Factors Influence the Selection of Myopia Management Modality for Myopic Patients: A Pilot Study

Sritharishnini, Subhadeep Das, Mohd Zaki Awg Isa

Corresponding author:
m_zaki@msu.edu.my

Abstract
Myopia is a global eye health issue that can be corrected with spectacles, contact lenses or refractive surgery. Spectacle correction is the most prevalent method of managing myopia. This study investigated the factors influencing myopic patients to choose spectacles compared to other methods. A questionnaire consisting of 25 questions using a Likert scale was developed and administered through an online Google form survey for data collection. The Cronbach's Alpha test was used for reliability and validity testing. A total of 150 participants (Age=25.82±7.26; Female=74.7%) completed the survey. The reliability and validity test showed that the questionnaires had good reliability and validity (Cronbach's α=0.881). Five factors were identified that indicated that myopic patients preferred spectacle compared to contact lenses and other methods. The five factors were practitioner's recommendations, quality, style preference, choice, and cost. The practitioner's suggestion scored the highest (80.4%) for myopic patients to choose spectacle correction followed by quality (78.5%), style preference (73.2%), choice (64.5%) and cost (50.7%). Patients did not wear contact lenses because they may cause possible infections (71.3%) and complications (66.6%).

Conclusion: This study reveals that six factors influenced the decisions of myopic patients to choose spectacle correction compared to other methods, and the practitioner's suggestions and style are the main factors. Practitioners could use these factors to improve their services to match the needs and expectations of their patients for myopia management.

Keywords:
Myopia, myopia management, optical correction, contact lens, spectacle correction
Introduction

Myopia, also known as short-sightedness, is a condition in which the components of the eye are unable to focus the light rays on the retina, instead focusing them in front of the retina, resulting in refractive error. According to Flitcroft et al. (2019), myopia is now prevalently considered a critical public health problem that results in significant vision loss and is a risk factor for a variety of serious ocular diseases. In recent generations, myopia has become more widespread.

In most circumstances, refractive errors can be alleviated by wearing spectacles, contact lenses, or by refractive surgery. After a thorough examination and assessment of a myopic patient’s eyes, a prescription can be made to fit his or her vision demands, and clear vision can be regained. The most common and least expensive type of refractive error correction is spectacle correction.

Apart from providing quality eyesight, compliance has been connected to several other factors. Spectacles are indeed worn by people because they improve their looks and vision, boost their confidence and demeanour, and make them appear innocent and clever. Another type of optical device is the contact lens, which is a tiny, curved lens that is placed over the tear film that covers the eye’s surface. It can be classified as either a soft or hard contact lens. Although the lens is naturally translucent, a small bit of colour is often added to make it more cosmetically appealing to wear.

This study investigated the elements that influence myopic patients’ decisions to use spectacles as a myopia treatment. This will be useful in guiding future policy decisions as it may have an impact on prescription guidelines for spectacles and other optical equipment based on this information. This study aimed to provide evidence-based practice to give patients the best possible care.

Methods

Subjects and methods

A cross-sectional study using the random sampling method was carried out in this study. A questionnaire was created and spread online over social media at the beginning of August 2021. Myopic patients who prefer spectacles as their first choice of management for their refractive error were the inclusion criteria for this study. Myopic individuals who generally use contact lenses as their first line of management for myopia and hyperopic patients were the exclusion criteria of this study.

Results

A total of five variables with eigenvalues (> 1.0) were identified using principal component analysis, accounting for 63.6%. Cronbach’s alpha was used to assess the set of scale questionnaires’ reliability and internal consistency. The results were more than 0.5, yielding a result of 0.881, suggesting that the questionnaire is valid and the data is consistent.

A total of 150 participants completed the questionnaires, resulting in a 100% response rate with no missing values. The mean age of the participants was 25.8 ± 7.256 years. Most of the respondents were female (74.7%). The Indian race made up the majority of the respondents (36.0%), followed by Malays (34.0%), Chinese (24.0%), and others (6.0%). The mean duration of wearing spectacles among the respondents is (3.49 ± 1.360) years.

The highest contributing element in the choice factor that contributes to the purchase of spectacles over other optical equipment was one’s lifestyle (Figure 1), as it was agreed by 71.4% of respondents. With an 88.6% response rate, the element of long-term use has a significant impact on the quality factor. The aspect of a practitioner’s recommendation is influenced by the 94.7% of respondents who believe that following the practitioner’s advice will ensure their vision is as good as it can be. The majority of respondents (87.3%) felt that their spectacles are the first thing others notice about them, which has a significant impact on the style preference factor. 73.3% of respondents felt that spectacles were one of the less expensive management options, which contributed the most to the cost factor.

