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COMPARISON OF QUALITY OF LIFE BETWEEN PRE-PRESBYOPIC PEOPLE WEARING SPECTACLES AND CONTACT LENSES

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ABSTRACT

OBJECTIVES: *The objective of this study was to compare the quality of life of the pre-presbyopic people wearing spectacles and contact lenses and to find out which one has better impact on quality of life.*

METHOD: *It was comparative cross sectional study involving the use of questionnaire to evaluate and compare the quality of life of the people (age group 18-35) wearing spectacles and contact lenses. A sample size of 64 people was taken and questionnaire was filled by the people. This study took time of three months (October, November and December 2019).*

RESULTS: *This study included 64 people. They were divided in two groups, 32 spectacle wearers, and 32 contact lens wearers. Ten important, common parameters of quality of life: quality of vision, attractive appearance, driving in glare conditions, cost, receiving complementation, comfortable travelling, facing medical complications and difficulty in handling, of both the spectacle wearers and contact lens wearers were evaluated. Chi-square test showed statistically significant difference between the quality of life of two groups ($p<0.001$). It was revealed from the analysis that pre-presbyopes who were contact lens wearers were having a better quality of life than spectacle wearers.*

CONCLUSION: *This study concluded that contact lens wearers of pre-presbyopic age group were having a significantly better quality of life than spectacle wearers. They were much more satisfied with their choice of optical correction as compared to those wearing spectacles.*

KEY WORDS: *Contact lenses, Pre-Presbyopes, Quality of life, Spectacles*

INTRODUCTION

The sense of sight in people is the most significant factor for apprehending and getting information from the environment and assumes a significant role in coordinating most human activities. Any harm to this, predominantly influences an individual's adjustment with the environment. Uncorrected refractive error can create prompt issues in an individual's quality of life related to vision and makes it hard for them to do any task accordingly. While spectacles, contact lenses and refractive surgery are available modalities, former two are typically the first choice of correction of refractive error in pre-presbyopic myopic, hyperopic or astigmatic persons. Despite the advancements in refractive surgery, spectacles and rarely contact lenses remain the only choice of selection for presbyopic individuals.[1]

The World Health Organization (WHO) defines Quality of Life (QOL) as “the individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”. Experts working on it see quality of life as “a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships and their relationship to salient features of their environment”.[2]

Refractive error (RE) is defined as the condition in which the optical system of the non-accommodating eye is not able to bring parallel rays of light to focus on the fovea. Myopia, hyperopia, astigmatism and presbyopia are main types of refractive error.[3]

Presbyopia is a type of refractive error in which the accommodative ability of the eye is not sufficient for near vision work, due to process of ageing.[4]

Almost 135 million people are thought to be blind or visually impaired because of uncorrected refractive error by 2020. Uncorrected refractive error is directly related to significant decrease in the quality of life. People with uncorrected refractive error have reduced work productivity which can have significant impact on national and global level. Prevalence of uncorrected refractive error is much more in socioeconomically disadvantaged people and nations. Due to this World Health Organization took a global initiative of VISION 2020 to avoid treatable blindness across the globe.[5]

Spectacles cost is affordable and its intervention is safe. Previous researches have revealed that its need for correction of refractive error has key role throughout the world.In rural areas health opportunities related to vision are not meeting its demand. It is now globally accepted fact that visual impairment in early age is main cause of decline in health related quality of life .[6]

Contact lenses are the prosthetic devices placed directly on eye surface for corrective or cosmetic purposes. They have improved the quality of life not only by correcting refractive errors but also by providing better appearance and less restriction in activities. Unfortunately, contact lenses can cause complications that are disappointing for the patients, forcing them to switch from habitual mode of vision correction to other modalities if possible, which are not always simple or complication free.[7]

Several eye infections are contact lens related, which can cause serious issues even blindness. Risk factors which can be cause of complications include sleeping in lenses, exposing lenses to water, not following schedules of replacements and reuse of disinfecting solution.[8]

Now-a-days contact lenses are preferred to other means of correction of refractive error. Because of their high demand it is necessary that their manufacturing should be done on large scale. Their manufacturing should be done with high precision and low tolerance so that a suitable refractive correction can be provided. Visual deficiency is directly related with poor health related quality of life. Many studies explained that relationship between clinical assessments and performance based measurements have depicted that binocular visual acuity scores, binocular visual function scores are very important determinants of vision related quality of life.[10]

MATERIALS AND METHODS

This comparative cross sectional study includes 64 people that were divided in two groups, 32 spectacle wearers and 32 contact lens wearers. This study was done to assess the impact of spectacles and contact lenses on quality of life of people of pre-presbyopic age group (18-35 mostly)and to know which group has better quality of life.

