PATIENT SATISFACTION WITH TRICHIASIS SURGERY IN JIGAWA STATE, NIGERIA

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Abstract

Purpose: *Following the implementation of the SAFE (Surgery, Antibiotics, Facial Cleanliness, Environmental improvements) strategy for the control of trachoma in Jigawa state, ophthalmic nurses trained as lid surgeons perform trichiasis surgery in the state. This study aims to assess patient satisfaction with surgical results and trichiasis surgery services in the state.*

Methods: *A retrospective cohort study of patients operated on for the first time between December 2012 and April 2013. Patients were examined for presence of recurrent trichiasis, eyelid contour abnormality and eyelid closure defects. A specially designed and pretested questionnaire was administered to each participant with questions about satisfaction with services, results, their opinion and recommendation.*

Results: *Seventy-seven patients were examined. Fifty-six (73%) participants were female. The mean age of the participants was 54.9 years (±17.8 years) with a range of 8 to 90 years; females tended to be older but not statistically significantly so. We found that 97% were satisfied with the timing of operation and 97% were satisfied with staff conduct; subjective vision was better in 66%, post operative appearance was good in 82%; while expectation was met in 95%. Overall, 96% were of the opinion that surgery was helpful, while 97% of patients were willing to recommend the surgery to their family and friends.*

Conclusion: *Patient satisfaction with results of trichiasis surgery and services in Jigawa state is high.*

Key words: *patient, satisfaction, trichiasis surgery, Jigawa State, Nigeria*

Introduction:

Trachoma is an infectious disease caused by the micro organism Chlamydia trachomatis. It is the leading cause of blindness due to an infectious agent and a leading cause of preventable blindness worldwide . Trachoma is a disease of poverty that is found in the poorest communities of developing countries, mostly in sub-Saharan Africa and Asia. Trachomatous trichiasis, the blinding form of the disease affects about 4.6 million worldwide; with over 1.2 million irreversibly blind .

Concerted effort is needed to increase the number and quality of lid surgeries in endemic areas, to deal with the backlog of the trichiasis cases needing surgery and prevent the huge economic loss attributed to visual loss from trachoma. This can be achieved through the implementation of the World Health Organization (WHO) recommended SAFE (Surgery for trichiasis, Antibiotics for active infection, Facial cleanliness, Environmental

improvements) strategy for control of trachoma .

Trichiasis and its management: Trichiasis causes corneal opacification and irreversible blindness. It develops as a result of chronic and recurrent infection with resultant conjunctival scarring and entropion. It presents with symptoms such as pain, tearing, foreign body and pricking sensation, poor vision; and in severe cases phthisis bulbi. The WHO has recommended the Bilamellar Tarsal Rotation Surgery (BLTR) or alternatively the Posterior Lamellar Tarsal Rotation (PLTR) as the surgery of choice in trachoma control programmes. It also recommends the surgeries to be carried out in communities by non-ophthalmologists, in order to increase the reach and uptake of these surgeries especially in resource-poor settings .

Very few studies have evaluated the patients' satisfaction which hitherto can influence their attitude and that of others around them to either take up or reject trichiasis surgery . Poor outcomes, for example recurrence of trichiasis or unsatisfactory cosmesis (eyelid contour abnormalities and eyelid closure defects), could deter patients from accepting surgery.

Rationale: Jigawa is one of the states with high prevalence of trachoma in Nigeria. A population-based survey conducted showed a trachoma prevalence of **22.3%** in the state, with a correspondingly high prevalence of the blinding forms trachomatous trichiasis (TT; **5%**) and corneal opacity (CO; **2.5%**), in the age group 15 years and above. Since 2007, records show over 22,000 lid surgeries have been carried out by Ophthalmic Nurses trained as lid surgeons in Jigawa state. However, the outcome of these surgeries is unknown and patients' perception of the outcomes and their surgical experiences have not been evaluated. This study was done to determine the outcome of trachoma lid surgery, assess the lid surgery workforce, and to assess patient satisfaction after trichiasis surgery in Jigawa state. This article presents the findings of the patient satisfaction component of the study.

Materials and Methods:

This was a retrospective cohort study of patients who had lid surgery for trichiasis between December 2012 and April 2013.

Study Area: Four zones in the state as shown in Figure 1 were included in the study. These zones were purposefully selected based on the location of the most active surgeons and their catchment areas. Study participants were subsequently grouped according to this zoning system. The state capital was excluded based on the fact that it is an urban settlement, and most of the patients accessing lid surgery in that zone come from neighbouring states, hence were likely to be unreachable for assessment during the study, due to distance.

