

Public Awareness Regarding Antihistamines and their Prescription in Primary Health Care Centres in Abha City

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Abstract

Introduction: Antihistamines are the most used drugs in the treatment of allergies. Approximately a dozen drugs are available on the pharmaceutical market, and their generic forms are marketed widely as very efficient drugs for the treatment of allergic diseases. Usually, people receive antihistamines as an inexpensive, generic, over-the-counter drug that can deliver relief from nasal congestion, sneezing, or hives caused by pollen, dust mites, or animal allergy with minimal side effects.

Aim: The study aimed to assess public awareness regarding antihistamines and their prescription in PHCCs in Abha City, Saudi Arabia.

Methodology: A descriptive cross-sectional approach was used targeting all accessible population in Abha city, Aseer region, Southern of Saudi Arabia. All those with ages of 18 years or more living in Abha region and attending primary health care centres were invited to participate in the survey. Data were collected from participants using electronic pre-structured questionnaire. The tool covered the following data: participants' socio-demographic data like age, gender, residence, education, participants' history for receiving antihistamines, and participants practice regarding antihistamines, role of physician and pharmacists within PHCCs in providing health education (HE) sessions for antihistamines, participants' satisfaction regarding medical staff role and provided HE.

Results: The study included 800 participants whose ages ranged from 18 to 55 years with mean age of 27.5 ± 10.9 years old. The majority of participants were females (73.5%; 588). As for known formulas of antihistamines, pills were the most reported formula (98.5%) followed by syrup (7.8%), nasal spray (3.8%), and eye drops (2.4%). Exactly 420 (52.5%) of the participants previously had antihistamines without prescription. The main cause of that was being available and easily achieved (82.6%).

Conclusion: In conclusion, the study revealed that public awareness regarding antihistamines was very poor especially concerning their types and clinical effects. Also, unprescribed utilization of antihistamines was very high due to their availability and being easily achieved.

Key words: public awareness, antihistamines, practice, health education, primary health care centres.

Background

Allergic diseases are high frequent chronic conditions lasting throughout a patient's life. Besides, they cause considerable deterioration in the quality of life of patients and they also lead to significant absenteeism and decreased productivity, with high economic and psychological burden for society [1, 2]. Antihistamines are the most used drugs in the treatment of allergies. Approximately a dozen drugs are available on the pharmaceutical market, and their generic forms are marketed widely as very efficient drugs for the treatment of allergic diseases [3, 4]. Usually, people receive antihistamines as an inexpensive, generic, over-the-counter drug that can deliver relief from nasal congestion, sneezing, or hives caused by pollen, dust mites, or animal allergy with minimal side effects [5]. Antihistamines are usually prescribed for short-term treatment. Chronic allergies increase the risk of health problems where antihistamines may have no role, including asthma, sinusitis, and lower respiratory tract infection [6]. Consultation of medical health care staff is advised for those who intend to take antihistamines for longer-term use.

As the general population typically use the word "antihistamine" to describe drugs for treating allergies, physicians and pharmacists use the term to describe a group of drugs that contradict the activity of histamine receptors in the body [7]. In this sense of the word, antihistamines are divided according to the histamine receptor that they act upon. The two largest classes of antihistamines are H1-antihistamines and H2-antihistamines [8, 9].

Antihistamines are one of the over-the-counter (OTC) drugs which are dispensed without a prescription; they are perceived by the public as a safer medication in comparison to the prescribed ones [10-12]. This perception has led the population to make their own diagnoses for the health problem and use inappropriate self-medication [13]. Misuse or abuse of OTC products including antihistamines, by overusing a single agent or using too many different drugs to treat serious health conditions has led to many drug related health problems such as kidney, liver, or gastric damage, and other health problems [14-16].

The researchers after intensive literature search, found that no previous studies in Saudi Arabia have assessed public awareness regarding antihistamines and their use, besides the importance of being prescribed by health care professional. This motivated the researchers to conduct this study to assess public awareness regarding antihistamines and their prescription in PHCCs in Abha City, Saudi Arabia.

