Original Article

Facectomy impact in the quality of life of elderly assisted in cataract care campaign

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ABSTRACT

The objective was to improve the visual acuity (VA) before facectomy and at the 15th-day of the post-operative phase, and its impact on elderly quality of life. We developed a prospective study, with 156 patients submitted to facectomy in an ophthalmologic campaign. According to the Snellen table, the mean VA in logMAR at 15 days post-surgery improved from 1.23 to 0.57 for elderly (p=0.000). When comparing the quality of life means using the quality of life tool Visual Functioning Questionnaire (VQF-25), the subdomain general vision presented the highest difference between means before and after facectomy (from 29.65 to 89.87). The correlation analysis pointed that the VA improved general satisfaction for far activities, ocular pain, mental health, and dependency, resulting in a positive impact on elderly quality of life. We brought up indicators to guide a more individualized therapy.

Descriptors: Cataract; Quality of Life; Visual Acuity; Phacoemulsification; Health Promotion.

INTRODUCTION

Cataract is defined as any opacity in the crystalline lens that diffracts light, resulting in an adverse effect on the vision[(1)], becoming the leading cause of blindness in Brazil[(2)]. According to the Brazilian Ophthalmology Council, it is estimated that 10% of the population older than 50 years have cataract, and this prevalence reaches 50% in the 65 to 74 years age group and, 75% after 75 years[(3)].

A study conducted in the United States verified that chronic conditions suffered by elderly, according to their prevalence, includes, hypertension (36.1%), chronic obstructive pulmonary disease (23.7%), and

cataract (16.7%)[4]. In Honduras, cataract (59.2%) and glaucoma (21.1%) are the leading causes of blindness among elderly[5]. In the Brazilian Northeast region, cataract is the most prevalent ocular disease (45%) among elderly, followed by glaucoma (18%)[6].

Although there are advances in the surgery and for access to health services in many parts of the world, cataract remains the primary cause of blindness that is surgically avoidable[2]. Within the elective procedures, the facectomy consists of cataract removal, typically associated with the implant of an intraocular lens to substitute the natural ocular lens that became opaque (crystalline lens). This surgery is highly efficient and has a favorable cost-benefit for its treatment, as well as, for its visual rehabilitation[7]. It intervenes in the visual acuity decrease, influencing peoples' quality of life[2,8] and reducing patient's functional losses[9].

More than in other age groups, the elderly health, and quality of life suffer influence of multiple factors, such as physical, psychological, social and cultural. Thus, elderly assistance should consider losses caused by the aging process and the prevention possibilities, maintenance, and rehabilitation of the health state[10]. Ocular health interferes in all these factors. Within the most important aspects which can be improved by the facectomy, there is the independence, autonomy, leisure possibility, and reading, besides, in many cases, recovering happiness from living and the motivation for new life experiences. Therefore, there is the need to estimate what is the real impact of this intervention in elderly's quality of life.

The facectomy effect of improving visual acuity is recognized, but, in a detailed search in available databases, we did not find Brazilian scientific literature addressing the influence of this intervention on the quality of life of elderly with cataract, especially using a validated quality of life instrument. Thus, considering the growing tendency of this population in Brazil and the world, our study aimed to compare the visual acuity before and 15 days after facectomy; and to describe the impact of this intervention on elderly's quality of life.

METHOD

We conducted a prospective study with a quantitative, descriptive and correlational approach, developed in a public hospital located in Macapá–AP.

One hundred and fifty-six elderly composed the study population. Elderly were indicated to have cataract surgery, and they were enrolled in the Project Vision to All, part of a care campaign conducted by a partnership between the Health Secretary of Amapá State and the Ophthalmology Reference Center of the Clinical Hospital from Universidade Federal de Goiás (CEROF/HC/UFG). The Amapá region does not have the equipment and specialized professionals to conduct facectomy through the Brazilian Unified Health System (SUS), which justifies the state partnership with the CEROF/HC/UFG, intended to fulfill the local health needs. The population selection for the study was motivated by the participation of a researcher in the Project Vision for All, who participated in the campaign in Macapá and, she was connected to CEROF/HC/UFG.

