Use of traditional eye medicine and self-medication among population of Taif City, Saudi Arabia: a cross sectional study

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Abstract

Background: The haphazard use of traditional eye medicines (TEM) has increased eye problems like corneal ulceration and infections. Lack of knowledge regarding the adverse side effects regarding these biological products is an important concern of public health. The widespread use of medicines for eye related problems, without a doctor's consultation or prescription, is common practice. The aim of this study is to assess the prevalence of self medication and attitude and practice regarding the use of TEM for eye related problems.

Materials and methods: We did a cross-sectional study using a pre-tested and validated questionnaire. The study was done in a private shopping mall in Taif city, Saudi Arabia during the month of October, 2018 after obtaining ethical clearance. We included responses of 431 participants for our analysis. The questionnaire included two parts, part 1 recorded the socio-demographic details and part 2 had questions related to knowledge, attitude and practice related to self medication and use of TEM. An independent statistician did the statistical analysis using SPSS ver. 23.

Results: The prevalence of self medication for eye problems in our study was found to be 35% who preferred using traditional eye medicaments over modern medicines. There was a very strong relationship between the education level of the participants and usage of medication without consulting a doctor ($p<0.001$). Redness of the eye due to usage of TEM was reported by 2.9% of the participants.

Conclusion: The use of TEM and self medications for eye problems in Saudi Arabia is not uncommon. Even though most of the participants are aware of the harmful effects of some of the Traditional medicaments, there is a need to raise the knowledge and awareness regarding use of TEM and self medicaments for eye problems.

Key words: eye problems, self medication, Saudi Arabia

Background

Eyes are one of the vital organs of human body and it is essential to take care of many things to keep them healthy and also avoid many things to protect them from harm. Some of the things people commonly do to maintain good eye health are wear sunglasses, stop smoking, eat healthy diet, routine eye examination especially above age of 40 years, protection of eyes during work or sports, use of contact lens etc. World Health Organization (WHO) and its partners have launched a global initiative titled 'The Right to sight' to reduce visual impairment and burden of eye illness (1). It is also important to consult a physician or ophthalmologist for any eye problem and take appropriate medicines and follow treatment instructions. There is a common practice of use of Traditional eye medicines (TEM) in much of the population especially in those from the Asian countries.

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).

In a study conducted in India about the use of traditional eye medicine (TEM) and self-medication in rural India, they found that 396 (18.2%) use ophthalmic medications without consulting an ophthalmologist. Also, (61.4%) of participants use kajal, (31.4%) honey, (11.7%) ghee and (9.1%) rose water as home remedies for the eye(3). Another study in Africa, reported that cases with acute corneal ulcers had a history of usage of traditional eye medication. The study also found that the medication used consisted of dried plant material as per the information from traditional healers in Malawi (4). In south-eastern Nigeria, the reported prevalence of TEM usage among new ophthalmic outpatients is low and only (5.9%) used TEM for their eye disease and belief in potency of TEM was the main reasons for using traditional eye medication (5).

A study conducted in Pakistan identified some of the most common home remedies used for each eye condition as follows: a) for burning, itching, watering and foreign bodies - splashes of cold water, b) for redness, pain, swelling and crusting of eye– alum was commonly used c) For minor trauma like finger nail trauma etc. - surma (a traditional ceremonial dye which keeps eye cooler) was used and d) For sharpening of the vision - surma with some other substances combination was used (surma, honey, black pepper and turmeric paste)(6).

A study done in the district of Harare, Zimbabwe reported the prevalence of TEM usage among new patients was 61.5% and they found that there is significant association between use of TEM and incidence of corneal ulceration, corneal vascularisation, endophthalmitis, evisceration, exenteration and legal blindness at presentation(7).

The use of TEM in the Kingdom of Saudi Arabia lacks proper evidence and there are no recent studies done regarding the same in spite of its usage in many regions in Saudi Arabia which could have a relationship with many eye complications. Hence, the main aim of this study was to assess the prevalence of use and attitude towards of self medication and TEM use among a cross sectional population of Saudi Arabia. Also, we will assess knowledge and practice about common eye disease and symptoms among the Taif city population.

Methodology

Study design and data collection:
The study was a cross sectional study. All the data required for the study was collected using a self-designed questionnaire containing demographic data and questions to assess knowledge, awareness and practice about traditional eye medication. The questionnaire was pre-tested using a pilot study done on 25 patients and it was checked for its validity and reliability.

