

CAT 4 RESOURCE DEVELOPMENT

Group 4-029

Eye Health For Elderly

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ABSTRACT

'Eye Health For Elderly' is an integrated resource package, made to educate and show elderly with common eye diseases and their caregivers how to manage their symptoms. Furthermore, we hope to educate those who feel they are at risk, especially the elderly, on how to reduce the risk of common and preventable eye diseases from occurring. We made an App, infographic and videos as we believed these mediums can be the best way to reach out to our target audience. They were all made to combat the problem of eye diseases. All of these are archived in our online portal. We decided on an App as we believe it is an accessible and compact medium to store all the information. We chose to do an infographic as it would be a more aesthetically appealing and interesting medium to present our information. Finally, we decided to do a video to have a more visual or auditory medium for which we can present our information, for those who prefer a more auditory or visual learning experience. We also made audio recordings of our App content for patients who have trouble reading our content.

1 INTRODUCTION

1.1 Rationale

When researching ideas for this project, we found that eye disease is one of the most prevalent diseases, with the elderly being especially vulnerable. Furthermore, eye diseases can be preventable diseases. Even though there were many resources on how to prevent or manage such diseases, many of them were not elderly-friendly at all. Thus we decided to embark on this project to try to tackle this problem.

1.2 Objectives

Our objectives were:

- Educate and show those with eye diseases and their caregivers how to manage their symptoms or about any further complications that may occur