Methodology

A descriptive cross-sectional approach was used targeting all accessible population in Abha city, Aseer region, Southern Saudi Arabia. All those with ages of 18 years or more, living in Abha region and who attend primary health care centres were invited to participate in the survey. A total of 1,000 individuals received the study survey. Exactly 800 respondents completed the study questionnaire with

response rate of 80%. After obtaining permission from the Institutional ethics committee, data collection commenced. Data were collected from participants using an electronic pre-structured questionnaire. The questionnaire was uploaded online using social media platforms by the researchers and their relatives during the period from 15th April till 30th of June 2020. All accessible and eligible population in the study setting were invited to fill out the attached tool. Based on literature review to detect public awareness regarding over the counter treatment and its prescription, the average awareness level was 55% [17, 18]. Based on this and using a precision of 5% at 95% confidence level and design effect of 2, a minimum sample size of 760 (rounded to 800) participants was required for the current study.

The researchers constructed the survey tool after intensive literature review and experts' consultation. The tool was reviewed using a panel of 5 experts for content validity. Tool reliability was assessed using a pilot study of 30 participants with reliability coefficient (α -Cronbach's) of 0.72. The tool covered the following data: participants' socio-demographic data like age, gender, residence, education, participants' history of receiving antihistamines, and participants' practice regarding antihistamines, role of physician and pharmacists within PHCCs in providing health education (HE) sessions for antihistamines, participants satisfaction regarding medical staff role and provided HE. Awareness was assessed using 4 questions with multiple allowed answers for 3 of them.

Data analysis

After data were extracted, it was revised, coded, and fed into statistical software IBM SPSS version 22 (SPSS, Inc. Chicago, IL). All statistical analysis was done using two tailed tests. P value less than 0.05 was statistically significant. For awareness items, each correct answer was scored one point and total summation of the discrete scores of the different items was calculated. A participant with score less than 60% (8 points) of the maximum score was considered to have poor awareness while good awareness was considered if they had a score of 60% (8 points or more) of the maximum or more. Descriptive analysis based on frequency and percentage distribution was done for all variables including demographic data, awareness items and participants' practice. Cross tabulation was used to assess distribution of awareness according to participants' personal and medical data. Relations were tested using Pearson chi-square test.

Results

The study included 800 participants whose ages ranged from 18 to 55 years with mean age of 27.5 ± 10.9 years old. The majority of participants were females (73.5%; 588). Regarding work, 475 (59.4%) of the respondents were retired or not working at all while 261 (32.6%) worked at governmental jobs. Exactly 431 (53.9%) had monthly income less than 5000 SR and 117 (14.6%) had monthly income that exceeded 15000 SR. Regarding educational level, 650 (81.3%) of the respondents were university

graduated. Considering marital status, 463 (57.9%) of the participants were single and 190 (56.4%) of the married had 2-5 children. Exactly 437 (54.6%) of the respondents previously received prescribed antihistamines (Table 1).

Table 2 demonstrates public awareness regarding antihistamines. As for known formulas of antihistamines, pills were the most reported formula (98.5%) followed by syrup (7.8%), nasal spray (3.8%), and eye drops (2.4%). Considering pharmacological types, Histop was the most known by the participants (78.5%) followed by Cetirizine (21.9%), loratadine (18.8%), while 15.1% of the sample lacked knowledge regarding this item. As for diseases treated with antihistamines, 73% of the participants reported they were for nasal allergy, followed by skin allergy (51.9%), eye allergy (44.1%), and drug allergy (25.9%). Totally, 73 (9.1%) of the participants had a good awareness level regarding antihistamines and their use. As for participants' practice regarding antihistamines (Table 3), exactly 420 (52.5%) of the participants previously had antihistamines without prescription. The main cause of that was being available and easily achieved (82.6%), long waiting time for physicians (13.1%), and cheap (3.3%). Regarding side effects experienced by those who had antihistamines, 89.8% reported excessive sleeping, followed by drowsiness (53.5%), dry mouth (44.7%), and blurred vision (33.3%). Exactly 511 (63.9%) of the participants intend to use antihistamines in the future and only 5.1% intend to use unprescribed antihistamines for children below 2 years.

