RESEARCH ARTICLE

REASONS OF ANTIBIOTIC SELF-MEDICATION AMONG COMMUNITY PHARMACIES CUSTOMERS ADEN\YEMEN, 2022

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Abstract

Self-medication with antibiotic is a public health problem of great concern, that causes antibiotics resistance that is a critical problem worldwide. In Yemen, the quality of the health services and health polices are far from satisfactory, therefore the antibiotics Self-medication is high among the population. This research aimed to identify the reasons, forcing the community toward Antibiotics Self-Medication. A community-based cross-sectional study was conducted from September till December 2022 in community pharmacies of four randomly selected districts in Aden governates/ Yemen. A total of 655 participants were randomly selected and a structured interview questionnaire was used to collected data from the respondents through face-to-face interviews. Data were checked, cleaned, and entered to the SPSS version 23 for analysis. The most important reason that forced the participants to self-medication with antibiotics was the cost of consultant 51.6%, followed by emergency illness ,and proximity of the pharmacy to home, comprised 47.8%, and 32.4% respectively. On the other hand, delaying of the hospital services was considered the weakest reason. Dissemination of the finding of this study about the reasons that forced the community to antibiotics self medication is essential to policy development to help the relevant decision makers to develop regulations about antibiotics dispensing.

1. Introduction

According to the World Health Organization, rational medicine use is getting the right medicine to the right patient at the right time, at the right dose, for the correct clinical indication, and in the right quantity that the patient and community can afford [1]. Self-medication, overuse or underuse, and non-adherence to established treatment are some of the causes that contribute to irrational use of medicines. Self-medications considered to be at the core of irrational use, therefore it is a common form of self-care among patients globally [2].Self-medication is defined as the use of drugs to treat self-diagnosed disorders or the intermittent or continued use of drugs for chronic or recurrent disease or symptoms without a prescription or guidance from a physician [3].

Medicines for self-medication are often referred to as over the counter (OTC) drugs and these are available from pharmacies without a doctor's prescription, but it is important to note that antibiotics are not part of OTC drugs and a prescription is required before Dispensing. Medicines that require a doctor's prescription are called prescription products [4].

Antimicrobial resistance (include antibiotics) is one of the major problem associated to Self medication with antibiotics , and it considers as a major worldwide public health issue that has the potential to Hinder to the Sustainable Development agenda's progress in health and development [5] .As a result of higher prevalence of microbial infections occurs in in low-income countries (LICs) it considered more notable problem [6].

Buying antibiotics without medical prescriptions does not only promote antibiotic resistance, but can also promote adverse drug effects, high cost of treatment, masked diagnoses, use of excessive drug dosage, undesired drug interactions, and enhance super infection, so studies in this filed will contribute to put the correct step to manage this problem [7].

In Yemen, the quality of the health services is far from satisfactory[8]. The use of antibiotics with self-medication is high among the population, therefore educational and

regulatory interventions from Yemeni health authority are needed. Educational health campaigns are also required to increase knowledge and health care education among population for a safe and responsible practice [8].

There were many reasons that force the population to self medication in general and antibiotics in particular in our community therefore, it is necessary to directed flash to the most important reasons of antibiotics self medication to help decision makers to put the cornerstone in the right direction.

2. Methodology

Community-based cross-sectional study was used as Design for this study, and it was conducted from September to December 2022 in the selected community pharmacies within the four randomly selected districts (Khurmaksar, Al Mansura, Al Mualla, , and Syrah) in Aden governorate/ Yemen.

The target population was all the population above 15 years old in all districts (520,045) at the time of data collection ,and the study population was all the population above 15 years old in the four selected districts and they are 279814 according to data of central statistics organization/Yemen 2021 [9].

▪ *Inclusion and exclusion criteria*

The inclusion criteria were Adults (males and females) above 15 years old ,and Customers who visit Aden community pharmacies during the study period. While, exclusion criteria were non-Yemeni citizens, and participants who refused to participate.