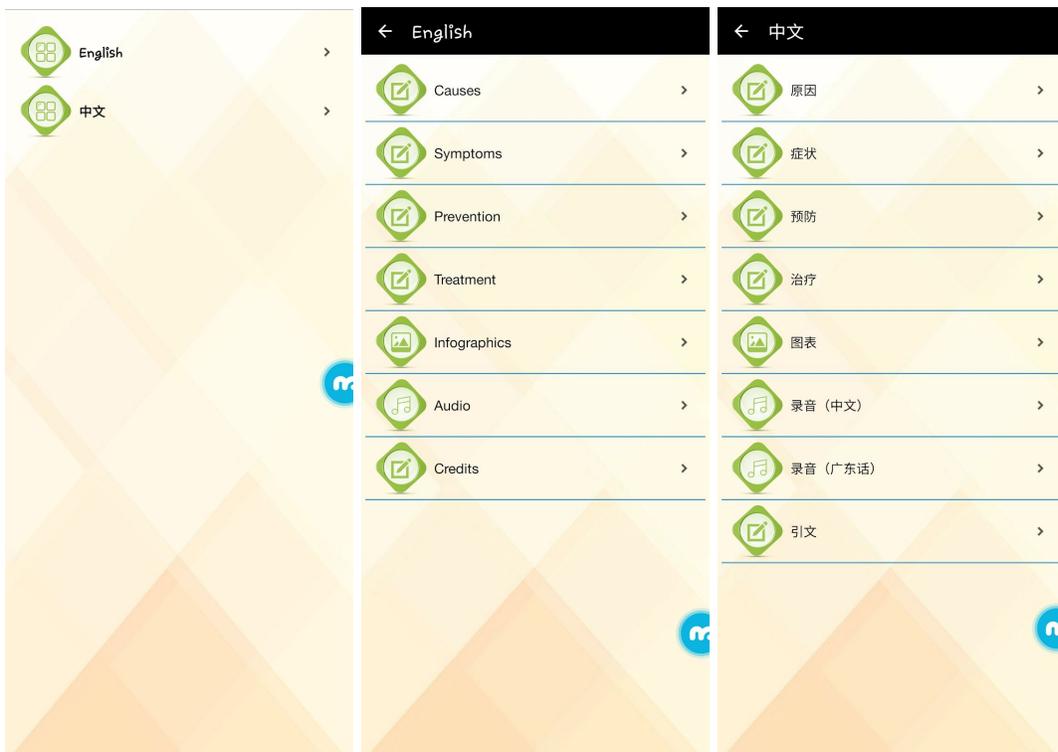
1.3 Target audience

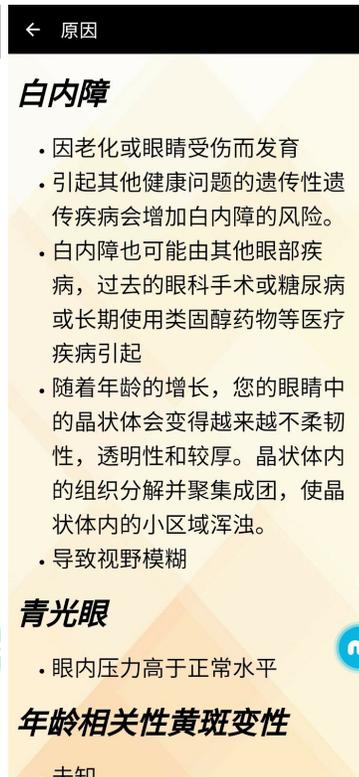
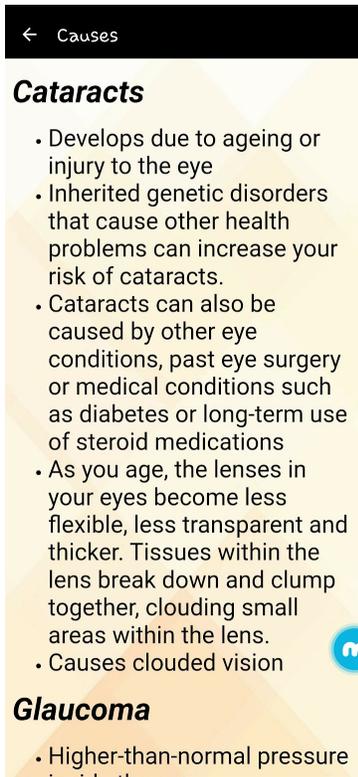
The target audience was the elderly (age 65 and above), their caregivers and those who are at risk of eye disease.

1.4 Resources

The resources created for this project was an App, a video, infographics, audio recordings of our App content and an online portal which archived everything.

App



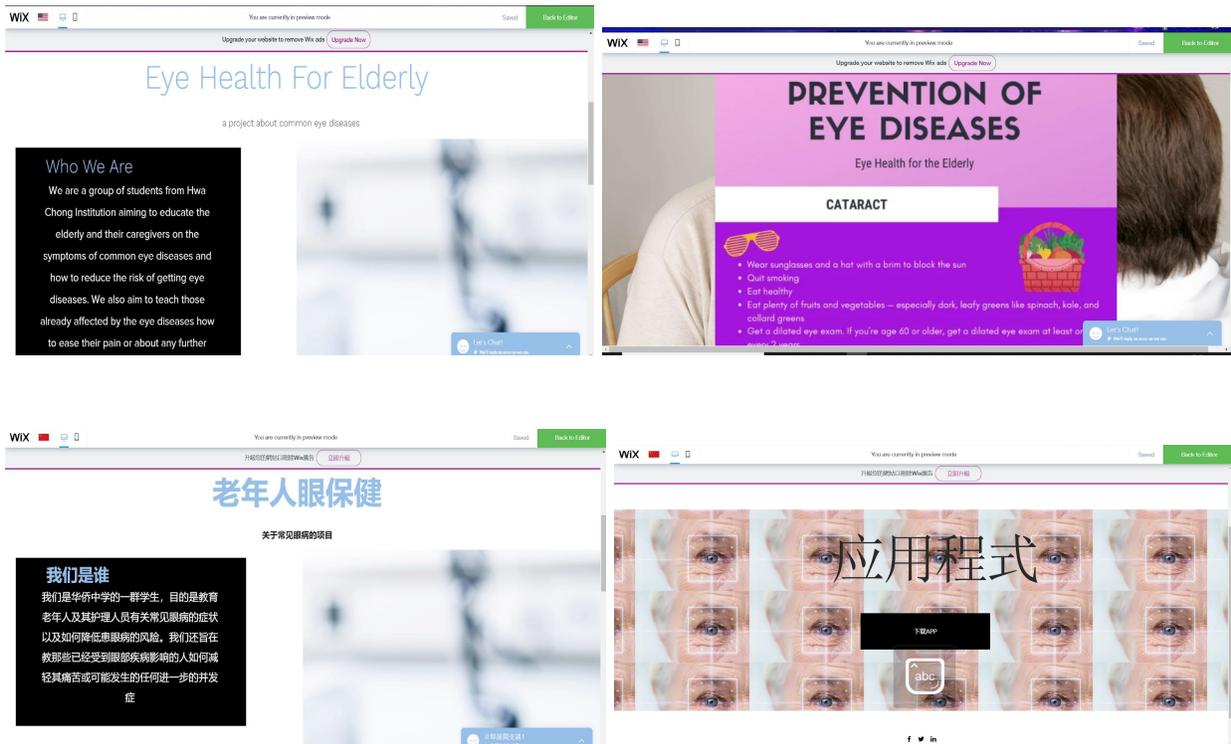


(The infographics enlarge to full size when clicked on and can zoom in to enlarge the size on the app)