Table 4 illustrates role and participants' satisfaction with PHCCs staff regarding provided health education regarding antihistamines. Exactly 34.4% of the participants said that the Physician in PHCCs never provided explanations about antihistamines while 45.9% reported that it happened many times or usually. Regarding pharmacist role with drug dispensing, 16.6% said that pharmacists in PHCCs dispense the drug only, while 70% reported that they explain how to use and times of use; 41.1% reported that pharmacists write the instructional information on an antihistamine and 24% try to see if I understand the given information well. Regarding participants' satisfaction, 52.9% of the respondents were satisfied regarding physician provided HE regarding antihistamines compared to 57.4% satisfaction regarding pharmacist's role.

Table 5 shows distribution of public awareness regarding antihistamines by participants' personal data, practice, and source of information. Good awareness was reported among 15.6% of male participants compared to 6.8% of females with recorded statistical significance ($P=.001$). Also, 15.7% of those who work in governmental jobs had good awareness level compared to 5.9% of those who were not working ($P=.001$). Exactly 10.3% of university graduated participants had good awareness regarding antihistamines compared to none of those who had educational level below secondary school ($P=.046$). Also, 13% who had antihistamines had good awareness level compared to 4.5% of those who did not ($P=.001$) besides the same who had unprescribed antihistamines (13.3%

vs. 4.5%, respectively; $P=.001$). Awareness was higher among dissatisfied participants regarding physician and pharmacists' roles (13.7% and 14.5%, respectively). As for source of information, there was no significant effect on participants' awareness level.

Discussion

Anticholinergic drugs include subtype of antihistamines named H1-antihistamines which act as reverse agonists instead of antagonists of histamine H1 receptors [19]. Besides their anti-allergic action, H1 antihistamines have extra anticonvulsant, hypnotic, tranquilizer, decongestant, and anti-parkinsonian effects [20]. According to their pharmacology and other effect properties, they are grouped into first-generation and second-generation drugs. Chemical properties of the two groups are markedly different with different clinical uses and side effects. The first-generation drugs are lipophilic which are able to cross the blood-brain barrier easily and meddle with neurotransmission by histamine at CNS H1 receptors. Therefore, this group has higher CNS side effects such as drowsiness, sedation, somnolence, fatigue, and headache. Additionally, they also affect cognitive function, memory, and psychomotor performance [21-23].

The current study aimed to assess public awareness regarding antihistamines and their side effects as one of the drugs that can be prescribed in primary health care centres. The study revealed that more than half of the respondents previously received prescribed antihistamines by the PHCCs physicians which means they may be exposed to the drug noisy side effects and should have some awareness. Regarding participants awareness, nearly all participants know that antihistamines are available in the form of pills and other forms such as syrup, spray, and eye drops were reported by very few numbers of participants. This was surprising as nearly 85% of the respondents had at least one child which means that they may be exposed to give their children any type of antihistamines for allergy or reactions but they were not informed about the drug and its clinical effect. Regarding types of antihistamines, Histop was the most reported (by about three quarters of the participants) while other types were less known and reported. The best detected area of awareness regarding antihistamines was diseases which need antihistamines in their treatment protocol. Allergy disorders (nasal, eye, and dermatological) were reported by more than half of the respondents. Only one quarter (25%) of the participants reported drug allergy which is not so correct. Totally, one out of each ten participants had good awareness level regarding antihistamines. This was inconsistent with that the most reported source of their information was medical staff (pharmacist and physician), as they were reported as the main source for information among more than half of the participants. This means they should have better awareness than what was found. This may be explained by that either participants were not understanding what was said to them (expressions may be difficult) or they don't care about given information. Another explanation may be that they may need antihistamines for long periods,

Table 1: Personal data of study participants, Abha, Saudi Arabia

Personal data	No	%	
Age in years	< 25 years	383	47.9%
	25-35	217	27.1%
	36-45	106	13.3%
	> 45 years	94	11.8%
Gender	Male	212	26.5%
	Female	588	73.5%
Work	Not working/ retired	475	59.4%
	Governmental work	261	32.6%
	Private work	64	8.0%
Monthly income	< 5000 SR	431	53.9%
	5000-15000 SR	252	31.5%
	> 15000 SR	117	14.6%
Educational level	Below secondary	14	1.8%
	Secondary	136	17.0%
	University/ more	650	81.3%
Marital status	Single	463	57.9%
	Married	315	39.4%
	Divorced/ widow	22	2.8%
No. of children	No children	51	15.1%
	< 2 children	42	12.5%
	2-5 children	190	56.4%
	> 5 children	54	16.0%
Antihistamines was prescribed by PHC physicians	Yes	437	54.6%
	No	363	45.4%

