Prevalence of self-medication use, and the attitude and practices toward traditional eye medicines regarding eye symptoms

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Abstract

Background: Self-medication is defined by the World Health Organization (WHO) as the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms [4]. Use of traditional eye medicines or ophthalmic medicines without the supervision of an ophthalmologist may have adverse effects on the patient's visual outcome. It is well known that this attitude and practice carries pharmacological and toxicological risks, such as a delayed diagnosis or inappropriate treatment, causing side-effects, intoxication or harmful drug interactions, which can aggravate the individual's condition and eventually negatively impact the patient's visual prognosis [5].

Materials and methods: The study was a cross-sectional study. All data was collected using an online self-designed questionnaire that contained demographic data, such as the patient's age, gender and level of education. There were also questions regarding the knowledge, attitude and practice of using over-the-counter (OTC) eye medication and TEM use among the Saudi population living in the Kingdom of Saudi Arabia.

Result: The study sample included 894 respondents. Results showed that in the past 12 months, only 6.82% of respondents used eye medications without visiting an ophthalmologist. The most common self-prescribed medications were anti-allergic and antibiotics. The results revealed that 148 respondents had previously used TEMs (16.4%). The majority of respondents (86.6%) preferred medications over TEM to treat eye diseases.

Key words: self-medication, traditional eye medication, Saudi Arabia, ophthalmology, eye

Introduction

The eyes are vital organs that help us to navigate the world. There are common practices for the use of traditional eye medicines (TEMs) and self-medication across the world and relates to the perceived quality of a country's healthcare system [1]. TEM refers to use of biologically related medicines, therapies or any practices that are applied to the eye or administered orally to resolve any eye-related disorders [2]. TEMs are biologically derived therapies that are usually dried parts of various plants that are rendered soluble in an aqueous medium [3]. Self-medication is defined by the World Health Organization (WHO) as the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms [4]. Use of traditional eye medicines or ophthalmic medicines without the supervision of an ophthalmologist may have adverse effects on the patient's visual outcome. It is well-known that this attitude and practice carries pharmacological and toxicological risks, such as a delayed diagnosis or inappropriate treatment, causing side-effects, intoxication or harmful drug interactions, which can aggravate the individual's condition and eventually negatively impact the patient's visual prognosis [5]. The WHO and its partners have launched a global initiative titled "The Right to Sight" to reduce visual impairment and burden of eye illness [6]. To achieve the desired prognosis, it is important for the patient to consult an ophthalmologist or a physician regarding any eye problem and to take appropriate medicines and follow treatment instructions. Attitudes and practices related to TEMs and self-medication have not been extensively studied in the Saudi population [7], especially in the capital city of Riyadh. Therefore, this cross-sectional population-based study was aimed at assessing current practices and knowledge regarding common eye diseases and their symptoms and to determine the prevalence of self-medication use and TEM use among Riyadh and other city populations.

Methodology

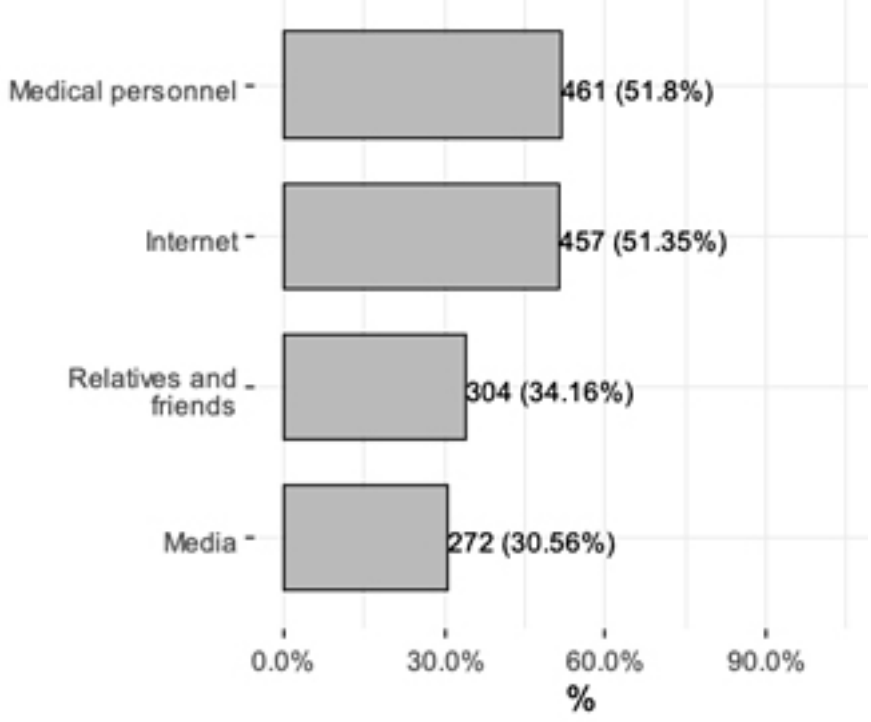
The study was a cross-sectional study. All data was collected using an online self-designed questionnaire that contained demographic data, such as the patient's age, gender and level of education. There were also questions regarding the knowledge, attitude and practice of using over-the-counter (OTC) eye medication and TEM use among the Saudi population living in the Kingdom of Saudi Arabia.