← Audio	← 录音 (中文)
Causes of Cataracts	白内障的原因
Causes of Glaucoma	青光眼的病因
Causes of Age-related Macular Degeneration	年龄相关性黄斑变性的原因
Causes of Diabetic Retinopathy	糖尿病性视网膜病变的原因
Symptoms of Cataracts	白内障的症状
Symptoms of Glaucoma	青光眼的症状
Symptoms of Age-Related Macular Degeneration	年龄相关性黄斑变性的症状
Symptoms of Diabetic Retinopathy	糖尿病性视网膜病变的症状
Treatment for Cataracts	预防白内障
Treatment for Glaucoma	预防青光眼
Treatment for Age-related Macular Degeneration	预防年龄相关性黄斑变性
Treatment for Diabetic Retinopathy	预防糖尿病性视网膜病变
Prevention of Cataracts	治疗白内障
Prevention of Glaucoma	治疗青光眼
Prevention of Age-Related Macular Degeneration	治疗年龄相关性黄斑变性

<div style="text-align: center;">Prevention of Cataracts</div> <div style="display: flex; justify-content: space-between;"> 00:00 00:29 </div> <div style="display: flex; justify-content: center; align-items: center;"> ⏮ ▶ ⏭ </div>	<div style="text-align: center;">Prevention of Glaucoma</div> <div style="display: flex; justify-content: space-between;"> 00:00 00:00 </div> <div style="display: flex; justify-content: center; align-items: center;"> ⏮ ▶ ⏭ </div>
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Website



2 REVIEW

According to American Academy of Ophthalmology, US forecasts show the estimated numbers of persons with **visual impairment/blindness and primary open-angle glaucoma (POAG)** during 2011–2050

- In 2011, **2.71 million people** in the United States had POAG, with 31% aged 70 to 79 years
- In 2050, an estimated 7.32 million people in the United States will have POAG, with 32% aged 70 to 79 years
- In a study involving 574 elderly in Singapore, the prevalence rates for **blindness and visual impairment in the elderly** screened were **3.0% and 15.2%** respectively.
- Health Ministry of Malaysia stated that at least **80%** of all blindness or limited vision cases can be **prevented or treated**

- **One billion people** have **preventable** eye conditions, increasingly linked to lifestyle choices: UN health agency

3 METHODOLOGY

3.1 Needs Analysis

To ensure that this package benefits the community and is needed, we did our survey with our target audience to check if there is a need for our product. Thus we conducted a survey with over 40 respondents, and found that there was a need for our product.

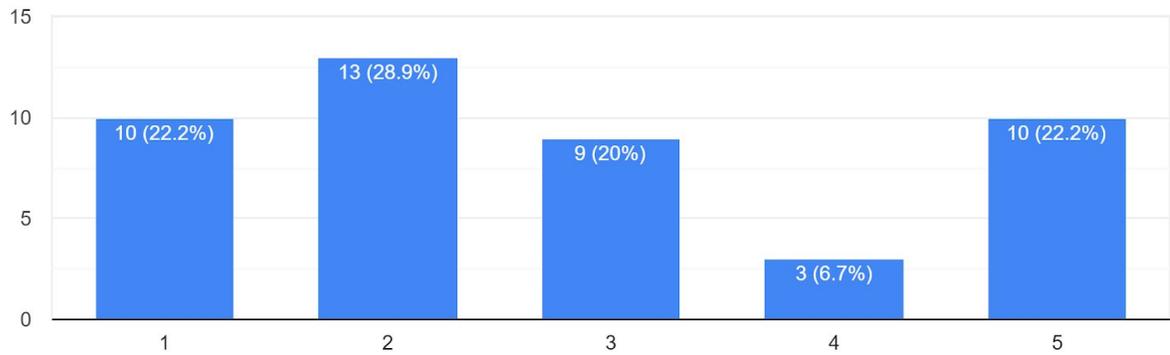
The screenshot shows a survey interface with a light blue background. At the top, there are tabs for 'Questions' and 'Responses' with a count of '45'. The main content area contains three question cards. The first card is titled 'Eye diseases in elderly' and has a subtext 'Eye diseases comisist of glaucoma,macular degeneration, diabetic retinopathy ,catarac'. The second card asks 'On the scale of 1-5, how much do you know about eye diseases in elderly? *' and features a horizontal scale with five radio buttons labeled 1, 2, 3, 4, and 5. The scale is flanked by the text 'I do not know much' on the left and 'I know a lot' on the right. The third card asks 'How interested are you to know how to reduce the risk of getting common eye diseases and how to spot the symptoms of them? *'. A vertical toolbar on the right side of the interface contains icons for adding, deleting, and editing questions.

3.2 Survey results

Based on our results, we have learnt that there is a need for our product. These were the key points of our survey.

