated with self-medication. Enforcing prescription-only regulations for antibiotic sales within the Dominican Republic is imperative to curtail unregulated access and foster responsible antibiotic consumption practices.

Keywords Self-medication, Antibiotics, Prevalence, Dominican Republic, Antimicrobial resistance

Introduction

Antimicrobial resistance (AMR) poses an escalating threat to global public health, with serious implications for treatment outcomes, healthcare costs, and overall population health [1]. The World Health Organization (WHO) has designated AMR as the foremost global health threat, with an estimated 4.95 million deaths associated with bacterial AMR in 2019 [1]. The growing resistance crisis is further intensified by the slow pace of novel antibiotic development [2], and projections indicate that AMR could impose an annual global economic burden of up to USD 3.4 trillion by 2030 [1].

One of the key contributors to AMR is the widespread practice of self-medication with antibiotics. This behavior bypasses professional medical guidance, often resulting in inappropriate drug selection, incorrect dosages, or incomplete treatment courses. Studies have shown that self-medication with antibiotics (SMA) is particularly common in low- and middle-income countries (LMICs), where a high burden of infectious diseases is prevalent, regulatory enforcement is often limited, and healthcare access remains uneven [3, 4]. In the Dominican Republic, for example, a cross-sectional study reported that 38.7% of patients with dental pathologies self-medicated with antibiotics, illustrating a substantial tendency to bypass formal healthcare channels [5]. This practice imposes a significant burden by increasing the risk of inappropriate treatments, masking underlying conditions, delaying accurate diagnoses, and leading to adverse drug reactions, which in turn may reduce patient health, productivity, and overall well-being, while also escalating healthcare costs [6].

The likelihood of SMA is shaped by a range of individual and systemic factors. Sociodemographic predictors such as age, gender, educational level, and income have all been associated with self-medication practices [2, 7–12]. Additionally, structural barriers—including long wait times, limited insurance coverage, and high healthcare costs—contribute to individuals seeking informal alternatives [11–13]. Understanding these predictors is essential for designing targeted interventions aimed at reducing inappropriate antibiotic consumption and ultimately, mitigating the spread of AMR.

The Dominican Republic operates a two-tier health system composed of both public and private sectors. The public sector—administered by the Ministry of Public Health (SESPAS) and the National Health Service (SNS)—offers low-cost or free healthcare primarily to the uninsured population through public hospitals. Subsidized health insurance is available via the Seguro Nacional de Salud (SENASA), targeting low-income groups. However, the public system often suffers from limited resources, staff shortages, long wait times, and frequent medication shortages. These shortcomings contribute to high out-of-pocket spending, particularly in rural and economically disadvantaged areas, where access to timely and quality care remains limited. In contrast, the private sector—comprised of private hospitals and Administradoras de Riesgos de Salud (ARS)—serves those with private insurance or the ability to pay, offering more consistent service quality, especially in urban centers like Santo Domingo and the National District. Although legislation restricts antibiotic sales to prescription-only use [14, 15], enforcement is inconsistent. Many community pharmacies continue to dispense antibiotics without formal prescriptions, reflecting systemic regulatory gaps. These conditions have fostered widespread self-medication, especially through over-the-counter antibiotic access, and likely contribute to the high levels of AMR observed in clinical settings. Indeed, recent studies have reported alarmingly high rates of AMR among hospitalized patients in the country [16].

This study seeks to address these gaps by examining the prevalence of self-medication with antibiotics, identifying its sociodemographic correlates, and exploring the motivations behind this behavior. The findings aim to inform public health strategies and support rational antibiotic use in the community.

Method

Study design and setting

This quantitative, cross-sectional study was conducted in Santo Domingo and the National District, the two most populous urban areas in the Dominican Republic. Together, these regions represent a significant portion of the country's population, with an estimated combined total of 3.8 million residents [17]. The National District, although geographically smaller, is the capital and administrative center, featuring a dense, highly urbanized population and a concentration of businesses, tertiary hospitals, and formal healthcare infrastructure. In contrast, Santo Domingo province, which is approximately 14 times larger in land area, encompasses both urbanized neighborhoods and underdeveloped zones, reflecting notable disparities in development and healthcare access. Both areas are characterized by diverse socioeconomic conditions and a mix of public and private healthcare

providers, making them particularly relevant for examining antibiotic use behaviors.

