A survey on eye examination and eyewear experience from a client perspective in Malaysia

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Article History:
Received on September 9, 2022
Accepted on July 25, 2023
Published on August 11, 2023

Abstract:

Introduction: A successful practitioner-client experience is vital for optimal eye care outcomes. Previous research has mainly highlighted optometry services or facilities from the practitioner's perspective. Information on the eye examination and eyewear experience from a client's perspective in Malaysia, is scarce. **Aim**: The study aimed to gather information on the eye examination and eyewear experience from the client's perspective. **Methodology:** The findings reported in this paper are derived from an interview study conducted with a sample of 408 respondents from 12 states and three federal territories in Malaysia. **Results**: In the overall eye test experience, 39% narrated positive feelings, and 35% described neutral feelings. Only a small percentage reported their overall eye test experience negatively (5%). Approximately 21% stated a mixed experience of both positive and negative feelings. Nearly half (49%) of respondents did not know who tested their eyes. The majority believed that vision could affect their quality of life (71%). The five most frequent complaints about eyewear were physical limitations of spectacles, inconvenience of misplacement, sensation discomfort of pressure on face surface, visual adaptation challenges and cost issues. The majority of respondents expected improvement in service (39.71%), better instruction (22.55%), shorter duration (14.22%), and a reduction in total tests (12.75%). **Conclusion**: This survey will help eye care practitioners understand the client experience and the need to improve eye care services.

Keywords: Eye examination, eyewear experience, primary health eye care, optometry practice

Introduction:

There are plenty of studies on the utilisation of eye healthcare services (Ahmad et al., 2015; Park et al., 2017; Donaldson et al., 2018; Varadaraj et al., 2019; Akullo et al., 2020; Barrenechea-Pulache et al. 2021). The eye examination frequency displays a trend of improvement among indigenous people (Foreman et al., 2018) and older adults (Fong et al., 2009) in Australia, as well as generally in the United States (Varadaraj et al., 2019). However, the utilisation of eye healthcare services remains low in Pakistan (Ahmad et al., 2015), South Korea (Park et al., 2017), Peru (Barrenechea-Pulache et al., 2021), South Africa (Akullo et al., 2020). There is apparent unequal distribution as a result of socioeconomic and demographic gaps (Ahmad et al., 2015; Park et al., 2017; Varadaraj et al., 2019; Akuffo et al., 2020; Barrenechea-Pulache et al., 2021). Parental misconceptions about eye care for young children and accessibility barriers are common (Donaldson et al., 2018).

Estimates of visual impairment and its causes from the National Eye Survey in Malaysia (NESII) were conducted in a recent survey (Chew et al., 2018). The prevalence of blindness and visual impairment were 1.2% and 6.9%, respectively. Untreated cataracts (58.6%), diabetic retinopathy (10.4%), and glaucoma (6.6%) were the most typical causes of blindness. Overall, 86.3% of the causes of blindness were avoidable. Therefore, a good eyecare ecosystem is imperative.

In a survey done a decade ago, only 44% of optometrists engaged in comprehensive eye examinations (Mohidin & Hashim, 2011). Most optometric practices were well-equipped with standard equipment related to optometry practice, except for the tonometer and visual field instrument (Mohidin & Hashim, 2011). In a recent study by Abd Aziz et al. (2022), most practices reported having essential optometric tools for visual testing and refraction. The percentages of practices equipped varied: complete trial set (100.0%), illuminated or projected Snellen chart (95.8%), retinoscopy (88.7%), direct ophthalmoscopes (78.9%), slit lamp biomicroscopy (67.6%), keratometry (46.5%) and RAF rules (46.5%). Unavailability of equipment (79.1%), lack of time (59.7%) and dictated by the customers (34.3%) are among the main contributing factors to not practising comprehensive eye examination routinely. In a recent survey on optometrists' practice in Malaysia, only 35.8% reported using evidence in their practice (Zainodin & Jantan, 2020).

