

Acceptance and Performance of One Day Silicone Hydrogel Multifocal Contact Lenses in Presbyopic patients

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Abstract

Purpose: To investigate the acceptance and performance of one day Silicone Hydrogel Multifocal Contact Lenses in distance, intermediate and near zone in presbyopic patients.

Materials and Methodology: This Prospective, clinical and questionnaire based study were conducted in an eye/optical clinic during 17th December 2016 to 20th April 2017. The patients (n=30), who had fulfilling the inclusion criteria, had been thoroughly examined in first, second and third visit. Subjective questionnaire were distributed to the patients for fill up in front of examiner. Questionnaire was divided into 3 sets: Fitting visit (total 6 questions), Take Home Questionnaire (THQ) (total 4 questions) and assessment visit (total 6 questions). The entire questionnaire was asked according to distance, intermediate and near zone basic.

Results: In this study, the mean age of the patients were 49.60 ± 7.828 years and male and female percentage were 20 (67%) and 10 (33%). There were a significant difference found for “overall vision satisfaction with contact lens” at distance ($P=0.003$) and near ($P=0.035$), between fitting and assessment visit. But no significant association was found at intermediate (0.054) for both visits. In fitting visit, twenty two (73.3%) patients were willing to purchase the multifocal contact lenses and eight (26.7%) patients were not agree to buy contact lenses. This decreased to only fifty (50.0%) of patients willing to buy the lenses and fifty (50.0%) of patients were not willing to buy contact lenses at the assessment visit. There was significant difference found in overall day and night time wearing about “contact lens comfort “ at distance ($P = 0.034$) and but no significant difference found at intermediate and near ($P > 0.05$) in take home questionnaire (THQ).

Conclusion: If the clinical measurement taken perfectly the rate of the performance level would be higher. The usefulness in subjective ratings on willingness to buy multifocal contact lens show that unlikely to be satisfied after using the lens at outside and home environment.

Key words: Presbyopia, one day silicone hydrogel multifocal contact lenses, subjective response, willingness, take home questionnaire, vision satisfaction, vision stability, vision clarity, comfort.

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Introduction

Presbyopia is a physiological process, usually developed after the age of 40, when crystalline lens gets harder and results the loss of accommodation. It has been observed that eight (8%) of older persons (≥ 60 years) rising smoothly since from 1950, passing from 11% in the year 2009 and also expected that it may be rising high up to 22% within 2050 in worldwide¹ and dramatically situation will be increase in developing countries.

There is little option for the correction of presbyopia: spectacle correction, contact lens option (single-vision contact lenses, monovision, bifocal soft and rigid gas permeable contact lenses and multifocal soft and rigid gas permeable contact lens. Worldwide most commonly prescribe multifocal contact lenses are soft for the presbyopic patient to see clear and sharpest view.

Multifocal contact lenses are medical device that can allow the eyes to see the object clearly at different distances. The advantages of multifocal contact lens are to provide better visual acuity at three zones (distance, intermediate and near), the ability to see the object clearly without any extra eyewear. Silicone hydrogel lens materials provide higher oxygen transmissibility and adequate lens movement over the cornea.

Research has been finding that 63% of presbyopic people appear to be fit with non-presbyopic lens corrections in worldwide.²

Now a days, number of multifocal contact lens wearers has been increased for presbyopic patients,³ but in developing countries the variation rate of wearers is depends on social, financial and psychological status of people.

In India, most of the practitioners try to prescribe progressive spectacle lens than multifocal contact lens, because of some reasons increased chair time¹⁸, lack of confident for prescribing MFSCs, psychological thoughts, business purposes.

A research paper compared between silicone hydrogel multifocal contact lens with monovision, they conclude that, the performance of multifocal contact lenses is better than monovision,⁴ but it depends on person to person on their wearing, social and occupation prospective status.

Subjective measurement and ratings on visual satisfaction is a important predictor for the practitioner and lens company.^{5,6}

An acceptable fitting impression, well centration and little movement on blink are the indicator of successful practice in multifocal contact lens.^{7,8} Pupil diameter is played a very vital role in passing the maximum amount of light through visual axes for perfect clear retinal image, which can eliminate the ghosting of image at near, intermediate and distance gaze.