Setting:
The study carried out in Taif city, Saudi Arabia through World sight day campaign was carried out at a Private shopping mall in the month of October 2018 (11th October).

Study population and sample:
Convenient sampling technique used according to the availability of the participants in the World sight day campaign. Participants were informed about the nature of the survey and were informed about the confidentiality and anonymity of the information they provided. A final sample of 431 participants from both genders was included. Participants who did not give consent for participation were excluded from the study.

Data Management and Statistical Analysis:
Data entry and analysis was done using SPSS Ver. 23 (IBM Corp. USA). Descriptive statistics used frequencies, percentage, mean and standard deviation for analysis quantitative and numerical variables. Students 't' test was used for inter-group comparisons and chi-square tests used to test relationship between categorical variables and use of self medication.

A p value of less than 0.05 was considered statistically significant at 95% Confidence interval with a β value (0.8)80%.

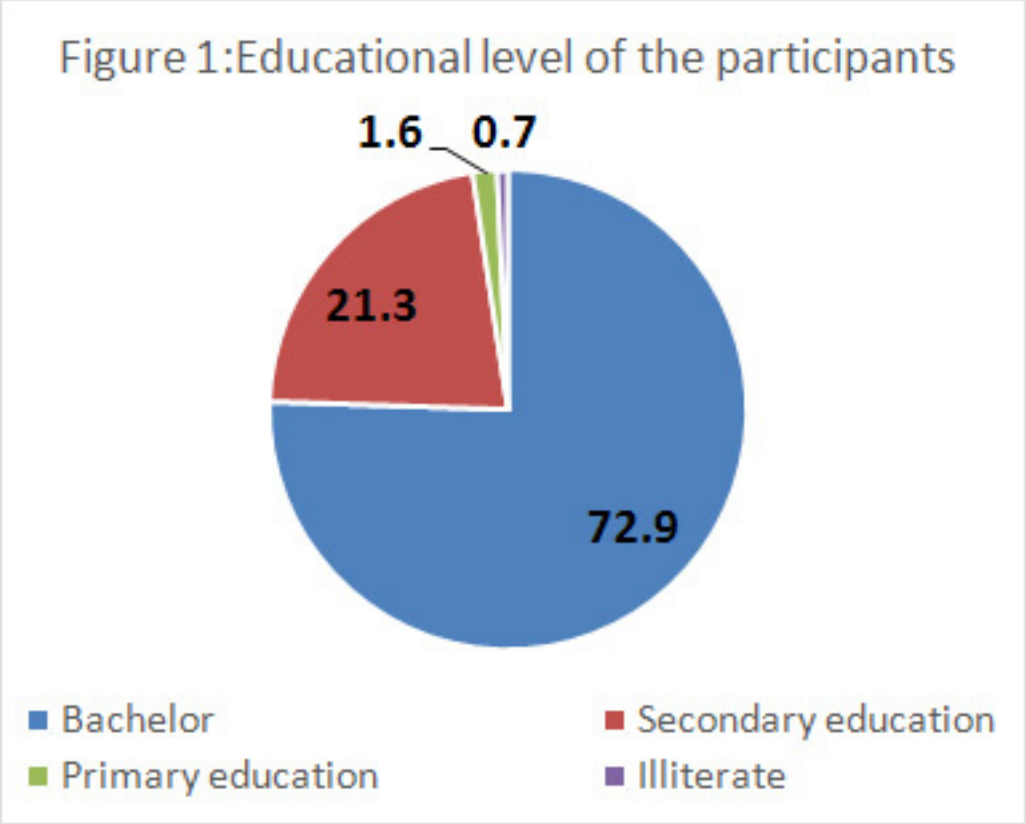
Ethical consideration:
The study was approved by the Ethical Committee of Taif University.

Results

This was a cross-sectional survey that included 431 participants of which 75.6 % were female and 24.4% were male. We had participants from almost all age groups and the maximum number of participants (43.9%) was seen from the age group of 20-29 years. The minimum number of participants was seen from the age group 10-19 years (4.6%). Table 1 shows the prevalence of self medication as analysed in our study population and was found to be 35%.

Table 1: Age wise distribution of participants		
Age groups	Frequency	Percentage
10-19 years	20	4.6 %
20-29 years	189	43.9%
30-39 years	104	24.1 %
40 years and above	118	27.4%

The education levels of the participants showed that 72.9% of them had Bachelors degree and 0.7% were illiterate (Figure 1).



