Use of eye drops self-medication in Aseer region, Southern Saudi Arabia

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Abstract

Background: Self-medication is defined as the use of drugs to manage a self-diagnosed disease or complaint, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms. Self-medication includes getting medications without a prescription, resubmitting old prescriptions to buy medicines, sharing medicines with relatives or members of one's social circle, or using leftover medicines stored at home. Risks are related to many factors including not only the possible severe side effects of the drug itself, but also hazardous because of improper treatment.

Methodology: A descriptive cross-sectional survey was used targeting all population in Aseer region. The study was conducted during the period from May 2020 to August 2020. Data were collected using structured questionnaire which was developed by the researchers after intensive literature review and expert's consultation. The questionnaire data included person's socio-demographic data such as age, gender, and education. The second section of the questionnaire covered eye drops self-medication data. The questionnaire was uploaded online using social media platforms by the researchers and their relatives and friends to be filled in by all population in Aseer region.

Results: A total of 209 participants completed the study questionnaire. Participants' ages ranged from 18 to 65 years old with mean age of 32.9 ± 11.6 years. Exactly 152 (72.7%) participants were females and 158 (75.6%) had educational level of university or more. Regarding persons who advised participants to use eye drops, the most reported was the person themself (34.4%; 72) followed by family and friends (29.2%), and pharmacist (20.6%). As for causes of using unprescribed eye drops, 105 (50.2%) participants used the eye drops for itching in the eye, followed by eye redness (47.4%), eye pain (22.5%). Regarding side effects of used drops, the most reported was excessive lacrimation (5.7%), followed by blurred vision (5.7%), and eye inflammations (4.3%),

Conclusions: In conclusion, the study revealed that there is a large portion of Aseer region population practicing self-medicating behavior based on their own concept or advice from friends and family most of the time, without consulting a specialized physician.

Key words: Eye drops, self-medication, unprescribed, use, population, causes, practice

Introduction

The World Health Organization defined self-medication as the selection and use of medicines by individuals to treat illnesses or relieve symptoms [1, 2]. Self-medication covers purchasing drugs without consulting a physician or having a prescription, using leftover doses from previous prescriptions, sharing medications with other family members, or abusing the medical prescription either by prolonging, interrupting or modifying the dosage and the administration period [3-6].

Self-medication practice was reported for a wide spectrum of symptoms and pathologies and eye conditions are one of these conditions. It is well known that this kind of attitude and practice has pharmacological and toxicological hazards [7]. Risks are related to many factors including not only the possible severe side effects of the topical drug itself, but is also hazardous as a result of improper treatment or failure to obtain prompt medical care, thus leading to a delay in diagnosis, assessment and, in turn to accidental consequences [8].

Several over the counter (OTC) drugs are available to the public without prescription, which include usual pharmacy preparations and medications that have been liberalized from their previous classification as prescription medications. Policies regarding these OTC pharmaceuticals are different worldwide. Nonetheless, these substances are available for traditional use and commonly available without medical restrictions or a prescription in pharmacies or even in supermarkets. Not only OTC medications can be used as a resource for self-medication, but also non-prescribed drugs achieved without a prescription can be another common resource for patient's self-medication in different countries all over the world. There have been consistently high rates of use of non-prescribed drugs found in different developed countries, ranging from 22% to 67% for all ages [9-11]. The current study aimed to identify practices of self-medication in the treatment of ocular conditions and to identify causes and outcome of patients who self-medicate with eye drops in Aseer region, Southern Saudi Arabia.