To enhance the eye care ecosystem with appropriate practices and policies, it is necessary to have a sophisticated understanding of the needs of practitioners and clients. The experience of vision problem and their treatment can be complex. The client's needs and expectations will inevitably change and evolve in response to changing situations. Previous research mainly highlighted the optometry service or facilities from the eye care practitioner perspective (Mohidin & Hashim, 2011; Zainodin & Jantan, 2020; Abd Aziz et al., 2022). A successful practitioner-client experience is vital for optimal eye care outcomes. The expectations can be dissimilar between eye care practitioners and clients. Eye care practitioners may over-emphasise on delivery of the best eye care, while the clients may prefer practicality. The study aimed to gather information on the eye examination and eyewear experience from the client's perspective. Understanding the impact of the client's views on the eye health practitioner–client relationship is crucial. The client's experience can be referenced and understood.

Materials and Methods:

In this study, survey research was conducted and adhered to the Declaration of Helsinki. Ethical approval [REC/09/2021 (MR/803)] was obtained before data collection. The information about the eye examination and eyewear experience was collected as reported by individuals from September 2021 to April 2022.

The online sample size calculator (Raosoft Sample Size Calculator), which uses Cochran's Sample Size Formula with a confidence interval of 95% and a margin of error of 5%, recommended a sample size of 300 respondents. Informed consent was obtained verbally. The inclusion criteria were those with eye examination experience and eyewear experience (spectacles, contact lenses, sunglass or protective eyewear). Our respondents closely represented Malaysia because they were randomly sampled from twelve states and three federal territories in Malaysia.

All respondents were recruited randomly from public places such as shopping complexes, bus stops, shop lot walkways, recreational parks, etc. Information regarding respondents was obtained before further interviews. A structured interview was conducted through face-to-face interviews with thirty-four interviewers. Each interview was approximately 15 minutes.

Each respondent was interviewed with a set of structured questions as below:

- Have you been to an eye test before?
- Do you know the qualification of the person who tests your eye?
- How do you describe your eye test experience?
    - Describe the part of the eye test you disliked the most.
    - Describe the part of the eye test you were most comfortable with.
    - What is your first eye test experience?
- How does your eyesight affect your daily activities?
- What is your experience with eyewear?
    - How does your eyewear affect your quality of life?
    - What are the common problems that you face in using eyewear?
- Any suggestions to improve the shop/practice you visit for eye tests?

The structured questions used in this survey were face validated via a focus group approach that consisted of

eyewear users and optometrists. Each interview was either audio or video recorded in exact words used by respondents and later transcribed. The Statistical Package for Social Sciences (SPSS) software version 23.0 (SPSS Inc. Chicago, IL, USA) was used for data entry and descriptive analysis.

Results:

Demographic data

The findings reported in this paper were derived from an interview study conducted with a sample of 408 respondents from 12 states and three federal territories in Malaysia. The age range was from 13 to 70 years old (median/mode = 23 years old). The distribution of ethnicity is presented in Figure 1. Gender distribution was 47% (192) males and 53% (216) females. The residential areas of respondents are illustrated in Figure 2. The respondents' background was diverse consisting of more than 40 different types of occupations.

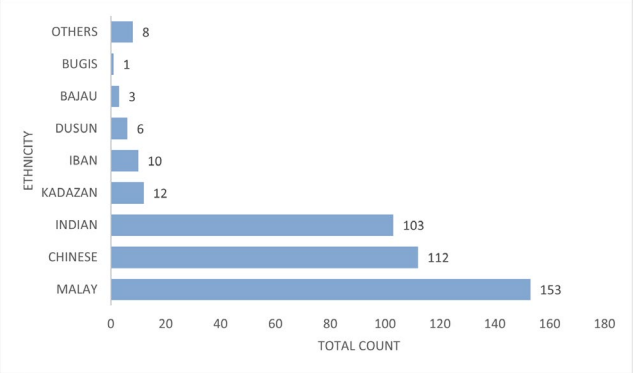

Figure 1: The ethnicity composition of 408 respondents

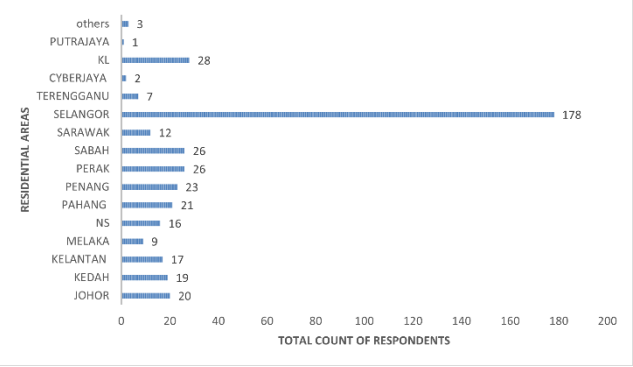

Figure 2: The residential areas of the respondents

First eye test experience

The first eye test experience is presented in Figure 3. 'Positive' indicated a pleasant experience of eye examination, while 'negative' indicated an unpleasant experience of eye examination. 'Neutral' feeling denoted an uneventful experience, neither positive nor negative. 'Mixed' experience indicated a combination of pleasant and unpleasant involvement during the eye test. We found that the distribution was relatively equal (27% for positive, neutral, and mixed categories). The negative feeling was slightly lower (19%).

