Self-Medicated Over the Counter Ophthalmic Solutions in Central Bangkok

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Background: *There is a paucity of research about patients' attitudes, motivations and expectations towards self-medicated over the counter (OTC) ophthalmic solutions.*
Objectives: *To identify the attitudes, motivations and expectations of general population towards self-medicated OTC ophthalmic solutions.*
Material and Method: *200 consecutive participants who were studying or lived in Patumwan District of Bangkok filled in a questionnaire in a 3-months period.*
Results: *67.5% (135/200) of the participants had an age range of 15-24 years old and 32.5% (65/200) were between 25-35 years old. Participants who were university graduates and currently university students were 53% and 35.5% respectively. Most history of illness was allergy (10/200). Half of the participants had normal vision and 40% (80/200) were near-sighted. The factor that most influenced the use of solution was dust in the eye (55%-111/200). Ocular allergic symptoms, such as eye itching, irritation and tearing, was the second. The most frequent symptom that induced the use of solutions was eye itching and irritation (48.5%-97/200). The symptom of red or pink eye was the second (33%-66/200). 48.5% (97/200) and 53.50% (107/200) of participants started using the solution at the time the influencing symptoms occurred and used for one day respectively. 46.5% (93/200) of the participants realized that the solution could be use only within 1 month after opening.*
Conclusion: *From the data of this survey, more information and knowledge about the use of OTC products needs to be campaigned, even among highly educated citizens in the center of Bangkok. Better information for patients could improve the safety of OTC medicines. The ways of advising patients need to be found. The uncertainty is, therefore, how far this trend will go and how health care professionals and consumers will respond.*

Keywords: *Ophthalmic, Solution, Over the counter, Self-medicated*

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Self medication with over the counter (OTC) medicines has long been a feature of the lay health system especially in developing countries[1,2]. There is a paucity of research about patients' attitudes towards the motivations and behaviors in using self-medicated OTC ophthalmic solutions. An ophthalmic solution is a mixture of a chemical solution used for primary care of some specific external eye condition, such as chemical injury of the eye, conjunctival or corneal foreign bodies. Due to the widespread and ease of use, ophthalmic solution may be the most common ophthalmic medication that is generally known and ever used in their experiences. But ophthalmic solution is not a magic solution, use of the solution need knowledge, care and appropriate indications in the right time and right way too. The authors conducted the present study to identify the attitudes, motivations and behaviors of participants towards self-medicated OTC ophthalmic solutions. Knowing this information is the way ophthalmic health care professions can improve the risk of adverse effects of self-medicated OTC medicines that impact on ophthalmic health care in general.

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Material and Method

The authors recruited sequentially 200 par-

ticipants from the community, who were studying or living in Patumwan District of Bangkok and willing to answer a questionnaire were enrolled in a 3-month period.

Questionnaire

Participants were administered a structured questionnaire by interviewers. The questionnaire was adapted from a more extensive, previously validated instrument.

Section 1 of the questionnaire was designed to obtain demographic information about the population being surveyed; this included age, gender, status, education, career history and nature of current place of employment, history of illness and refractive errors.

Section 2 asked participants to indicate factors that were likely to influence the use of self-medicated OTC ophthalmic solutions, such as motivations, expectations and behaviors of use, principal diseases or problems, label notification before use, timing and duration of use.

Section 3 attempted to identify the knowledge in using OTC ophthalmic solutions, including the place and the way of keeping the solutions, and qualitative comments on the experiences of participants with respect to the use of OTC ophthalmic solutions, in an attempt to identify advantages and disadvantages in their use.

Statistical Analysis

Initial analysis provided frequencies and percentage-response rates for each question or statement in the survey. Descriptive analysis was employed to distribute the acquired data.

Results

Section 1

Demographic information of 200 participants obtained in section 1 of questionnaire (Table 1) shows the participants were in the studying and young working age group. About two-thirds of the participants were in the age range of 15-24 years old and another one-third was between 25-35 years old. About half of the participants were university graduates and one-third were university students. Most history of illness was allergy (10/200). Half of the participants had normal vision and 40% (80/200) were near-sighted.

Section 2

The factor that most influenced the use of self-medicated OTC ophthalmic solution was dust in the eye (55%-111/200). Ocular allergic symptoms, such as eye itching, irritation and tearing, was the runner up influencing factor among the participants (Table 2).

The most frequent symptom that induced the use of OTC ophthalmic solutions was eye itching and irritation (48.5%-97/200). Symptoms of red or pink eye were the runner up (33%-66/200) (Table 3).

Fifty-six percent of the participants (112/200) read the instructions on the label of the OTC ophthalmic solutions before use. However, as many as nearly half of the participants (88/200) used the OTC product without instruction concern (Table 4).