Study population and sampling

The target population consisted of adults aged 18 and older residing in Santo Domingo or the National District. The study population was limited to individuals from this group who had internet access, encountered the survey link through social media platforms, and voluntarily agreed to participate. Individuals who did not meet the inclusion criteria—such as being under 18 years old, lacking internet access, or declining to provide informed consent—were excluded from participation. Additionally, respondents who completed the survey but failed to report the name of any antibiotic used, or who listed medications that were not antibiotics, were excluded from the final analysis to ensure data validity.

A non-probability convenience sampling approach was employed between October 8–24, 2024. The survey link was disseminated through widely used social media platforms (Instagram and WhatsApp), allowing rapid and cost-effective recruitment of a diverse pool of participants. This strategy was chosen because no formal registry of adult residents with internet access was available for random selection. While convenience sampling limits representativeness and generalizability, it was considered appropriate for this study and enabled the collection of valuable data on self-medication practices among internet-connected adults.

Sample size calculation

The minimum sample size required for this study was calculated using the formula for estimating a proportion in a population, as described by Pourhoseingholi, Vahedi, and Rahimzadeh [18]:

$$n = Z^2 \cdot p\,(1-p)\,/e^2$$

Where:

- Z = 1.96Z corresponds to a 95% confidence level.
- p = 0.5p is the assumed proportion of the population exhibiting the behavior of interest (self-medication).
- e = 0.05e is the desired margin of error.

According to the most recent census data, the total combined population of Santo Domingo and the National District is approximately 3,798,698 [17]. Applying the formula, the minimum sample size was determined to be 385 participants. However, a total of 687 valid responses were collected, thereby exceeding the required sample size and enhancing the statistical power and generalizability of the findings.

Data collection

Data were gathered via an anonymous, self-administered online questionnaire. Before beginning the survey, participants were presented with an informed consent page that outlined the study's purpose, voluntary nature, anonymity, and the right to withdraw at any time. Only those who clicked 'I agree' were granted access to the full questionnaire. The questionnaire used in this study was adapted from a previously validated instrument developed by Hussain et al. [11]. To ensure cultural and linguistic relevance to the Dominican Republic, minor modifications were made to the original version. The instrument was translated from English to Spanish using a standard forward–backward translation process with the participation of independent bilingual translators.

To assess the clarity and relevance of the items, face validity was conducted. Additionally, a pilot test was carried out to evaluate participant comprehension and identify any potential issues before full-scale data collection.

The questionnaire consists of 28 items divided into three sections: (1) informed consent, (2) sociodemographic characteristics (age, gender, educational level, monthly income, health insurance status, and residence), and (3) antibiotic use patterns (symptoms that lead to SMA, reasons for SMA, type of antibiotics, source of acquisition, source of information). The questionnaire was administered via Google Surveys, with the link distributed via targeted social media advertisements.

Data collection was conducted between October 4–28, 2024. Participants were asked to report any use of antibiotics in the past 12 months.

Variables

Income classification

Monthly income levels were self-reported by participants and categorized into four groups based on 2024 national salary standards for private-sector workers in the Dominican Republic [19]. According to official data, the legal minimum salary ranged between DOP 14,232 and DOP 25,116 per month, depending on the sector. The following categories were used: < DOP 14,000 (Low [below legal minimum]), DOP 14,000–24,999 (low-middle income), DOP 25,000–49,999 (middle income), and ≥ DOP 50,000 (high income). This classification also accounted for individuals earning below the legal minimum, acknowledging the presence of informal or underpaid employment within the sample.