Total participants were 894 males and females. The data was statistically analyzed using R v 3.6.3, and counts and percentages were used to summarize participants' responses. Using check box questions, the percentage for each response was calculated from the total sample size. Bar plots were used to visualize the responses. The Chi-Square Test of Independence was used to assess the factors associated with self-medication.

Results

The study sample included 894 respondents. Males and females represented 19.9% and 81.1%, respectively. More than half of the respondents were from Riyadh (61.5%). The average age of the study sample was 41.3 ± 11.3 years. Regarding education level, 66% of respondents completed university education, and 20.2% were only educated to high school level. Less than 5% of respondents completed a secondary education, and 8.72% had a post-graduate degree. Students represented 10.5% of the study sample. In contrast, employed and unemployed respondents represented 34.1% and 39.9%. The majority of respondents did not report any eye problems (83.7%). Eye diseases reported by respondents included inflammation (10.9%), cataract (3.69%), keratoconus (1.23%), and strabismus (0.78%). The majority of respondents did not have any eye medications at home (87.7%).

Figure 1: Source of information regarding eye diseases (n = 854)



The most common sources of information regarding eye diseases were from medical personnel (51.8%) and the internet (51.35%). Respondents who obtained their information from friends and relatives or the media, represented 34.16% and 30.56% of the study sample (Figure 1).

Results showed that in the past 12 months, only 6.82% of respondents used eye medications without visiting an ophthalmologist. The most common self-prescribed medications were anti-allergic and antibiotics (Figure 2). The medication was recommended by a GP or a physician (who was non-specialized in ophthalmology) in 34.4% of the cases and was recommended by a pharmacist in 27.9% of cases. Approximately three-quarters of respondents read the drug leaflet (70.5%), and the majority of respondents checked the expiry date (86.9%). Slightly less than three-quarters of respondents were aware of the adverse effects of self-prescribed medication (68.9%). The reasons given by 59 participants for using non-prescribed medications are shown in (Figure 3).

The most common reasons for using self-prescribed medications were redness of the eye (47.46%) and itching (42.37%). Other reasons included eye irritation (30.51%), a burning sensation (25.42%), watery eyes (20.34%), and blurring of vision (20.34%).

Figure 2: Use of non-prescribed medications for eye problems (n = 32)