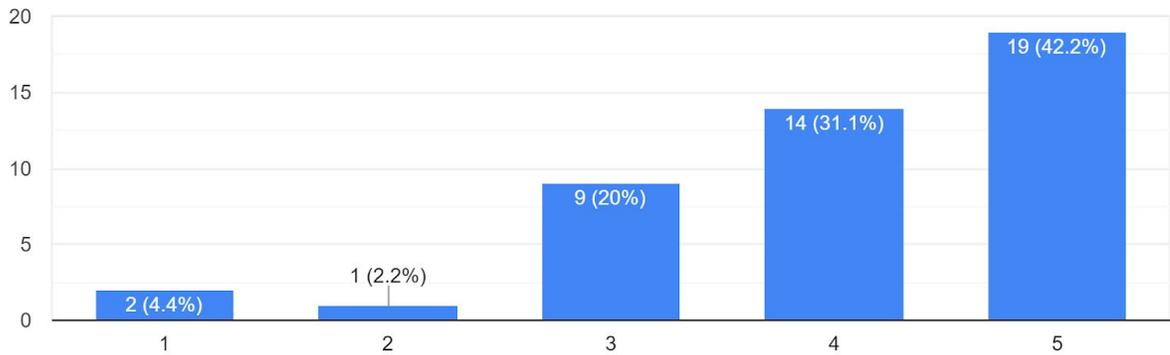
On the scale of 1-5, how much do you know about eye diseases in elderly?

45 responses



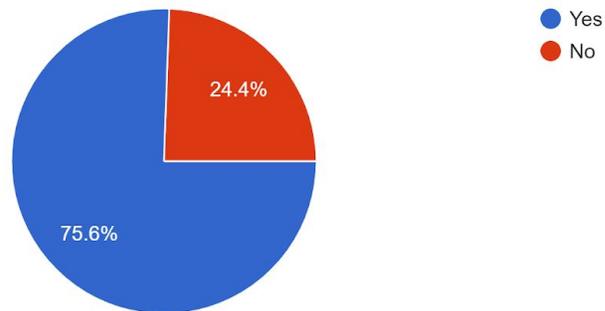
How interested are you to know how to reduce the risk of getting common eye diseases and how to spot the symptoms of them?

45 responses



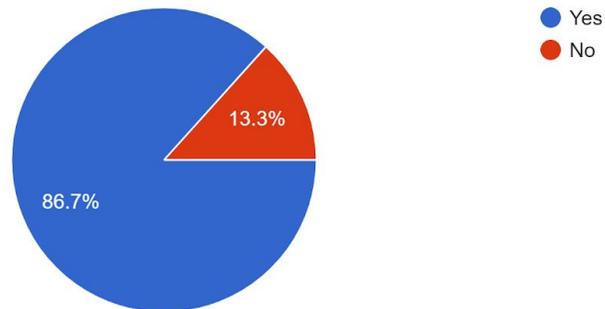
Do you or any elderly you know have an eye disease?

45 responses



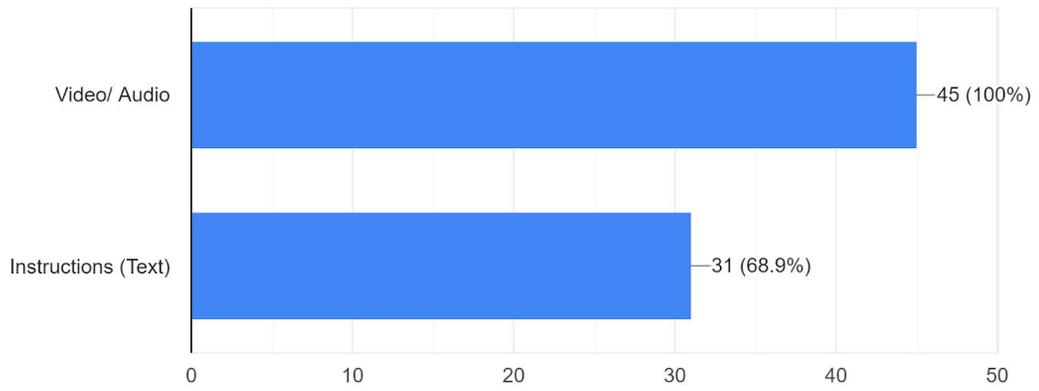
If yes, would you like the eye disease patient(s), their caregivers to know how to ease their pain and help them live through this stage of their life?