Antibiotic use

Antibiotic use was assessed through a multiple-choice question listing commonly used antibiotics, including amoxicillin, azithromycin, ampicillin, metronidazole, and cephalexin. Participants were instructed to select all antibiotics they recalled using within the past 12 months. To

ensure comprehensive reporting, an open-ended "Other" option was provided for respondents to specify any additional antibiotics not listed. However, the questionnaire did not capture information on the frequency or the number of separate antibiotic use episodes.

Data analysis

Descriptive statistics were employed to characterize the prevalence of SMA and associated sociodemographic factors, commonly used antibiotics, indications for use, and sources of acquisition. Associations between sociodemographic variables and SMA were assessed using bivariate analyses, such as chi-square tests for categorical variables. Multinomial logistic regression analysis was conducted to further examine predictors of antibiotic use patterns (no use, prescribed use, self-medication). All the statistical analyses were performed via R version 4.4.1, with statistical significance defined as $p < 0.05$ (two-tailed).

Results

Participant characteristics

A total of 687 participants were included in the final analysis, exceeding the calculated minimum sample size of 385. Sociodemographic characteristics are summarized in Table 1. The sample was predominantly female (77.7%), and the most represented age group was 40–59 years (39.0%). A considerable proportion reported high monthly income (37.7%), while 21.4% were in the low-income category. The majority had health insurance coverage (90.7%) and had attained higher education (85.6%). The geographic distribution was relatively even, with 51.1% residing in Santo Domingo and 48.9% in the National District.

Table 1 Sociodemographic characteristics of participants included in the study ($n = 687$)

Demographic Characteristics	Frequency (%)
Gender	
Male	153 (22.3)
Female	534 (77.7)
Age (years)	
18–24	127 (18.5)
25–39	235 (34.2)
40–59	268 (39.0)
More than 60	57 (8.3)
Monthly Income	
Low	147 (21.4)
Low-Middle	103 (15.0)
Middle	178 (25.9)
High	259 (37.7)
Insurance Status	
Yes	623 (90.7)
No	64 (9.3)
Educational Level	
Basic Education	99 (14.4)
Higher Education	588 (85.6)
Geographic Location	
National District	336 (48.9)
Santo Domingo	351 (51.1)

Prevalence and distribution of antibiotic use

The overall prevalence of SMA within the past 12 months was 14.6% ($n = 100$). SMA prevalence was slightly higher among females (15.5% vs. 11.1% in males) and varied across income levels, peaking in the low-middle income group (24.3%). As shown in Table 2, Chi-square analysis revealed statistically significant associations between antibiotic use patterns (no use, prescribed use, self-medication) and gender ($p = 0.045$) and monthly income ($p = 0.001$).

Motivations, sources, types, and symptoms of SMA

Convenience was the most frequently cited reason for SMA (56%). Pharmacies were the predominant source for obtaining antibiotics without a prescription (98%), although 26% reported using leftover antibiotics from previous treatments (Fig. 1). Amoxicillin (69%) and azithromycin (56%) were the most common self-administered antibiotics (Fig. 2). The most frequent symptoms leading to SMA were sore throat (55%), nasal congestion (23%), and pain (23%) (Fig. 3).

Multivariate analysis

The results of the multinomial logistic regression analysis (Table 3) confirmed a statistically significant association between income and SMA. Compared with participants who did not use antibiotics, individuals in the low-middle-income group had 4.3 times higher odds of engaging in SMA (aOR = 4.295, 95% CI: 1.937–9.524, $p < 0.001$), while those in the middle-income group had 2.6 times higher odds (aOR = 2.588, 95% CI: 1.119–5.984, $p = 0.026$).

When comparing SMA to physician-prescribed antibiotic use, participants in the low-middle-income group also had significantly higher odds of self-medicating (aOR = 2.392, 95% CI: 1.031–5.551, $p = 0.042$).

Additionally, male participants were significantly less likely to report prescribed antibiotic use compared to nonuse (aOR = 0.610, 95% CI: 0.404–0.923, $p = 0.019$). Conversely, participants in the middle-income group were more likely to use prescribed antibiotics than to report no use at all (aOR = 1.896, 95% CI: 1.056–3.404, $p = 0.032$).