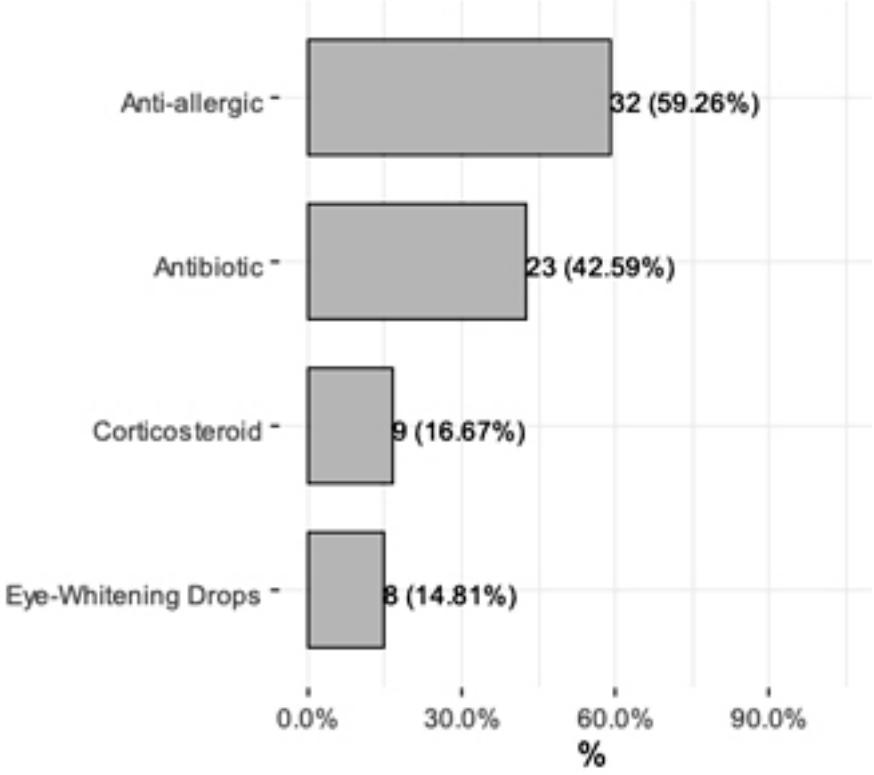
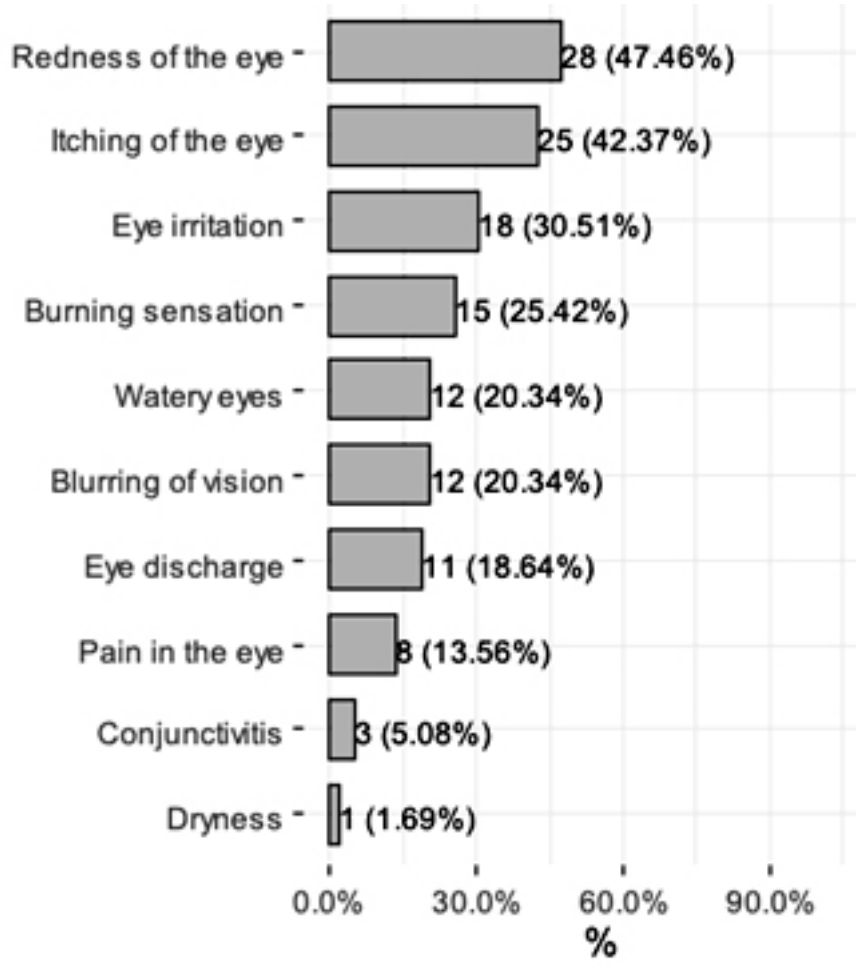