According to the starting time of use of OTC ophthalmic solutions, forty-eight percent (48.5%-97/

Table 1. Demographic information of the participants

Demographic Information		n (%)
Age (Yrs)	15-24	135 (67.50)
	25-35	65 (32.50)
		200 (100.0)
Education	Higher Education	106 (53.00)
	High School	57 (28.50)
	Occupational Education	15 (7.50)
	Secondary School	22 (11.00)
		200 (100.0)
Career	University Student	71 (35.50)
	Merchant	36 (18.00)
	Officer	32 (16.00)
	Student	27 (13.50)
	Employee	23 (11.50)
	Government service	8 (4.00)
	Govern. affiliated officer	3 (1.50)
		200 (100.0)
History of illness	Allergy	10 (5.00)
	Asthma	2 (1.00)
	Diabetes mellitus	1 (0.50)
	Heart diseases	1 (0.50)
	Hypertension	1 (0.50)
	Gastric	1 (0.50)
	Thyroid	1 (0.50)
Refractive errors	Normal vision	102 (51.00)
	Near-sighted	80 (40.00)
	Far-sighted	12 (6.00)
	Astigmatism	6 (3.00)

Table 2. Influencing factors of use

Influencing factors	n (%)
Dust in the eye	111 (55.50)
Ocular allergic symptoms	37 (18.50)
Ocular foreign body	33 (16.50)
Dry eye/contact lens wearers	19 (9.50)
	200 (100.0)

200) started using the solution at the time the influencing symptoms occurred (Table 5).

For the duration of use of the OTC ophthalmic solutions, most of the participants (53.50%-107/200) use for one day and twenty-one percent (42/200) use for two days (Table 6).

Section 3

For the knowledge of expiration after first opening, almost half of the participants (46.5%-93/200) realized that the solution should be used within 1 month after first opening. About a quarter of the participants (23.5%-47/200) understood that the solution could be kept and used until it ran out (Table 7).

Table 3. Symptom of use

Induced symptoms	n (%)
Eye itching and irritation	97 (48.50)
Symptom of red or pink eye	66 (33.50)
Style or hordeolum	14 (7.00)
Blurred vision	9 (4.50)
Eye pain	7 (3.50)
Dry eye	7 (3.50)
	200 (100.0)

Table 4. Medicines Instruction Concern

Concern	n (%)
Read instruction before use	112 (56.00)
Use without instruction	88 (44.00)
Total	200 (100.00)

Table 5. Starting time of use

Starting time of use	n (%)
At the time of the symptoms	97 (48.50)
On the day of the symptoms	85 (42.50)
The day after the symptoms	21 (10.50)
More than 1 day after the symptoms	7 (3.50)
Total	200 (100.0)

Table 6. Duration of use

Duration of use	n (%)
1 day	107 (53.50)
2 days	42 (21.00)
3 days	37 (18.50)
> 3 days	14 (7.00)
Total	200 (100.0)

Table 7. Knowledge of expiration after first opening

Knowledge of expiration after first opening	n (%)
Expire 1 month after first open	93 (46.50)
No Expiration, can be used until it ran out	47 (23.50)
No idea	27 (13.50)
Expired 1 year after first opening	20 (10.00)
Expired 3 months after first opening	13 (6.50)
Total	200 (100.0)

Table 8. Statements of participants' experiences in using the OTC ophthalmic solutions

Participants' statement (N = 200)	n (%)
Keep the eye cup after use without washing	14 (7.00)
Use the eye cup without washing before use	9 (4.50)
Wearing contact lens while irrigating the eye	6 (3.00)
Reload the used solution back into the bottle for next time	4 (2.00)
No hand washing before use	4 (2.00)
No care of heat or sun light exposure for the solution	3 (1.50)

Discussion

200 participants were in the studying and young working age group, range 15-35 years old. Half of the participants were university graduates and one-third were university students. So, the information obtained should be reliable. Most of the history of illness was allergy (10/200). Half of the participants had normal vision and 40% (80/200) were near-sighted. Behaviors of self-medicated OTC ophthalmic solution usage are:

1. The factor that was most influenced the use of self-medicated OTC ophthalmic solution was dust in the eye (55%-111/200). 16.5% (33/200) of the participants used it for an ocular foreign body that came the third frequent in this series. That means nearly three-quarters (72%-144/200) of the ophthalmic solution used in this survey was appropriate for the rational indication of use, dust in the eye and ocular foreign body. Ocular allergic symptoms, such as eye itching, irritation and tearing, even though it was not indicated theoretically, was the runner up second place in influencing factor among the participants (18.5%-37/200).

2. The most frequent symptom that induced the use of OTC ophthalmic solutions was eye itching and irritation (48.5%-97/200) that were appropriate for use. However, 51.5% (103/200) still used an ophthalmic solution in an inappropriate conditions that might make the conditions worse than doing nothing such as in

the conditions of infection of lid and conjunctiva (pink eye (33.5%) and style (7%)).

3. For the instructions of medications concern, fifty-six percent of the participants (112/200) read the instructions on the label of the OTC ophthalmic solutions before use. However, as many as nearly half of the participants (44%-88/200) use OTC product without instruction concern that might lead to improper use of solution and avoidable adverse effects would occur.

4. According to the starting time of use of OTC ophthalmic solutions, about nine of ten (91%-182/200) started using the solution at the right time, at the time of the influencing symptoms occurred (48.5%) and on the day of the symptoms (42.5%). Only 10% had a delayed use and might worsen the eye conditions at the time of use more than the benefit.

