DETERMINING THE SPECTACLE UPTAKE AND SPECTACLE SATISFACTION AT EYE CLINICS IN SOWETO, GAUTENG

Prepared by:

Kesi Naidoo

Ving Fai Chan

Mary Wepo

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EXECUTIVE SUMMARY

The study comprised of 2 components. A retrospective component which investigated spectacle uptake in the eye clinics in the Johannesburg Metro Health District and a cross-sectional component to assess spectacle satisfaction among a subset of subjects.

The study set out to:

- determine the spectacle uptake of the 10 eye clinics in Johannesburg Metro Health District project from 1 June 2016 to 31 May 2017, in terms of sex, age, location, type of refractive error and type of spectacles dispensed
- assess spectacle satisfaction among patients who attended the 9 eye clinics in GSG project from 1 June 2016 to 31 May 2017
- assess association between spectacle satisfaction with sex, age, location, time of visitation, type of refractive error and type of spectacles dispensed.

The study population were patients who visited the 10 eye clinics and those who had procured spectacles from the eye clinics. This study employs a retrospective study design to determine the spectacle uptake of patients attended the 9 eye clinics at Soweto and surrounding area of Soweto from June 2016 to June 2017. Patient's satisfaction survey were conducted telephonically using structured questionnaires from randomly selected patients from the overall patient monitoring and evaluation database. For the spectacle satisfaction survey, a subset of 306 patients from the M&E database will be chosen, using simple random sampling. The patients from the database will be allocated with a serial number and sampling will be done by generating random number from a scientific calculator.

Results: The majority of the sample were 50 years and older (41.44% males and 58.56% females). Within the subset of the sample, 47% of the subjects had secondary school incomplete (47 out of 100) and 38% of them had completed secondary school. The majority of the subset (73%) were unemployed and71.33% of the subjects who had presbyopia, 69.9% them using bifocal spectacles.

Convenience was the most common reason for the decision to buy the spectacles by 39.00% of the subjects. This was followed by affordability (36.00%) and good quality (21.00%). Over half (57.00%) the subjects reported that the design of the frames were excellent and this included the quality of the spectacles (63.00%), however 52.00% of the subjects suggested that the material could be changed to improve the spectacles. More than half of the subjects (52.00%) reported that the price was excellent. Most subjects (85.00%) reported that spectacles helped their vision with almost all subjects (95.00%) reporting that they would recommend the clinic to a friend.

Discussion:

Most of the patients (77.25%) that visited the clinics during this period were diagnosed as presbyopic with over 95% of these patients choosing bifocal spectacles to manage their vision needs. This finding was expected due to the age range of patients surveyed being 67% over 40 years old. The choice of a bifocals was also influenced by the options that were available, as no multifocal spectacles are available at these clinics.

The percentage of patients that have purchased their spectacles through the clinic after the optometrists prescribed spectacles to address their uncorrected refractive error was 50.1 %. The factors that could have influenced this finding include patients deciding not to renew their existing spectacles, electing to purchase their spectacles elsewhere or not able to afford the spectacles. There is a need to investigate this further to develop strategies to address this situation, if necessary. Patients with vision impairment and school children are provided with spectacles at no cost through the clinic, therefore there should be no visually impaired person that has not received spectacles.

Most of the subjects were in agreement and were happy with the general condition and availability of the spectacles. The study explored on all general conditions which might affect the use of the spectacles and results from the responses showed that more attention is required with respect to the design of the spectacles.

In comparing the responses from different clinics, respondents from Tladi, Discoverers and Chiawelo clinics have rated the quality, comfort, price and vision as good to excellent while more respondents from Alexandra Orlando clinics have rated bad to very bad on these factors. Further investigation of the reasons for these responses is warranted in order to understand the factors contributing to these responses and develop strategies to address them.

RECOMMENDATIONS:

1. Investigate mechanisms to improve patient awareness of spectacle usage
2. Improve instructions to patients on reporting poor vision with spectacles
3. Explore improved frame materials and designs
4. Investigate reasons for patients not purchasing spectacles that have been prescribed
5. Investigate factors influencing variance of responses on issues of quality, comfort, price and vision between the different sites in the study.

Conclusions: The study has shown that the service provided is highly valued, is appropriate, provides quality and meets patient's expectations. There is some room for improvement in the design of spectacles.

AIM AND OBJECTIVES

AIM

To assess the spectacle uptake and spectacle satisfaction regarding the spectacles purchased from the eye clinics in Johannesburg Metro Health district in order to inform procurement processes and further improve quality of eye care services provided at the eye clinics.

OBJECTIVES

a. To determine the spectacle uptake of the 10 eye clinics in Johannesburg Metro Health district from 1 June 2016 to 31 May 2017, in terms of sex, age, location, type of refractive error and type of spectacles dispensed
b. To assess spectacle satisfaction among patients who attended the 10 eye clinics in Johannesburg Metro Health district from 1 June 2016 to 31 May 2017

PROBLEM

The key in managing any condition is ensuring that the patient adheres to the treatment regimen. In vision care, the treatment regimen is mostly adhering to spectacle use. Efforts are needed to improve the rate of compliance with spectacle use since this is assumed to be associated with improved academic performance and other benefits although empirical evidence is currently lacking. Evidence is also needed to understand the question - *will there be an increase in the compliance rates with spectacle use if we can modify factors associated with compliance with spectacle use in our service delivery programmes*? This question needs an answer since evidence-based decisions on resource allocation demand evidence from various cultural settings. Therefore, it is important to understand the determinants of compliance to spectacle use in order to take the necessary steps for enhancing compliance to the spectacle use.

RELEVANCE AND IMPORTANCE

Refractive error is one of the major causes of avoidable blindness around the world. Access to services and affordability of services has exacerbated this, especially in developing countries. However, numerous efforts are being made through the VISION 2020 initiative towards eliminating avoidable blindness, and refractive error being one of the priorities of the programme. Efforts have been made to ensure that refractive services are affordable and available, especially through the integration of eye care services within the public health system.

Evaluation of healthcare provision is essential in the ongoing assessment and consequent quality improvement of medical services. Healthcare systems have sought to achieve a balance in services that offer not only clinically effective and evidence-based care, but which are also judged by patients as acceptable and beneficial (Fitzpatrick, 1997).

Health care which improves health only in some limited technical sense, but does not meet the patients satisfaction is not likely to be viewed as beneficial by patients. Interest has therefore grown not only in the assessment of treatment uptake by patients, but in the systematic evaluation of the delivery of that care (Cleary et al. 1991). Most significantly, attempts have been made to determine the features of patient care that are likely to influence patient satisfaction.

Rural populations, worldwide, have poor access to eye care services leading to sub optimal utilization of existing services (Zhang et al. 2008; Zhang et al. 2007; Joseph and Philips. 1984; Joseph and Bantoc, 1982; Knox PL. 1979). The five important dimensions of access include - availability, accessibility, accommodation, affordability and acceptability (Penchansky and Thomas, 1981). "Comprehensive eyecare programme" is one such programme in Soweto, designed to address the correction of refractive errors, (the major cause of visual impairment and the second highest cause of blindness) and other potentially blinding conditions and appropriate referrals to the secondary eye care centre. Although the programme is now an integral part of the local eyecare system, little evidence exists on the satisfaction of the target community with the services provided; which is also a key measure of healthcare quality.

SITUATION IN GAUTENG

Johannesburg metropolitan is the economic hub of South Africa with a population of 3,701,534, situated within the province of Gauteng that has a combined population of more than ten and a half million. The province is divided into 7 sub-districts.