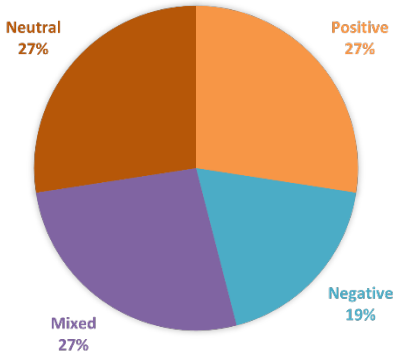

Figure 3: First Eye Test Experience

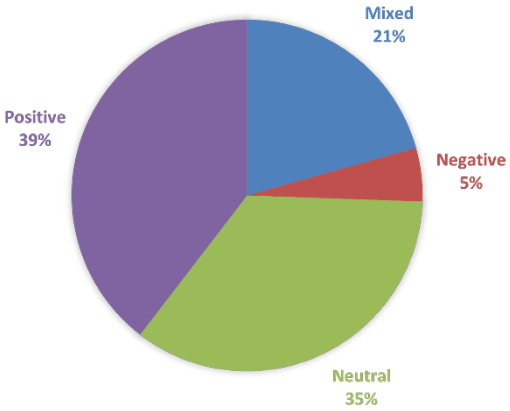

Figure 4: Overall Eye Test Experience

Overall eye test experience

The overall eye test experience showed different distribution patterns of pleasant and unpleasant feelings (Figure 4). As high as 39% narrated positive feelings, followed by 35% of respondents who tended to express neutral experiences. As low as 5% vented negative experiences. Approximately 21% described mixed positive and negative feelings in their overall eye test experience. A summary of the remarks on five commonly reported elements of eye test experience is given in Figure 5. Generally, respondents commented on the interaction skills of the eye care practitioners (friendliness and clarity of instructions), subjective refractive refraction procedures (clarity and difficulty to follow instructions), visual acuity testing (anxiety in fear of giving the wrong answers that might lead to inaccuracies of measurement), frame selection

(uncertainties of suitability as well as concerns on an affordable price range), autorefractive (fast and convenient).

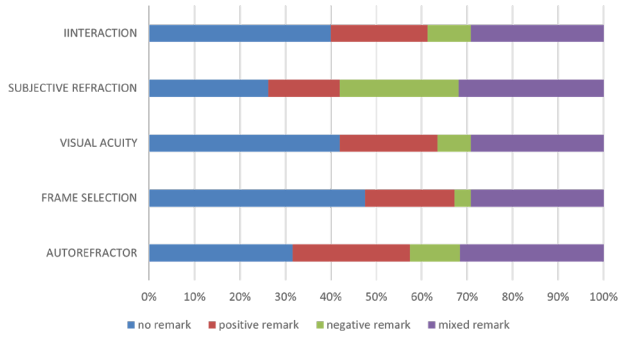

Figure 5: Remarks on five commonly reported elements of eye test experience

Information on eye care practitioners

When posted with a question on the background and qualification of the eye tester, nearly half (49%) of respondents did not know who tested their eyes (Figure 6). It is interesting to find that the majority of the respondents were tested by optometrists (34%). Opticians and ophthalmologists were involved in a small percentage of eye tests among the respondents, 9% and 8%, respectively.

