



Phacoemulsification: Awareness among Postoperative Cataract Patients in South East Nigeria

Arinze Anthony Onwuegbuna^{1,2*}, Akunne Ijeoma Apakama^{1,2},
Ejike Ekene Igboegwu², Emeka Akujuobi Chianakwalam²,
Miriam-Benigna Chika Amobi², Chuka Michael Okosa^{1,2}
and George Uchenna Eleje^{3,4}

¹Department of Ophthalmology, Nnamdi Azikiwe University, Awka, Nigeria.

²Guinness Eye Centre, Onitsha, Nigeria.

³Department of Obstetrics and Gynecology, Faculty of Medicine, Nnamdi Azikiwe University, Awka, Nigeria.

⁴Department of Obstetrics and Gynecology, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. Authors AAO, AIA, EEI and GUE were involved in the overall conceptual design and implementation of the project, and overall revision of the manuscript. Authors EAC, MCA and CMO were involved in the writing of this manuscript and overall revision. The authors read, approved the final manuscript and agreed to be accountable for all aspects of the work.

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ABSTRACT

Objective: To determine the awareness of phacoemulsification among post operative cataract patients.

Methods: This was a prospective descriptive cross-sectional study to assess the knowledge of phacoemulsification among postoperative cataract patients that presented in community eye care

outreaches in 3 local government areas of Anambra State Nigeria between June 21st 2021 to June 25th 2021.

Results: The total number of people that attended the outreaches during the study period were 975. Out of these, 167 participants had cataract surgery but only 155 (n=155/167) consented to the study, giving a response rate of 92.8%. The mean age was 67±13 years with an age range of 18 to 93 years. The male: female ratio was 1: 1.2. There were more females (n=84/155, 54.2%) than males (n=71/155, 45.8%). Majority obtained only primary education (n=74/155, 47.7%), while 20.6% (n=32/155) obtained secondary education, 14.2% (n=22/155) obtained tertiary education while 17.4% (n=27/155) had no formal education

Conclusion: Most cataract blind people in Nigeria are not aware of phacoemulsification cataract surgery and therefore may limit options for modern treatment of cataract blindness, even though this modern method of cataract treatment has been in place for decades in other countries.

Keywords: Phacoemulsification; cataract; post operative; Nigeria.

1. INTRODUCTION

Cataract is the commonest cause of blindness and accounts for 55.7% of the 33.6 million cases of blindness reported globally [1]. It has negative effects on the quality of life of affected individuals, and is commoner among those aged 50 years and above [2]. The occurrence of cataract among older age group though unavoidable, can be treated surgically with good visual outcome [3]. Cataract surgery is one of the commonest surgical procedures performed in the field of medicine [4], and involves different techniques [5] which have evolved over the years.

The most common cataract surgery technique employed in Nigeria among ophthalmologists has been reported to be mainly the wide incision extracapsular type with intraocular lens (IOL) implant [6], but more recently, manual small incision cataract surgery technique (MSICS) has gained prominence [7]. Whereas in the developed world, phacoemulsification has remained the commonest technique of cataract surgery performed over the years [8]. In Nigeria, phacoemulsification cataract surgery is not commonly obtainable [7]. This has resulted in fewer surgical options for cataract surgery among patients in this part of the world.

Considering the relative advantages of faster recovery time, more stable refraction and astigmatic correction of phacoemulsification over the other cataract surgical procedures, it would be necessary that people undergoing cataract surgery should know about the different techniques of cataract surgery including phacoemulsification, to help them make their choices of cataract surgery. To the best of the knowledge of the author, no study has been

conducted on the awareness of phacoemulsification among patients who had undergone cataract surgery in south east Nigeria. Therefore, the present study is aimed to determine the level of awareness of phacoemulsification among postoperative cataract patients and how this knowledge could have affected their choice of procedure for cataract surgery.

1.1 Aim of the Study

The aim of the study is to assess the awareness and knowledge of phacoemulsification among postoperative cataract adult patients in southeast Nigeria.

2. METHODS

2.1 Study Design

This was a prospective descriptive cross-sectional study to assess the knowledge of phacoemulsification among postoperative cataract patients that presented in community eye care outreaches in 3 local government areas of Anambra State Nigeria. These local government areas include Idemili South, Nnewi North and Ihiala.

2.2 Study Population

Patients that had undergone cataract surgery, in at least one eye.

2.3 Sampling Technique

Non random sampling technique.

2.4 Study Period

21st June 2021 to 25th June 2021.



Map of Anambra State

2.4.1 Inclusion criteria

1. Patients aged ≥ 18 years who had cataract surgery in at least one eye.
2. Patients who gave their consents.

2.4.2 Exclusion criteria

1. Patients less than 18 years of age who had cataract surgery.
2. Adult patients that had other eye surgeries but not cataract surgery.

2.5 Data Collection

An interviewer-administered, pretested questionnaire was used. The questionnaire was

translated in the local language (Igbo) and back translated to English. The details of the study were adequately explained to the participants and consent forms given to those willing to participate. The Igbo Language questionnaire was administered to participants who did not understand English Language. The information in the questionnaire was interpreted by the researchers to the patients who did not understand English. Information were collected from the participants and filled out in the questionnaires.

Information obtained from the patients include sociodemographics, highest education attained and awareness of phacoemulsification.

2.6 Study Outcome Measures

Awareness of phacoemulsification among postoperative cataract patients.