A research study revealed that blurring of vision and poor quality of vision are the main cause for discontinuation of multifocal contact lens.⁹

In modern age, although we have reach a certain advance level, but sophisticated subjective data played an important role for the future research. One study find out the performance of multifocal contact lens during day to day activities is better in some cases and gives a brief description about patient symptoms on overall contact lens satisfaction.¹⁰

In this current study, the motivation on multifocal contact lens for presbyopic patients will be helpful for the future practice. For practitioner a multiple concept will be involved for fitting of multifocal contact lens. Successful practice also increasing the market value in contact lens industry. The contact lens industry may also get some different ideas about the better optical design for the presbyopic patients.

Materials and Methodology

This Prospective, clinical and questionnaire based study were conducted in an eye/optical clinic (during 17th December 2016 to 20th April 2017). The patients, who had fulfilling the inclusion criteria, were thoroughly examined (starting with demographic data). Participants were stratified into three categories based on reading addition: low ($\leq +1.25D$), medium ($+1.50D$ to $+1.75D$) and high ($\geq +2.00D$).

First visit: Visual Acuity (VA) was recorded using logMAR visual acuity chart (3 meters) and near visual acuity chart (25cm, in a well room illumination). Monocular and binocular VA was record for both distance and near. An orthoptic examination was done with the help for specific tools. Subjective and objective refraction were done by using of hand held streak retinoscope, autorefractometer. A full appropriate correction was given to the patient. A general discussion about Multifocal Soft Contact Lens (MFSCS) was conducted on same visit. A keratometry, HVID, palpebral aperture height, pupil diameter, lid tonicity, corneal sensitivity, tear break-up time, slit-lamp, fundus, examination were done for contact lens fitting assessment.

Second (fitting visit): For this study, manufacturer guidelines were followed for lens fitting in both eyes. Ten-twenty minutes adaptation time was given to the patient, after insertion of lens. Trial lens (1day multifocal) was inserted for the evaluation of fitting assessment (lens centration, corneal coverage, movement with blink, up gaze lag, horizontal lag, lens tightness, fit classification) by slit-lamp biomicroscope. Visual acuity (distance and near) was taken with contact lens. Over-refraction was performed with loose lenses for the best visual acuity. Patient comfort rating was asked after insertion of multifocal contact lens. Subjective evaluations were written on specific case sheet. A series (total 2/3) of 1 day MFSCs were distributed to the patients for daily use at home.

Third (assessment visit): Patient VA at distance and near with CL, orthoptic evaluation, confrontation, slit lamp examination, over refraction, lens fit assessment were taken.

Subjective validated questionnaire were distributed to the patients for fill up in front of examiner. Questionnaires were divided into 3 sets: **Fitting visit, Take Home Questionnaire (THQ) and assessment visit.**

The entire questionnaires were asked according to distance, intermediate and near zone basic. First question include **overall vision satisfaction** and options based on 7 point Likert scale. Second question (**Contact lens comfort**), composed according to 5 point Likert scale. Third question (**Vision clarity with Contact lens**), composed according to 5 point Likert scale. Fourth question (**status of ghosting image with Contact lens**), composed according to 6 point Likert scale. Fifth question (**Contact lens Vision Stability**), composed according to 7 point Likert scale. Sixth question (**willing to buy multifocal contact lens**), composed according to YES/NO closed ended response.

First set of the questionnaire (total 6 questions) were given to the patients for fill up after fitting assessment. **Second sets** (THQ) were given to the patients to be filled during stay at home {total 4 question}, 2 question **overall vision satisfaction and willing to buy multifocal contact lens**, were removed. Questionnaires were asked on day and night schedule basic. **Third sets** (total 6 questions) same like fitting visit, questionnaires were given during first assessment visit (when the patient had come for follow up between 5-7 days). Same like all clinical assessment were recorded on follow up case sheet.

Statistical Analysis:

The results were entered in the excel data sheet and the data was transferred for the analysis by a software known as Statistical Package for Social Sciences (SPSS 20.0). Wilcoxon Signed Ranks Test (95%, Confidence Interval of the Difference) was used for the comparison between fitting-assessment visits. Willingness to buy multifocal contact lens was analyzed through McNemar test. The rest of the result was representing in percentage and frequency basic with help of descriptive statistics in SPSS. $P < 0.05$ was considered for statistically significant in this study.