We included people aged 60 years or more, and we excluded those who presented mental and cognitive limitation impeding them to complete the questionnaire.

We collected the data during September and October of 2013. We used the Snellen table to verify visual acuity, and the quality of life questionnaire Visual Functioning Questionnaire (VQF-25) developed by the National Eye Institute (NEI) [11], translated to Portuguese[12] and with validity and reliability tested[13], before and 15 days after the facectomy.

The VFQ-25 assesses patient's general health and quality of life-related to visual acuity. It is composed of 25 questions groups in 12 subdomains with one or more questions. For each question, there are five answer possibilities. Each answer can score from 0 to 100. The final score is obtained dividing by the number of questions, obtaining a minimum score of 0 and maximum of 100 for each patient. The highest the score, the best is the perceived quality of life and visual function.

We analyzed the data using the software Statistical Package for the Social Sciences (SPSS version 18.0). We conducted descriptive statistical analysis for sociodemographic data. We used the Wilcoxon's test to compare visual acuity and the questionnaire subdomains from the VFQ-25 before and after surgery. When comparing participant's characteristics and the general health satisfaction, we used the paired Student's t-test. For the correlation of visual acuity with the questionnaire domains after surgery, we used Spearman's correlation coefficient, as we verified a non-parametric data distribution. To interpret the correlation coefficient, regardless if positive or negative, we adopted the following reference values: 0.00 to 0.19 representing a very weak correlation; 0.20 to 0.39, weak correlation; 0.4 to 0.69, moderate correlation; 0.70 to 0.89, strong correlation; and 0.9 to 1.00, very strong correlation[14]. We considered $p<0.05$ as statistically significant for all tests.

The study was approved by the Ethics in Medical, Human and Animal Research Committee from the Clinical Hospital at Universidade Federal de Goiás CEPMHA/HC/UFG, registration nº 569.338. All individuals agreed to participate, and we guaranteed anonymity. All ethical aspects followed the Resolution CNS Nº 466/12.

RESULTS

One hundred and fifty-six elderly submitted to facectomy surgery participated in the study. Of those, 80 (51.3%) were females and 76 (48.7%), males. Age varied from 60 to 95 years, 84 (53.8%) had 70 years or more, while 72 (46.2%) elderly were 60 to 69 years. The mean age was 66.6 years.

Regarding marital status, 130 (80.3%) patients did not have a partner (single, widowed, divorced) and, 26 (16.7%) had a partner (married/living together). We noted 47 (30.1%)participants illiterate and, 109 (69.9%) had some education. Of those, 57 (36.5%) did not complete their elementary education.

One hundred and forty-one (90.4%) patients were retired, and only 15 (9.6%) worked. The monthly income varied from none to 4.7 minimum wages, and 148 (94.9%) reported to earn up to one minimum wage, equivalent to R$ 678.00 when the study was conducted.

The mean visual acuity in logMAR 15 days post-surgery, went from 1.27 (±0.46) to 0.57 (±0.53), obtaining a statistically significant difference ($p=0.000$), confirming the visual acuity improvement after the

surgical intervention.

Table 1 shows the comparison of elderly quality of life before and after the facectomy.

Table 1: Comparison of quality of life scores of elderly before and after facectomy. Macapá, AP, Brazil, 2013.