45 responses



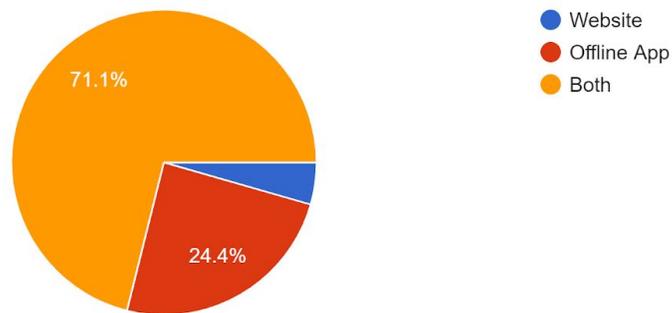
Would you prefer us to present our resource package through videos/audio, and/or instructions?

45 responses

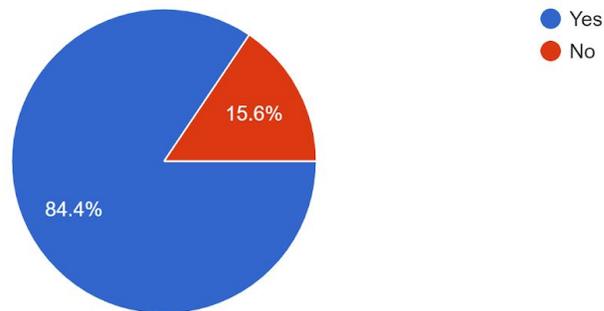


Would you prefer us to present our resource package in an app (offline) or website?

45 responses



Do you have relatives that cannot understand English or prefer communicating in dialect
45 responses



- 71.1% did not know or knew little about eye diseases in the elderly
- 93 % are interested to know how to reduce the risk of getting common eye diseases and how to spot the symptoms of them
- 75.6% knew an elderly who has an eye disease
- 86.7% would like the eye disease patient(s)/their caregivers to know how to ease their pain and help them live through this stage of their life
- 100% of the people surveyed want us to use video/audio while 68.9% wanted instructions to be included
- 71.1% prefer us to present our resource package in both an offline app or website
- 84.4% have relatives that cannot understand English or prefer communicating in dialect

3.3 Development of Resources

The contents of the resource package was made with assistance from Dr Leo Seo Wei, an eye doctor.(MBBS, MD, MRCSEd (Ophth),FRCSEd(Ophth), FAMS,Senior Consultant Ophthalmologist).We consulted her on the contents of the package,for information that we could not find on our own and further clarification and elaboration of information.

As for the App, we used a resource called MobiRoller which was to display our resources like our video and infographics. For the infographic, we used Canva to make it. Lastly, everything is archived in our online portal that we made with Wix so that it is easier to spread awareness of our resources.

3.4.1 Pilot test 1

Although the pilot tests were suspended due to COVID-19,we still decided to do one to ensure product quality.

We did a pilot test with the elderly. We used a Likert scale and it was overall receptive. We have a relatively small number of elderly as not many of them are available because of health issues and most of our grandparents have already passed on. Moreover ,the COVID-19 pandemic caused many complications, with the implementation of the Circuit Breaker.This prevented us from conducting more extensive pilot tests.

After the pilot tests, we implemented some improvements in accordance with feedback received.We increased the font size of the app, simplified information and added dialect audio.

- This is the main feedback we got from the pilot test
 - The app and the website were very easy to read, and they were very informative.
 - I learnt a lot of new information about eye diseases I may get. I now know how to prevent them
 - I like the audio as it helps me to better understand the information (easier consumption of information)

- The words should be bigger. I do not understand some of the terms used.

4 OUTCOME & DISCUSSION

Although we initially did not include dialect in our list of languages, we decided to include them as we felt that it would make our product more elderly-friendly.

This was to give the dialect-speaking elderly more resources they could understand and the audio recordings serve users who have trouble reading our content.

5 CONCLUSION

This project has always been difficult for us, due to many factors. However, through this project, we believe we have learned the importance of teamwork, tenacity, compromise and hard work. We had many clashing schedules and conflicting commitments. Thus we had to compromise on the meetings we had, and the workload distribution. In the end, we were only successful because of our teamwork, with everyone playing their part. If we could do this project again, we will watch out more for time management, as we spent much time doing unproductive work. One of the greatest challenges was the COVID-19 pandemic and the Circuit Breaker that followed. It severely hampered our project progress, as we now had to work online and had to resort to meeting online, which was less efficient. Having teamwork, resilience and hard work were essential. These values we learnt will be extremely useful in the future when doing other projects and especially in the working world.

6 ACKNOWLEDGEMENTS

We would like to acknowledge and extend our deepest gratitude to Dr Leo Seo Wei for guiding us.

7 REFERENCES

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THE END