Results

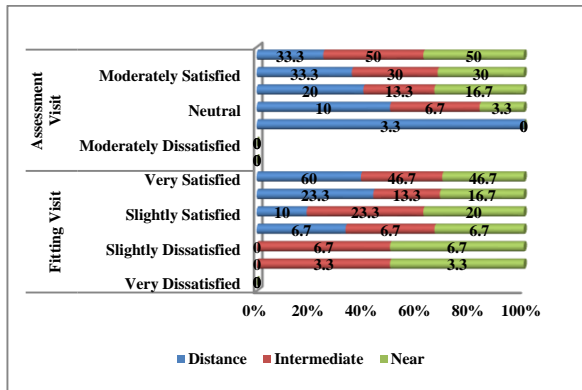
A total of 30 patients were included for this study. In this study, the mean age of the patients were 49.60 ± 7.828 years and male and female percentage were 20 (67%) and 10 (33%). All the patients (n=30) were recruited in presbyopic strata. The distribution of low, medium and high presbyopes were 30%, 20% and 50% respectively. In our study most of the patients were used “spectacle for near only (n =13)”, “spectacle for distance and near (n=12)”, “multifocal contact lens (n=4)” and “not using any correction for distance and near (n=1)”.

Subjective Ratings of the Presbyopic Patients

Fitting compared with assessment visits (overall vision satisfactions with contact lens at distance, intermediate and near):

On doing Wilcoxon Signed Ranks Test, there was a significant difference found for “overall vision satisfaction with contact lens” at distance (P=0.003) and near (P=0.035), between fitting and assessment visit. But no significant association was found at intermediate (P=0.054) for both visits. Among thirty (n=30) patients, none of them was response about “very dissatisfied” in fitting visit and also in assessment visit. No subjects rating were found for “very dissatisfied” and “moderately dissatisfied” at all three zones for overall vision satisfaction in both visits. Figure.1

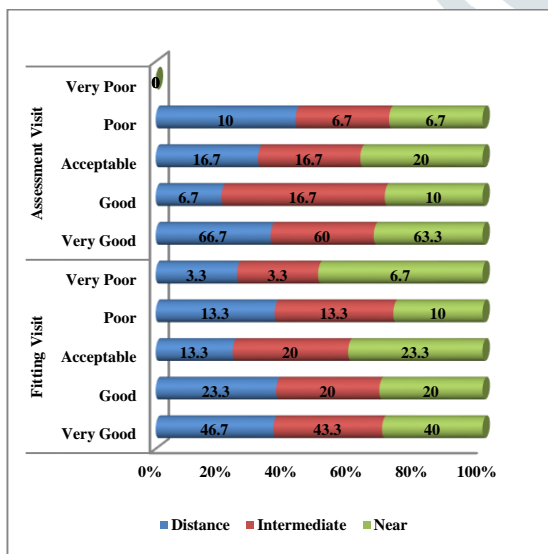
Figure.1 Subjective response of the patients for overall vision satisfaction in two visits



Fitting compared with assessment visits (contact lens comfort at distance, intermediate and near):

There was no significant difference found for “contact lens comfort” at distance (P = 0.057) and near (P= 0.050), but a significant difference was found at intermediate (P= 0.042) between fitting and assessment visit in Wilcoxon Signed Ranks Test. In fitting visit all mixed response were found from the patients, and in case of assessment visit none of the patients were feels “very poor” on aspect of contact lens comfort at three zones. Figure.2

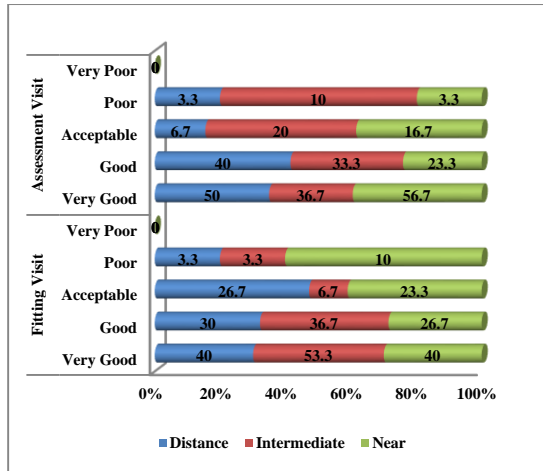
Figure.2 Subjective response of the patients on contact lens comforts at distance, intermediate and near in two visits



Fitting compared with assessment visits (vision clarity with contact lens at distance, intermediate and near):