Soweto sub-district is a lower-income, urban area, south-west of Johannesburg. It borders the city's mining belt. It has a population of over 1.3 million people. The sub-district has 1 quaternary hospital (Chris Hani Baragwanath Hospital), 23 satellite PHC clinics, 5 Community Health Centres (CHCs), and one specialized TB hospital.

The Chris Hani Baragwanath Hospital serves approximately 3 million documented people. The hospital attracts patients from Greater Johannesburg because many people believe Baragwanath offers a better service.

Statistics South Africa and the National Treasury conducted research on poverty in post-1994 South Africa. The 2007 report emphasised the vulnerability of households and social mobility as determinants to escape poverty. Considerable movement into and out of poverty has been observed for households around the poverty line, while some households experience persistent chronic or severe deprivation.

VISION IMPAIRMENT:

No national survey has been conducted on blindness or vision impairment, but the South African Government has been using the following prevalence figures for planning purposes:

- Blindness 0.5%
- Cataract 0.25%
- Glaucoma 0.05%
- Diabetic Retinopathy 0.05%
- Presbyopia & other RE 30%
- Childhood Blindness 0.05%

Access to eye care in South Africa is largely confined to a minority of the population who have access to the private sector and those in urban areas Although substantial effort has been made since the achievement of democracy in 1994, service delivery is hampered by a lack of eye-care personnel, inadequate facilities and insufficient state funding.

JUSTIFICATION FOR THE STUDY

The Giving Sight to Soweto (GSS) and Giving Sight to Gauteng (GSG) projects were implemented to meet the needs of the community because there was no eye care service at the existing clinics and patients had to travel long distances to the hospitals to have a basic eye test. The problem was further exacerbated by long waiting time. The aim of the project was to **improve and strengthen comprehensive eye health service in Soweto and surrounding areas of Soweto by integration within the district health system**.

The objectives of the GSG project were to:

- Increase the capacity of existing health personnel, and placement of appropriate human resources to improve eye health services within the DHS;
- Optimize available infrastructure to deliver appropriate, comprehensive and specialized eye health services within the DHS;
- Enhance screening and management of comprehensive eye health services and refractive errors in particular;
- Strengthen referral systems and protocols
- Strengthen the District Health Information System (DHIS) with the Integration of eye health indicators into the District Health Information System (DHIS)
- Increase health promotion and awareness about eye health

In an effort to assess the GSG and GSS projects and how they serve the needs of the local population, this study set out to determine spectacle uptake from June 2016 to May 2017 and patients' spectacle satisfaction.

METHODOLOGY

STUDY SITE AND POPULATION

The study was conducted at the 10 clinics included in the Giving Sight to Soweto and Giving Sight in Gauteng Projects. They included:

- Tladi,
- Chiawelo,
- Mofolo,
- Orlando,
- Diepkloof,
- Meadowlands,
- Tshepisong
- Discoverers
- Streadford and
- Alexandra

These clinics cater for all genders and age groups. The Soweto sub-district is a lower-income, urban area, south-west of Johannesburg with a population of over 1.3 million people. The study population comprised of patients who visited the 10 eye clinics and those who had purchased spectacles from the eye clinics.

TYPE OF RESEARCH

The study employed a retrospective study design to determine the spectacle uptake of patients who attended the 10 eye clinics at Soweto and surrounding area of Soweto from June 2016 to June 2017.

The patient's satisfaction survey was conducted using structured questionnaires from randomly selected patients from the overall patient monitoring and evaluation database.

SAMPLE SIZE AND DETERMINATION

Sample size(SS) for the patient satisfaction survey was calculated using two-step formula.

First an estimated sample size (SS) was calculated using the formula:

$$SS = (Z\text{-score})^2 * p*(1-p) / (\text{margin of error})^2$$

With Z value correlated to 95% Confidence Interval, p=50% and margin error of 10%. The SS was therefore calculated at 117 subjects.

The adjusted sample size for the study was calculated using the formula:

$$SSadjusted = (SS) / 1 + [(SS - 1) / population]$$

With population= 1000 (number corresponding to the number of patients who procured spectacles from eye clinics), SSadjusted was 91 subjects.

An upward adjustment of 10% was made to account for omission of subjects due to incomplete information and the final sample size was **99+1 subjects**.

SAMPLING PROCEDURE

To assess the spectacle uptake, no sampling was done. It was a review of data from the monitoring and evaluation (M&E) database for the project.

For the spectacle satisfaction survey, a subset of 100 patients from the M&E database was chosen, using simple random sampling. The patients from the database were allocated with a serial number and sampling was done by generating a random number from a scientific calculator.

PROCEDURE

Spectacle uptake for the project was recorded on a data extraction sheet designed to elicit the relevant information from the M&E database. The following variables were extracted: gender, age, time of visitation, location of clinic, type of refractive error and type of spectacles prescribed.

Spectacle satisfaction was assessed by interviewing the selected patients telephonically. Three attempts were made when contacting the respondents. If the respondent was unable to be contacted at the third attempt, s/he was considered as non-respondent. Spectacle satisfaction was assessed using the spectacle satisfaction survey from Pillay et. al. (2016) as it was targeted at vision centres in rural settings with similar characteristics to the eye clinics set up in the project. Back-to-back translation (into isiZulu and Sesotho) and modifications were made and was reviewed by public health experts. (Annexure 1)
The main variables of satisfaction that were assessed were:

- Design of spectacle frames
- Quality of spectacles
- Price of spectacles
- Physical comfort of spectacles
- Vision with spectacles

Spectacle satisfaction was defined as 'positive evaluations of specific aspects of the spectacles (Zhang, 2007). In our context it referred to a measurement that obtained ratings from patients about the spectacles purchased from eye clinics (Linder- Pelz SU, 1982; Williams, 1994; Williams, Coyle and Healy, 1998; Nijkamp et al. 2002; Rubin et al. 1993). For each item, patients were asked to rate their satisfaction on a scale of 1 – 5 with 1 - 2 (lowest), 3 (neutral) and 4 – 5 (highest).

A forced-choice questionnaire exploring various aspects of spectacle satisfaction was administered. It explored areas of the quality of service, quality of frames, usefulness of lenses prescribed and whether the respondents would refer others to the clinic.

Patient satisfaction ratings were averaged for each item, viz. You decided to buy your glasses here because (can choose maximum 2 options), it was convenient (get everything done at one place, one time, I could afford it (a good deal), I could pay in instalments, I liked the spectacle frames, the service was good and did not know I could buy it elsewhere.

INCLUSION AND EXCLUSION CRITERIA

To assess the spectacle uptake, we included:

1. Patients who visited the clinic between 1 June 2016 to 31 May 2017
2. Patients who were diagnosed with refractive error and spectacles prescribed
3. Patients who had selected frames and type of lenses

To assess the spectacle satisfaction, we included

1. Patients who had purchased the spectacles
2. Spectacles had been collected from clinic
3. Contact number was available
4. Was available on cellphone during survey days
5. Agreed to participate

ETHICS CONSIDERATIONS

The study protocol was reviewed and approved by the Human Research Ethics Committee, University of Witwatersrand.

Since the Principal Investigator analyzed routine data collected for the Giving Sight to Gauteng project, permission to access the monitoring and evaluation, and patients, satisfaction data was obtained from the Regional Director of the Brien Holden Vision Institute, which is the implementing organization of the Giving Sight to Gauteng project.