▪ *Sampling*

The sample size was calculated using the prevalence of antibiotics self-medication that obtained from study performed in 2019 in Asmara, Eritrea (45.1%) with 5% margin of error and 95% confidence interval [10].

$$n = Z^2 \times P\,(1-P) \div d^2$$

So the minimum sample size estimated by using the Kish Lisle formula to determine the sample size for this study[11]. Then adding 10% for anticipated subjects who refused to participate in the study after being randomly selected and for null and avoid questionnaire ,the sample size was 655 according to the following formula:

Multi stage sampling method used in to get the sample, Firstly four districts 50% were randomly selected using simple random sampling method from across the eight districts in Aden governorate by lottery (eight equal pieces of papers named according to districts' name were placed in a box ,after that mix them thoroughly ,then draw out 4 papers), and they were: Khurmaksar, Al Mansura, Al Mualla, and Syrah from Attawahi, Dar Sad, Khurmaksar, Al Buraiqeh, Al Mansura, Al Mualla, Ash Shaikh outhman, and Syrah, then the sample size distributed according to proportion of population above 15 years old in chosen districts:

Khurmaksar: 655×16.16%=106

Al-Mansura: 655× 35.95%=236

Al-Mualla: 655×18.69%=122

Syrah: 655×29.18%=191

The calculated sample (655) distributed as the following:106 from Khormaksar 236 from Al- Mansoura, 122 from Al-Mualla ,and 191 from Syrah. Secondly , 20% of community pharmacies be selected, and the number of pharmacies obtained from the last statistics performed in 2018 in Pharmaceutical facilities management in health office /Aden.

(Table 2.1)

Khurmaksa: 44×20% = 9 pharmacies

Al -Mansur:289×20% = 58 pharmacies

Al -Mualla: 39×20% = 8 pharmacies

Syrah:70×20% = 14 pharmacies

Table 2.1: Procedure of selection sample in community pharmacies in each selected district in Aden /Yemen

District	No. Population >15 Y	No. participants	No of pharmacies in each district	Selected Pharmacies
Khurmaksar	45221	106	44	9
Al -Mansura	100611	236	289	58
Al -Mualla	52322	122	39	8
Syrah	81660	191	70	14
Total	279814	655	442	89

▪ *Data collection*

A structured interview questionnaire was used for data collection. The questionnaire was previously validated [12]. Eight pharmacists were chosen, they were subjected to one

day training at (1st September/ 2022) about understanding of questionnaire and skills in participants interview without affecting them to answer. The well trained assistants interviewed adult customers above 15 years old in the

selected pharmacies ,and they interviewed them to fill the questionnaires after their acceptance in participate. Every week the researcher met her assistants and collected the questionnaires. This process continued till sample size finished.

▪ *Variables definition*

The study variables were grouped in two broad categories independent and dependent variables. The independent variable were a set of variables related to demographic, social, and economic factor of study population. All variables was ordered as categories except age presented as continuous and categorical variable. Sex (Male& Female) ,age was categorized according to class width calculation in to four categories (≤17, 18-3536-53, and ≥54), marital status (single ,married, divorced, and widow), educational level (low educated, those who have primary level and bellow, and high educated, those who have secondary level and above), occupation (employed and unemployed). In addition, reasons that forced the participants to antibiotics self medication also considered independent variable. On anther hand, the dependent variable is the outcome influenced by the previous factors **(antibiotics self medication)**

▪ *Statistical Analysis*

Data were checked then entered and analyzed in the Statistical Package for Social Sciences software version 23 (SPSS Incorporation, Chicago, IL, USA). All, Descriptive statistics were computed to obtain frequencies and percentages. Bivarite statistics were computed by Chi-square test or fisher exact test (in less than 5 cells) to measured the relation between categorical variables. Mean, and slandered deviation were used to measure the central tendency and dispersion of quantitative variable.

3. Result

1.Socio-demographic characteristics of the studied population:

The study population consisted of 655 participants being studied during period extending from September to December 2022 (males consisted 51.6%, while females were 48.4%). A high percentage 56.3%of participants was at age between 18 to 35 years old , followed by those at age between 36 to 53, ≥54 , and ≤17 years old comprised 31%, 10.7% , and 2% respectively . The mean age was 35.12±13.42. The majority of participants were married 47.8% followed by singles 39.7%. The highest percentage of participants had university certificates 54.2%, and the most of participants were unemployed 60.9%.