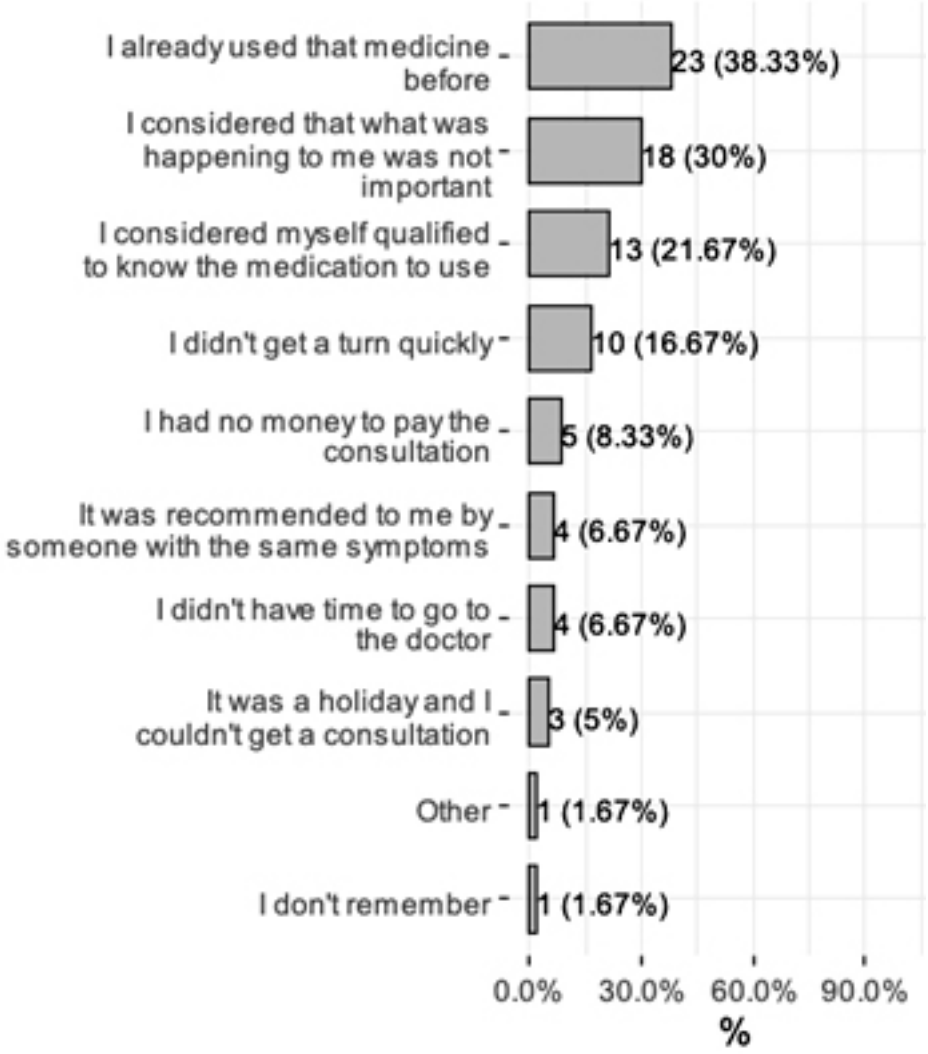