No other sociodemographic variables (age, insurance status, education, or geographic location) showed statistically significant associations with SMA in the adjusted model ($p > 0.05$).

Table 2 Prevalence of SMA and associated demographic characteristics

Demographic Characteristics	Total *n* = 687	Prevalence of SMA			
		No Antibiotic Used *n* = 335	Doctor's Prescription *n* = 252	Self-Medication *n* = 100	*p* value
Overall	687 (100)	335 (48.8)	252 (36.7)	100 (14.6)	
Gender					**0.045***
Male	153 (22.3)	88 (57.5)	48 (31.4)	17 (11.1)	
Female	534 (77.7)	247 (46.3)	204 (38.2)	83 (15.5)	
Age (years)					0.126
18–24	127 (18.5)	71 (55.9)	38 (29.9)	18 (14.2)	
25–39	235 (34.2)	103 (43.8)	100 (42.6)	32 (13.6)	
40–59	268 (39.0)	127 (47.4)	97 (36.2)	44 (16.4)	
More than 60	57 (8.3)	34 (59.6)	17 (29.8)	6 (10.5)	
Monthly Income					**0.001****
Low	147 (21.4)	92 (62.6)	41 (27.9)	14 (9.5)	
Low-Middle	103 (15.0)	43 (41.7)	35 (34.0)	25 (24.3)	
Middle	178 (25.9)	78 (43.8)	73 (41.0)	27 (15.2)	
High	259 (37.7)	122 (47.1)	103 (39.8)	34 (13.1)	
Insurance Status					0.062
Yes	623 (90.7)	295 (47.4)	236 (37.9)	92 (14.8)	
No	64 (9.3)	40 (62.5)	16 (25.0)	8 (12.5)	
Educational Level					0.158
Basic Education	99 (14.4)	56 (56.6)	28 (38.3)	15 (15.2)	
Higher Education	588 (85.6)	279 (47.4)	224 (38.1)	85 (14.5)	
Geographic Location					0.473
National District	336 (48.9)	163 (48.5)	129 (38.4)	44 (13.1)	
Santo Domingo	351 (51.1)	172 (49.0)	123 (35.0)	56 (16.0)	

Prevalence of SMA is represented in the Self-Medication column

SMA Self-medication with antibiotics, *$p < 0.05$ significant, **$p < 0.001$ significant

Discussion

This study provides the first survey-based evidence on SMA in Santo Domingo and the National District of the Dominican Republic. Three key findings emerged: (1) a 14.6% prevalence of SMA, (2) pharmacies as the predominant source of non-prescribed antibiotics, and (3) a strong association between SMA and low-middle income levels. These findings offer a nuanced understanding of antibiotic misuse in the country and carry implications for both public health policy and antimicrobial stewardship.

The 14.6% prevalence observed in this study is lower than SMA rates reported in other countries such as Eritrea (45.1%) [20], Pakistan (32.5%) [7], Afghanistan (73.2%) [10], and Sudan (71.3%) [11], but is comparable to those found in Malaysia (15.1%) [21] and China (10.32%) [8]. This variation in prevalence may be due to differences in study design, sociodemographic characteristics, and healthcare systems across countries. Previous Dominican studies [5, 16] reported higher SMA prevalence, but these were conducted in pharmacies and dental clinics, environments where individuals may already be predisposed to self-medicate. By recruiting a wider community-based sample through online platforms, our study provides insights that extend beyond clinical settings.

Pharmacies were the primary source of antibiotics without a prescription (98%), mirroring findings from multiple international studies [9, 12, 13, 21]. This reflects both accessibility and public trust, but also points to gaps in regulatory enforcement. In addition, 26% of participants kept leftover antibiotics at home, raising concerns about improper storage and potential future misuse.

Amoxicillin was the most commonly used antibiotic (68%), consistent with global trends [12, 20, 21], likely due to its affordability and perceived efficacy. More than half of the participants reported using antibiotics for symptoms not typically requiring them, such as sore throat and nasal congestion. The main motivation for self-medication was convenience (56%).