Table 2.:Public awareness regarding antihistamines, Abha, Saudi Arabia

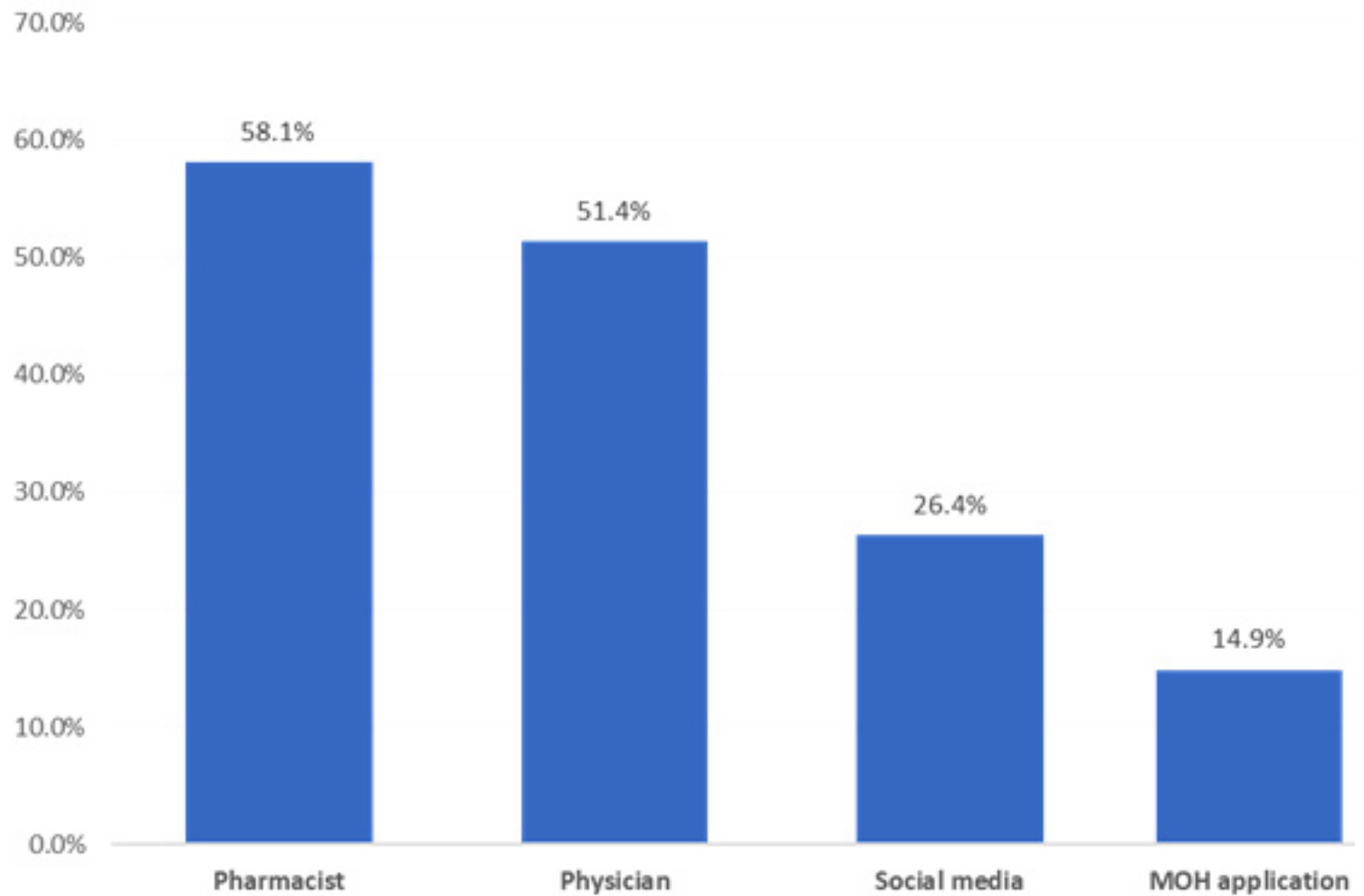
Awareness items	No	%
Known formulas antihistamine		
Pills	788	98.5%
Syrup	62	7.8%
Nasal spray	30	3.8%
Eye drops	19	2.4%
Know pharmacological types of antihistamines		
Don't know	121	15.1%
Histop	628	78.5%
Cetirizine	175	21.9%
loratadine	150	18.8%
Desloratadine	60	7.5%
Diseases treated with antihistamines		
Eye allergy	353	44.1%
Nasal allergy	584	73.0%
Skin allergy	415	51.9%
Drug allergy	207	25.9%
Overall awareness level		
Poor	727	90.9%
Good	73	9.1%