Inclusion criteria

1. Only patients who had surgery between December 2012 and April 2013 (3 to 6 months before the commencement of the field work) were included.
2. Only eyes that have been operated upon for the first time (primary surgeries) within the study period were included.
3. For patients whose both eyes were operated upon at different times but within the study period, the eye with the worse outcome as judged by the examiner was to be included in the patient satisfaction questionnaire to reduce the chances of a bad outcome or experience being masked by that of a good outcome/experience. However, all patients encountered in this study who had bilateral surgery, had both eyes operated upon on the same day, therefore they were assumed to have had the same experience for both eyes, and as such these patients were asked of their satisfaction with results of both eyes.

Exclusion criteria

1. **Patients who were operated upon outside the study period:** Patients operated less than 3 months before commencement of field work were excluded to allow for early effects of inflammation post-operation to subside.

Patients operated upon more than six months before the study commenced were excluded to enhance recall of the patients' surgical experiences.

2. **Eyes with repeat surgery:** These were excluded as they were thought to be more prone to higher rates of recurrence and other poor outcomes. In addition the patients' view of their treatment is likely to be influenced by their previous experience. Data collection and study protocol are as documented in an earlier publication. Participants were sorted according to the flowchart in figure 2.

Each participant included in the study was examined and administered the satisfaction questionnaire

individually in a secure secluded place to avoid others influencing their responses.
The semi-structured questionnaire designed for the purpose of the study is based on a similar study carried out in the Gambia and was researcher-administered.
The questionnaire was pretested on 10 post trichiasis surgery patients who were not included in the study. Participants were asked about their pre, intra and post operative experience, their satisfaction with the outcome of the surgery, the services provided, and conduct of the eye care staff who attended to them during their treatment. Also included was their source of information, opinion and recommendations about the service.

Ethical Considerations:
Ethical Approval was obtained from the London School of Hygiene and Tropical Medicine (LSHTM ethics ref: 012-282) and the Operational Research Committee of the Jigawa State Ministry of Health (MOH/SEC/ 3/S/385/1/111).
Informed consent was obtained from each participant as evidenced by signing or thumb-printing.

Data Management and analysis: All data was double-entered into a pre-coded Microsoft Access database with consistency checks. All data entry was done by the Ophthalmologist on a pro-rata basis.
Participants were identified by their unique Study identification numbers.
Data analysis was done using STATA version 12.1 statistical software. Fisher's exact test was used to assess the significance of associations between categorical variables. The significance of observed differences in continuous variables was assessed using 2-sample T-tests (if data appeared symmetric) and Rank-Sum tests (if asymmetry suggesting non-normality was detected).

Results:
A total of 77 participants were included in the study, with 56 (73%) of the participants being female. The mean age of the participants was 54.9 years (±17.8 years) with a range of 8 to 90 years; females tended to be older (mean age of 57.9 ±17.7 years) than males (mean age 49.4 ±16.7 years), the difference was however not statistically significant (X^2 p=0.04).
A total of 133 eyes of 77 participants were included in the study and examined; 23 eyes had recurrent TT with the overall incidence of 17.3% (95% CI 11.3% - 24.8%).

Satisfaction with Service: Duration of symptoms preoperatively was more than one year in 64 (83%) and less than one year in the rest of the participants (n=13). All patients were operated upon within one month of their diagnosis except four (5 %) who had to wait longer. All but two participants were satisfied with the timing of their operation, one of whom had to wait for six months before being operated upon.
The sources of information about trichiasis surgery services were eye care personnel/hospital staff (33%), family and friends (35%), mass media (22%), and others included community leaders and local politicians (10%).
All but two participants thought eye care personnel exhibited good conduct (75; 97%).
Surgery was free for 55 (71%) and paid for 22 (29%) persons. The amount paid per eye ranged from NGN 750 – 2,000 (USD 4.6-12.4; at USD1=NGN 160), however two patients were not sure how much was paid for their surgeries. Paticipants' (both paying and non-paying patients) opinion of amount charged was Cheap (71%), Adequate (26%) and Expensive (3%).
When asked to estimate how much the operation was worth in monetary terms and how much they thought should be charged as fee per eye, 54 (77%) of the 74 respondents suggested an amount between NGN 1,000 – 20,000 (USD 6.2-123.7) with none of the paying patients suggesting it should be free, while seven of the free patients still wanted it to remain free as shown in figure 3. There was no evidence of a difference in the price willing to pay between participants who had paid and those who had free surgery.
The reasons for suggesting the said amount were the surgery being worth it (42; 57%) and affordable price (32; 43%).