Since the interview was done telephonically, and the research was a minimal-risk phone survey or interview, we requested for verbal consent from subjects (Annexure 2). When obtaining consent over the phone, we included the following in our phone "script" that addressed the key elements of informed consent.

These included:

- Introduction of the researcher and how the researcher obtained the contact information of the participant.
- A statement that the project involved research and that participation was completely voluntary.
- The purpose of the phone survey or interview and what subjects would be asked to do.
- The approximate length of the phone call.
- Information about confidentiality and the use of the study data: who accessed the data, how it was used and how long it will be kept.
- A statement about risks and benefits of the study.
- An offer to answer any questions about the above information.
- An invitation to choose whether or not to participate in the research.
- Contact information for the researcher if the subject had questions after the phone call.

PRIVACY AND CONFIDENTIALITY

To maintain confidentiality and anonymity, the researcher minimized the need to extract and maintain identifiable information about research subjects. The only demographic information that were recorded included gender, age, grade, spectacle prescriptions, and location of subjects.

Data was collected anonymously or the identifiers were removed and destroyed as soon as possible. If there was any identifiable data, these were encrypted. Face sheets containing identifiers (e.g., names and phone numbers) from survey instruments containing data after receiving from study subjects were removed.

COMPENSATION

The subjects of the study were not given compensation for participation in this study because the study involved analyzing data collected as part of the monitoring and evaluation process.

DATA MANAGEMENT

Data concerning relevant variables were extracted from the M&E database for the project. The following variables were extracted: gender, age, location of clinic, type of refractive error and type of spectacles prescribed.

Distance refractive error was classified as: Antimetropia (ANT), astigmatic Antimetropia (ANTA), hyperopic astigmatism (HA), hyperopia (HY), myopic astigmatism (MA), myopia (MY), Plano astigmatism (PA) and Plano (PL). Among all the subjects, most of them had MA (26.06%) and the least was PL (1.82%).

Since this was a finite sample, no statistical tests were done. However, point percentages with 95% Confidence intervals were quoted for proportions and means with standard deviations were quoted for continuous data.

PATIENT SATISFACTION

Patient satisfaction ratings were averaged for each item, and percentages reported.

RESULTS

DEMOGRAPHICS OF THE TOTAL SAMPLE

There was a total of ten (10) clinics for the considered sample (N = 3910) with the largest number of subjects from Chiawelo clinic (n= 1071) and smallest being from Diepkloof (n=106) (Table 1).

Table 1: Distribution of subjects among the clinics considered

Clinic	n	%
Alexandra	716	18.31
Chiawelo	1 071	27.39
Diepkloof	106	2.71
Discovery	240	6.14
Meadowlands	211	5.4
Mofolo	369	9.44
Orlando	383	9.8
Stretford	141	3.61
Tladi	451	11.53
Tshepisong	222	5.68
Total	3910	100.00

The gender data was available for 2368 of the 3910 subjects and this sample comprised of 41.44% males and 58.56% females.

Among all the subjects, most of them had myopic astigmatism (26.06%) and the least was plano (1.82%).

Table 2: Counts of distance RE

Distance RE	Freq.	Percent
ANT	661	16.91
ANTA	255	6.52
HA	843	21.56
HY	431	11.02
MA	1019	26.06
MY	344	8.80
PA	286	7.31
PL	71	1.82
Total	3910	100

All subjects with near refractive error were classified as presbyopic, (71.33%). Among these, 95.41% procured bifocal lenses (no multifocal or progressive lens options were available) compared to single vision (4.59%).

Table 3: Percentage of patients purchasing spectacles

LOCATION	Percentage
Alexandra	49.2
Chiawelo	50.28
Mofolo	53.83
Orlando	45.9
Stretford	50.69
Tladi	44.63
Tshepisong	41.96
Discoverers	55.25
Diepkloof	43.93
Meadowlands	50.44
Total	50.01

1955 of the 3910 (50.01 %) of all subjects that had visited the clinics and been diagnosed with refractive error, and spectacles were prescribed, had purchased these spectacles from the clinics.

DEMOGRAPHICS OF THE SUBSET OF THE TOTAL SAMPLE WHO RESPONDED ON SPECTACLE SATISFACTION

Among those selected, gender distribution was 30% males and 70% females (Table 4).

The age range of subjects was from 12 to 82 years, with a mean age of 48years (Standard Deviation [SD] of ±18.06years). Majority of the subjects were in the age group 50 to 59 years (26 out of 100) and 60 – 69 years (25 out of 100) and only two subjects were over 80 years. Children within the sample were not interviewed, but their parent or guardian was interviewed.

The majority of subjects reported that they had either had secondary school incomplete (47 out of 100) or secondary school completed (38 out of 100). Among all of these subjects, the majority of them stated that they were unemployed (73 out of 100) and less than a fifth stating that there were employed full time (19 out of 100) (Table 3).

Table 4: Demographic distribution of the sample

Demographics		n	%
Gender	Male	30	30
	Female	70	70
Age groups	Less than 20	7	7
	20 – 29	14	14
	30 – 39	12	12
	40 – 49	7	7
	50 – 59	26	26
	60 – 69	25	25
	70 – 79	7	7
	80 +	2	2
Education	No schooling	1	1
	Primary school incomplete	4	4
	Primary school complete	2	2
	Secondary school incomplete	47	47
	Secondary school complete	38	38
	Secondary school incomplete	2	2
	University complete	5	5
	University incomplete	1	1
Location	Alexandra	10	10
	Chiawelo	12	12
	Diepkloof	8	8
	Discovery	10	10
	Mofolo	10	10
	Stretford	10	10
	Meadowlands	10	10
	Orlando	10	10
	Tshepisong	10	10
	Tladi	10	10
Occupation	Unemployed	73	73
	Part-time employed	8	8
	Full-time employed	19	19
Total		100	100%

SPECTACLE SATISFACTION

Most of the subjects (69%) responded that that the spectacles they received was their first pair.

The convenience of the service (39%) and its affordability (36%) were the two major reasons that convinced subjects to purchase their spectacles that the clinic. Quality of the service (21%) was the next most reason selected for their decision.

Table 5: Reason for purchasing spectacles at the clinic

You decided to buy your spectacles here because	Percent
I could afford it (a good deal)	36
The service was good	21
Didn't know I could buy it elsewhere	2
It was convenient	39
I liked the spectacle frames	2
I could pay in instalments	1
Total	**100**

In *figure 1* below opinions on designs of the frame were positively skewed with excellent being reported by most of the subjects (57%) and only a fraction of subjects reported that they were very bad (3%).

