Behavior and attitude of healthcare practitioners about antibiotics' self-medication

Abstract

Objective:

The study aimed to evaluate the attitude and behavior of HCPs about self-medication of antibiotics.

Methods:

A cross-sectional study was done using a validated research tool to obtain the required data. Data was obtained using different questions regarding the behavior and attitude towards antibiotics usage among HCPs about antibiotics' self-medication. Descriptive and inferential statistics were applied using the Statistical Package for Social Sciences (SPSS) version 24.0. A p-value < 0.05 was considered statistically significant.

Results:

Different demographic characteristics were studied from the selected cohort of the HCPs. Around 153 (52.9%) of the studied HCPs were the females and 136 (47.1%) were males. The studied HCPs were of different professions, whereby 53 (18.3 %) from medicine, 103 (35.6%) from pharmacy, 13 (4.45%) from dentistry, 98 (33.9%) from nursing, and 22 (7.6%) from others allied professions.

Conclusion:

From the obtained results, it was concluded that all of the studied HCPs had varied level of attitude and behavior towards antibiotics' usage pattern but still there is a greater need to strictly adhere with and follow the recommended and concerned guidelines regarding antibiotics usage to avoid any unwanted side effects, adverse drug reactions and antibiotics resistance.

Keywords: self-medication, attitude, antibiotics, behavior, HCPs,

Introduction

Self-medication is defined as the use of medical products by a user to self-treat well-known illnesses or symptoms, or the recurrent or sustained use of a medication normally prescribed by a physician for chronic or returning diseases without a physician prescription [1]. The ~~major issue~~ problem with self-medication is the lack of clinical assessment of the disorders by ~~an experienced~~ a qualified medical professional, which could result in ~~unnoticed diagnosis~~ misdiagnosis and hinder suitable treatments [2,3]. Self-medication is a serious global health issue.

In literature, healthcare practitioners (HCPs) reported that their awareness regarding antibiotic use was not appropriate the health care practitioners cannot be glaringly deficient in knowledge regarding antibiotic use…suppose you say not up to date. [4,5]. In another study, awareness of the pharmacological aspects of antibiotics and prophylactic antibiotic use among dentists was low [6]. Another study from Russia found that more than 73% of pharmacists self-medicate using antibiotics [7]. However, awareness regarding antibiotics seems to be inconsistent among HCPs. Two other studies reported that HCPs demonstrated good knowledge regarding antibiotic use, however, there was also a gap between attitude and practice [8,9]. HCPs differ from the general population because of their awareness regarding disease and drugs. In countries such as Ethiopia and Nigeria, 68% and 52% of HCPs reportedly practice self-medication, respectively [10,11].

Limited studies are evident regarding the evaluation of knowledge, attitude, perceptions and practices of antibiotics' self-medication among HCPs. Appropriate positive attitude about antibiotics and awareness about their appropriate usage among HCPs is crucial as they prescribe antibiotics to treat their patients. However, many times it happens where HCPs do use antibiotics for themselves to treat various infections which may not be an appropriate approach. Identifying factors that influence the self-usage practice of antibiotics among HCPs could help to overcome and control the misuse of antibiotics. This study evaluated the attitude and behavior of HCPs about self-medication of antibiotics.

Material and Methods

The study was conducted among HCPs, and data was collected from those who met the inclusion criteria. A data collection form was specially designed to collect the required information. There were different demographic characteristics observed among the study participant. A pilot study was also conducted to test the relevancy and appropriateness of the data collection form.

All statistical analyses were performed using Statistical Package for Social Sciences (SPSS)

statistical software version 24. Descriptive statistics were used to describe demographic characteristics of the studied HCPs. Percentages and frequencies were used for categorical variables, while means and standard deviation were calculated for the continuous variables. Normality distribution was ascertained prior to each analysis and appropriate parametric or non-parametric tests were chosen accordingly.

Results and Discussion

From the obtained results, the females were 153 (52.9%) and males were 136 (47.1%) in the studied population. All of the studied HCPs were from different age groups, i.e. 20-35 years were 165 (57.1%), 36-45 years were 88 (30.4%) and >45 years were 36 (12.5%). Professional degrees of the HCPs included, medicine 53 (18.3%), pharmacy 103 (35.6%), dentistry 13 (4.5%), nursing 98 (33.9%), and others allied HCPs 22 (7.6%). They had different levels of experiences i.e. ≤10 years 169 (58.5), 11-20 years 96 (33.2%) and >20 years 24 (8.3%). A detailed description of the demographic characteristics is provided in figure 1.