On Wilcoxon Signed Ranks Test, there was significant difference found for “vision clarity with contact lens” at distance ($P = 0.039$), intermediate ($P = 0.045$) and no significant result found at near ($P = 0.052$) between fitting and assessment visits. Among thirty ($n=30$) participants no patient was agree to rate about vision clarity with contact lens as “very poor” at distance, intermediate and near in fitting and assessment visit. Figure.3

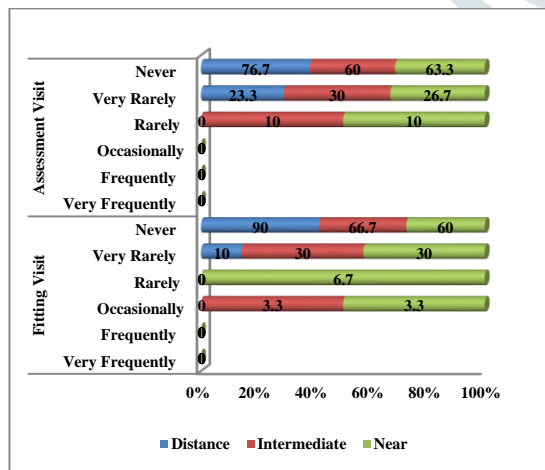
Figure.3 Subjective response of the patients for vision clarity with contact lens at distance, intermediate and near in two visits



Fitting compared with assessment visits (status of ghosting image at distance, intermediate and near):

On doing Wilcoxon Signed Ranks Test, there was a significant difference found for “status of ghosting image with contact lens” at distance ($P=0.046$) between fitting and assessment visit. But no significant association were found at intermediate ($P=0.405$) and near ($P=0.660$) for both visits. Among all patients ($n=30$), none of them response “very frequently” and “frequently” about the status of ghosting image in fitting visit and none of them response for “very frequently”, “frequently” and “occasionally” in assessment visit at three zones. Figure.4

Figure.4 Subjective response of the patients for status of ghosting image with contact lens at distance, intermediate and near in two visits

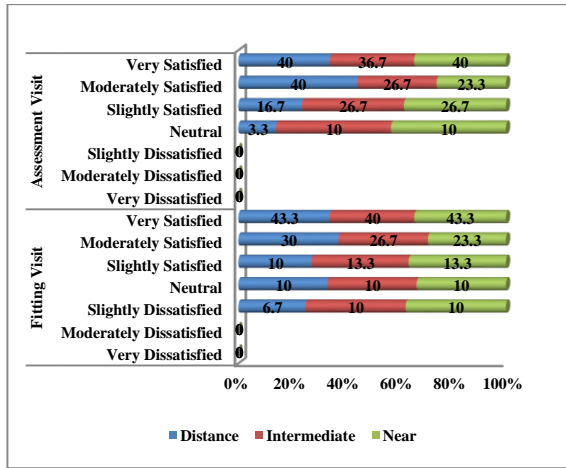


Fitting compared with assessment visits (contact lens vision stability at distance, intermediate and near):

On doing Wilcoxon Signed Ranks Test, there were no significant difference found in our study for “contact lens vision stability” at distance ($P = 0.384$), intermediate ($P = 0.742$) and near ($P = 0.757$) between fitting and

assessment visits. Among all participants (n=30), none of them were response “very dissatisfied” and “moderately dissatisfied” in fitting visit, “very dissatisfied”, “moderately dissatisfied” and “slightly dissatisfied” in assessment visit in contact lens vision stability at three zones. Figure.5

Figure.5 Subjective response of the patients for contact lens vision stability at distance, intermediate and near in two visits

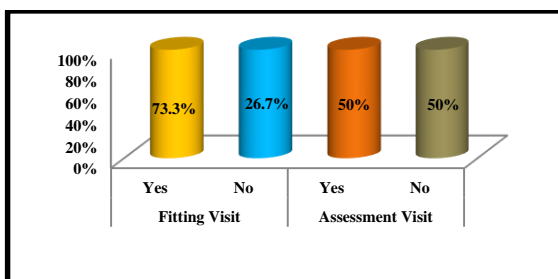


Fitting compared with Assessment Visits (Willing to buy multifocal contact lenses):

In McNemar test, there was a significant difference found about “willing to buy multifocal contact lenses (P = 0.016)” between fitting and assessment visit.