Methodology

A descriptive cross-sectional survey was used targeting all population in Aseer region. The study was conducted during the period from May 2020 to August 2020. All those below the age of 18 years and those who were not permanently living in Aseer region (or for at least 1 year) were excluded. Data were collected using structured questionnaire which was developed by the researchers after intensive literature review and expert's consultation. The questionnaire data included person's socio-demographic data such as age, gender, and education. The second section of the questionnaire covered eye drops self-medication data including reasons for using the eye drops, persons who advised the participant to use the drops, side effects of using the eye drops, and medical consultation through reporting to OPD. The questionnaire was uploaded online using social media platforms by the researchers and their relatives and friends to be filled in by all the population in Aseer region. A consecutive convenience sampling method was used due to the current COVID-19 pandemic. All participants fulfilling the inclusion criteria who received the electronic questionnaire during the study period were invited to participate through filling out the questionnaire.

Data analysis

Online data were extracted, revised, coded, and fed to 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. Descriptive analysis based on frequency and percent distribution was done for all variables including participant's demographic data, reasons for using unprescribed eye drops, types of used drops, and reported side effects. Distribution of unprescribed eye drops use according to participant's age and gender was displayed by crosstabulation. Significant associations were tested using exact probability test due to small frequencies.

Results

A total of 209 participants completed the study questionnaire. Participants' ages ranged from 18 to 65 years old with mean age of 32.9 ± 11.6 years. Exactly 152 (72.7%) participants were females and 158 (75.6%) had educational level of university or more (Table 1).

Table 2 illustrates patterns of use of eye drop self-medication in the Aseer region. Regarding persons who advised participants to use eye drops, the most reported was the person themself (34.4%; 72) followed by family and friends (29.2%), pharmacist (20.6%), optic technician (11%), and physician the person knew (4.8%). Considering causes of using unprescribed eye drops, 105 (50.2%) participants used the eye drops for itching in the eye, followed by eye redness (47.4%), eye pain (22.5%), excessive lacrimation (16.3%), blurred vision (15.3%), eye dryness (9.1%), and eye discharge (5.3%). As for types of used eye drops, most respondents used moistening drops (68.9%) followed by antiallergic drops (11%), anti-inflammatory drops without cortisone (3.8%), antibiotic drops (2.9%), and saline drops (1.9%). Regarding side effects of used drops, the most reported was excessive lacrimation (5.7%), followed by blurred vision (5.7%), eye inflammations (4.3%), and increased pain (2.9%), while 80.4% had no side effects. On asking participants if they seek medical consultation (reasons for reporting to OPD), 76.6% did not report to the OPD while 14.8% reported to the clinic to have the appropriate treatment, and 7.2% reported to the clinic due to failed improvement.

Table 3 shows distribution of use of eye drop self-medication by participants' age. The most reported cause of using unprescribed eye drops among young aged group (18-30 years) were itching (61.4%) followed by eye dryness (59.6%), eye pain (28.9%) compared to

42.9%, 25%, and 25% among old aged respondents (> 50 years), respectively. These differences were found to be statistically significant (P=.001). As for types of used eye drops, the most used among the young age group were moistening drops (72.8%) compared to 57.1% of old aged group. The second most reported type was antiallergic drops (7%) compared to (14%) for those aged more than 50 years (P=.001).

Table 4 demonstrates distribution of use of eye drop self-medication by participants' gender. The most reported cause of use among males was itching (63.2%) followed by eye dryness (57.9%) compared to 45.4% and 43.4% of females with no statistical significance (P=.231). As for types of eye drops used, the most reported among males were moistening drops (70.2%) followed by antibiotic drops in comparison to 68.4% and 1.3% of females while antiallergic drops were used among 13.2% of females with no statistical significance (P=.126).

Discussion

The current study aimed to assess self-medication practices in the treatment of ocular disorders and to recognize causes and outcome of patients who self-medicate eye drops in Aseer region, Southern Saudi Arabia. The majority of ophthalmic acute or chronic disorders often necessitates the use of eye-drops or some systemic medication. Even though guidelines recommend the physician as the official source for these treatments, many patients with eye complaints treat themselves before, or instead of, seeking medical care [12, 13]. The overspread of this phenomena can be explained by many factors including economic, cultural and political factors [14–16] Nowadays, self-medication has become a habit worldwide, [17] in particular in the developing countries [18–20] where informal convenience of a large range of drugs without prescription, the growing number of over-the-counter (OTC) medicines, careless publicity, unavailable health care services, contribute to its spread.