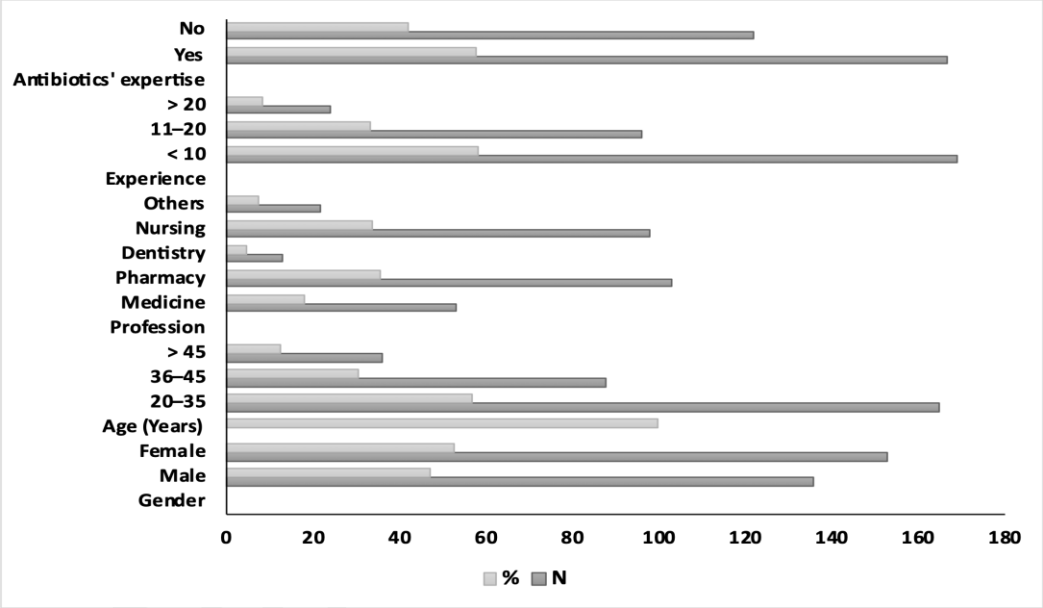

Figure 1: Demographic characteristics of the participants

Table 1 shows Cronbach alpha value, which was obtained to ascertain the reliability of the research tool used among the study participants. The internal consistency was measured by Cronbach's alpha and the value was 0.911.

Table1: Reliability (internal consistency) of the research tool

Item	Value

Cronbach alpha	0.911

Table 2 shows the attitude questions and their obtained results, which were asked from the HCPs to know their attitude about antibiotics' self-medication. Data shows the responses about attitudes of HCPs related to self-medication of antibiotics. HCPs ~~believe~~ belief that the bacterial infection can be controlled without antibiotics showed a statistically significant (p=0.049) difference from those who didn't agree with the statement.

Table 2: Attitudes regarding antibiotics self-use

Qs	N	%	*p*-Value
I am confident in managing antibiotic resistance if it occurs			
Yes	153	52.9	0.225
No	136	47.1	
I believe bacterial infection can be controlled without antibiotics			
Yes	107	37.0	0.049*
No	182	63.0	
I believe counseling about antibiotics usage is vital			
Yes	248	85.8	0.662
No	41	14.2	
I always read the side effects of antibiotics before use			
Yes	269	93.1	0.289
No	20	6.9	
I believe that antibiotics should not be started without a culture susceptibility test			
Yes	187	64.7	0.006*
No	102	35.3	
In my view, antibiotic class with the least ADRs			
Penicillins	126	43.6	0.039*
Cephalosporins	54	18.7	
Aminoglycosides	12	4.2	
Macrolides	32	11.1	
Fluoroquinolones	8	2.8	
Tetracyclines	4	1.4	
Sulfonamides	2	0.7	

Write ADRs in full the first time you use it, the you can abbreviate after that.

A statistically significant association (p=0.006) was observed in the response of the question regarding the ~~believe~~ belief that antibiotics should not be started without a culture susceptibility test. Around 187 (64.7%) of the studied HCPs agreed that antibiotics should not be started without a culture susceptibility test whereas around 102 (35.3%) of the HCPs believed that antibiotics could be started without a culture susceptibility test. In another question, regarding

the attitude that HCPs read the side effects of antibiotics beforehand prior their self-use and round 269 (93.1%) of the ~~studied~~ interviewed HCPs agreed that they always read the side effects of antibiotics before their self-use. In opposition, around 20 (6.9%) of the ~~studied~~ participant HCPs didn't read the side effects of antibiotics beforehand of self-use of antibiotics but the association among both of the groups was not statistically significant (p=0.289). re-write the highlighted sentence so be grammatically sound. You may consider breaking it into two sentences.