Intra-operative experience: Only 17 (22%) participants experienced peri-operative pain, 13 were females. The pain was mild in 59% (10), moderate in 35% (6) and severe in only 6% (1) of cases. Severity was worse in females. Other self-reported complications such as severe bleeding, wound gape and fleshy Growth were reported more by females, though the difference in frequency of these self reported complications was not statistically significant between males and females.

Satisfaction with results:
Vision: Compared to pre-operative vision,

postoperative vision was said to be better in 51 (66%) or same in 25 (33%) persons; two persons reported their vision was worse after surgery. This response was not affected by sex, the presence or absence of recurrent trichiasis Eyelid Contour Abnormality (ECA), Eyelid Closure Defect (ECD), or final post-operative visual acuity.

Appearance: Sixty four persons (83%) were happy, 12 (16%) were indifferent and only one (1%) person (a female) felt unhappy with their post operative appearance. This response was not affected by sex, presence or absence of recurrent trichiasis, Eyelid Contour Abnormality and Eyelid Closure Defects.

Opinion of family and Friends about participant's appearance: Was good in 64 (83%) and unknown in the rest of the participants.

Expectation: Expectations of surgery were met in 73 (95%) participants. Reasons expectation was not met were poor vision (two persons), expecting surgery in both eyes but only one was done (one person) and recurrence of symptoms (one person). The reasons patients felt expectations were met are shown in Figure 4.

Overall, 74 (96%) persons were of the opinion the surgery was helpful, two (3%) felt it was not helpful, while one person was indifferent. Only two persons were not willing to recommend the surgery because it was either painful or didn't help them, while 97% (75) were willing to recommend and 52% had already recommended the surgery to others.

Other themes that came out from the participants were the need to increase awareness/ publicity and the need to include cataract surgery at the same time with lid surgery.

Discussion:

Although some studies have been done to assess the barriers to uptake of trichiasis surgery in northern Nigeria. This to our knowledge, represents the earliest record of assessment of satisfaction in those who have had trichiasis surgery in this region. The study participants were drawn from across the state where different surgeons performed surgery. The findings give an insight into the perception of patients about trichiasis surgery in Jigawa state, and possibly Northern Nigeria, which could be employed to improve service delivery.

Patient Satisfaction: Despite delay in presentation, most patients were happy to have been operated upon within one month of knowing they needed surgery. This may suggest that many patients are likely to be willing to have surgery as soon as a diagnosis is made and therefore more effort is needed to find and operate on those affected early, to prevent irreversible blindness from corneal opacity.

Barriers to uptake of trichiasis surgery are well-known and have been extensively studied in different settings including northern Nigeria . It is a known fact that satisfied patients are an asset to the service as they can promote the service and encourage others to accept surgery. This study found a high level of satisfaction with the service in all sexes, among patients who had poor and good outcomes and also in all the surgical centres. This was evidenced by the fact that they were willing to recommend the service to others. Reasons for the high satisfaction included being happy with the results and the benefit being worth the expenditure. Most patients were willing to pay more in the future than the current charge; even those who had free surgery felt it was worth paying for. Similar levels of satisfaction with trichiasis surgery were found in another study. However, there were a few patients who still felt the surgery should be free, to enable the poor access it.

It is not surprising that irrespective of visual acuity changes and other outcomes, satisfaction with the results was still high. This is due to the fact that their expectations were met in terms of the relief of the hitherto distressing symptoms of tearing, pain and discomfort (photophobia, foreign body and pricking sensation and in one case constant excoriations around the eyes preventing application of cosmetics to the eye lids). The likely effect of these symptoms on quality of life, physical functioning, productivity and the attendant economic loss has been documented. The low rate of self-reported adverse events like severe peri-operative pain and severe bleeding could also account for the satisfaction levels encountered in this study. There is a possibility though that these positive responses might have been influenced by fear of being victimized in the future, since the local staff were part of the survey team.