Figure 3: Reasons for using non-prescribed medications (n = 59)



Anti-allergic medications were the most commonly used class of medications (n = 32, 59.26%), followed by antibiotics (42.59%) and corticosteroids (16.67%). Eye-whitening drops were used by 14.81% of the respondents who reported using self-prescribed medications.

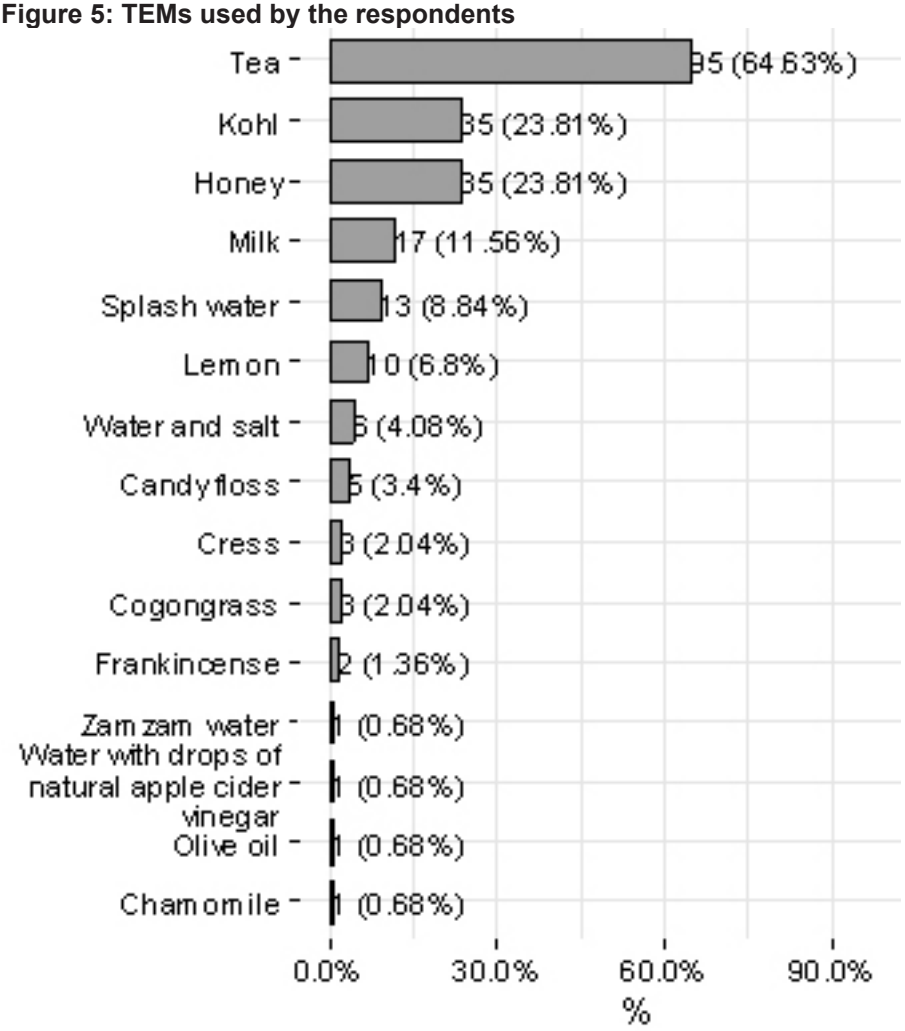
Figure 4: Reasons for not consulting an ophthalmologist before self-prescribing eye medications (n = 59)



The most common reason that participants self-prescribed eye medications was because they had previous experience of using the same medication (38.33%). Some respondents did not consider the eye disease/problem to be important (30%), and slightly less than one-quarter of respondents considered themselves qualified enough to know which medication they could use (21.67%). Financial issues was the reason for not consulting an ophthalmologist in 8.33% of the cases (Figure 4).

The results revealed that 148 respondents had previously used TEMs (16.4%). The TEMs used are shown in Figure 5. Slightly less than half of the respondents (45.3%) believed that TEMs are safe and effective. Only 10.1% of respondents experienced eye injuries due to TEM use. The majority of respondents (86.6%) preferred medications over TEM to treat eye diseases.