In fitting visit, twenty two (73.3%) patients were willing to purchase the multifocal contact lenses and eight (26.7%) patients were not agree to buy contact lenses. This decreased to only fifty (50.0%) of patients willing to buy the lenses and fifty (50.0%) of patients were not willing to buy contact lenses at the assessment visit. Figure.6

Figure.6 Subjective response of the patients about the willingness to buy multifocal contact lenses in two visits

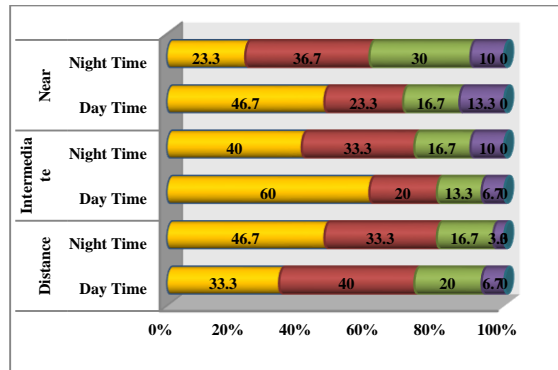


Take home questionnaire (THQ) analysis

Day time compared with night time wearing about “vision clarity with contact lens” at distance, intermediate and near:

There was a significant difference found between day and night time wearing about vision clarity with contact lens at distance ($P = 0.035$) and intermediate ($P = 0.038$) in take home questionnaire (THQ). Wilcoxon Signed Ranks test also found that, there was no significant difference found at near ($P = 0.058$) about the vision clarity with contact lens. Figure.7

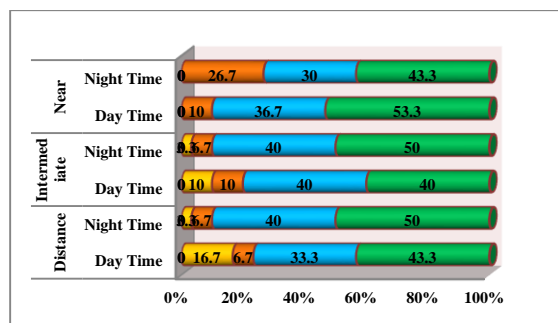
Figure.7 Subjective response of the patients about vision clarity with contact lens (take home questionnaire)



Day time compared with night time wearing about “status of ghosting image with contact lens” at distance, intermediate and near:

On doing Wilcoxon Signed Ranks Test, there was significant difference found about “status of ghosting image” at distance ($P = 0.046$), intermediate ($P = 0.029$) and near ($P = 0.033$) in take home questionnaire (THQ). Among all patients ($n = 30$) none of them response “very frequently” and “frequently” in THQ for the status of ghosting image with contact lens at three zones. Figure.8

Figure.8 Subjective response of the patients about status of ghosting image with contact lens (take home questionnaire)

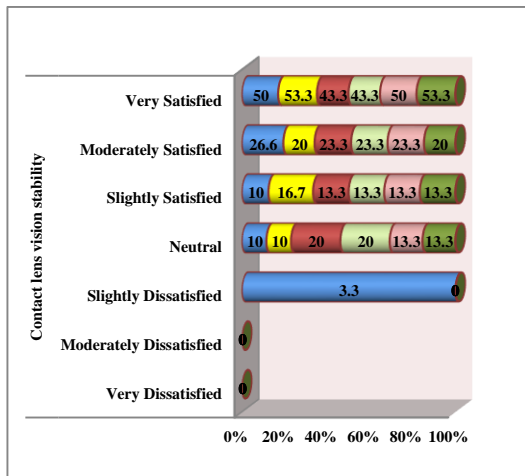


Compare between day and night time wearing (contact lens vision stability at distance, intermediate and near):

On doing Wilcoxon Signed Ranks Test, there were no significant difference found about “contact lens vision stability” at distance, intermediate and near ($P > 0.05$), in take home questionnaire (THQ). Among all

patients (n=30) none of them were response “very dissatisfied” and “moderately dissatisfied” in THQ for contact lens vision stability at three zones. Figure.9