5. About the duration of use of the OTC ophthalmic solutions, most of the participants (53.50%-107/200) used them for one day. About half of the participants used the ophthalmic solution for too long period. If the ophthalmic solution was used once or twice and the problem was not resolved, an ophthalmologist should be consulted.

6. For the knowledge of expiration after first opening, almost half of the participants (46.5%-93/200) realized the correct information that the solution should be used within 1 month after first being opened. More than half had no knowledge or wrong information that needs to be corrected about the expiration of the solution, such as no expiration. The durability of the solution will depend on the formulation and the preservative in each solution.

7. For participants' experiences in using the OTC ophthalmic solutions, some (1.5%-7%) still had inadequate or wrong knowledge, such as keeping the eye cup after use without washing, use the eye cup without washing before usage, wearing a contact lens while irrigating the eye, reloading the used solution back into the bottle for the next time, do not wash their hand before use and do not take care of heat or sun light exposure for the solution, all that might cause the risk of being in serious danger to the eye.

From the data of the present survey, more information and knowledge about the use of OTC products needs to be campaigned, even among highly educated citizen in the center of Bangkok. The increasing trend towards deregulation of more medicines to OTC status has implications for the primary health care team as well as for consumers and patients[3-5]. Better information for patients could improve the safety of OTC medicines, but better systems need to be devised for reporting adverse reactions[6,7].

Ways of advising patients need to be found. The uncertainty is, therefore, how far this trend will go and how health care professionals and consumers will respond.

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ทัศนคติ เหตุผลและพฤติกรรมในการใช้น้ำยาล้างตาด้วยตนเองของประชาชนใจกลางกรุงเทพมหานคร

ปกิตติ ทยานิธิ, พรอนงค์ อร่ามวิทย์

วัตถุประสงค์: *เพื่อศึกษาทัศนคติ เหตุผลและพฤติกรรมในการใช้น้ำยาล้างตาด้วยตนเองของประชาชน เพื่อใช้เป็นแนวทางในการให้คำแนะนำเพื่อการใช้น้ำยาล้างตาที่ถูกต้องเหมาะสม*

รูปแบบการศึกษา: *แบบเชิงพรรณนา แบบไปข้างหน้า ข้อมูลได้จากการตอบแบบสอบถาม*

สถานที่: *เขตปทุมวัน กรุงเทพ ฯ*

วัสดุและวิธีศึกษา: *ประชาชนทั่วไปที่กำลังศึกษาอยู่หรือพักอาศัยอยู่ในเขตปทุมวัน กรุงเทพฯ ที่เคยใช้น้ำยาล้างตาด้วยตนเอง และยินดีที่จะตอบแบบสอบถาม ทั้งหมดจำนวน 200 คนในช่วงเวลา 3 เดือน*

ผลการศึกษา: *67.5% (135/200) และ 32.5% (65/200) ของผู้ตอบแบบสอบถามมีอายุระหว่าง 15-24 ปีและ 25-35 ปี ตามลำดับ 53% ของผู้ตอบแบบสอบถามจบการศึกษาระดับอุดมศึกษาและ 35.5% กำลังเป็นนิสิตและนักศึกษาในสถาบันอุดมศึกษา โรคภูมิแพ้เป็นโรคประจำตัวที่พบมากที่สุด (10/200) ประมาณครึ่งหนึ่งมีสายตาเป็นปกติ เป็นผู้มีสายตาสั้น 40% (80/200) 55% (111/200) ของผู้ตอบแบบสอบถามใช้น้ำยาล้างตาด้วยตนเองเพราะสาเหตุจากมีผงฝุ่นเข้าตา ส่วนสาเหตุจากมีอาการคันเคืองตาเนื่องจากการแพ้ มีน้ำตาไหลเป็นสาเหตุที่พบบ่อยลำดับที่สอง อาการคันและเคืองตาเป็นอาการนำทำให้ต้องล้างตาที่พบมากที่สุด (48.5%-97/200) รองลงมาเป็นอาการตาเจ็บตาแดง (33%-66/200) 48.5% (97/200) เริ่มใช้น้ำยาล้างตาทันทีที่มีอาการนำ และ 53.50% (107/200) ล้างตาเพียงวันเดียวเท่านั้น 46.5% (93/200) ของผู้ตอบแบบสอบถามทราบดีว่าสามารถใช้น้ำยาล้างตาได้ภายในเวลาไม่เกิน 1 เดือนหลังจากเปิดใช้ครั้งแรกแล้ว*

สรุป: *จากการศึกษานี้พบว่าการใช้ยาล้างตาของกลุ่มประชากรในวัยทำงานและวัยกำลังศึกษาระดับสูงใจกลางกรุงเทพฯยังมีความไม่รู้และความเข้าใจผิดในการใช้อยู่มาก การรณรงค์ให้ข้อมูลและสุขศึกษาแก่ประชาชนทั่วไปจะทำให้การใช้ยาด้วยตนเองมีความปลอดภัยมากขึ้น*