From the participants who had an eye problem, 43.4 % of them preferred to go first to a private eye clinic, while 32.3 % chose to go first to ophthalmologist in a government hospital.

The most given reason for not going to ophthalmologist in case of eye problem was ''other concern'' in 56 persons (13.0 %), then ''it takes too much time to reach hospital'' in 16 persons (3.7 %), then ''satisfied with treatment available to them'' in 15 persons (3.5 %), then ''Financial problems'' in 7 persons (1.6 %), then ''Afraid of treatment'' in 3 persons (0.7%), the least given answer was ''Family problems'' in 2 persons (0.5%).

When we asked the participants if they are using eye medications without consulting a doctor, 151 participants (35%) said "YES" they used medication without consulting doctors; on the opposite side 280 participants (65%) said "NO" they actually consult doctors if they want to take any medication. Redness of the eye followed by itching then burning sensation were the most common reported eye problems that make participants use medication without a consultation.

There was a very strong relationship between the education level of the participants and usage of medication without consulting a doctor ($p<0.001$). Participants with Bachelor level of education who answered "Yes" were 112 (25.9%) and those who answered "NO" were 202 persons (46.8%); 29 (6.7%_ with Secondary Education answered "YES" and 63 (14.6%) answered "NO" , and 01 (0.2%) with Primary Education answered "YES" and 6 (1.39%) answered "NO" and of those who were in the Illiterate category were 1 person (0.2%) who answered "YES" and 2 persons (0.4%) who answered "NO".

We observed that there was a very strong relationship between the age and using medication without counseling ($p<0.001$). Participants in the age group of 10-19 years who answered "yes" were 9 (2.08%) and those who answered "no" were 11 persons (2.55%). Among participants belonging to 20 – 29 years 69 persons (16%) answered "yes" and 120 (27.8%) answered "no". Among those who were in 30–39 years 40 persons (9.28%) answered "yes" and 64 (14.8%) answered "no" and of those more than 40 years of age 33 (7.65%) answered "yes" were and 85 (19.7%) answered "no".

In our study we found that out of 431 participants, 74.7% of them used to 'check the expiry date of the eye medicine', while 21.3% reported that they 'don't check the expiry date of the eye medicine' and 3.9% said "there is no expiry date on the medicine". 55% of them reported that they 'don't use anything beyond the eye medicine', 6.0% used 'Kohl Ethmed', 5.6% used 'honey', 2.8% used 'water and salt', 0.9% used 'milk', 0.5% used 'lemon', 0.2% used 'Ghee' and 29% used other things for eyes. The majority of the participants (90.7%) reported that they prefer using modern medicines to traditional medication to treat eye problems and 9.3% prefer traditional medication. 78.0% of the participants reported that they 'don't think traditional eye medications are safe and effective'.

When participants were asked whether they suffered from any eye problems due to use of traditional medicaments, about 73% of the participants answered "No", 16.5% "other" and 10.4% "Yes". Table 2 shows the most common eye symptoms related to using traditional eye medications.

Table 2: Frequencies of eye problems due to usage TEM.

	Frequency	Percent
Redness of the eye	11	2.6
Watery eyes	4	0.9
Discharge from the eye	2	0.5
Burning sensation	8	1.9
Itching of the eye	4	0.9
Decrease in vision	6	1.4
Pain in the eye	1	0.2
Blurring of vision	4	0.9
Other	3	0.7
Didn't answer	388	90.02
Total	431	100.0

When the participants were asked 'what is the right time to consult a doctor in case of trauma to the eye?', 68.4% of them reported that it is necessary to consult the doctor "immediately", 13.5% think that they will consult the doctor "as needed", 6.0% said that they will consult the doctor "within 6 hours", 4.9% (within 7-24 hours), 3.5% chose "I do not know", 2.6% "within 1-7 days" and 1.2% "Anytime".

Two thirds of the participants had the belief that using lemon inside the eye causes injury to it, however half of the participants think using 'ethmed khol' inside the eye does not cause injury to it. The majority of the participants think that using chemical substances and fireworks in the eye causes injury to the eye (Table 3).