Bivariate analysis revealed significant associations between SMA and both gender and monthly income levels. Females exhibited a higher prevalence of SMA (15.5%) compared to males (11.1%) (p = 0.045), echoing previous findings [12, 13]. This may reflect gendered patterns in health-seeking behavior and medication practices. However, it is important to note that female participants constituted 77.7% of the total sample, substantially outnumbering male participants. This imbalance raises the possibility of selection bias due to the non-probability convenience sampling approach; therefore, such demographic characteristics represent an important limitation that should be taken into account when interpreting and generalizing the study findings. Income showed a particularly strong association with SMA (p = 0.001), with the highest prevalence found among individuals in the low-middle income bracket (24.3%). This aligns with prior research [9, 21] suggesting that financial barriers can increase reliance on self-medication as an alternative to formal healthcare.

Multinomial logistic regression identified income as the only significant predictor of SMA after adjustment. Low-middle income participants had higher odds of self-medicating compared to those who used no antibiotics

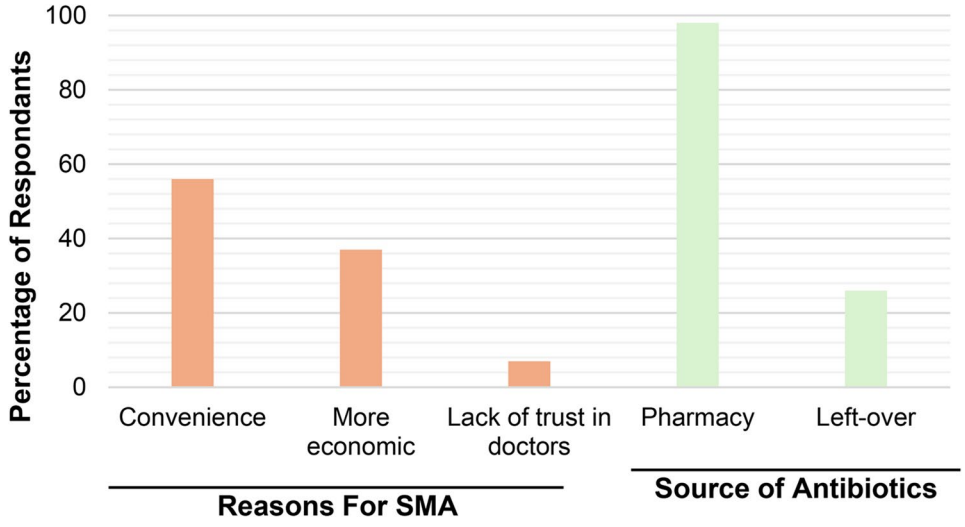

Fig. 1 Reasons for SMA & source of antibiotics. *Abbreviations: SMA* is Self-medication with antibiotics

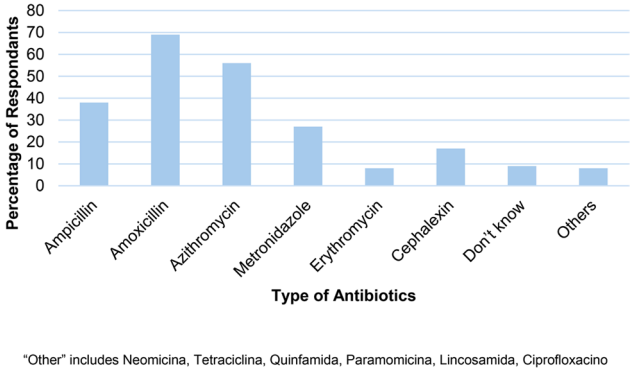

Fig. 2 Commonly used antibiotics. "Others" includes Neomicina, Tetraciclina, Quinfamida, Paramomicina, Lincosamida, Ciprofloxacino

(aOR = 4.30; $p < 0.001$) and compared to those with a doctor's prescription (aOR = 2.39; $p = 0.042$). Middle-income individuals also had increased odds of SMA compared to non-use (aOR = 2.59; $p = 0.026$). These findings highlight the role of socioeconomic vulnerability, particularly income-related disparities, in driving self-medication behavior.

