

## Ramadan and Eye Drops: Attitudes and Practices of Malay Muslims in Singapore

### Dear Editor,

One of the 5 fundamental rituals of Islam is fasting during the month of Ramadan. Islamic fasting requires abstinence from food, water, smoking and sexual intercourse between dawn and sunset.<sup>1</sup> Different schools of Islamic teachings have different views on the effect of illness on fasting ranging from prohibiting fasting to leaving the option to fast to the believers.<sup>2</sup> Thus, fasting is not mandatory for those who are unwell or when adverse to their health. However, despite this, many Muslim patients still choose to fast despite recommendations to the contrary by their physicians or religious leaders.<sup>3-5</sup>

Previous studies have found high rates of poor adherence to prescribed drug regime and lifestyles during the fasting month of Ramadan, often with undesirable outcomes.<sup>4</sup> Kumar et al have studied the views of the Muslims in the United Kingdom (UK) and India on the use of eye drops during the fasting month of Ramadan.<sup>5</sup> They found that Ramadan could be an important cause of non-adherence with prescribed ophthalmic treatment. However, despite the sizeable Muslim population in Singapore, there is a lack of knowledge and awareness of the views of the local Muslims towards the use of eye drops during Ramadan. This is the first study that explores the use of eye medications during Ramadan in Singapore.

### Materials and Methods

The study was a prospective observational questionnaire-based study of 100 consecutive Malay Muslim adults who visited the Ophthalmology Department. Ethics approval was obtained from the Domain Specific Review Board (DSRB).

An interviewer-administered questionnaire designed to assess the views of Malay Muslims in Singapore regarding the use of eye drops during Ramadan was used. Some questions in our questionnaire were adapted to the local context based on other published studies.<sup>4-5</sup> The participant was given a choice to be interviewed in either Malay or English. Data analysis was done using the Statistical Package for Social Science (SPSS) version 19.0 (SPSS Inc, Chicago, Illinois, USA). Results were analysed using chi-square tests and  $P < 0.05$  was considered to be statistically significant.

### Results

A hundred Malay Muslim participants were enrolled in the study of which 65 were male and 35 were female. The mean age of the subjects was  $52 \pm 16$  years, ranging from 22 to 90 years old (Table 1).

In total, 48% of respondents believed that using drops during the fasting month would break the fast. Amongst those who believed that using drops broke the fast, 75% of them thought that drops broke the fast as they often reached the throat and could be tasted. The remaining 25% of them reasoned that drops broke the fast and should be omitted irrespective of illness.

Amongst those who believed that drops would not break the fast, 57.7% of them felt the patient would be excused because of illness. The rest believed that drops would not break the fast even if they were tasted and reached the stomach because it was not a normal route of ingestion.

Table 1. Demographics of the Study Population (n = 100)

Characteristics	n (%)
Gender	
Male	65
Female	35
Age, years	
≤30	10
30 to 40	10
40 to 50	23
50 to 60	25
≥60	32
Highest Level of Education	
Uneducated	6
Primary school	25
Secondary school	42
Polytechnic/ Junior college	23
University & above	4
Occupation	
Employed	46
Homemaker	30
Student	1
Unemployed/retired	23

There was no difference regarding the use of drops based on age, gender, occupation and education. However, majority of younger respondents (<52 years old) felt that if drops were used during the fasting period, they should fast for additional days after the fasting month ( $P = 0.053$ ). These inclinations were not expressed by those in the older age groups.

Ninety-one percent of respondents would use eye drops if prescribed by a doctor during Ramadan. Participants who felt that drops would break the fast were 0.81 times less likely to use drops when prescribed during the fasting period (95% CI, 0.71 to 0.93,  $P = 0.01$ ) than those who thought that drops would not break the fast. The former group was 4.67 times more likely to make changes to drops regime (95% CI, 2.65 to 8.23,  $P < 0.001$ ) than those who thought otherwise.

### Perceptions on Possible Measures to Improve Adherence

Ninety-nine of the respondents (99%) believed that adherence would be improved if their Imam (Muslim religious leader) clarified that the use of drops during Ramadan was acceptable while 96 (96%) people believed that encouragement from their doctors would help to improve adherence. Other measures proposed to improve adherence in our questionnaires include understanding the long-term adverse effects of poor adherence, teaching patients how to prevent eye drops from reaching the throat, single dosing daily regime, making the drop tasteless and using only 1 drop per administration.

### Conclusion

We believe that both Imams and doctors can play a major role in advising and educating patients on the use of medication during the Ramadan period. If possible, a single tasteless drop of once-a-day regime may also help patients to adhere to their ocular treatment to a certain extent.

### REFERENCES

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