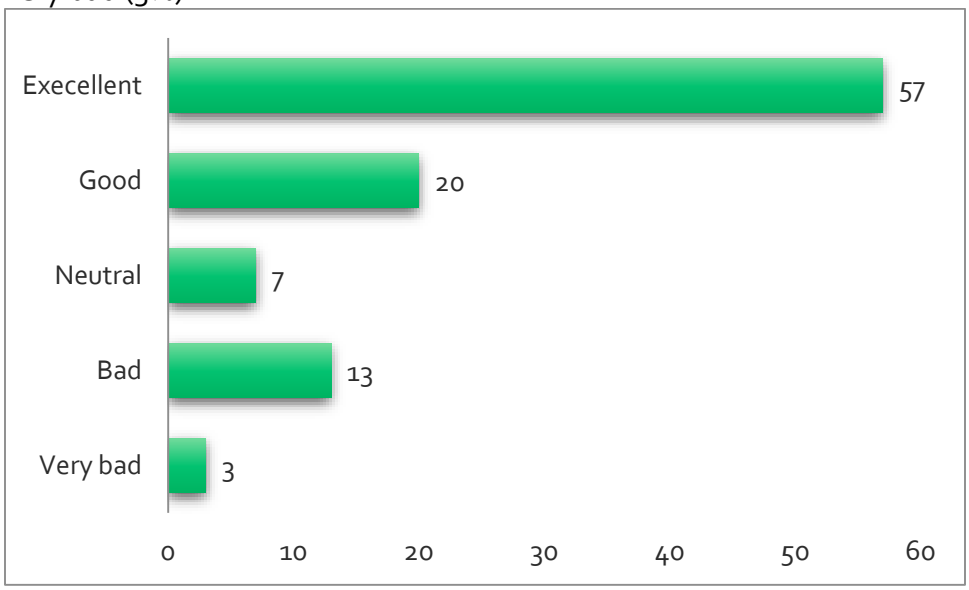

Figure 1: Opinions on design of the frame

Most of the subjects reported that the quality of the spectacles was good (22%) and excellent (63%) (Figure 2).

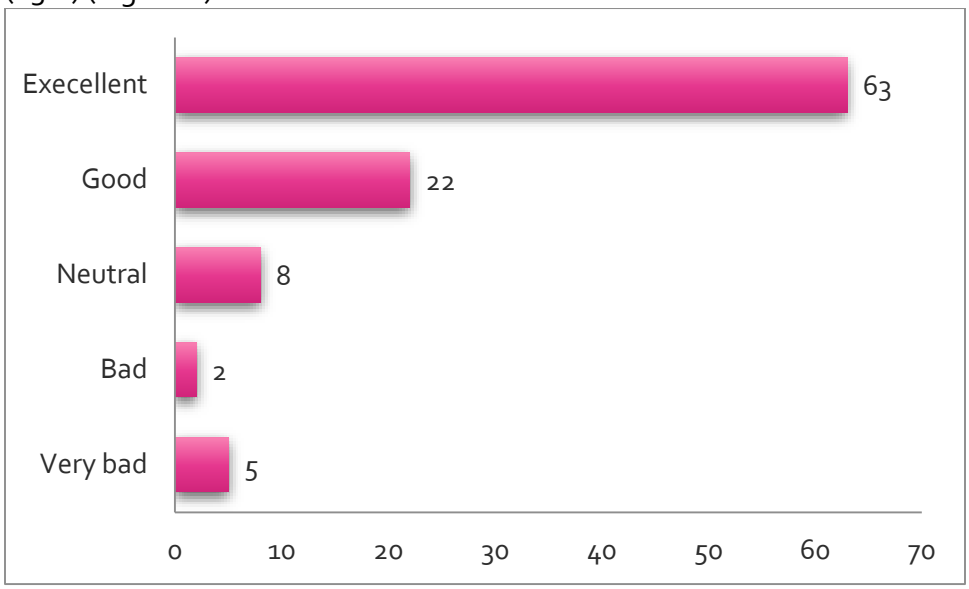

Figure 2: Opinions on quality of the spectacles

The majority of subjects (52%) indicated that the price was excellent and only 4% reported that it was very bad. Just over a fifth (21%) of the subjects reported that on average, the price of the spectacles was acceptable (Figure 3).

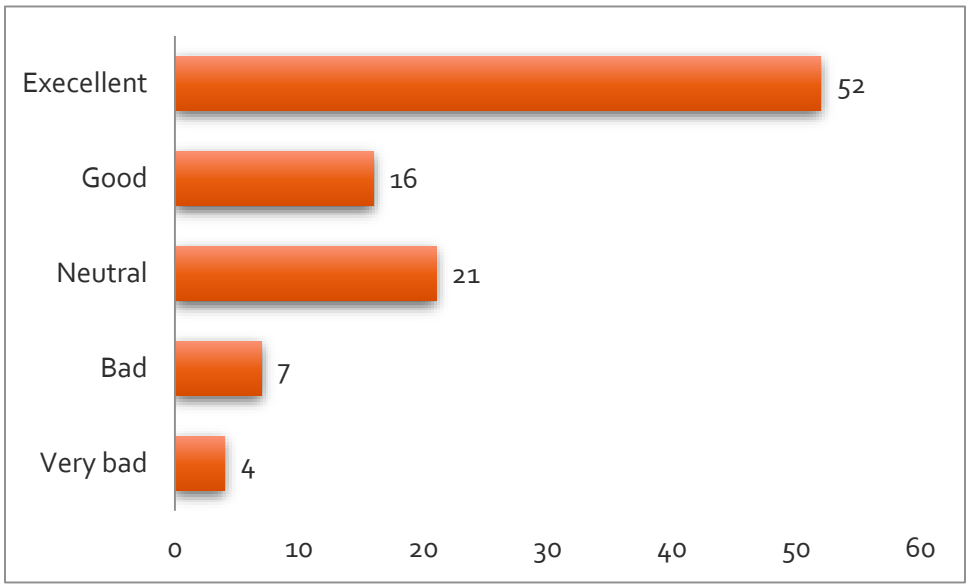

Figure 3: Opinions on price of the spectacles

Only a few subjects (5% + 6%) rated their physical comfort with the spectacles negatively (Figure 4).

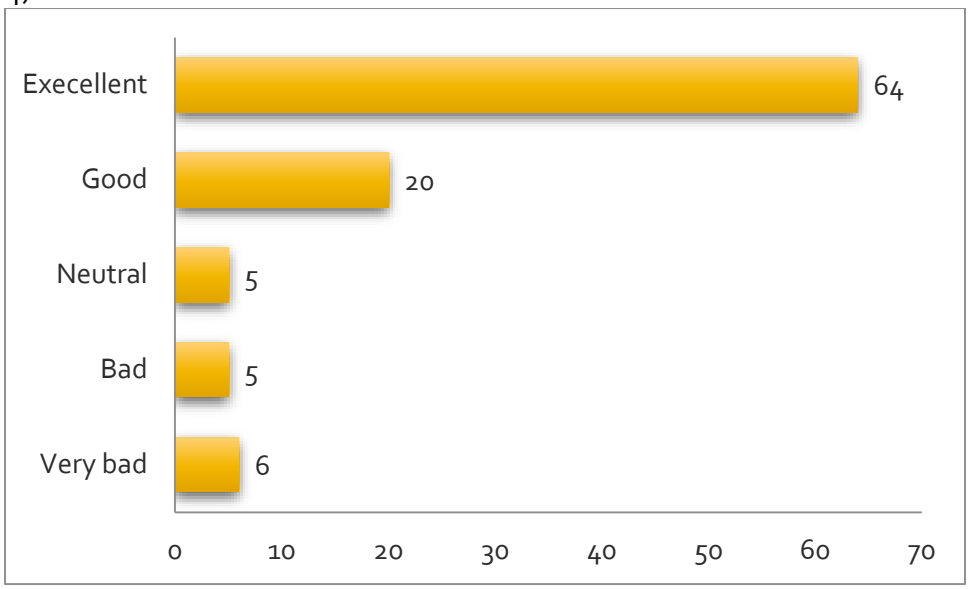

Figure 4: Opinions on Physical comfort

Most of the subjects (85%) reported that spectacles were helpful in their vision. A small number stated bad (7%) and very bad (6%) (Figure 5).