Table 3: Public practice regarding antihistamines, Abha, Saudi Arabia

Practice items	No	%
Had unprescribed antihistamines		
Yes	420	52.5%
No	380	47.5%
If yes, causes		
Available and easy achieved	347	82.6%
Cheap	14	3.3%
Fear to ask physician to prescribe	4	1.0%
Long waiting time for physician	55	13.1%
Previously had side effects for antihistamines		
Yes	271	33.9%
No	529	66.1%
If yes, mention		
Sleepiness	143	89.9%
Drowsiness	85	53.5%
Blurred vision	53	33.3%
Dry mouth	71	44.7%
Bad dreams	38	23.9%
Intend to use antihistamines in the future		
Yes	511	63.9%
No	289	36.1%
Intend to use unprescribed antihistamines for children below 2 years		
Yes	41	5.1%
No	759	94.9%

Table 4: Role and participants satisfaction of PHCCs staff regarding provided health education regarding antihistamines

Role of PHCCs staff in antihistamines HE	No	%
Physician in PHCCs explains about antihistamines		
Never	275	34.4%
Sometimes	158	19.8%
Many times,	259	32.4%
Usually	108	13.5%
Pharmacist role with drug dispensing		
Antihistamine dispensing only	133	16.6%
Write the instructional information on an antihistamine	329	41.1%
Explain how to use and times of use	560	70.0%
Tries to see if I understand the given information well	192	24.0%
Satisfaction regarding provided HE regarding antihistamines in PHCC clinic		
Completely dissatisfied	114	14.3%
Dissatisfied	263	32.9%
Satisfied	303	37.9%
Completely satisfied	120	15.0%
Satisfaction regarding provided HE regarding antihistamines in PHCC pharmacy		
Completely dissatisfied	99	12.4%
Dissatisfied	242	30.3%
Satisfied	290	36.3%
Completely satisfied	169	21.1%

Figure 1: Source of information regarding antihistamines among general population, Abha, Saudi Arabia

and they forget what medical staff explained. Awareness was higher among male participants who work, especially at governmental jobs, and among those who previously received antihistamines.

Regarding public practice of utilizing antihistamines, more than half of the participants received antihistamines without physician prescription which may be explained by that they are poorly knowledgeable regarding their side effects and clinical effects. The most reported cause of receiving unprescribed antihistamines was their availability and no need to have prescription and this motivates the need to include these group of drugs among those that need prescription due to side effects that may affect a person's life or cause CNS manifestation causing accidents or expose people's life to danger. The surprising thing was that these side effects were known for nearly 60% of the participants (on average), despite that, more than two thirds intend to use them in the future.

As for the physician and pharmacist role in providing health education regarding antihistamines, and patients' satisfaction regarding this role, two thirds of the participants reported that physicians told them about antihistamines and more than three quarters reported they had medical explanation by pharmacists. Pharmacists explained method of use, doses, time of use but none reported they were told

about side effects, proper age to use and drugs' clinical contraindications. The study also revealed that nearly half of the participants were satisfied regarding role of physician or pharmacist in providing them with the clinical data.

Conclusions and Recommendation

In conclusion, the study revealed that public awareness regarding antihistamines was very poor especially concerning their types, and clinical effects. Also, unprescribed utilization of antihistamines was very high due to their availability and easily achieved without prescription. Physicians' and pharmacists' role in explaining drug reactions and uses is good but not fulfilling the expectation of the participants. More effort should be paid by the medical staff to cover this awareness deficit area in simple terms and by easy methods that can be remembered for a long duration. Also, antihistamines should be included with drugs that need a prescription to be given.

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