2.Reasons forcing participants to antibiotics self-medication

The most important reason that forced the participants to self-medication with antibiotics was the cost of consultant

Table 3.1: Distribution of participants that self-medicated with antibiotics according to socio-demographic characteristics (n=655)

Socio-demographic characteristics	No	%
Sex		
Male	338	51.6
Female	317	48.4
Age (years)		
≤17	13	2
18-35	369	56.3
36-53	203	31
≥54	70	10.7
(Mean ± SD 35.12±13.42)		
Marital status		
Single	260	39.7
Married	313	47.8
Divorced	29	4.4
Widow	53	8.1
Educational level		
Illiterate	19	2.9
Read and write	18	2.7
primary	28	4.3
Secondary	235	35.9
University	355	54.2
Occupation		
Employed	256	39.1
Unemployed	399	60.9

51.6%, followed by emergency illness ,and proximity of the pharmacy to home, comprised 47.8%, and 32.4% respectively. On the other hand, delaying of the hospital services was considered the weakest reason.

Table 3. 2: Reasons forcing participants to antibiotics self-medication

Reasons	No	%
Emergency illness	313	47.8
Distance to the health facility	125	19.1
Proximity of the pharmacy to home place	212	32.4
The cost of consultant	338	51.6
Delaying of the hospital services	85	13

*Note: The total of multiple response answer

3.Relation between reasons forcing participants to antibiotics self-medication and socio-demographic characteristics

3.1. Relation between reasons forcing participants to antibiotics self-medication and sex

There were no significant differences between males and females in most reasons that forced them to self-medication, except for reason of distance to health facility that showed the males had double value than female. There was no statistically significant relationship between reasons that forced the participants to self-medication and sex ,except the relation between sex and distance to health facility that showed statistically significant relationship (p = 0.000). (Table 3.3)

3.2. Relation between reasons forcing participants to antibiotics self-medication and age categories:

Most of participants that self-medicated with antibiotic due to high cost of consultant ,and emergency illness at age between 18 to 35 years old. There was no statistically significant relationship between reasons of antibiotics self-medication and age categories, except in emergency illness (P= 0.019). (Table 3. 4)

3.3. Relation between reasons forcing participants to antibiotics self-medication and marital status:

The married participants had a higher percentage than others in all reasons that forced them to antibiotics self-medication. There was statistically significant relationship between distance to health facility and marital status of the participants (p=0.036). (Table 3.5)

3.4. Relation between reasons forcing participants to antibiotics self-medication and educational level

Among all reasons that forced the participants to antibiotics self-medication ,the high educated participants had a higher percentage. There was no statistically significant relationship between all reasons and educational level (p>0.05). (Table 3.6)

3.5. Relation between reasons forcing participants to antibiotics self-medication and occupation

The majority of participants that self-medicated with antibiotics were unemployed. There was statistically significant relationship between occupation and distance to health facility (p=0.009), the proximity of the pharmacy to home (p=0.041) ,and cost of consultants (p=0.000) . (Table 3.7)

Table 3.3: Relation between reasons of antibiotics self-medication and sex

Reasons	Sex			X^2
	Male	**Female**	**Total ■**	
	No (%)	**No (%)**	**No (%)**	**(P-value)**
Emergency illness	152 (23.2)	161 (24.6)	313 (47.8)	**2.219(0.136)**
Distance to the health facility	82 (12.5)	43 (6.6)	125 (19.1)	**12.118(0.000)***
Proximity of the pharmacy to home	111 (16.9)	101 (15.4)	212(32.4)	**0.07(0.789)**
The cost of consultant	169 (25.8)	69 (25.8)	338(51.6)	**0.719(0.397)**
Delaying of the hospital services	6 (7)	39 (6)	85(13)	**1.116(0.773)**

Note: *p-value<0.05 considered statistically significant   ■ The total of multiple response answer

Table 3.4: Relation between reasons of antibiotics self-medication and age categories

Reasons	Age categories					X^2
	≤17	**18-35**	**36-53**	**≥54**	**Total ■**	
	No (%)	**No (%)**	**No (%)**	**No (%)**	**No (%)**	**(P-value)**
Emergency illness	11 (1.7)	173(26.4)	90(13.7)	39(6)	313(47.8)	**9.920 (0. 019)***
Distance to the health facility	2 (0.3)	71(10.8)	38(5.8)	14(2.1)	125(19.1)	**0.177(0.9810)****
Proximity of the pharmacy to home	1(0.2)	124(18.9)	65(9.9)	22(3.4)	212(32.4)	**3.319(0.271)****
The cost of consultant	5(0.8)	185(28.2)	116(17.7)	32(4.9)	338(51.6)	**4.684(0.196)**
Delaying of the hospital services	1(0.2)	52 (7.9)	24 (3.7)	8(1.2)	85 (13)	**1.116 (0.773)****