To mitigate SMA, we recommend a comprehensive, context-specific strategy. This includes: (1) enhancing pharmacist accountability and inspection, (2) launching educational campaigns via community health workers, and (3) implementing initiatives such as take-back programs for leftover antibiotics.

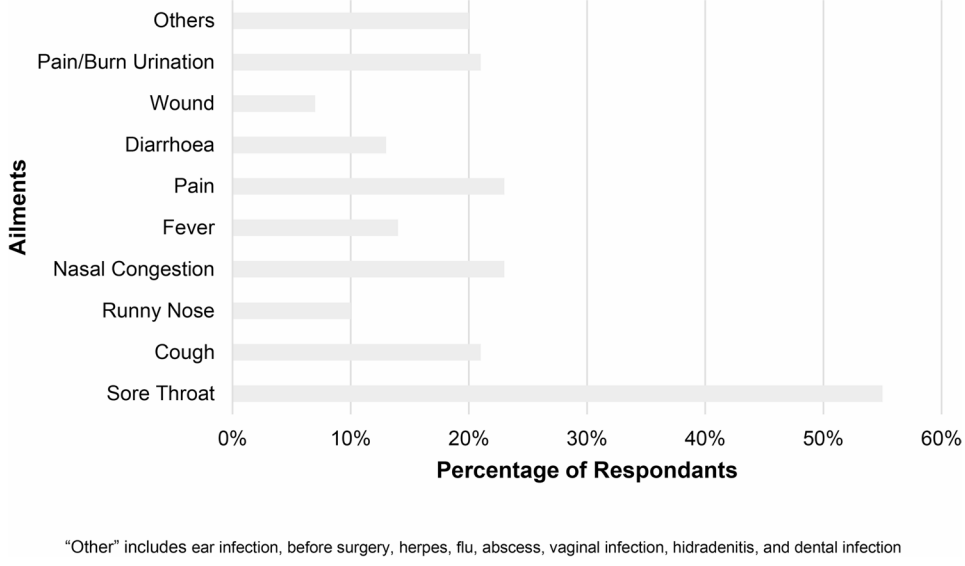

Fig. 3 Common ailments. "Others" includes ear infection, before surgery, herpes, flu, abscess, vaginal infection, hidradenitis, and dental infection

Table 3 Multinomial logistic regression results: predictors of antibiotic use behavior (Comparing doctor's Prescription, Self-Medication and no antibiotic use)

Demographic Characteristics	No Antibiotic Use vs. Doctor's Prescription ◊			No Antibiotic Use vs. Self-Medication ◊			Doctor's Prescription vs. Self-Medication •		
	aOR	95% CI	*P* value	aOR	95% CI	*P* value	aOR	95% CI	*P* value
Gender									
Female	Ref								
Male	0.610	(0.4036–0.923)	**0.019**	0.565	(0.3117–1.023)	0.059	0.925	(0.495–1.730)	0.808
Age (years)									
18–24	Ref								
25–39	1.271	(0.725–2.227)	0.403	0.857	(0.4041–1.818)	0.688	0.675	(0.308–1.476)	0.324
40–59	0.975	(0.5507–1.725)	0.930	1.017	(0.4845–2.133)	0.965	1.043	(0.479–2.272)	0.916
More than 60	0.654	(0.3013–1.418)	0.282	0.531	(0.1784–1.582)	0.256	0.813	(0.255–2.590)	0.726
Monthly Income									
Low	Ref								
Low-Middle	1.795	(0.9713–3.319)	0.062	4.295	(1.9368–9.524)	**< 0.001****	2.392	(1.031–5.551)	**0.042***
Middle	1.896	(1.0557–3.404)	**0.032***	2.588	(1.1191–5.984)	**0.026***	1.365	(0.568–3.282)	0.487
High	1.772	(0.9765–3.216)	0.060	2.221	(0.9369–5.263)	0.070	1.253	(0.507–3.098)	0.625
Insurance Status									
No	Ref								
Yes	1.624	(0.8617 - 3.061)	0.134	1.48	(0.6412–3.416)	0.358	0.911	(0.366–2.270)	0.842
Educational Level									
Basic Education	Ref								
Higher Education	1.285	(0.7528–2.195)	0.358	1.002	(0.5040–1.993)	0.995	0.780	(0.374–1.626)	0.507
Geographic Location									
National District	Ref								
Santo Domingo	0.974	(0.6829–1.390)	0.886	1.301	(0.8020–2.110)	0.287	1.335	(0.814–2.191)	0.253