Subdomains	Before (N=156)		After (N=156)		Wilcoxon's p-value
	Mean	Standard Deviation	Mean	Standard Deviation	
General health	29.65	27.50	37.18	27.75	0.009
Vision	29.97	25.31	89.87	17.52	0.018
Ocular pain	65.30	26.01	72.92	23.06	0.000
Near activities	64.57	20.98	70.73	20.54	0.001
Far activities	69.62	20.98	76.75	22.01	0.000
Social aspect	90.00	16.69	95.00	12.62	0.001
Mental health	56.41	21.92	68.23	18.90	0.000
Daily activities	54.73	29.08	60.90	27.45	0.008
Dependency	62.39	23.02	74.20	18.47	0.000
Driving ability	5.77	18.67	6.03	20.75	0.547
Color vision	82.82	22.66	89.87	17.52	0.000
Pheripheral vision	77.05	23.26	82.69	21.20	0.003
General satisfaction	57.35	14.49	64.25	12.46	0.000

For the mean comparisons of quality of life before and after facectomy, except the subdomain ability to drive cars, we observed a statistically significant difference for all subdomains. In all these cases, we verified that the quality of life was better after the surgery.

The main satisfaction mean change obtained by patients was about general vision, which before surgery presented a satisfaction score of 29.65 and, after surgery, increased to 89.87. Other high means that we observed were for the "dependency" and "general health" domains.

The mental health and daily activities domains, although significant, presented scores of 68.23 and 60.9, respectively. They indicate the areas which need more support from the health team to improve the elderly satisfaction degree when facing actions related to these dimensions.

About daily activities, it is important to highlight that during the investigation period, patients still had some strength restrictions, which are proper from the post-operative ophthalmology phase.

The ability to drive had a 6.03 score after facectomy, and it is a dimension that is different from all others, as this domain links social, economic, cultural, within other factors; suggesting that this perception might not be related only to visual quality. Still, general vision satisfaction before and after facectomy, with 57.35 and 64.25 scores respectively, were affected by the domain ability to drive.

It is also important to note that the general health perception of elderly, although significantly improved after facectomy, presents low scores (29.65 and 37,18, before and after surgery, respectively).

Table 2 presents the comparison between patients' characteristics and general satisfaction with the visual functioning after surgery.

Table 2: Comparison between general satisfaction before and after facectomy, according to sex, age, education, marital status, income and social security status of elderly. Macapá, AP, Brazil, 2013.

Variables	N	General satisfaction before			General satisfaction after			T-test
		Mean	Med	SD	Mean	Med	DSD	p
Sex								
Male	**76**	58.83	59.22	15.00	65.97	66.82	12.36	0.000
Female	**80**	55.96	58.66	13.94	62.62	65.87	12.42	0.000
Age group								
60-69 years	**71**	59.74	62.15	14.20	64.65	66.11	12.65	0.001
70 years or more	**85**	55.37	55.28	14.52	63.92	66.18	12.38	0.000
Marital status								
With partner	**26**	56.01	55.82	15.00	60.62	64.31	12.93	0.067
Without partner	**130**	57.63	59.03	14.43	64.98	66.89	12.29	0.000
Illiterate								
Yes	**47**	51.03	49.44	13.23	59.90	59.97	11.68	0.000
No	**109**	60.08	60.28	14.21	66.13	68.89	12.38	0.000
Income								
Up to 1 sallary	**148**	56.94	58.06	14.34	63.77	66.11	12.44	0.000
More than1	**8**	65.02	64.31	16.08	73.20	77.31	9.84	0.263
Work								
Yes	**16**	68.76	71.81	16.03	70.88	74.10	12.40	0.609
No	**140**	56.02	56.44	13.81	63.48	66.11	12.32	0.000

We verified that regardless of age, education, and sex, the increase of general satisfaction was statistically significant after surgery. Patients without partners (widowed, divorced, single), earning up to one minimum wage and retired, presented a significant increase in the general satisfaction after cataract surgery, when compared to their peers.

Table 3 shows Spearman's correlation coefficient values between visual acuity scores and the subdomains from the quality of life questionnaire.

Table 3: Spearman's correlation between the VQF-25 domains and visual acuity, before and after facectomy. Macapá, AP, Brazil, 2013.