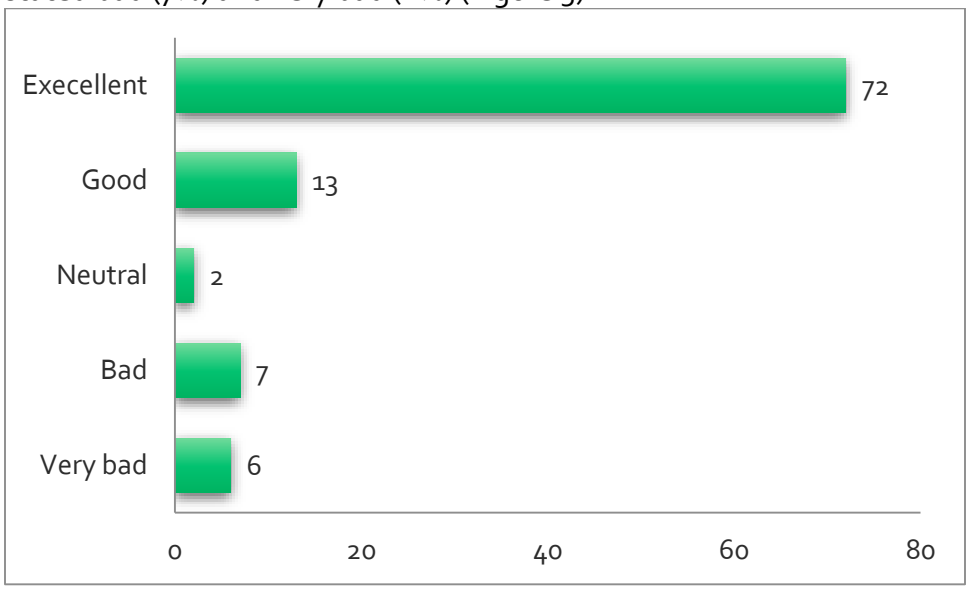

Figure 5: Opinions on vision with spectacles

Subjects were asked about their opinions on what they thought could be done to improve the range of frames. They were able to choose from four items, viz. price, design, material and brand choice. The greatest improvement suggested was the material (52%) followed by design (28%) (Figure 6). Issues like price and brand choice were not much of a priority even though they were also started as areas which needs improvement.

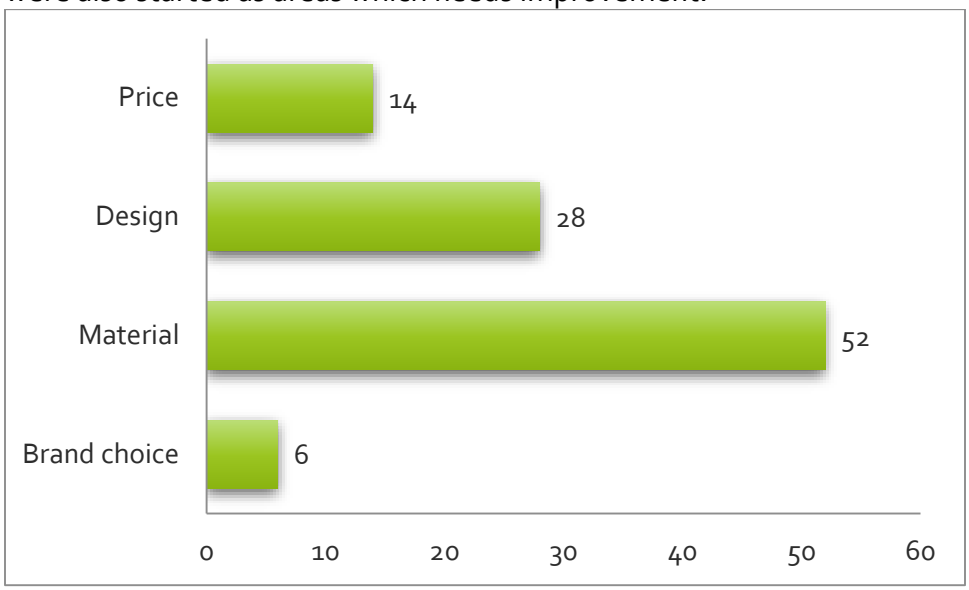

Figure 6: Opinion of how the range of frames could be improved

Questions were asked to determine if subjects would choose to pay more for the next pair of spectacles, would they go back to same clinic/ hospital for their next pair of spectacles or if they would recommend a friend to come buy their spectacles. In all cases the responses were positive even though it was more for recommending a friend (95%) than for going back for the next pair of spectacles (88%) and paying more for the next pair of spectacles (68%) (Figure 7).

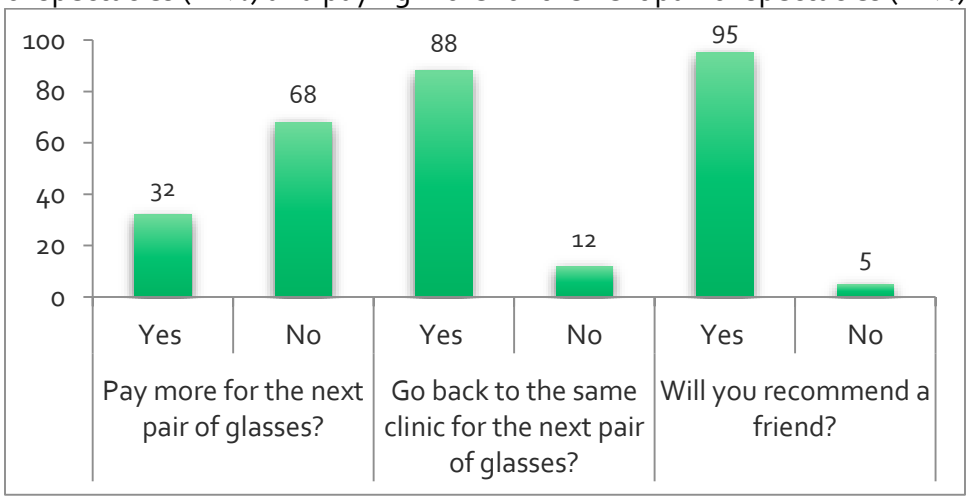

Figure 7: Opinions on future decisions

Multivariate analysis was carried out using Analysis of Variance (ANOVA) to determine which of the items appeared to be significantly associated with patient satisfaction as the dependent variable. These variables included gender, age, clinic site, employment, education level, decision to buy own spectacles and type of spectacles procured. Significant differences were found among these variables with patient satisfaction as dependent variables.

Dependent variable	Variable	p-value
Price of the spectacles	first pair	0.0126*
	decided to buy own spectacles	0.0002*
	Clinic	0.0002*
Physical comfort of the spectacles	decided to buy own spectacles	0.004*
	Clinic	0.0189*
Vision improved	decided to buy own spectacles	0.0008*
Quality of the spectacles	type of spectacles procured	0.009*
	Clinic	0.0215*

Table 6: Analysis of Variance of patient satisfaction

The results for the ANOVA indicated that there was a statistically significance on patient satisfaction, on price of the spectacles, on first pair of spectacles, decision to buy own spectacles and the site were the clinic was located as a variable ($p < 0.05$). Physical comfort also indicated a similar result on site of the clinic and decision to buy own spectacles ($p<0.05$). It was also noted that the improvement on vision possibly after the use of glasses was only statistically significant on the variable of decision to buy own spectacles ($p< 0.01$). Quality of the spectacles was significant when it was compared with variable type of spectacles ($p<0.01$) and site of the clinic ($p<0.05$). All other combination were not statistically significant using ANOVA, hence they were not listed.