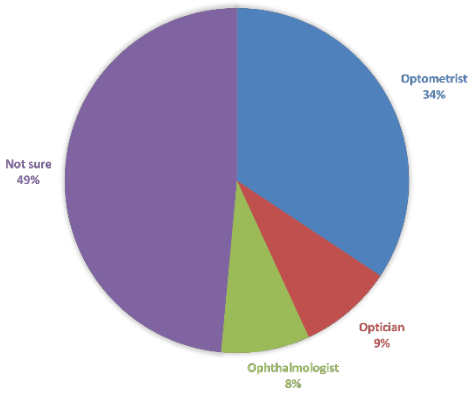

Figure 6: Information on the awareness of the clients about the qualification of the eye care practitioners

The Role of Vision on the Quality of Life

The perception of the role of vision on the quality of life is summarised in Figure 7. The majority believed that vision could affect their quality of life (71%). Surprisingly, about 22% of respondents did not think that vision could affect their quality of life. About 6% gave mixed remarks. Approximately 79.41% described their leisure activities were affected by vision. Approximately 63.24% testified their study was influenced by vision. Near half (50.74%) informed their work was affected by vision.

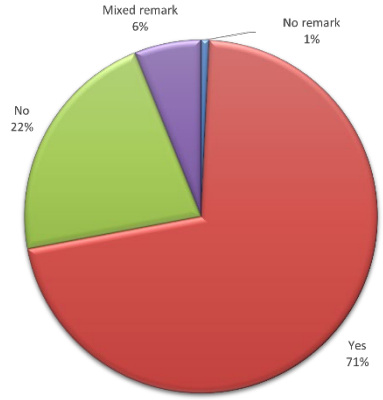

Figure 7: Clients' perception of the impact of vision on the quality of life

Eyewear experience

The five most frequent complaints about eyewear were physical limitation, inconvenience, sensation problems, visual adaptation challenges and cost (Figure 8). The physical limitation of spectacle included frame-induced restriction of visual space—the slippery of the frame during sports activities. The inconvenience included misplacement of spectacles, frequent replacement, forgetting to bring them when needed. Sensation discomfort is described by the pressure near the face surface in contact with the nose pad and areas in contact with temples that sit on the ear. Visual adaptation challenges included adaptation to prescribed power. The cost issue is due to regular replacement due to power changes or damage to existing eyewear.

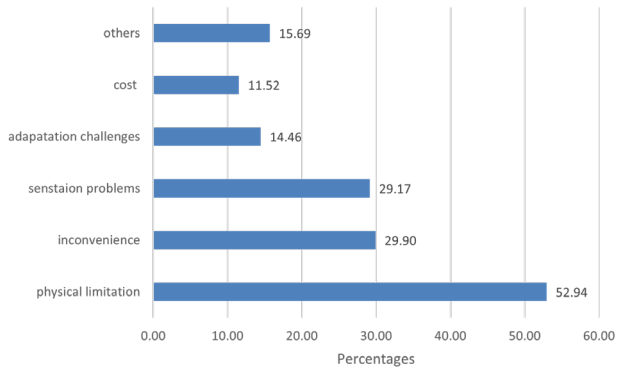

Figure 8: Main scopes of complaints about eyewear

Scopes for improvement

Scopes of improvement included service (39.71%), instruction (22.55%), duration (14.22%), and total test (12.75%). The majority expected improvement in service with a more friendly approach and competence. Instruction should be given to clients instead of scientific jargon. Most respondents wished

to have a shorter duration and fewer tests of the full eye examination.

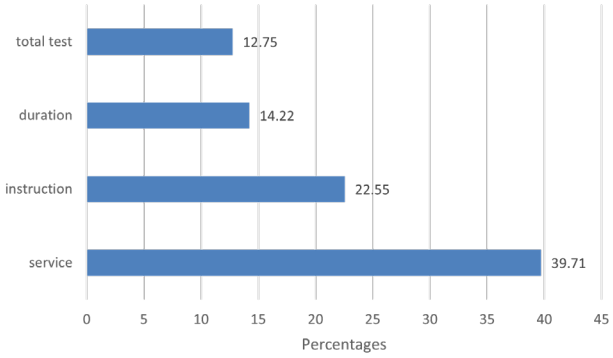

Figure 9: Scopes that required further improvement

Discussion:

The present survey was distributed across Malaysia except for Perlis, as can be seen by the percentage of the respondents from 12 states and three federal territories of Malaysia. They consisted of more than eight ethnicities in the Malaysian population.