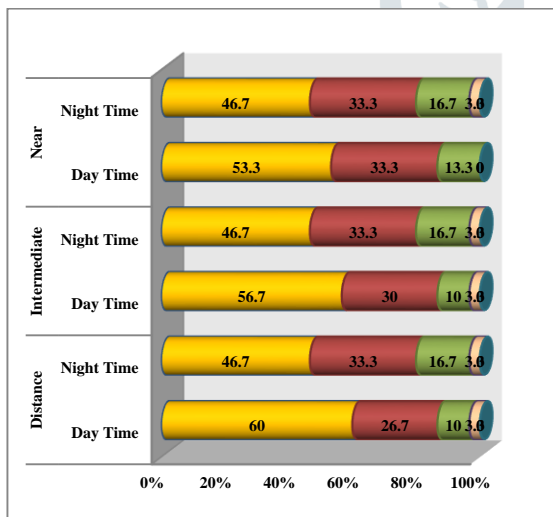
Figure.9 Subjective response of the patients about contact lens vision stability in take home questionnaire



Compare between day and night time wearing (contact lens comfort at distance, intermediate and near):

On doing Wilcoxon Signed Ranks Test, there was significant difference found in overall day and night time wearing “contact lens comfort “ at distance (P = 0.034) and but no significant difference found at intermediate and near (P > 0.05) in take home questionnaire (THQ). Among all patients (n=30), none of them were response “very poor” about the contact lens comfort in three zones. Figure.10

Figure.10 Subjective response of the patients about contact lens contact lens comfort in take home questionnaire



Acuity-Based Measurement:

On doing Wilcoxon Signed Ranks Test, there were no significant differences found in case of distance (P > 0.05) and near (P > 0.05) visual acuity between fitting and assessment visit.

Lens Fitting:

In fitting and assessment visit, all the fit classification was acceptable (n=28), only two (n=2) patients had flat fitting. In lens fit assessment for the fitting and assessment visit, there was no significant difference found ($P>0.05$).

Discussion

The aim of this study was to investigate the acceptance and performance of One Day Silicone Hydrogel Multifocal Contact Lenses in distance, intermediate and near zone in presbyopic patients. Our result revealed that, patients subjective ratings (n=30) for overall vision satisfaction was “very satisfied”, in fitting visit [distance (n=18, 60%), intermediate (n=14, 46.7%) and near (n=14, 46.7%)] and in assessment visit [distance (n=10, 33.3%), intermediate (n=15, 50%) and near (n=15, 50%)]. **Gispets et al⁹** study also showing that task oriented visual satisfaction is prove a great information for prediction of wearing success. In our study most of the subjects having good vision in both eyes for distance as well as near, so the satisfaction outcome provide a good predictor for the future study. Most interesting outcomes found in our study that all the patients were very happy during using of mobile phones, laptop and other digital devices (> 30cm) at fitting visit as well as home. They were very satisfied in working in all three zones.

Contact lens comfort rating at distance, intermediate and near was “very good”. The percentage of patients those who response very good in fitting visit were [distance (n=14, 46.7%), intermediate (n=13, 43.3%) and near (n=12, 40%)] and in assessment visit [distance (n=20, 66.7%), intermediate (n=18, 60%) and near (n=19, 63.3%)]. Most of the participants (n=28) fitting assessment were acceptable, except two (n=2) patients (flat fit) and for the management of those two patients was to change the lens parameter, because we have taken same specification of contact lens for all the patients. **Woods J et al⁶** conducted a prospective study on Visual Performance of a Multifocal Contact Lens versus Monovision in Established Presbyopes. They found significant satisfaction ratings were better for multifocal. So, our study result also correlates with their study. In our study only one (1%) patient rating was “very poor” in fitting visit due to wearing of contact lens for the first time in her life. One patient was told that “is it possible to attach this lens permanently in my eyes, because I’m feeling very satisfied and comfort after using this lens”. The patients, who had already used contact lens, for them it was not difficult for understanding and answering the questionnaires, but for the new wearer who had counseled for the multifocal, took little bit time for the mind set. However an ideal rating would not be depends on the fitting of contact lens in clinic, hence fully depends on patient perception and understanding about the lens care process.

Before giving any type of contact lens, it’s very important for understanding the patient profession and motivation for wearing of multifocal contact lens. In general work up visit, patient’s subjective measurements were taken for the better satisfaction and good fitting assessment. All patients were asked for their willingness to wear the contact lens in a trial basis and maximum patients (n=30) was agree to use, however for the other candidates a well counseling speech was given about the benefits of these type of contact lens and care-maintenance procedure.