As expected, the few patients whose expectations were not met were those who expected their vision to be improved significantly with lid surgery, who may not have fully understood the aim and possible outcome of the surgery; one participant actually had cataract as well as trichiasis. Others felt dissatisfied because they expected to have surgery in both eyes, but only one eye was operated upon. This is not an

uncommon practice as some surgeons prefer to epilate in cases where only a few lashes are involved. These findings re-emphasize the need for adequate counselling for all patients undergoing trichiasis surgery and indeed all kinds of surgery to enable patients have realistic expectations, improve uptake, compliance and patient satisfaction. It also lends credence to the need for good quality surgery for all cases of trichiasis as soon as it is detected. Mild cases may become severe with time increasing the risk of blindness, and the patient may not have the opportunity to come in contact with a surgeon before then. However, if the surgeon decides to epilate, a clear follow-up protocol should be put in place to ensure that the trichiasis is not allowed to worsen.

When asked for any other areas they felt were not addressed by the study, most of the patients suggested that more effort at increasing awareness should be made. They felt there were other patients in remote areas who had not heard about trichiasis surgery, this is despite the fact that the majority of the patients heard about the surgery from sources other than the hospital or eye care staff. This is understandable as these sources (mass media, community leaders, family and friends) were probably utilized mainly during the annual free surgical campaigns. Ideally this should not be the case, as eye care personnel are expected to make awareness creation and case-finding a routine and on-going activity. Also some of the satisfied patients could be trained as case-finders and motivators to increase awareness and uptake of surgery.

Limitations: The study is limited by the small number of participants and as such readers are asked to view non-statistically significant results cautiously as these may reflect a lack of power rather than no difference.

Inadequate and improper documentation and record keeping resulted in inclusion of patients who were either yet to be operated or were not even trichiasis patients in the surgeons' lists, making the estimation of loss to follow up difficult.

Conclusion: There was high level of satisfaction with the surgical services provided and with the results of surgery among participants.

We recommend that accurate and up to date records should be kept in all the centres to enable accurate identification, follow-up and auditing.

Efforts should be made to increase awareness about the surgical activities, and if possible motivated beneficiaries could be recruited and engaged in this task, to improve acceptance and uptake of surgical services.

Conflict of interest: None of the authors also has any proprietary interests or conflict of interests related to this submission.

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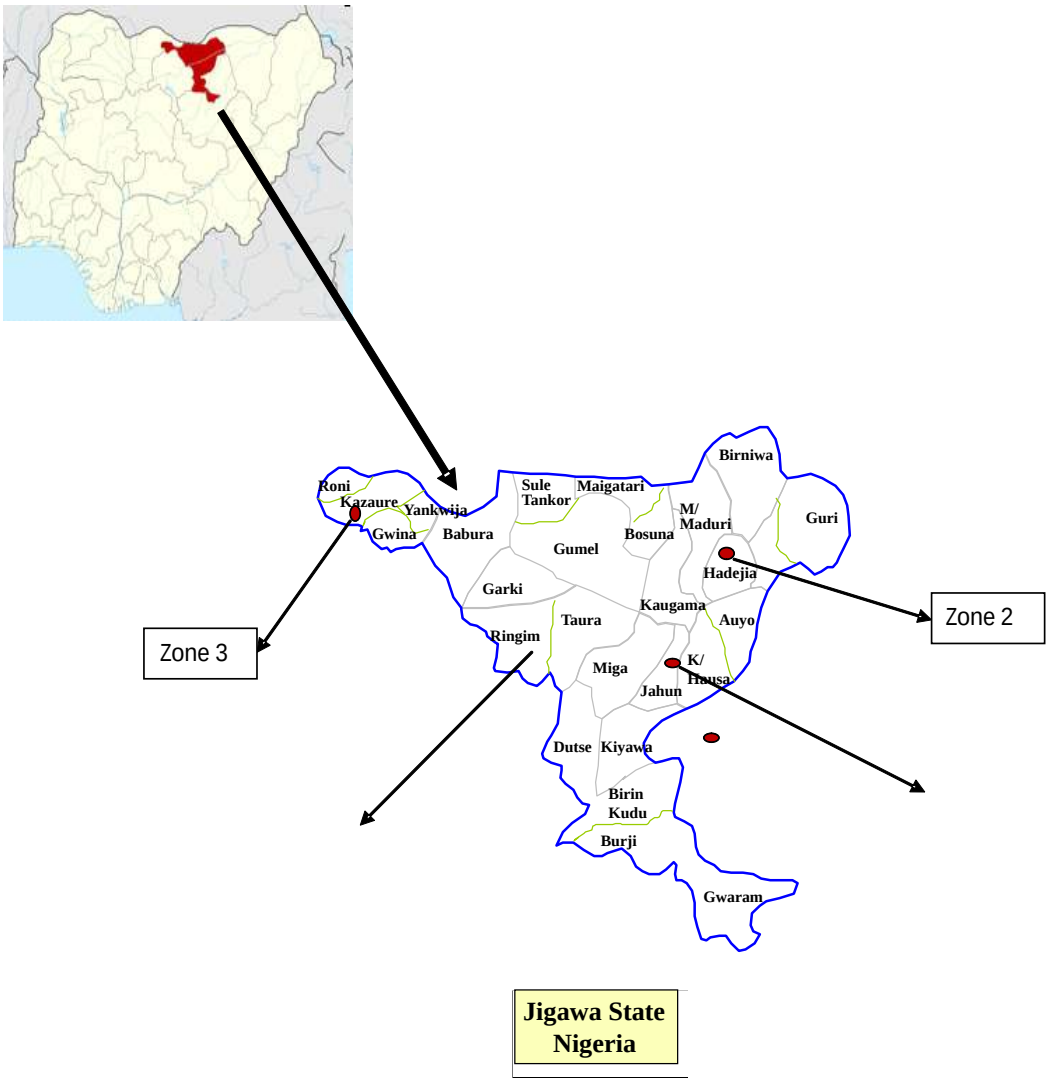