Even though nearly three-quarters (74%) of the clients reported 'neutral' and 'positive' about the overall eye test experience, there was still room for improvement to rectify the remaining 26%. The first eye test experience could have been more enjoyable. Nearly half experienced unpleasant and mixed encounters (46%). Negative remarks predominantly overshadowed the positive remarks in subjective refraction procedures. Primary eye care practitioners could self-examine how to improve client satisfaction in this particular scope. In addition, interaction skills, autorefractor usage, visual acuity testing and frame selection were some of the common complaints of clients. However, the negative remarks were less than positive remarks in proportion. For example, five common complaints about eyewear experience were physical limitation, inconvenience, sensation problems, visual adaptation challenges and cost. Particular attention should be paid to frame and lens selection to resolve physical limitations, sensation problems and visual adaptation.

Previous studies reported that the eye care services provided by optometrists were not practising primary eye care according to the Ministry of Health Malaysia's Standard Operating Procedures due to the lack of equipment, the lack of time and upon patient request (Mohidin & Hashim, 2011; Abd Aziz et al., 2022). The time restriction can be related to the client flow in each practice. A proper scheduled appointment system may facilitate and provide a win-win solution. In addition, optometric eye examination fees should be imposed to sustain the business instead of practising free eye tests and relying on spectacle sales to break even or gain profit. Our findings supported the previous claim in the practitioner's survey about patient requests. Our respondents suggested reducing the testing duration and total tests during a comprehensive eye examination. There are two possibilities to look at this issue. The first is to re-examine the protocol of a complete eye examination to speed up the process or modify them into a more practical approach instead of doing all tests in a small, confined room. Have multiple small rooms for different sections of tests with short interval breaks for explanations before proceeding to subsequent tests. The second option is for the healthcare professionals to educate the Malaysian population about the importance of comprehensive eye examinations and the purpose of each test through social media and professional platforms. To counter the request by clients, better eye care awareness promotion should be given to the client regarding the importance of complete eye check-ups. When clients understand the significance of undergoing comprehensive eye examinations for preventive eye care or early intervention, they may better cope with the duration and a total number of tests with more tolerance. For instance, retinoscopy can help examiners to rule out pseudo myopia and to detect the 'scissor reflex' in keratoconus and cataract. Tonometry is essential in screening for glaucoma. Colour vision tests screen for colour deficiency that can affect learning, driving safety, occupational selection and quality of life (Tagarelli et al., 2004; Leske et al., 2020; Stevens et al., 2021). Eye health education about the importance of vision in enhancing the quality of life should be easy to penetrate public awareness because we found that approximately three-quarters of clients were aware that vision could affect their quality of life in our study.

In addition, nearly half of the clients (49%) were unsure who tested their eyes. Therefore, health education on the eye care ecosystem and the discrepancy of job scopes should be promoted as a part of the service. Co-management between optometrists and ophthalmologists should be encouraged to increase the effectiveness of the eye care ecosystem in Malaysia (Hussin et al., 2018; Abd Aziz et al., 2022).

Conclusion:

The survey on eye examination and eyewear experience from the client's perspective prompts more thoughts in strategising and optimising the optometric services in Malaysia. Instead of merely

focusing on what we optometrists can do, we must know what the client wants. A special task force should be formed to find a win-win solution or middle ground to enhance optometry services. Eye health education and promotion should be highlighted to the public about the role of optometric services, which include a comprehensive eye check-up and ocular disease screening. This survey will help eye care practitioners understand the client experience and the need to improve the eyecare services. Future research can collect data from eye care practitioners and clients simultaneously to derive a better strategy by mapping and realigning expectations more precisely.

Acknowledgements:

This work was supported by the Ministry of Higher Education via Prototype Research Grant Scheme [PRGS/1/2019/SKK05/UITM/01/1]. Special thanks to Ainin Nazrin, Amira Nadia, Fatin Alya, Hanie Raihanah, Muhammad Fikran Syahiran, Muhammad Fitri, Muhammad Humaidi, Nazmir Azrul, Nik 'Ainul Najwa, Noor Fatin Nadia, Nor Amirah, Nor Hafizah, Nur Aliah, Nur Aqilah, Nur Athilah Husnina, Nur Farah Danisha, Nur Farhana, Nurliyana, Nur Suhailah, Nurin Syahmina, Nurul Amira, Nurul Aqilah, Nurul Hanna, Nurul Izzah, Nurul Nadhirah, Nurul Shaura Fathimi, Nurul Syahniza, Nurun Najah, Priscelia Joyce, Sarah Aina, Sharifah Aimi Ayuni, Siti Nasuha, Siti Nur Athira, Sofiya Elyana.

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