Note: * p-value<0.05 considered statistically significant   ** Fisher's exact test was used   ■ The total of multiple response answer

Table 3.5: Relation between reasons of antibiotics self-medication and marital status (n=655)

Reasons	Marital status					X^2
	Single	**Married**	**Divorced**	**Widow**	**Total ■**	
	No (%)	**No (%)**	**No (%)**	**No (%)**	**No (%)**	**(P-value)**
Emergency illness	134(22)	144(20.5)	11(1.7)	24(3.7)	313(47.8)	**3.126(0.37)**
Distance to the health facility	42(6.4)	60(9.2)	11(1.7)	12(1.8)	125(19.1)	**8.552(0.036)***
Proximity of the pharmacy to home	87(13.3)	103(15.7)	5(0.8)	17(2.6)	21(32.4)	**3.217(0.59)**
The cost of consultant	130(19.8)	166(25.3)	12(1.8)	30(4.6)	30(4.6)	**2.269(0.518)**
Delaying of the hospital services	36 (5.8)	41(6.3)	2(0.3)	4(0.6)	85(13)	**2.995(0.339)****

Note: * p-value<0.05 considered statistically significant   ** Fisher's exact test was used   ■ The total of multiple response answer

Table 3.6: Relation between reasons of antibiotics self-medication and educational level

Reasons	Educational level			X^2
	Low educated	High educated	Total ■	
	No (%)	No (%)	No (%)	(P-value)
Emergency illness	37(5.6)	276(42.1)	313(47.7)	2.414(0.072)
Distance to the health facility	12(1.8)	113(17.3)	125(19.1)	0.018(0.893)
Proximity of the pharmacy to home	18(2.7)	194(29.6)	212(32.4)	0.720((0.396)
The cost of consultant	35(5.3)	303(46.3)	338(51.6)	0.145(0.703)
Delaying of the hospital services	8 (1.2)	77 (11.8)	85 (13)	0.029(0.866)

Note: ■ The total of multiple response answer

Table 3.7: Relation between reasons of antibiotics self-medication and Occupation

Reasons	Occupation			X^2
	Employed	Un employed	Total ■	
	No (%)	No (%)	No (%)	(P-value)
Emergency illness	126(19.2)	187(28.5)	313(47.8)	0.346(0.557)
Distance to the health facility	36(5.5)	89(13.6)	125(19.1)	6.682(0.009)*
Proximity of the pharmacy to home	72(11)	140(21.4)	212(32.4)	3.454(0.041)*
The cost of consultant	166(25.3)	172(26.3)	338(51.6)	29.501(0.000)*
Delaying of the hospital services	42 (6.4)	43(6.6)	85 (13)	4.376(0.36)

Note: * p-value<0.05 considered statistically significant   ■ The total of multiple response answer

4. Discussion

A high prevalence of SMA was reported in developing and least developed countries, like, Egypt, Cameroon, Nigeria, Thailand, and Yemen [13-17]. Misuse of antibiotics is widely acknowledged because they have been promoted in some least developed societies as "treating everything" and because least developed countries have unrestricted access to them, self medication with antibiotics is increasly [18, 19]. In Yemen, it is generally accepted to buy antibiotics from community pharmacies and drug stores without a prescription.

This study reported the most common reasons for SMA, and most of participants reported that they were undergo SMA due high cost of medical consultation, the emergency of illness that exposed to it, and proximity of pharmacy to home respectively. This result agreed with study performed in India by K.mohammed that mentioned the economic reason took the priority of reasons [20]. While Horumpende reported emergency illness was the first reason in Tanzania [12].

This study reflected significance association between Distance to the health facility as reason that forced the community to antibiotics self medication and sex in which male participants had double percentage than females , that considered the distance as barrier to took antibiotics with prescription.

In addition married participants were the major participants. We think this big difference between two sexes was because males were busy at works where did not have enough time to go to health facilitie . In addition, the cost of consultant, Proximity of the pharmacy to home ,and distance to the health facility had significance association with occupation and that normal expectation that un employed find difficulties to go to the far health facility due to higher cost of transportation, therefore proximity of pharmacy to home regarded good choices to them.

Conclusion

From the finding of this study we can conclude that: first of all ,the cost of consultant was the primary reason for the spread of antibiotics self medication followed by the occurrence of emergency illnesses. Furthermore the cost of consultant was strongly associated with occupation of participants, where unemployed participants is the predominant.