Figure 1: Map of Jigawa State showing the 4 zones (study sites)

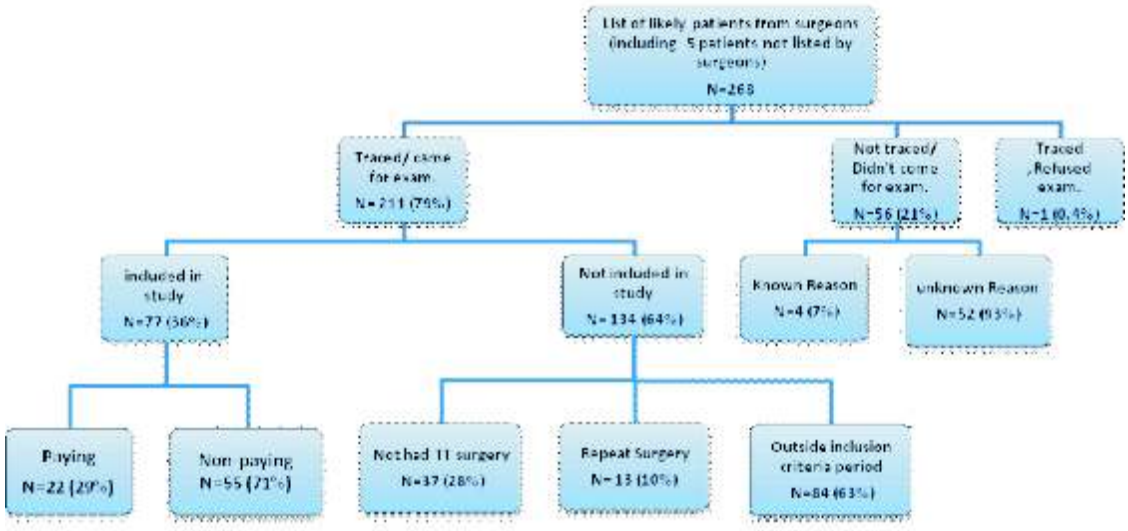

Figure 2: Flowchart showing the distribution of patients seen «TT= Trichiasis

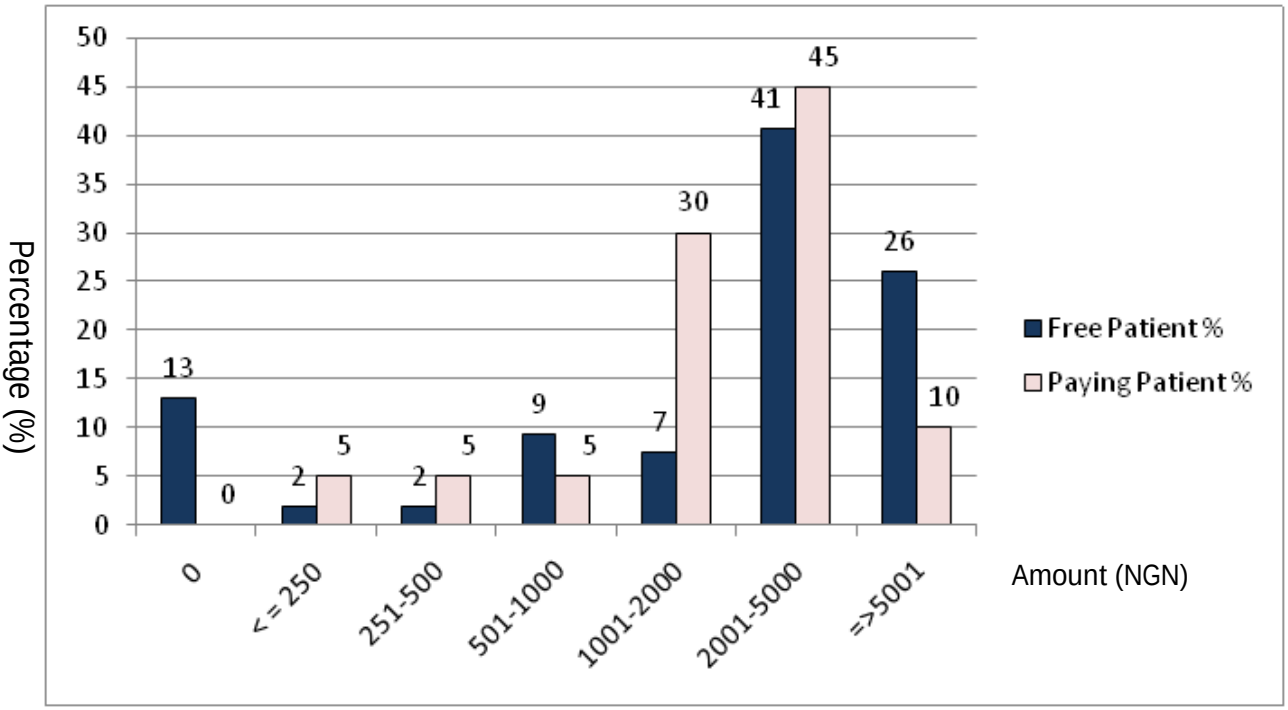