2.7 Data Analysis

All necessary information was collected. Data was entered into Excel spread sheet. Data was cleaned and exported into Statistical Package for Social Sciences (SPSS) version 23 and subsequently analyzed. Data representations were in the form of tables. The level of significance was set at $P < 0.05$.

3. RESULTS

The total number of people that attended the outreaches during the study period was 975. Out of these, 167 participants had cataract surgery but only 155 consented ($n=155/167$), giving a response rate of 92.8% who consented to

participate in the study. The mean age was 67 ± 13 years with age range of 18 to 93 years. The male: female ratio was 1: 1.2. There were more females ($n=84/155$, 54.2%) than males ($n=71/155$, 45.8%). Majority obtained only primary education ($n=74/155$, 47.7%), while 20.6% ($n=32/155$) obtained secondary education, 14.2% ($n=22/155$) obtained tertiary education while 17.4% ($n=27/155$) had no form of education.

Among the study participants, 65.2% ($n=101/155$) had cataract surgery in one eye while 34.8% ($n=54/155$) had cataract surgery in both eyes. Among those that had bilateral cataract surgery, majority were females ($n=31/54$, 57.4%) while males were 42.6% ($n=23/54$). Only 2 (1.3%) participants were aware of techniques of cataract surgery while 98.7% ($n=153/155$) were unaware of phacoemulsification method of cataract surgery.

Table 1. Age and gender of participants

Age (Years)	Total frequency (%) (n=155)	Gender	
		Male (n=71)	Female (n=84)
≤ 29	2	1	1
30 – 44	5	5	0
45 – 59	20	9	11
60– 74	94	40	54
75 – 89	30	14	16
> 90	4	2	2
Mean Age ± STD*	67 ± 13 years	67.03 ± 12.64 years	68.14 ± 11.50 years

*Standard deviation

Table 2. Highest education level

Education	Total (%)	Gender	
		Male	Female
No education	27	15	12
Primary	74	36	38
Secondary	32	11	21
Tertiary	22	9	13

Table 3. Operated eye

Eye Operated	Gender	
	Male	Female
One	48	53
Both	23	31
Total	71	84

4. DISCUSSION

Cataract remains the commonest cause of preventable blindness globally reducing the quality of life of affected Individual [2]. But a good quality cataract surgery is usually done to restore vision. Cataract surgery is one of the most cost effective surgical interventions worldwide [4]. Cataract surgery is the commonest surgery performed by ophthalmologists worldwide, even in Africa [9]. Majority of the study subjects (82.6% n=128/155) were 60 years and above. This is similar to other studies which reported cataract as being more common in the elderly population [10,11].

Cataract surgery has evolved over centuries from couching to intracapsular cataract extraction, and then to present day extracapsular extraction [5]. More recent advances include MSICS and femto laser phacoemulsification [5].

Most of our study participants had MSICS. This method of cataract surgery is now the preferred choice of most ophthalmologists in Nigeria [7]. This may be because MSICS is easier to learn and cheaper. Nigeria is a low income country with about 60% of the population living on less than \$1.25 dollars a day. Only one person had intracapsular cataract surgery. However, our study found that even though none of the study participants had phacoemulsification cataract surgery, they were also unaware of this method of cataract surgery. Phacoemulsification has been reported to give faster and more stable visual rehabilitation than other methods of cataract surgery [8]. But this method of cataract surgery requires stable power supply, special training, sophisticated, expensive equipment and consumables making this type of cataract services not to be easily accessible in low income countries [7,8]. In contrast, MSICS not only it is cheaper, easier to learn, requires less technology but also gives similar results compared to phacoemulsification [1].

Health care allocations in many low income countries are poor [12]. This therefore may likely affect investments in modern methods of health care delivery including phacoemulsification cataract surgeries.

Nwosu had highlighted the need for retraining in newer methods of cataract surgery for optimal visual benefits to the cataract blind in our environment [6]. Creating awareness and investments for phacoemulsification cataract

surgery will help to achieve this. Improving awareness for phacoemulsification can be achieved through establishment of phacoemulsification services in the 6 geopolitical zones of Nigeria via increased funding by governments and by public-private initiatives, granting health talks on cataract over the electronic media and dissemination of information through the social media. These steps will reduce medical tourism abroad and will save a lot of foreign exchange for the country. Again, the cataract blind in Nigeria would access this modern cataract surgical technique not only easier but also at a lesser cost by obviating the need for airfare and hotel cost in foreign land.

Awareness of phacoemulsification was not affected by educational level of the study participants. This is similar to study by Omolase that most people with cataract were unaware of types of cataract treatment [13].

5. LIMITATIONS

A major limitation of this study was that it was conducted in only one state out of the 5 states of south east Nigeria and therefore the findings cannot be generalized for the entire region. Secondly, all the participants recruited were from outreaches and none from any eye hospitals that offer phacoemulsification cataract surgery.

6. CONCLUSION

Most cataract blind people in Nigeria are not aware of phacoemulsification method of cataract surgery and therefore have limited options for treatment of cataract blindness. Even though this modern method of cataract treatment has been in place for decades, yet it is still not readily available in Nigeria. There is need to train especially younger ophthalmologists on this method of cataract management and also bring this technique to the attention of cataract blind people to help them make informed decision.

ETHICAL CONSIDERATION

Ethical clearance to conduct this study was obtained from the Chukwuemeka Odumegwu Ojukwu University Teaching Hospital Ethics Committee.

CONSENT

Written consent was obtained from the participants. The study was conducted according to the tenets of the Helsinki Declaration.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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