The current study revealed that self-medication with eye drops among the study participants was recorded among all age groups from 18 to 65 years old, among males and females and among all, regardless of educational level. The main motive behind using eye drops without prescription was the person themself while family and friends' advice especially those who had previous eye diseases and used certain drugs were the second most reported encouraging group followed by regional pharmacists during consultation and optic technicians while a very small portion of the participants reported for physicians they know. Eye dryness with itching was the most reported causes of use (by more than half of the sample) in all age groups while pain appeared as a cause of use among old aged participants (> 50 years). The study results also revealed that moistening eye drops were used by more than two thirds of the participants and this matches the dryness that was reported as the main cause. Other types including anti allergic drops (for itching), and anti-inflammatory drops were also reported but with lower proportions. The surprising finding was that more than 80% of the participants did not experience any complications due to the eye drops use but this may be accepted as eye drops are a local treatment with low or even minimal systemic side effects. Few participants reported lacrimation (which may be due to itching or dryness but not due to the eye drops), pain, and eye inflammation. The main types of used eye drops (moistening drops and antiallergic drops) were more used among young, aged participants. This may be due to being outdoors most of the day or due to the use of eye contact lens. Causes of using eye drops or types of used eye drops, was not dependent on the participants' gender. As for seeking medical consultation, more than three quarters of the participants did not seek medical consultation and did not visit the clinic. Among those who did, seeking appropriate treatment was the main motive due to failed improvement (less than 10%).

In Argentina, Marquez GE et al [21] used a questionnaire to assess the magnitude of ocular self-medication, with commercial eye drops in patients seen in a private ophthalmology unit. Self-medication was reported among 25.6% of the participants, showing that one in four patients self-medicates before seeking medical advice. Omolase CO et al in Nigeria studied Ocular Self Medication in Owo city [22]. The authors reported that nearly 79% of the participants performed ocular self-medication. The factors reported for using self-medication were their perception that they had a minor eye disorder flexible to self-care (41.1%). The other reasons included non-readily available ophthalmic services (17.4%), financial restraints to achieve medical care (14.6%), lack of knowledge regarding the potential drawbacks of self-medication (12.7%), and assurance of the efficacy of self-medication used (11.5). In Saudi Arabia, Bifari I et al [23] assessed self-medication among the population of Taif City. Nearly one third of the participants reported self-medication for eye problems. Eye redness, watery eye, eye discharge, and burning sensation were the most reported causes of using eye self-medication. These are all consistent with the current study reported cause of use. A second study was conducted by Al-Ghamdi S et al to assess self-medication practices in the Kingdom of Saudi Arabia [24]. The study revealed that about 35% of the study participants used unprescribed eye drops. The most reported reasons were difficulty reaching the hospital, lack of the service in the primary health care centres, and no medical insurance.

Conclusions and Recommendations

In conclusion, the study revealed a large portion of Aseer region population practice self-medicating behaviour based on their own concept or advice from friends and family most of the time, without consulting a specialized physician. Eye self-medication was mainly for dryness or itching specially at a young age group while pain was reported among old, aged participants. It is recommended to clarify for the public the association between different factors promoting self-medication and assess the changing trends in order to help derive strategies for lowering drug-related health risks among the population. Health education targeting

Table 1: Personal data of study participants, Aseer region, Saudi Arabia

Personal data	No	%
Age in years		
18-30	114	54.5%
31-50	67	32.1%
> 50	28	13.4%
Gender		
Male	57	27.3%
Female	152	72.7%
Educational level		
Below university	51	24.4%
University	158	75.6%

Table 2. Pattern of use of eye drop self-medication in the Aseer region, Saudi Arabia