In addition, distance to health facilities was associated to sex ,marital status of participants. Subsequently the occupation was most sociodemographic factor influenced the reasons that forced the participants toward antibiotics self medication, distance to the health facility, Proximity of the pharmacy to home, and the cost of consultant strongly influenced by occupation of participants.

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Limitations

Many countries have issued strict laws prohibiting the dispensing of antibiotics with out medical prescriptions, and this phenomenon has begun to end in many countries. Therefore, we found difficulties in to obtain similar research to support our discussion.

Recommendation

- Dissemination of the finding of this study about the reasons that forced the community to SMA is essential to policy development to help the relevant decision maker to develop regulations about antibiotics dispensing.

- Farther research is required in other governorates in Yemen

References

[1] WHO. "Nairobi Conference-experts recommend national drug policies and broader WHO strategy. Essent. Drugs Monit. 2.," http://www.daghammarskjold.se/wp-content/uploads/1985/08/85_2.pdf .

[2] M. Atif, M. R. Sarwar, M. Azeem, D. Umer, A. Rauf, A. Rasool, M. Ahsan, and S. Scahill, "Assessment of WHO/INRUD core drug use indicators in two tertiary care hospitals of Bahawalpur, Punjab, Pakistan," Journal of pharmaceutical policy and practice, vol. 9, no. 1, pp. 1-8, 2016.

[3] S. L. shakry zawahir, Kjell H.Halverson, "Self-medication Behavior with antibiotics: a national cross-sectional survey in Sri Lanka," tylor &francis, vol. 19, no. 10, pp. 1341-1352 2022.

[4] S. B. Nafisah, S. B. Nafesa, A. H. Alamery, M. A. Alhumaid, H. M. AlMuhaidib, F. A. J. J. o. i. Al-Eidan, and p. health, "Over-the-counter antibiotics in Saudi Arabia, an urgent call for policy makers," vol. 10, no. 5, pp. 522-526, 2017.

[5] B. E. Karp, H. Tate, J. R. Plumblee, U. Dessai, J. M. Whichard, E. L. Thacker, K. R. Hale, W. Wilson, C. R. Friedman, and P. M. Griffin, "National antimicrobial resistance monitoring system: two decades of advancing public health through integrated surveillance of antimicrobial resistance," Foodborne pathogens and disease, vol. 14, no. 10, pp. 545-557, 2017.

[6] J. Owen, "Pay drug companies $1 bn for each new antibiotic, says report," British Medical Journal Publishing Group, 2016.

[7] A. Abuirmeileh, S. Samara, A. Alkhodari, A. Bahnassi, A. Talhouni, and A. M. Hayallah, "Antibiotic dispensing without prescription in Jordanian community pharmacies: a pharmacist's perspective," Bulletin of Pharmaceutical Sciences. Assiut, vol. 37, no. 1, pp. 51-63, 2014

[8] M. Abdulkareem, "Al-Shami, Mohamed Izham MI, Ahmed Abdo-Rabbo Evaluation of the Quality of Prescriptions with Antibiotics in the Government Hospitals of Yemen, Yemen," Journal of Clinical and Diagnostic Research, pp. 808-812, 2011.

[9] c. s. organization. "population projection " 10, 2022;http://www.csoyemen.com/content.php?do=pcat&cid=1

[10] Y. Ateshim, B. Bereket, F. Major, Y. Emun, B. Woldai, I. Pasha, E. Habte, and M. Russom, "Prevalence of self-medication with antibiotics and associated factors in the community of Asmara, Eritrea: a descriptive cross sectional survey," BMC public health, vol. 19, no. 1, pp. 1-7, 2019.

[11] L. Kish, "Survey Sampling. New York: John Wiley& Sons," Inc. KishSurvey Sampling1965, 1965.

[12] P. G. Horumpende, S. H. Said, F. S. Mazuguni, M. L. Antony, H. H. Kumburu, T. B. Sonda, C. E. Mwanziva, S. E. Mshana, B. T. Mmbaga, and D. C. Kajeguka, "Prevalence, determinants and knowledge of antibacterial self-medication: A cross sectional study in North-eastern Tanzania," PLoS One, vol. 13, no. 10, pp. e0206623, 2018

[13] N. M. K. Elden, H. A. Nasser, A. Alli, N. Mahmoud, M. A. Shawky, A. A. E. A. Ibrahim, and A. K. J. O. A. M. J. o. M. S. Fahmy, "Risk factors of antibiotics self-medication practices among university students in Cairo, Egypt," vol. 8, no. E, pp. 7-12, 2020.