Figure 3: Suggested amount to be charged for surgery per eye.
«NGN= Nigerian Naira

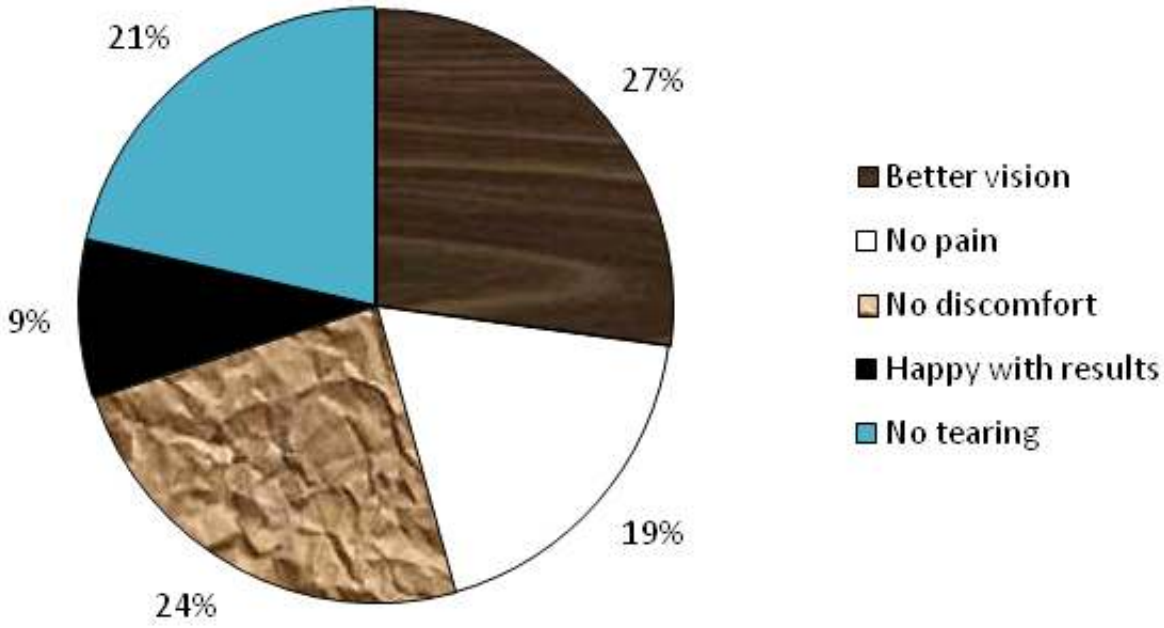

Figure 4: Reason expectation was met

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