In case of “vision clarity with contact lens” in both visits mixed subjective response were revealed. The maximum patients were replied about the vision clarity with contact lens were “very good” and the percentage were [fitting visit: distance (n=12, 40%), intermediate (n=16, 53.3%, near (n=12, 40%) and in assessment visit: distance (n=15, 50%), intermediate (n=11, 36.7%, near (n=17, 56.7%)]. The photopic light condition and high contrast object are the main factor for the improvement of the vision clarity.^{19, 20} In our study patients were allowed for using the contact lens in home/outside environment also. There was no significant difference found between fitting and assessment visit in visual acuity for the distance and near. No subjects were complained for any disturbance of vision clarity during intermediate tasks. Maximum patient’s visual acuity was improved with contact lens correction reach up to LogMAR 0.0 for distance (fitting visit: right eye (n=26) and left eye (n=26)] and assessment visit: right eye (n=24) and left eye (n=25) and 0.80 M for near (fitting visit: right eye (n=24) and left eye (n=25)] and assessment visit: right eye (n=21) and left eye (n=22).

In our study we were taken the response purely on subjective response about “status of ghosting image” and result found to be significant in distance for the fitting and assessment visit, but there were no significant differences found for intermediate and near zones. In this study, none of the participants were response “very frequently” about ghosting image. **Daniel Tilia et al**²¹ they revealed that there was a significant difference between lens types (Extend depth of focus and Air OPTIX Aqua Multifocal) for lack-of-ghosting ($P = 0.012$) but there were no significant between lens type and testing distance ($P=0.126$). At the initial of the study most of the patients were not aware about this term “status of ghosting image”, but after explanation they aware about this terminology for the better response in day to day activities. In our study most of the patient’s occupation does not need to work in dim illumination, so there responses were different in this clinical study. Patient’s response about “never” seeing any ghosting image at three zones was gives a significant statement for one day silicone hydrogel multifocal contact lens. Among all patients ($n=30$), responses were never [in fitting visit: distance ($n=27$, 90%), intermediate ($n=20$, 66.7%), near ($n=18$, 60%) and in assessment visit: distance ($n=23$, 76.7%), intermediate ($n=18$, 60%), near ($n=19$, 63.3%)].

There was no significant difference found in case of contact lens vision stability at distance, intermediate and near area for all the patients ($n=30$). In this study, most of the patients ($n=28$) lens fit assessment was acceptable for the trial lens and only two patients ($n=2$) objective measure was significantly different due to flat fit. Most of the time the vision stability of contact lens is influenced by the movement with blinks procedure in fitting assessment.^{22,23} In this current study, we were not getting any significance result between two visits. Among all patients ($n=30$), responses were very satisfied [in fitting visit: distance ($n=13$, 43.3%), intermediate ($n=12$, 40%), near ($n=13$, 43.3%) and in assessment visit: distance ($n=12$, 40%), intermediate ($n=11$, 36.7%), near ($n=12$, 40%)].

In contrast, we were questioned to patients whether they willing to buy the lenses or not in fitting and assessment visit. It was clearly discussed that the patients should response their subjective rating on bases their own view along with vision and also requested not to response with some factors like care-maintenance, comfort and extra cost of lenses. In our study, there was a significant difference found in willing to buy multifocal contact lenses ($P=0.016$) in both visit. In fitting and assessment visit, the subjective ratings were “Yes” to purchase (73.3% and 50%) and not willing to purchase or “No” about (26.7% and 50%). **Young G et al**²⁸ were concluded in their study that, lens purchase could be influenced by ocular comfort. In our study contact lens comfort for the patients were very good. So, this result was correlated with their study. In this clinical study also revealed that if the wearer is not satisfied in fitting visit, they are unlikely to be satisfied after using of this contact lens within few days. This question also gives a response for the practitioner and patient by avoiding inappropriate trial period.

In our study, subjective ratings (take home questionnaire) were compared between day-night wearing schedules for the vision clarity with contact lens at distance, intermediate and near, a significant result were comes out for distance and intermediate in this study. All patients were experience in photopic, mesopic and scotopic condition in normal environment.¹⁹ Mixed responses (“very good”, “good”) were found from each patients about vision clarity. **Fernandes et al**¹¹ did a study, they were observed that multifocal contact lens provide satisfactory visual acuity.

Subjective responses in adaptation were obtained within one week of lens wear, thus we have lack of evidence for the long time wearing of contact lens as similar as **Papas et al**⁵. They also showed adaptation related response, compared between four hours of lens wear with four days of lens wear. Our study proved a quicker adaptation time (≤ 8 minutes) was taken by the patients ($n=22$) in both fitting and assessment visit along with THQ responses in home environment. In our study, some of the patients ($n=8$) were removed their lenses after two hours of wearing contact lens due to minimal ocular discomfort and maximum patient were feeling happy with one day silicone hydrogel lenses.