Both the groups were asked about the efficiency of different parameters of their lives by wearing spectacles and contact lenses. People were interviewed about the ten parameters which play key role in determining vision related quality of life with the help of a self-made questionnaire. Those ten parameters include quality of vision, having an attractive appearance, driving in glare conditions, cost, and receiving compliments, facing medical complications, difficulty in reading and maintenance, of both the spectacles and contact lenses.

Data was then analyzed and recorded in the form of tables by SPSS20 software and frequencies and percentages of different variables were calculated. Chi-square test was applied to check the significance of results.

RESULTS

Table 1

Components of Quality of life	Spectacle wearers		Contact Lens wearers		P-value
	Yes	No	Yes	No	
Good quality of vision	6(18.8%)	26(81.2%)	29(90.6%)	3(9.4%)	<0.001
Attractive appearance	5(15.6%)	23(71.9%)	29(90.6)	2(6.2%)	<0.001
Difficulty in driving in glare conditions	26(81.2%)	3(9.4%)	1(3.1%)	26(81.2)	<0.001
Concerned about cost	9(28.1%)	22(8.8%)	26(81.2%)	2(6.2%)	<0.001
Complementation	6(18.8%)	24(75%)	29(90.6%)	1(3.1%)	<0.001
Comfortable travelling	7(21.9%)	25(78.1%)	25(78.1%)	4(12.5%)	<0.001
Fatigability	23(71.9%)	8(25%)	3(9.4%)	25(78.1%)	<0.001
Medical complications	7(21.9%)	24(75%)	24(75%)	7(21.9%)	<0.001
Difficulty in reading	15(46.9%)	14(43.8%)	10(31.2%)	20(62.5%)	0.323
Difficulty in handling	5(15.6%)	27(84.4%)	26(81.2%)	5(15.6%)	<0.001

Ten most important common components of quality of

life were evaluated in two groups (32 spectacle wearers, 32 contact lens wearers) and overall it was seen that contact lens wearers were satisfied about six parameters and were having issues regarding three parameters. While on the other hand spectacle wearers were satisfied with the 3 parameters and they were having complained or issues about 6 parameters of quality of life. Remaining 1 component of quality of life produced almost same results from both groups. Chi-square test was applied that showed a significant difference between the quality of life of the two groups ($p<0.001$). Overall it was seen that the pre Presbyopes who were contact lens wearers were having a significantly better quality of life.

DISCUSSION

Uncorrected refractive error can lead to problems in a person's quality of life related to vision and makes it difficult for them to do tasks pertinent to it. While spectacles and contact lenses are usually the first selection of correcting the refractive error .Both of these methods of optical correction of refractive error has different impact on life of human beings.

Spectacles and contact lenses have their own benefits and drawbacks which ultimately play a key role in determining the vision related quality of life. This study was done to assess the impact of spectacles and contact lenses on quality of life of people of pre-presbyopic age group (18-35 mostly) separately in two groups, 32 spectacle wearers and 32 contact lens wearers and then two groups were compared with one another.

Both the groups were asked about the efficiency of different parameters of their lives by wearing spectacles and contact lenses. People were interviewed about the ten parameters which play key role in determining vision related quality of life with the help of a questionnaire. Those ten parameters include quality of vision, having an attractive appearance, driving in glare conditions, cost, and receiving compliments, facing medical complications, difficulty in reading and maintenance of both, the spectacles and contact lenses.

The responses were recorded and then analyzed by software SPSS20.0. It was extracted from the results that contact lens wearers were much satisfied with the six parameters of quality of life while they were not satisfied with three parameters and spectacle wearers were satisfied with the three parameters and they were having complained or issues about six parameters of quality of life. Responses of the remaining one component of quality of life got almost same results from both groups. Chi-square test was applied. It showed that there was statistically significant difference between the quality of life of the two groups and overall it was revealed that contact lens wearers of pre-presbyopic age were having a better vision related quality of life and they were more satisfied with the choice of their optical correction.

A similar study was done to evaluate the quality of life of pre-presbyopic individuals with refractive correction by spectacles, and contact lenses with the help of a questionnaire. A 20-item questionnaire was introduced to 104 spectacle wearers and 104 contact lens wearers. The main outcome measure was questionnaire's overall score, scaled from 0 to 100, a measure of quality of life in relation to correction of refractive error. Contact lens wearers scored 46.7 who were in turn significantly better than spectacle wearers who got 44.1 out of 100. Quality of life was lower in spectacle wearers, particularly those with higher corrections. Contact lens wearers had significantly better quality of life score than spectacle wearers. When we compared our results with this study, it was concluded that that quality of life of contact lens wearers was comparatively better than spectacle wearers. They were more satisfied with their choice of optical correction than spectacle wearers.

CONCLUSION

This study concluded that there is a significant difference between the quality of life of people wearing spectacles and contact lenses. People of pre-presbyopic age group wearing contact lenses have significantly better quality of life as compared to those wearing spectacles.

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