The overall average proportion of all factors that influence the choice of choosing spectacles over other optical devices among myopic patients was thoroughly reviewed. Overall, the most influential factor is practitioners’ recommendations, with a score of 80.5%, (Table 1) followed by factors’ quality at 78.5%, style preference at 73.2%, choice at 64.5%, and cost at 50.7%.
Discussion

This study investigated how myopic patients’ attitudes and perceptions influence their decision to wear spectacles rather than other optical equipment. This research also revealed five characteristics that can be used to understand myopic patients’ perspectives. The abbreviated names for these factors are: choice, quality, practitioner’s recommendations, style preference, and cost. Each of the factors influences myopic patients’ attitudes toward their correction options by influencing their decision to wear spectacles instead of other optical devices.

The highest influence factor on myopic patients’ selecting spectacles is the practitioner’s recommendations. This study reveals that most of the myopic patients do pay attention and listen to the advice of their practitioner’s suggestion of spectacles. Myopic patients see value in the practitioner’s recommendations. This finding can be supported by the findings of Wolffsohn et al., 2020, where practitioners with different recommendations influence the local practise patterns whereby myopic patients see value in the practitioner’s recommendations and listen to their advice.

Quality has played a role in influencing myopic patients’ decisions to purchase spectacles. Patients have demonstrated that the quality of the frames or lenses they purchase is important to them, as seen by the fact that they choose frames or lenses with longer warranties. When it comes to picking spectacles, quality matters, as evidenced in a study by Gogate et al. (2013) that found that non-compliance with spectacles occurs when the youngsters are unhappy with the quality of the spectacles offered, which were unquestionably “average.” Most myopic patients tend to be aware of the advantages of additional coatings since they want to keep their eyes healthy and clear. This research also supports a prior study by Fylan et al. (2005), which revealed that coatings and tinting are found to be vital among respondents in maintaining eye health.

Style preference also highly influences the choice of choosing spectacles among most of the participants, as they want to appear fashionable with their spectacles, which is why they strive for a better fit by following current trends. In a study by Bhatt et al. (2017), a wide variety of frames and designs are one of the contributing reasons for spectacle wear. This study supports the finding of Morjaria et al. (2019) that allowing patients to select their own frame from a cosmetically acceptable range may increase compliance by giving them a stronger feeling of ownership and happiness with their appearance. The style preference factor backs up the evidence that the availability of wide choices of frames and designs is a factor in selecting spectacles, as noncompliance occurs when an option is not given when they are selecting spectacles in the study by Gogate et al. (2013).

The choice factor of choosing spectacles is due to most of them being unaware of any other options to treat their refractive error or due to spectacles being the alternate option to contact lenses. This research supports the findings of most previous studies where contact lens noncompliance is associated with a lack of hand and lens-case hygiene, overwearing of contact lenses, poor attendance of patients at aftercare sessions, and insufficient usage of care and maintenance systems.

The factor of cost was the least influential compared to other factors (Figure 1). The cost was not an issue for most of the respondents as they gave more importance to the optometrist’s recommendations and the quality of the spectacles.

Conclusion

This study has revealed the five factors that have an influence on the selection of spectacles compared to other optical devices among myopic patients. Identifying the aspects influencing the choice of purchasing spectacles can emphasise information that will be perceived as being meaningful and personally relevant, which is likely to increase the satisfaction of the respondents. In spite of the high response rate to the questionnaire, there may be a difference in beliefs and values between respondents and non-responders. As respondents are more likely than non-responders to be concerned about their eyes, any bias is likely to reinforce attitudes about the relevance of eyesight and information seeking.
References


Figure 1: Average percentage of factors influencing the choice of choosing spectacles

Table 1: Average percentage of factors influencing the choice of choosing spectacles.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Average Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice</td>
<td>64.5</td>
</tr>
<tr>
<td>Quality</td>
<td>78.5</td>
</tr>
<tr>
<td>Practitioner’s recommendations</td>
<td>80.4</td>
</tr>
<tr>
<td>Style Preference</td>
<td>73.2</td>
</tr>
<tr>
<td>Cost</td>
<td>50.7</td>
</tr>
</tbody>
</table>