There was a significant difference found in status of ghosting image with contact lens at distance, intermediate and near in THQ. Among thirty patients none of the patients were complained that, they were feeling for the status of ghosting image at three zones in “very frequently” and “frequently” respectively. This result was very significant for the clinical trial in future. In our study, we were taken this response from the patient on the

basis of subjective ratings in THQ. Among all subjects (n=30) the percentage for “never” seeing a ghosting image was very high in comparative with other response.

There was no significant result found in contact lens vision stability ($P>0.05$) at three zones in THQ. Among all thirty (n=30) patients none of them were complained about “very dissatisfied” and “moderately dissatisfied” in case of vision stability. The satisfaction response was “very satisfied” in home and outside environment. In this current study we were found the reason about status of lens centration, “(n=28) well centred” and “(n=2) ‘inferior decentration’”. The percentage of “very satisfied” was good in comparative to other response on day-night basic.

In our study we have found that, there was a significant outcomes revealed for contact lens comfort at distance, but there was no significant association found for intermediate and near area ($P>0.05$) in THQ. Surprisingly no participants complain about “very poor” rate for all three zones. The percentage for “very good” rating was higher in three zones.

Diec J et al²⁷ did a study on Combined effect of comfort and adverse events on contact lens performance, they revealed the overall comfort ratings was good 8.3 and at the end of the day comfort rate was 7.2, they also proved that there was no correlation in overall comfort on insertion and adverse events rates. In our study most of the patients (n=22) were unaware about the insertion and removal procedure, so for them a short time practice were conduct and rest of participants who were not agree to wear the lenses with themselves, we helped them for the insertion and removal method. Some of the patients (n=8) were comfort after self insertion-removal methods. **Woods J et al⁶** revealed that overall physical comfort rating was good monovision and multifocal lenses and they had concluded that subjective ratings were better for multifocal and near-distance acuities were better with monovision.

In our study we were not found any significant result in fitting and assessment visit, comparison between distance and near visual acuity with LogMAR chart ($P>0.05$). Long time study duration would be the significant factor for the future study. **Papas EB et al⁵** showed that subjective measurement and ratings on visual satisfaction is a important predictor for the practitioner and lens company and lack of difference in visual acuity measure may be the interesting clinical study for the contact lens practitioners.

Fernandes PR et al¹¹ reporting in their study that, distance HCVA improved after 15 days of lens wear. But, in our study most of the patient’s visual acuity nearer to LogMAR 0.0 for distance (n=24) and 0.80 M for near (n=21), and their performance level was good for three zones. But, there were no significant difference ($P > 0.05$) was found between fitting and assessment visit.

In lens fitting criteria the result value was not significant ($P > 0.05$), twenty eight patients were acceptable fitting and two patients had flat fitting in trial.

We were aware about the troubleshooting in all visits, among two patients who had flat fitting, for them different the parameter would be suitable for the regular lens used. Our aim was not only to see the subjective ratings of the patient but also to evaluate the performance of the lenses within trial period. Counseling of the patients was an important factor for presbyopic patients.

Conclusion

Globally, uncorrected Presbyopia is the main causes of vision impairment for medium to old age.¹ Lack of awareness among the patients and cost of multifocal contact lens are the major barriers in India.¹⁸ The main purpose of the study was to investigate the acceptance and performance of one day Silicone Hydrogel Multifocal Contact Lenses in distance, intermediate and near zone in presbyopic patients. If the clinical measurement taken perfectly the rate of the performance level would be higher. Spherical equivalent for lower astigmatic error can be predicting factor for the success rate of multifocal contact lens. The usefulness in subjective ratings on willingness to buy multifocal contact lens show that unlikely to be satisfied after using the lens at outside and home environment. In this current study, the motivation on multifocal contact lens of presbyopic patients will be helpful for the future practice. For practitioner a multiple concept will be involved

for fitting of multifocal contact lens. Successful practice also increasing the market value in contact lens industry.

Limitations of the study

Initial assessment period and few days' trial at every visit does not able to predict the performance of multifocal contact lenses. Variety of refractive error would give the better result in all visits. Parameter of different company would be helpful for long term study.

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