Responses by clinic:

The overall results indicate an average of 70% (figure 8) of patients having received their first pair of spectacles through these clinic, however Tladi (100%) and Meadowlands (90%) reported above the average, and Chiawelo (25%) below the average.

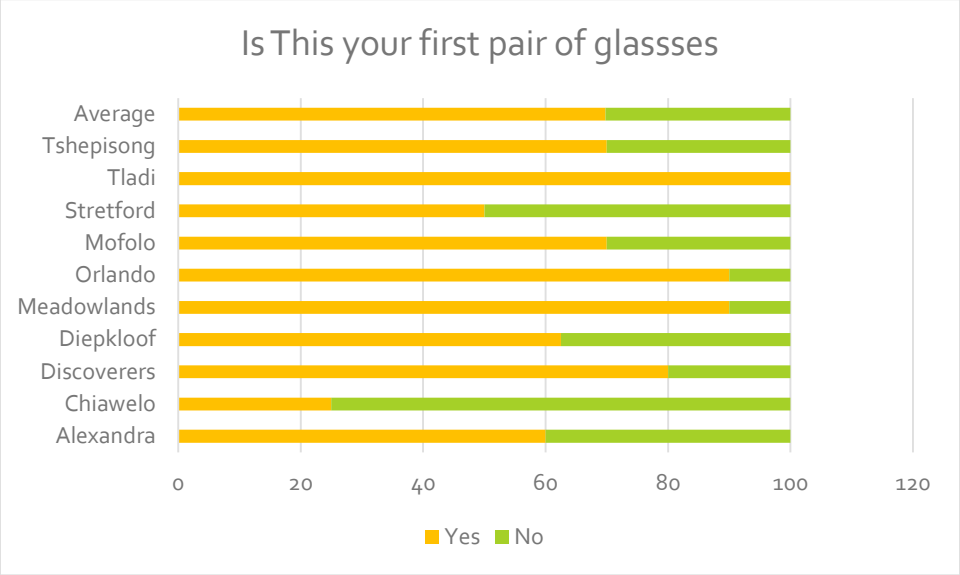

Figure 8: Is this your first pair of glasses by clinic

The responses on reason for purchase reflects that service as a factor is lower at Orlando and Tladi clinics but high at Discoverers clinic, while affordability is reported more at Tshepisong and Orlando clinics.

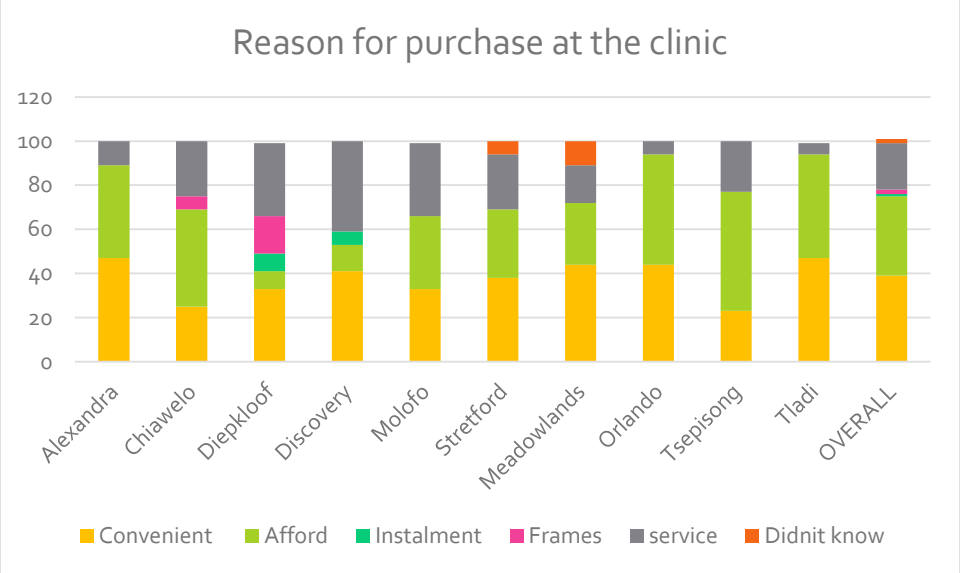

Figure 9: Reason for purchase at clinic, by clinic

Patients at Orlando and Alexandra clinics have reported lower levels of satisfaction with the design of the frames, while patients at Diepkloof, Tladi and Discovers have reported higher levels of satisfaction with the design of frames.

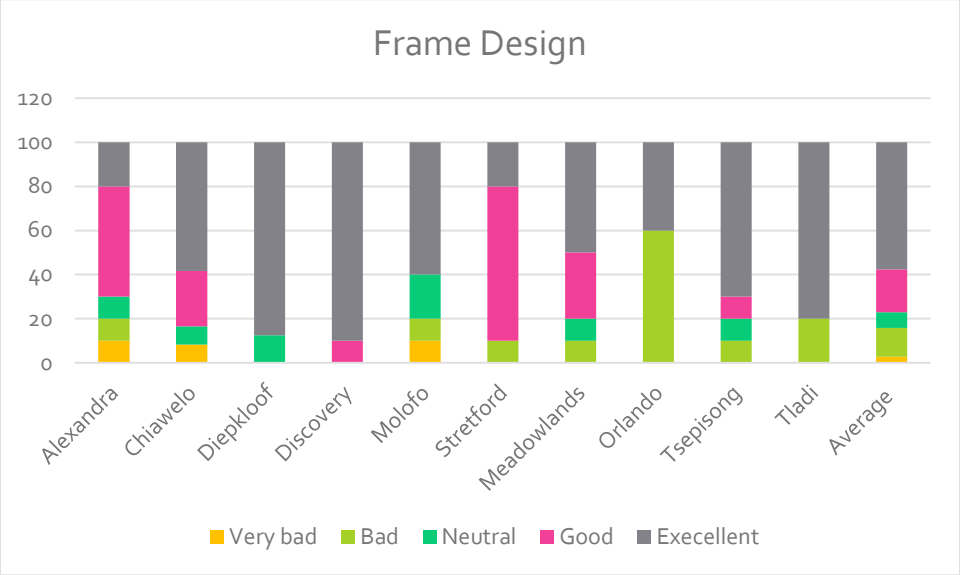

Figure 10: Opinion on frame design, by clinic

Figure 11 below speaks to the quality of spectacles which were rated as excellent by more respondents at Tladi, Discovery, Chiawelo and Diepkloof clinics, while more respondents from Alexandra and Meadowlands rated quality as bad or very bad.