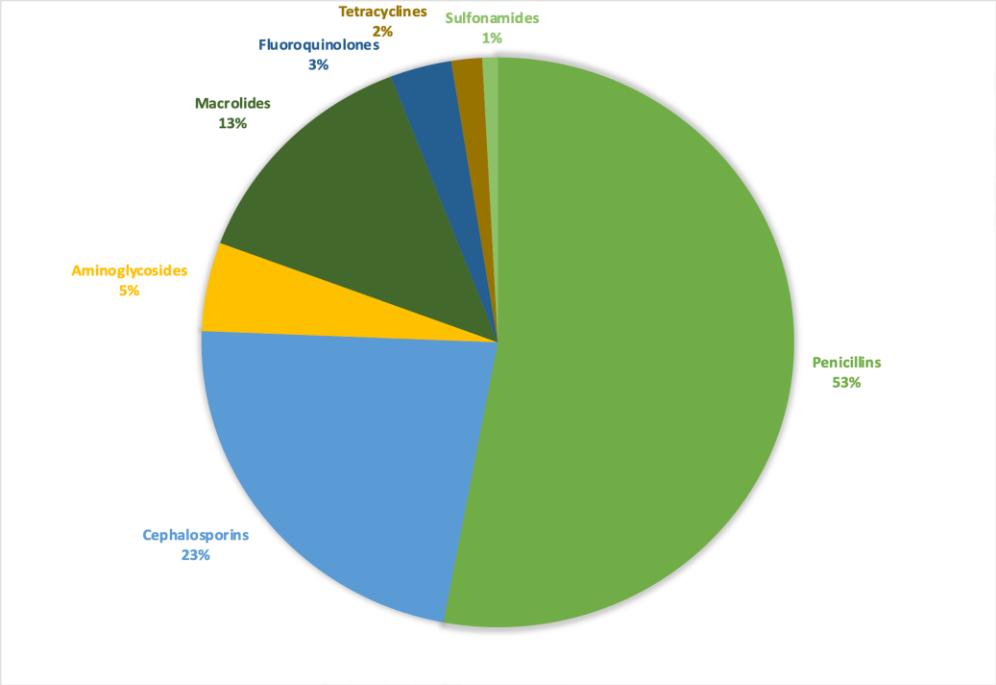

Figure 2: Antibiotics' classes/groups with adverse drug reactions

Figure 2 presents attitude of the HCPs towards adverse drug reactions of the various classes/groups of the antibiotics. According to the obtained results, around 126 (53%) of HCPs believed that penicillins have higher ADRs as compared to the cephalosporins, which 54 (23%) of the HCPs believed having ADRs. In addition, around 12 (5%) of the studied HCPs also believed that aminoglycosides have ADRs.

In table 3, around 214 (74%) of the HCPs reported that antibiotics should not be used until necessary while 75 (26%) of the HCPs agreed that antibiotics could be used even when they are not needed and the association was not statistically significant. Around 246 (85.1%) of the HCPs believed that antibiotics can't be discontinued without completing their full course while 43 (14.9%) of the HCPs agreed that antibiotics could be ~~can't be~~ discontinued without completing their full course and the association was not statistically significant P value?

Table 3: Belief regarding antibiotic self-medication

Qs	N	%	*p*-Value
Antibiotics should not be used until necessary			
Yes	214	74.0	0.574
No	75	26.0	

Antibiotics can't be discontinued without completing the full course			
Yes	246	85.1	0.612
No	43	14.9	
I believe using antibiotics without a physician's prescription re-write this in correct grammar			
Yes	144	49.8	0.002
No	145	50.2	
Antibiotics can be taken before a meal			
Yes	10	3.5	0.788
No	279	96.5	
Antibiotics can be used in common cough/flu			
Yes	63	21.8	0.114
No	226	78.2	
I agree taking antibiotics with other drugs use correct grammar			
Yes	30	10.4	0.376
No	259	89.6	
I agree using same antibiotic with different brands use correct grammar			
Yes	34	11.8	0.218
No	255	88.2	

The current study findings also reported that statistically non-significant difference (p=0.376) was observed in the viewpoint of taking antibiotics with other drugs as 30 (10.4%) of the HCPs agreed that antibiotics could be taken with other drugs while 259 (89.6%) of the HCPs agreed that antibiotics could not be taken with other drugs. It is of greatest significance to know the exact level of attitude and behaviors of HCPs about self-medication of antibiotics to treat their ailments. However, the obtained results showed that there is also a need to improve the current ~~attitude and behavior of~~ knowledge of HCPs to better understand and use up to date information when ~~precise practice of~~ prescribing antibiotics or engaging in self-use of antibiotics. Antibiotics' improper usage pattern or their use without prescriptions from a registered HCP could lead to various side effects and a greater level of resistance among the population. Positive attitude and behavior about self-medication of antibiotics about their side effects and drug interactions could further improve their efficacy and efficiency. In total, positive attitude and precise usage pattern of antibiotics are essential in order to combat numerous infectious diseases. This could further help in improving individuals' overall health-related quality of life [12-15].

Conclusion

This study concluded that all of the studied HCPs had positive attitude towards antibiotics' usage pattern but still there is a greater need to strictly adhere with and follow the recommended and

concerned guidelines regarding antibiotics usage to avoid any unwanted side effects, adverse drug reactions and antibiotics resistance.

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