Table 3: Questions related to injury of eyes due to TEM usage

Questions	Answers	Frequency	Percent
Do you think that using honey inside the eye causes injury to it?	yes	169	39.2
	no	146	33.9
	I do not know	116	26.9
Do you think using lemon inside the eye causes injury to it?	yes	283	65.7
	no	76	17.6
	I do not know	72	16.7
Do you think using ethmed khol inside the eye causes injury to it?	yes	124	28.8
	no	216	50.1
	I do not know	91	21.1
Do you think fireworks in the eye causes injury to it?	yes	341	79.1
	no	63	14.6
	I do not know	27	6.3
Do you think using chemical substances inside the eye causes injury to it?	yes	342	79.4
	no	60	13.9
	I do not know	29	6.7

Discussion

This cross-sectional study was conducted to find out the prevalence of and attitude toward self medication and TEM use among Taif city population. In our study, 35% of participants reported that they used medication for eye problems without consulting a doctor. A study conducted in the city of Riyadh found that 35% of medications bought by patients from community pharmacies without a prescription were those that 'must be prescribed by a doctors only' medicines; however, in our study, after nearly three decades, we found a similar situation (8). This finding is in contrast to other studies done in different countries of the world (9-11,3). In our study, we found that only 9.3% of the surveyed population prefer traditional medicines over allopathy. The study findings show that the prevalence of use of TEM was lower compared to other studies conducted in the Indian population where 25.7% of patients were using TEM.(3)

A study done by Akeel MM et al in Saudi Arabia reported that use of traditional medicines for any problems is found to be three times higher among participants with high school degrees compared with those holding university degrees (12) . People with higher educational levels are more concerned and exposed to information, and are ready to accept new treatment ideas and facilities (13). This could also be related to the use of TEM for eye problems. Low educational level and income may push individuals towards finding ways to save on costs, and time on consultations by approaching pharmacists directly or indirectly obtaining them from relatives or friends (14).

When their opinion regarding the safety and effectiveness of TEM was asked only 22.0% of people responded yes to this. Another study done in the Kingdom reported that the majority of users believe that traditional or herbal medicines are effective and safe (15). Use of Complementary and Alternative Medicine (CAM) has gained wide popularity in Saudi Arabia and has also brought some concerns and fears over the professionalism of practitioners, quality, efficacy and safety of the 'natural' formulations available on the market. Adulteration, inappropriate formulation, drug interactions, misdetection of plants or herbs and or its usage has led to adverse reactions that are life-threatening or lethal to patients (16). Studies show people using self-medication, were not aware of the contents or expiry date of the ophthalmic preparations (17).

Use of traditional eye medicines and self-medication among the Saudi population is not well documented. 10.4% reported that they suffered from some eye problems related to the use of TEM. Among these common problems was redness of the eye. Chirambo and Benezra reported the prevalence of blindness was 25% among blind school pupils due to the use of TEM (18). The incidence of endophthalmitis was found to be higher (30%) following the use of TEM at the extremes of age in a study done by Chinda et al. (19). Studies reported that TEM was associated with the incidence of corneal ulceration, corneal vascularisation, endophthalmitis, evisceration, exenteration and legal blindness at presentation (20).
The use of these traditional medicines often leads to corneal infections and frequently result in a poor visual outcome. This infection is often due to contamination or wrong ingredients and also due to delay in antibiotic therapy (21).

68.4% reported that they would consult a doctor immediately for any trauma related to the eye. This gives us an indication that the participants are aware of the limitations of TEM in the case of an emergency. The participants believed that the use of honey (39.2%) and lemon (65.7%) causes injury to the eye.

We found out there is a very strong relationship between age and using the medication without consultation. This finding contrasts with other studies which reported that traditional eye practices are not dependent on the participant's age, gender, level of education, religion or marital status (11, 20).

The self-medication of antibiotics may cause significant adverse effects, such as treatment failure, drug toxicity and antibiotic resistance (21, 22). In order to reduce the frequency of self-medication, regulatory measures and public education regarding the side effects and dangers of self medications is very much needed. (23-24) Thus, the current situation can be further improved in Saudi Arabia by enforcing strict laws and regulations for TEM and aelf medications and also by increasing the public's awareness about the dangers of excessive consumption of antibiotics.

Conclusion

Our study demonstrates a higher prevalence of self medications for eye problems even though there are strict laws in the kingdom compared to other developing countries. Improper use of TEM has produced some injuries as reported by our patients and still it is common in the country. The government of Saudi Arabia needs to monitor and control the practice of self medications and also increase the awareness among the public regarding the adverse effects of these practices.

Conflict of interests: The authors declare no conflict of interests.

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