Figure 11: Opinion on Quality of the spectacles by clinic

More respondents from Tladi, Diepkloof, Discovery and Chiawelo rated the comfort of the spectacles as excellent, while more respondents from Alexandra and Meadowlands and Stretford rated the comfort as very bad or bad *(Figure 12 below).*

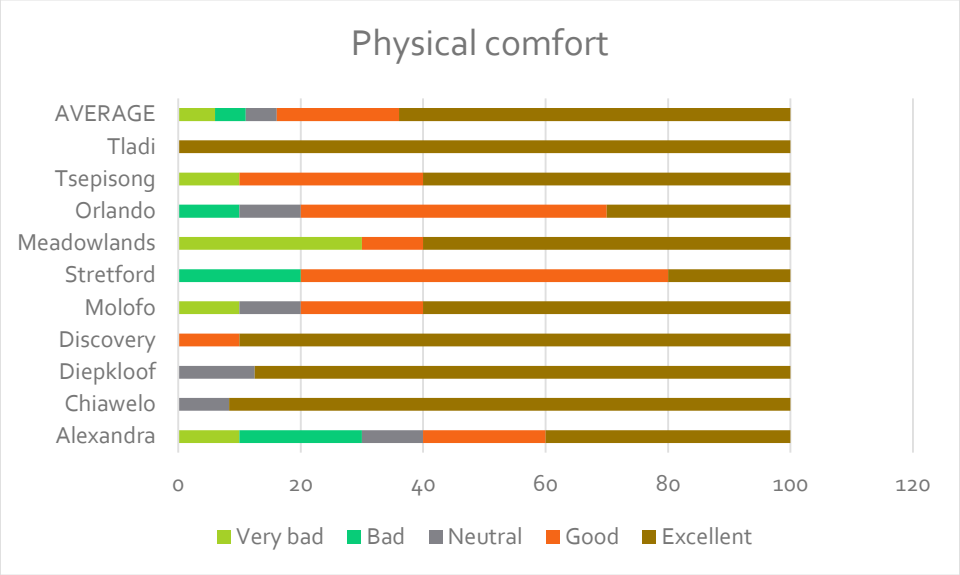

Figure 12: Opinion on physical comfort of the spectacles by clinic

More respondents from Tladi, Discovery and Chiawelo *(Figure 13)* rated the price of the spectacles as excellent, while more respondents from Alexandra and Orlando responded neutral, bad or very bad to the question on the price of the spectacles.

Figure 13: Opinion on price of the spectacles by clinic

All respondents from Tladi, Diepkloof and Chiawelo reported that their vision with the spectacles was excellent, while more respondents from Meadowlands, Stretford and Alexandra reported bad or very bad vision with their spectacles.

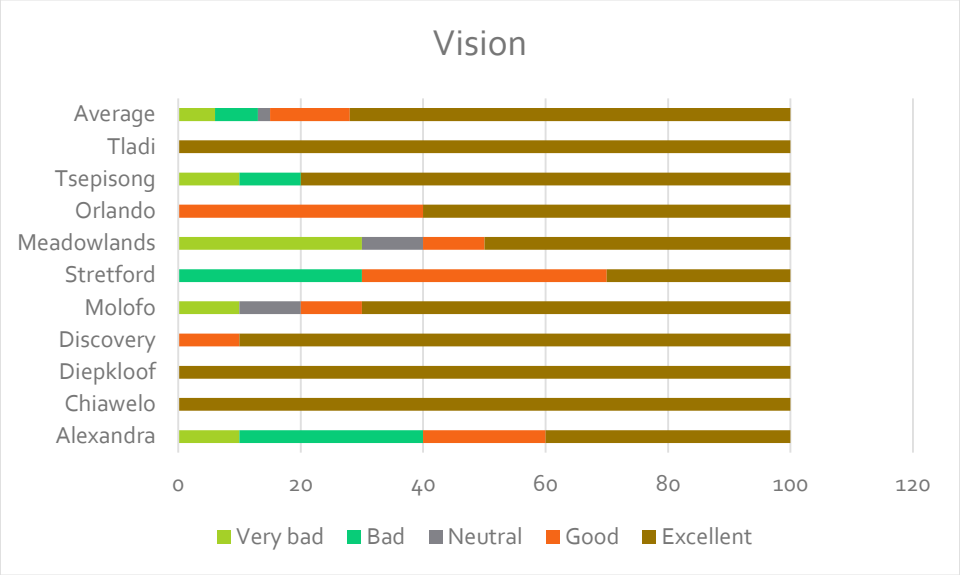

Figure 14: Opinion on vision with their spectacles by clinic

DISCUSSION

Most of the patients (77.25%) that visited the clinics during this period were diagnosed as presbyopic with over 95% of these patients choosing bifocal spectacles to manage their vision needs. This finding was expected due to the age range of patients surveyed being 67% over 40 years old.

The percentage of patients that have purchased their spectacles through the clinic after the optometrists prescribed spectacles to address their uncorrected refractive error was 50.1 %. However 69% of the patients surveyed indicated that this was the first pair of spectacles purchased. The data received from clinics is not providing any information on spectacle wearing status on presentation, therefore those patients that didn't proceed to purchase spectacles could have decided to continue with their existing spectacles. Other factors that could have contributed to this, include patients deciding to purchase their spectacles elsewhere or not being able to afford the costs of the spectacles. Further investigations into the reasons why patients are not purchasing spectacles is required in order to ensure that the necessary strategies can be developed to ensure that all patients are accessing spectacles.

The optometrist at the clinic is able to motivate for the provision of spectacles to patients at no cost if they have significant vision impairment (Visual acuity worse than 6/12) and can demonstrate that they are unable to afford to purchase spectacles. These patients are referred

to a social worker, who investigates their socio-economic status and provides a motivation for the provision of spectacles at no cost if necessary. In addition the social worker will provide additional social support to the patients and family if needed, this could include food parcels and a social grant. It must be clarified here, that all school children presenting at these clinics are provided spectacles at no cost.

A significant finding is that 69% of patients surveyed reported that this was their first pair of spectacles, and 92% of patients chose to purchase their spectacles at the clinic due to affordability, good service or convenience of the service. This demonstrates that these clinics are expanding access to affordable and good quality services to patients that had not previously been wearing spectacles.

85% of reported good to excellent on quality of the spectacles, 68% on the price of spectacles, 77% on the design of the spectacles, 84% on physical comfort and 85% on their vision with spectacles. These findings indicate a high level of satisfaction with the quality of the spectacles provided and the service provided through these clinics. The procurement of frames and lenses through the Global Resources Centre follows a rigorous quality process and the range of frames selected is designed to suit the common facial shapes of the population.

Most of the subjects were in agreement and were happy with the general condition and availability of the spectacles. The study explored on all general conditions which might affect the use of the spectacles and results from the responses showed that more attention is need on the design of the spectacles. It was somewhat worrying for the small but significant proportion which mentioned that their vision was not improved. This could be due to poor patient understanding on the use of their spectacles through the optometrist not providing appropriate explanations when dispensing the spectacles or incorrect prescriptions having been dispensed as result of errors during the production and delivery of these spectacles.

In comparing the responses from different clinics, respondents from Tladi, Discoverers and Chiawelo clinics have rated the quality, comfort, price and vision as good to excellent while more respondents from Alexandra Orlando clinics have rated bad to very bad on these factors. Further investigation of the reasons for these responses is warranted in order to understand the factors contributing to these responses and develop strategies to address them.

RECOMMENDATIONS:

6. Investigate mechanisms to improve patient awareness of spectacle usage
7. Improve instructions to patients on reporting poor vision with spectacles
8. Explore improved frame materials and designs
9. Investigate reasons for patients not purchasing spectacles that have been prescribed
10. Investigate factors influencing variance of responses on issues of quality, comfort, price and vision between the different sites in the study.

REFERENCES

Fitzpatrick R. 1997. The assessment of patient satisfaction. In: Jenkinson C, ed. Assessment and evaluation of health and medical care. Buckingham: Open University Press. :85–101.

Bourne et al. 2013. Causes of vision loss worldwide, 1990-2010: a systematic analysis. Lancet Global Health 1(6): e339 - e349.

Castanon Holguin et al. 2006. Factors Associated with Spectacle-Wear Compliance in School-Aged Mexican Children. Investigative Ophthalmology and Vision Science. 47(3): 925-928.