◊ Reference category: no antibiotic use, • reference category: doctor's prescription, *$p < 0.05$ significant, **$p < 0.001$ significant

Limitations

This study has several limitations. Online data collection may have overrepresented younger, internet-connected individuals and those with higher income, education, or health insurance, limiting applicability to older or lower-income groups. However, the survey was distributed through multiple social media platforms to increase reach and demographic diversity. The use of self-reported data introduces potential bias, though anonymity was intended to encourage honest reporting. The reliance on non-probability, convenience sampling also prevents random selection and limits generalizability to the wider population. Furthermore, the focus on two urban areas excludes rural communities, although these provinces represent a substantial portion of the national population. The study did not capture the number of antibiotic use episodes per participant, limiting the ability to assess repeated or chronic self-medication patterns. Finally, the 12-month recall period may have introduced recall bias, though examples of common antibiotics were provided to aid memory. Future research should consider broader, mixed-methods approaches for more representative and temporally precise findings.

Conclusion

This study found that self-medication with antibiotics remains a concern in the Dominican Republic, with income emerging as the primary driver of this behavior. These findings highlight the need for policies that reduce economic and informational barriers to appropriate antibiotic use. Targeted public health interventions and improved pharmacy oversight could reduce misuse and contribute to efforts to combat antimicrobial resistance in similar resource-limited settings.

Abbreviations

aOR	Adjusted odds ratio
AMR	Antimicrobial resistance
CONABIOS	Consejo Nacional de Bioética en Salud
LMICs	Low- and middle-income countries
SMA	Self-medication with antibiotics
WHO	World health organization

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Authors' contributions

DY and DJ contributed to the conceptualization of the research. The investigation was carried out by DJ, DY, SK, DK, and DJ collaborated on the development of the methodology and participated in the writing, reviewing,

and editing of the manuscript. All authors read and approved the final version of the manuscript.

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Data availability
The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
This study adhered to the ethical standards of the Declaration of Helsinki. Informed consent was obtained before participation, ensuring confidentiality and anonymity. The participants could withdraw at any time. Ethical approval was granted by the Institutional Review Board, Consejo Nacional de Bioética en Salud (CONABIOS: No. 024-2-24, April 03, 2024).