Subdomains	Visual acuity before (1.23)		Visual acuity after (0.57)	
	Spearman's correlation (r)	p	Spearman's correlation (r)	p
General health	-0.115	0.154	-0.096	0.236
Vision	-0.061	0.451	-0.142	0.076
Ocular pain	-0.037	0.650	-0.177	0.027
Near activities	-0.217	0.007	-0.144	0.073
Far activities	-0.263	0.001	-0.261	0.001
Social aspect	-0.099	0.221	-0.129	0.108
Mental health	-0.186	0.021	-0.199	0.013
Daily activities	-0.202	0.012	-0.108	0.181
Dependency	-0.258	0.001	-0.162	0.043
Driving ability	-0.352	0.002	-0.075	0.354
Color vision	-0.220	0.006	-0.149	0.064
Pheripheral vision	-0.262	0.001	-0.112	0.163
General satisfaction	-0.296	0.000	-0.194	0.015

The post-facectomy correlation analysis pointed that the better the visual acuity post-surgery, the better was the satisfaction related to ocular pain improvement, far activity, mental health, dependency and general satisfaction; once they presented significant correlations ($p<0.05$). On the other hand, it is

noteworthy that all associations were considered weak. We highlight that when comparing before and after facectomy associations, the only coefficient with an increment in the association strength was related to ocular pain. The fragility of the association strength can be related to the short period between the surgical intervention and assessment.

DISCUSSION

Elderly characteristics found in this study for the majority age group of 70 years or more, females, illiterate or with incomplete elementary school, retired and with family income lower than one minimum wage, are compatible with other recent studies conducted with elderly[6,15-16], confirming the actual profile of Brazilian elderly with ocular diseases.

The facectomy reflected as a positive factor for visual acuity improvement, which went from 1.23 to 0.57 LogMAR units after surgery. These results are equivalent to findings in the literature[5,7,17-18], and reflect the importance to conduct surgery as a visual rehabilitation among elderly.

The quality of life comparison before and after facectomy revealed a statistically significant difference after the surgical procedure with the highest means found for the "general vision", "dependency" and "general health" domains.

The general health is directly linked to the ocular health, in a way that the visual recovery is a determinant condition to improve wellbeing and self-esteem, considering that it favors the independence, autonomy, social participation, preservation of cognitive capacities, healthy habits and/or reduction of anxiety and depression[2,6].

In this perspective, the cataract surgery propitiates improvement of work productivity and, stimulates inactive individuals to search for paid employment, even those older than 68 years[19].

The absence of ocular health has been an important influence on functional losses occurrence. Studies have pointed the ocular health relationship with falls, and cataract is a predisposition factor as it impairs the person to deal with obstacles found in the environment. From this perspective, the quality of life of elderly with cataract who fell has been demonstrating a strong association with negative results about mental health and, to the dependency to conduct many activities[20].

Studies conducted in the hinterland of Pernambuco, using the VFQ- 25 questionnaire for elderly, concluded that the visual deficit compromised close and far activities and, consequently, daily activities were impaired for these elderly causing more dependency and insecurity. Such dependence is connected to worse mental health, as well as, losses in social life, relationships with friends and family members[6]. This vicious cycle reflects the negative impact that the visual deficit causes in elderly. Thus, the improvement of the visual acuity and, consequently, the increased level of independence for elderly can be important factors to increase the satisfaction level with their general health.

The results from a satisfaction study after cataract surgery pointed that most patients referred to be satisfied with their general vision; because after surgery, they were able to read newspapers or books, to

recognize people, to see street signals, to fill in checks and forms, to practice sports, to cook, to watch television and, to shave or to wear make-up, demonstrating a high quality of life[2].

Other national and international studies using the VFQ-25 questionnaire in elderly population concluded that their impaired environmental perception caused by the decrease visual acuity tends to lead them to manifest insecurity for certain activities[15,20]. It influences the gravity of elderly actual health state, which besides senility characteristics they can be affected by eventual accidents during their routine activities, compromising, even more, their health and their quality of life.