[14] E. T. Amin, N. Charles, J. A. Fondugallah, A. Fualefac, P. T. N. Mvilongo, D. Ako-Arrey, P. A. J. A. o. C. M. Njunkeng, and P. Health, "Prevalence of antimicrobial self-medication among patients attending two hospitals in the Buea Health District, Cameroon," vol. 5, no. 1, pp. 024-028, 2019.

[15] L. I. Badger-Emeka, P. M. Emeka, and M. J. I. j. o. h. s. Okosi, "Evaluation of the extent and reasons for increased non-prescription antibiotics use in a University town, Nsukka Nigeria," vol. 12, no. 4, pp. 11, 2018.

[16] S. Chautrakarn, W. Khumros, and P. J. F. i. p. Phutrakool, "Self-medication with over-the-counter medicines among the working age population in metropolitan areas of Thailand," vol. 12, pp. 726643, 2021.

[17] S. M. Albawani, Y. B. Hassan, N. Abd-Aziz, and S. Gnanasan, "Self-medication with antibiotics in Sana'a City, Yemen," Tropical Journal of Pharmaceutical Research, vol. 16, no. 5, pp. 1195-1199, 2017.

[18] N. Dearden, Pharmanomics: How Big Pharma Destroys Global Health: Verso Books, 2023.

[19] N. Reuben, and N. Eze, "Antibiotics Knowledge and Dispense Practice among Patent and Proprietary Medicine Vendors in Niger State, North Central Nigeria," Asian Journal of Research and Reports in Gastroenterology, pp. 17-22, 2020.

[20] M. KIANMEHR, R. J. P. J. o. M. KONERI, and H. Sciences, "A Prospective Study on Prevalence of Self-Medication of Antibiotics and their Dispensing Patterns in Community of Bengaluru North," vol. 13, pp. 1069-1073, 2019.

مقالة بحثية

دراسة أسباب التداوي الذاتي بين مرتادي الصيدليات المجتمعية، عدن/ اليمن 2022

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المُلخّص

يعتبر الاستطباب الذاتي بالمضادات الحيوية مشكلة بالغة الأهمية في كثير من المجتمعات النامية، حيث يترتب عليها الكثير من المشاكل أهمها مقاومة المضادات الحيوية. تعتبر هذه المشكلة من المشاكل ذات الأهمية في كل انحاء العالم ولاسيما البلدان التي تعاني من ضعف جودة الخدمات الطبية والسياسات الصحية مثل اليمن. لذألك انتشار الاستطباب الذاتي بالمضادات الحيوية في هذه المجتمعات بشكل ملحوظ. هذه الدراسة تهدف الى معرفة اهم الأسباب التي دفعت المجتمع في عدن لاستخدام المضادات بدون وصفات. تعتبر هذه الدراسة دراسة مقطعيه مجتمعيه في الفترة من سبتمبر الى ديسمبر من عام 2022 في صيدليات المجتمع المدني لأربع مديريات اختيرت عشوائيا في محافظة عدن. عدد المشاركين في الدراسة 655 شخص اختيروا عشوائيا حيث تم جمع المعلومات منهم باستخدام استبيان من خلال مقابلتهم وجها لوجه. تم تدقيق البيانات وتنقيتها وتحليلها باستخدام برنامج الإحصائي spss. يعتبر ارتفاع تكلفة الاستشارة الطبية من اكثر الأسباب التي اظهرتها هذه الدراسة التي دفعت المجتمع للاستطباب الذاتي بالمضادات الحيوية يليها ظهور الأمراض الطارئة وقرب الصيدليات من المنزل على التوالي. يعد نشر نتائج هذه الدراسة حول الأسباب التي دفعت المجتمع إلى العلاج الذاتي بالمضادات الحيوية أمرًا ضروريًا لتطوير السياسات لمساعدة صناع القرار المعنيين على تطوير اللوائح المتعلقة بصرف المضادات الحيوية.

الكلمات المفتاحية: المضادات الحيوية، الاستطباب الذاتي، مقاومة المضادات الحيوية، الأسباب، اليمن.

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