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. World Health Organization. Antimicrobial resistance. In. World Health Organization: World Health Organization; 2023.
2. Ahmed I, King R, Akter S, Akter R, Aggarwal VR. Determinants of antibiotic self-medication: A systematic review and meta-analysis. Res Social Administrative Pharm. 2023;19(7):1007–17.
3. Gajdács M, Urbán E, Stájer A, Baráth Z. Antimicrobial resistance in the context of the sustainable development goals: A brief review. EJIHPE. 2021;11(1):71–82.
4. Pokharel S, Raut S, Adhikari B. Tackling antimicrobial resistance in low-income and middle-income countries. BMJ Glob Health. 2019;4(6):e002104.
5. Aragoneses JM, Aragoneses J, Rodriguez C, Algar J, Suarez A. Trends in antibiotic Self-Medication for dental pathologies among patients in the Dominican Republic: A Cross-Sectional study. J Clin Med 2021;10(14):3092 .
6. Ruiz EM. Risks of Self-Medication practices. Curr Drug Saf. 2010;5(4):315–23.
7. Aslam A, Zin CS, Jamshed S, Rahman NSA, Ahmed SI, Pallos P, Gajdacs M. Self-Medication with antibiotics: Prevalence, practices and related factors among the Pakistani public. Antibiot (Basel) 2022;11(6):795 .
8. Yin X, Mu K, Yang H, Wang J, Chen Z, Jiang N, Yang F, Zhang G, Wu J. Prevalence of self-medication with antibiotics and its related factors among Chinese residents: a cross-sectional study. Antimicrob Resist Infect Control. 2021;10(1):89.
9. Zawahir S, Lekamwasam S, Halvorsen KH, Rose G, Aslani P. Self-medication behavior with antibiotics: a National cross-sectional survey in Sri Lanka. Expert Rev Anti Infect Ther. 2021;19(10):1341–52.
10. Roien R, Bhandari D, Hosseini SMR, Mosawi SH, Ataie MA, Ozaki A, Martellucci CA, Kotera Y, Delshad MH, Sawano T, et al. Prevalence and determinants of self-medication with antibiotics among general population in Afghanistan. Expert Rev Anti-infective Therapy. 2022;20(2):315–21.
11. Hussain MA, Mohamed AO, Abdelkarim OA, Yousef BA, Babikir AA, Mirghani MM, Mohamed EA, Osman W, Mothana RA, Elhag R. Prevalence and predictors of antibiotic Self-Medication in Sudan: A descriptive Cross-Sectional study. Antibiot (Basel) 2023;12(3):612 .
12. Abduelkarem AR, Othman AM, Abuelkhair ZM, Ghazal MM, Alzouobi SB, El Zowalaty ME. Prevalence of Self-Medication with antibiotics among residents in united Arab Emirates. Infect Drug Resist. 2019;12:3445–53.
13. Tadesse YB, Kassaw AT, Belachew EA. Evaluating self-medication practices in Ethiopia. J Pharm Policy Pract. 2023;16(1):47.
14. MISPAS MdSPdlRD. Dec. No. 246-06 que establece el Reglamento que regula la fabricacion, elaboracion, control de calidad, suministro, circulacion, distribucion, comercializacion, informacion, publicidad, importacion, almacenamiento, dispensacion, evaluacion, registro y donacion de 10s medicamentos. In. Edited by Dominicana PdlR; 2006.
15. MISPAS MdSPdlRD. Listado de Medicamentos de Venta Libre sin Receta. In. Edited by Dominicana PdlR; 2022.
16. de Luna D, Sánchez JJ, Peguero M, García W, Liciaga S, Brito F, Fernández P, Frías A, Richard A, Etienne Marie P, et al. Antimicrobial resistance profiles of microorganisms isolated from hospitalized patients in Dominican Republic. Revista Panamericana de Salud Pública; 2020.
17. Oficina Nacional de Estadistica O. X Censo Nacional de Poblacion y Vivienda 2022. In. Edited by residencia Ppsspymd; 2023.
18. Pourhoseingholi MA, Vahedi M, Rahimzadeh M. Sample size calculation in medical studies. Gastroenterol Hepatol Bed Bench. 2013;6(1):14–7.
19. Ministro Santos Echavarría afirma aumento. salarial impactará positivamente el crecimiento de la economía [https://minpre.gob.do/comunicacion/notas-de-prensa/ministro-santos-echavarria-afirma-aumento-salarial-impactara-positivamente-el-crecimiento-de-la-economia].
20. Ateshim Y, Bereket B, Major F, Emun Y, Woldai B, Pasha I, Habte E, Russom M. Prevalence of self-medication with antibiotics and associated factors in the community of Asmara, eritrea: a descriptive cross sectional survey. BMC Public Health. 2019;19(1):726.
21. Aslam A, Zin CS, Ab Rahman NS, Gajdacs M, Ahmed SI, Jamshed S. Self-Medication practices with antibiotics and associated factors among the public of malaysia: A Cross-Sectional study. Drug Healthc Patient Saf. 2021;13:171–81.

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