To know the perception of patients submitted to facectomy about the quality of life domains can provide indicators to the health team and direct specific guidance for each patient. In our study, the social aspect was the better-scored dimension by elderly, appearing as a favorable aspect that can be used by the health team to support intervention actions that can help with the improvement of mental health dimensions and daily activities, identified with low scores.

The isolation, the trust, and the social connections are factors considered as predictors of mental health results, independent of the person's age group, being the social isolation the factor that most creates impact in the elderly mental health[21]. Thus, to identify fragilities and strength in dimensions related to the elderly quality of life can subsidize the health team to adopt more integrative and individualized actions, attending to the real needs of each patient.

In this context, nursing gains proper attention, although it is not a field contained in undergraduate curriculum programs, which results in the need to move on with the construction of meanings and responsibilities of ophthalmologic nurses, to contribute to the resolution and safety of ophthalmologic assistance.

A tool that could be used to accompany patients during the period post facectomy surgery and that does not depend on the geographical location, is the telemonitoring. This action consists of attending the patient by phone, and its use has been demonstrating improvement of treatment adherence, continuity of post-operative care at home, besides allowing anxiety reduction among patients[22]. These types of strategies should be instituted in the professional practice context, to guarantee the assessment of health interventions.

This study and many others developed in the country[23] and in the world[5] brings out the high number of patients with a visual deficit due to cataract, with low instruction level and low family income, emphasizing the need for public health programs to facilitate the access to information and disease treatment. To assess the perception of elderly about the quality of life before and after the surgical intervention allowed the upbringing of care indicators that direct decision making when planning ophthalmologic therapy.

We highlight the visual surgery recovery as bringing economic and social benefits to the individual, family, and community. In the assessment context of health services, the present study allowed brief analysis about the importance of partnerships between reference centers and interstate health systems to improve particular health problems of individuals. But, the precarious access situation to ophthalmologic assistance,

due to obstacles found in the health system, impairs the use of surgical resource and specialized support. Among the difficulties found, we can cite the use of outdated equipment and techniques, the lack of specialized medical professionals in some regions[9]. In the Amapá area, which is where the study took part, we highlight the reduced number of professionals and specialized ophthalmologic services, that provide benefits to community campaigns for the access to attention and ophthalmologic treatments.

Studies pointed the waiting list for surgery at SUS, the cost of the intraocular lens in the private sector, and the difficult geographical access to treatment[5,19-21] as the main barriers to not have a cataract surgery. Considering the impossibility of vision rehabilitation, as a consequence, many elderly abandon their jobs and become economically inactive individuals.

More than performing an intervention, there is the need to accompany its effect in people's life. The challenge proposed is the immersion of nursing professionals in the accompaniment and assessment of ophthalmologic patients, with therapeutic actions that are more incisive and resolute, to establish the elderly quality of life.

CONCLUSION

From our study, it was possible to verify the ocular health influence and the elderly quality of life. We found differences statistically significant in elderly perception, revealing the facectomy associated to a positive impact on the visual acuity and, consequently, in the quality of life.

As a limitation, we can state that the post-operative assessment was performed on the 15th day with vision improvement, but the corrected visual acuity assessment was not performed, which could point to a better patient's satisfaction. We suggest for next studies that, the visual acuity to be performed after the refraction exam, that is, corrected visual acuity, 180 days after the surgical procedure.

Anyway, the present study brought important indicators related to ocular health and quality of life, showing impactful aspects in the perception of the general health of elderly after facectomy. However, it also pointed to areas needing multi-professional intervention to promote mental health re-establishment and, to improve the performance of daily life activities. In this direction, we still suggest studies to assess the impact of ocular health on the progression of functional issues of elderly.

The cataract care campaign was successful to decrease the lack of access to ophthalmologic treatment in public health, and it favored the vision recovery in elderly. Data from our study could serve to guide new health promotion public policies for cataract patients and, consequently, to contribute to the health and quality of life improvements in elderly.

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