Cleary et al. 1991. Patients evaluate their hospital care: a national survey. Health Aff. 254–67.

Gogate P, et al. 2013. Spectacle compliance amongst rural secondary school children in Pune district, India. Indian J Ophthalmol. 61(1):8-12.

Joseph AE and Philips DR. 1984. Accessibility and utilization: Geographical perspectives on health care delivery. New York: Harper and Row. pp. 51–8.

Joseph AE and Bantoc PR. 1982. Measuring potential physical accessibility to general practitioners in rural areas: A method and case study. Soc Sci Med. 16:85–90.[PubMed: 7100960]

Keay et al. 2010. Predictors of Early Acceptance of Free Spectacles Provided to Junior High School Students in China. Archives of Ophthalmology. 128(10): 1328–1334.

Knox PL. 1979. The accessibility of primary care to urban patients: A geographical analysis. J R Coll Gen Pract. 29:160–8.

Linder- Pelz SU. 1982. Toward a theory of patient satisfaction Soc Sci Med. 16:577–82.

Messer et al. 2012. Spectacle Wear in Children Given Spectacles through a School-Based Program. Optometry and Vision Science. 89(1): 19–26.

Nijkamp et al. 2002. Quality of care from the perspective of the cataract patient: the reliability and validity of the QUOTE- Cataract. Br J Opthalmol. 86:840–2. [PMCID: PMC1771238]

Penchansky R and Thomas JW. 1981. The concept of access: definition and relationship to consumer satisfaction. Med Care. 19:127–40.[PubMed: 7206846]

Pillay V, Chan VF, Chinanayi FS, Naidoo KS. 2016. How Do Patients Choose Their Spectacles in the Public Sector of South Africa?. Optometry & Vision Science. 1;93(3):235-42.

Rubin et al. 1993. Patients ratings of outpatient visits in different practice settings. Results from the Medical Outcomes Study. JAMA. 270:835–40.[PubMed: 8340982]

Wedner et al. 2008. Two strategies for correcting refractive errors in school students in Tanzania: randomised comparison, with implications for screening programmes. British Journal of Ophthalmology. 92(1):19-24.

Williams B. Patient 1994. Satisfaction: a valid concept? Soc Sci Med. 38:509–16.[PubMed: 8184314]

William B, Coyle J, Healy D. 1998. The meaning of patient satisfaction: An explanation of high reported levels. Soc Sci Med. 47:1351–9.[PubMed: 9783878]

Zhang et al. 2008. Measuring access to eye care: A public health perspective. Ophthalmic Epidemiol. 15:418–25.[PubMed: 19065435]

Zhang et al. 2007. Eye care in the United States: Do we deliver to high-risk people who can benefit most from it? Arch Ophthalmol. 125:411–8.[PubMed: 17353417]

APPENDIX 1 –PARTICIPANT INFORMATION SHEET

Participant Information Sheet

Determining the spectacle uptake and spectacle satisfaction at eye clinics in Soweto, Gauteng

Name of the Principal Investigator: Mr. Kesi Naidoo

Name of the Organization: Brien Holden Vision Institute

Name of the Sponsor: Seeing is Believing, Standard Chartered Bank

Hello. My name is …… and I am working for an organization which specializes in eye care services. It is called the Brien Holden Vision Institute.

We are glad to see that you take your eye health seriously and have had your eyes tested at the clinic and purchased a pair of spectacles from us. We are now conducting a survey to know what you feel about the pair of spectacles purchased from us. This research will assist Brien Holden Vision Institute improve its services.

I would like to ask you a few questions. It will only take approximately 10 minutes. In order to facilitate this study we are asking your permission to use the information you provided when you visited the clinic for eye services. This information will be treated confidentially and will not be shared with anyone except for the person interviewing you. If you do not want to answer the questions, it is fine. However, your responses will be greatly appreciated and meaningful to us and help us to improve the services in the clinics.

All the information you provide will be treated as confidential. Your responses will be kept for 5 years and will be discarded after that. All personal identification information will be removed before the project team share and analyze the data. The information will be accessible to Brien Holden Vision Institute who funded this intervention. So feel free to give your response.

You will not be at any physical or psychological risk and should experience no discomfort resulting from the research procedures. There is no direct individual benefit to you from this study. We hope that our findings will assist Brien Holden Vision Institute in enhancing they provide to the clinics and the general population who use the clinics
If there are any questions relating to this study, you may contact the following person(s):

Mr. Kesi Naidoo - 0312023811

Would you be kind enough to participate in the interview? Yes/ No

Thank you.

APPENDIX 2 –CONSENT FORM

Title of project: Determining the spectacle uptake and spectacle satisfaction at eye clinics in Soweto, Gauteng

Name of researcher- _____

I …….. Agree to participate in this research project. The research has been explained to me and I understand what my participation will involve.

I agree that my participation will remain anonymous YES NO (please circle)

I agree that the researcher may use anonymous quotes in his research report YES NO

I agree that the information I provide may be used anonymously by other researchers following this study YES NO

…… (signature)

…… (name of participant)

…… (date)

APPENDIX 3 - QUESTIONNAIRE

(Only retrieve this information once the participant agrees to an interview)

Spectacle Satisfaction Survey

Questionnaire

Section A: To be completed by data collectors from database

Demography **Unique study no:** | | | | | | | |

Name:_____**Date:**_____

Age:_____ **Sex: ① M ② F** **Price of last glasses:** _____

Date of spectacles purchased: _____

Type of glasses procured: _____

Type of refractive error:

① Shortsighted

② Longsighted

③ Shortsighted with astigmatism

④ Longsighted with astigmatism

With presbyopia?

⑥Yes

⑦No

Section B: To be administered to respondents:

I. Education	II. Occupation
① No schooling ② Primary School incomplete ③ Primary School Complete ④ Secondary School Incomplete ⑤ Secondary School/ Higher Complete ⑥ College/University Complete ⑦Don't know	① Full-time employment ② Part-time employment ③ Unemployed **III. Location of patient** ① Soweto ② Outside Soweto, please specify:

1 Do you own a pair of glasses? ① Yes ②No	2 Is this your first pair of glasses? ① Yes ②No

3 You decided to buy your glasses here because (can choose maximum 2 options)

①It was convenient (get everything done at one place, one time

②I could afford it (a good deal)

③I could pay in instalments

④I liked the spectacle frames

⑤The service was good

⑥Didn't know I could buy it elsewhere

⑦Others, please specify_____

	Excellent	Good	Neutral	Bad	Very bad
4 What do you think about the design of the spectacle frames?	①	②	③	④	⑤
5 What do you think about the quality of the spectacles?	①	②	③	④	⑤
6 What do you think about the price of the spectacle?	①	②	③	④	⑤
7 What do you think about the physical comfort of the spectacle?	①	②	③	④	⑤

8 What do you think about your vision wearing the spectacle?	①	②	③	④	⑤

9 How could the current range of frames be improved?

① Design ② Price ③ Brand choice ④ Material ⑤ Others, specify _____

10 Will you pay more for the next pair of glasses? ①Yes ② No

Please specify why_____

11 For your next pair of glasses will you return to the same eye clinic/hospital?

① Yes, why?_____ ② No, why?_____

12 Will you recommend your friends/relatives to the same eye clinic/hospital?

① Yes, why?_____ ② No, why?_____

Thank you very much for your time and participation. With your sincere response, we hope to improve our service and serve you better in the future.