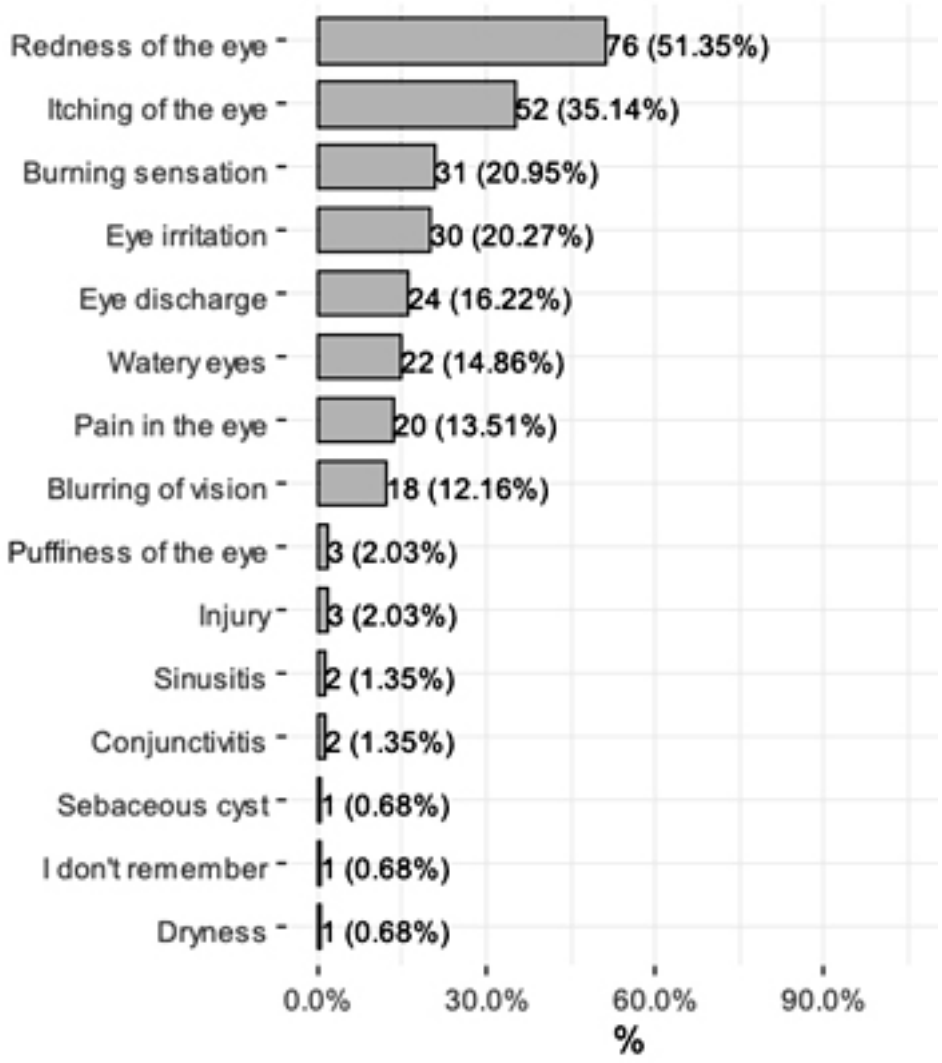
Figure 5: TEMs used by the respondents



Percentages were calculated from respondents who reported using TEM (n = 147)

The most commonly used TEM was tea, as reported by 64.63% of respondents. Kohl, honey, and milk were used by 23.81%, 23.81%, and 11.56% of respondents, respectively. Splash water and lemon were used by 8.84% and 6.8% of respondents, respectively. Water and salt were used by 4.08% of respondents who reported using TEM(Figure 5).

Figure 6: Reasons for using TEM (n = 148)



Results showed that eye redness was the most common reason for using TEMs (51.35%), followed by itching (35.14%), and burning (20.95%) (Figure 6).

Eye complaints and the availability of eye medications at home were associated with a higher frequency of use of self-prescribed medications ($P < 0.001$). No other factors were associated with the frequency of use of self-prescribed medication.

On the other hand, eye problems and the use of media as a source of information were associated with a higher frequency of use of TEMs ($P < 0.05$). No remaining factors were associated with the frequency of use of TEMs.

Discussion

The aim of this study was to determine the prevalence and attitude towards TEMs, and self-medication use among Saudi citizens.

In the Kingdom of Saudi Arabia, the use of complementary and alternative medicine (CAM) has gained broad popularity. However it has also raised several questions and increased fears about its professionalism, safety and effectiveness. Adulteration, incorrect formulation, drug interactions and the use of plants and herbs have all led to adverse effects that can be life-threatening or fatal to patients [8]. It is a matter of great concern when complications occur and ophthalmic side effects increase due to self-medication. Many self-medications are safe and efficient, however misuse of these drugs due to a lack of information about them can lead to serious side effects. In the Saudi population, the use of TEM and self-medication are not well documented [9].