Unprescribed eye drops use		No	%
Who advised you to have unprescribed eye drops	Myself	72	34.4%
	Family/ friends	61	29.2%
	Pharmacist	43	20.6%
	Optic technician	23	11.0%
	Physician I know	10	4.8%
Causes of using unprescribed eye drops	Itching	105	50.2%
	Eye redness	99	47.4%
	Eye pain	47	22.5%
	Excessive lacrimation	34	16.3%
	Blurred vision	32	15.3%
	Eye dryness	19	9.1%
	Eye discharge	11	5.3%
	Peri-orbital oedema	5	2.4%
Types of used eye drops	Moistening drops	144	68.9%
	Anti allergic drops	23	11.0%
	Don't remember	22	10.5%
	Anti-inflammatory without cortisone	8	3.8%
	Antibiotic drops	6	2.9%
	Saline drops	4	1.9%
	Anti-inflammatory with cortisone	2	1.0%
Side effect of used drops	None	168	80.4%
	Excessive lacrimation	12	5.7%
	More pain	6	2.9%
	Eye inflammation	9	4.3%
	Blurred vision	12	5.7%
	Eye discharge	2	1.0%
Seek for medical consultation	No need	160	76.6%
	Failed improvement	15	7.2%
	To have appropriate treatment	31	14.8%
	Follow-up	3	1.4%

Table 3. Distribution of use of eye drop self-medication by participants' age

Eye drops use	Age in years						P-value
	18-30		31-50		> 50		
	No	%	No	%	No	%	
Causes of using unprescribed eye drops							
Eye redness	68	59.6%	24	35.8%	7	25.0%	.001*
Itching	70	61.4%	23	34.3%	12	42.9%	
Eye pain	33	28.9%	7	10.4%	7	25.0%	
Blurred vision	12	10.5%	13	19.4%	7	25.0%	
Excessive lacrimation	24	21.1%	9	13.4%	1	3.6%	
Eye discharge	6	5.3%	4	6.0%	1	3.6%	
Eye dryness	11	9.6%	7	10.4%	1	3.6%	
Peri-orbital oedema	2	1.8%	1	1.5%	2	7.1%	
Types of used eye drops							
Moistening drops	83	72.8%	45	67.2%	16	57.1%	.008*
Antiallergic drops	8	7.0%	11	16.4%	4	14.3%	
Antibiotic drops	4	3.5%	1	1.5%	1	3.6%	
Saline drops	4	3.5%	0	0.0%	0	0.0%	
Anti-inflammatory without cortisone	4	3.5%	1	1.5%	3	10.7%	
Anti-inflammatory with cortisone	0	0.0%	0	0.0%	2	7.1%	
Don't remember	11	9.6%	9	13.4%	2	7.1%	

P: Exact probability test
* P < 0.05 (significant)

Table 4. Distribution of use of eye drop self-medication by participants' gender

Eye drops use	Gender				P-value
	Male		Female		
	No	%	No	%	
Causes of using unprescribed eye drops					
Eye redness	33	57.9%	66	43.4%	
Itching	36	63.2%	69	45.4%	
Eye pain	15	26.3%	32	21.1%	
Blurred vision	9	15.8%	23	15.1%	.231
Excessive lacrimation	10	17.5%	24	15.8%	
Eye discharge	4	7.0%	7	4.6%	
Eye dryness	4	7.0%	15	9.9%	
Peri-orbital oedema	1	1.8%	4	2.6%	
Types of used eye drops					
Moistening drops	40	70.2%	104	68.4%	
Antiallergic drops	3	5.3%	20	13.2%	
Antibiotic drops	4	7.0%	2	1.3%	
Saline drops	0	0.0%	4	2.6%	.126
Anti-inflammatory without cortisone	3	5.3%	5	3.3%	
Anti-inflammatory with cortisone	0	0.0%	2	1.3%	
Don't remember	7	12.3%	15	9.9%	

P: Exact probability test

the general public and imposing regulations on the non-prescription use of drugs could help reduce the challenge of the self-medication practice.

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