In our study, 16.4% of participants used TEMs. The prevalence of use of TEM was lower compared to other studies conducted in Taif City, Saudi Arabia by Bifari et al. (2020). Most Taif City participants were from the age group of 20-29 years (43.9%). However, 22% of Taif City participants considered TEMs to be safe and effective [10]. In our study, the majority of participants (34.3%) were from the age group 36–45. However, TEM use was higher among the age group 46–55 which accounted for 26.2% of our participants [11]. This may have been due to an overall increased level of awareness in the Saudi population or because the majority of participants in the survey were from the capital, Riyadh, where population awareness is higher than in other cities.

Ophthalmic self-medication seemed to be independent of gender in the Colombian population, as well as in the Brazilian cohort [12]. However, our study is consistent with a study conducted in the Argentinean population where a higher tendency to use this approach was found in women. Regarding age, the average age of our study sample was 41.3 ± 11.3 years. However, all three Latin American studies demonstrated that the misuse of ophthalmic topical preparations was independent of age, despite there being a non-significant tendency toward people from the 18–50-year-old age group to self-medicate in all three countries [12].

Only 6.82 percent of respondents in our survey utilized eye medicines instead of consulting an ophthalmologist. These reassuring results indicate that our society is aware about the risk of using medication without prescription and understand that they can receive satisfactory treatment from their nearest primary health care providers due to the difficulty of obtaining antibiotics without medical prescription. Furthermore, anti-allergic medications were the most commonly used class of medications 59.26%, followed by antibiotics 42.59%. This is not consistent with other studies conducted by Ajayi et al. (2014), Al-Azzam et al. (2007) and Berzanskyte et al. (2006) [13] [14] [15]. This might be due to the belief that most eye problems are due to allergies. Furthermore, the use of antibiotics in our study population was mostly for non-infective eye conditions like allergic conjunctivitis, refraction, glaucoma, corneal laceration, cataract etc.

A study conducted in the Kingdom of Saudi Arabia by Akeel et al. (2018) reported that the use of traditional medicines for any problems was found to be three times greater among high school participants [16]. In contrast to our sample, participants with a university degree (18.0%) and post-graduate (16.7%) had the highest percentage of TEM use. Our sample study supported and corresponded with previous research findings conducted in Zimbabwe and Nigeria, which showed that traditional eye medicines are not dependent on the participant's level of education [17] [18].

According to Marquez et al, family members' counsel was the most motivating element for self-treatment [19]. During our study, the most common reason for self-prescription of eye medications was due to previous experience of using the medication 38.33%. Some respondents did not consider the eye disease/problem important (30%), and slightly less than one-quarter of the respondents considered themselves qualified to know which medication they could use (21.67%). Financial issues were the reason for not consulting an ophthalmologist in 8.33% of the cases.

Respondent opinion regarding the safety and effectiveness of TEM was requested and less than half of the respondents who had used TEMs before (45.3%) considered them to be safe and effective. Another study conducted in the Kingdom of Saudi Arabia by Al-Ghamdi et al. (2017) established that most users believe traditional or herbal medicines to be efficient and safe.

These findings can help us to understand how people may underestimate the risk and complication of traditional eye medicine. The use of media as a source of information is associated with a higher frequency of TEM and OTC use, and this might explain how even educated people could be prone to misleading information.

In our study we faced some constraints and barriers between ourselves and the older age group since our method of conducting data was through the use of an online survey. This made it difficult to contact them. The second barrier was that most of our respondents were from Riyadh City, which is the capital, and may not reflect the same convictions and uses as other cities.

Conclusion

Our results indicate that self-medication is not common and raises the question of why TEMs are more popular. The National Center for Complementary and Alternative Medicine (NCCAM), with the cooperation of ophthalmologists, need to investigate the safety and effectiveness regarding TEM use. The findings from this research can provide insights into how misleading media and lack of knowledge can affect our decision. Notably, promoting information to patients regarding the side effects of ophthalmic self-medication, in addition to increasing awareness concerning TEM, is necessary. Further research in this field is needed.

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