

Vision 2020 – The Right to Sight: How Much Has Been Achieved in Nigeria? And What Next?

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INTRODUCTION

VISION 2020, THE RIGHT TO SIGHT was jointly initiated by the World Health Organization (WHO) and the International Agency for the Prevention of Blindness in 1999. The main aim was that no individual in any part of the world should become visually impaired and those blind or with unavoidable vision loss should be rehabilitated by government so that they could achieve their full potential in life.^[1] In conceiving this very robust initiative, the global outlook about visual impairment and blindness was troubling, and the fear was evident that if nothing was done, more persons would go blind. Before the launch of this initiative, estimated 38 million persons were said to be blind with another 110 million persons with visual impairment; and there was a projection that 76 million could go blind in 2020 due to aging and growing population.^[2]

The main mission of the V2020: the right to sight initiative was to eliminate the principal causes of avoidable blindness by the year 2020 that just passed, by ensuring that sustainable National Eye Care Programs were developed and meticulously implemented.^[1] The initiative had 3 core strategies that were expected to be incorporated into the existing primary health-care (PHC) system. Resource mobilization and concerted action through advocacy were the fulcras on which these strategies were to be achieved.^[1]

The strategies included:

1. Disease control: Cataract, refractive error, onchocerciasis, trachoma, and childhood blindness were the initial diseases of focus. Later, glaucoma and diabetic retinopathy were included
2. Infrastructural development: A healthy hospital environment has an impact on a quick recovery. The optimum level of patients' comfort and holistic care can only be guaranteed when the hospital environment is appropriate and conducive
3. Human resource development: The major focus here was

equitable training and retraining of all cadre of eye care workers.

In the two decades since the program was launched, all stakeholders mobilized resources toward the achievement of its goals. Some countries have done exceptionally well in improving their eye health program, while others still lagged despite every support.

This review attempts to assess the achievements that have been made at the end this ambitious program, especially as it pertains to Nigeria.

GLOBAL ACHIEVEMENTS

The 193 Member States of the United Nations were actively involved in the activities of the Vision 2020 – the Right to Sight. Advocacy is one of the major achievements of this global initiative. There have been intensified global advocacy efforts. Between 2003 and 2013, the World Health Assembly made four health-related resolutions, namely: WHA56.26 (2003), WHA59.25 (2006), WHA62.1 (2009), and WHA66.11 (2013). These resolutions were major advocacy strategies that helped to galvanize National Governments' efforts in eye health activities.^[3] Furthermore, the WHO launched the WHO action plans after the 2009 and 2013 WHA resolutions. The 2014–2019 global action plan focuses on universal eye health, which called for universal and equitable access to comprehensive eye care services and set a target of reducing the prevalence of avoidable visual impairment by 25% at the end of 2019.^[4,5]

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The program had a lot of partner organizations which actively encouraged the incorporation of comprehensive eye care services into the existing national health-care systems. The relentless advocacy helped many governments to increase their political commitment around blindness and visual impairment prevention. The successes recorded in Morocco, the Gambia, India, Sri Lanka, Nepal, Thailand, and the Philippines were evidence of the efforts of the Vision 2020 partners.^[6]

On a general note, reports have shown that Vision 2020 enabled some countries to record some appreciable improvements in some aspects of blindness prevention.^[6] Several governments have improved funding to the eye health subsector, which has accounted for the impacts recorded.^[6] It has been also reported that several advanced economies have provided funding to developing countries in support of eye care delivery.^[3] Similarly, some nongovernmental organizations (NGOs) have also made substantive financial support in workforce training, research, advocacy, and surgical outreaches, etc.^[3]

From the report published by The Vision Loss Expert Group in 2017, 253 million in the world were visually impaired, of which 36 million were blind. That report also showed that the global prevalence of visual impairment declined from 4.58% in 1990 to 3.38% in 2015 despite significant demographic shift during this same period.^[7] From a systematic review and meta-analysis of population-based surveys of eye diseases from January 1980 to October 2018, age-standardized prevalence of blindness for all modeled causes of blindness showed a regional decrease between 1990 and 2020 for those 50 years and above; with the exception of diabetic retinopathy with sub-Saharan Africa witnessing the greatest increase.^[8]

THE NIGERIAN SITUATION

Visual impairment and blindness still pose major public health challenges for Nigeria. The problem is further compounded by the poor availability of resources for eye care. Africa, where Nigeria is one of the 54 countries, constitutes only 16% of the world population but carries 23% of the global disease burden. Despite this significant disease burden, Africa's contribution to health-care expenditure is quite abysmal. In 2015, it only accounted for a paltry 1% of global health expenditure.^[9] This painfully shows that the rest of the world spends ten times what Africa spends on health on par capita basis.^[9]

Most African expenditure on health is out-of-pocket payment and this poses a significant burden for the households with respect to other needs.^[9] It has been reported that at least 11% of Africans made catastrophic spending for healthcare every year and another 38% delay or forgo healthcare due to high costs.^[9] Concerted efforts are needed to change this grim trend. Other diseases, such as HIV/AIDS, malaria, and tuberculosis, which are equally of public health importance were better funded; and given attention compared to the blinding diseases, especially by donor agencies. This is now showing signs of being unsustainable with donor fatigue setting in.^[10]

Some modest achievements have been made in Nigeria from the Vision 2020 initiative. The National Eye Health Program was reinvigorated.^[11] Its precursor, the national program for the prevention of blindness, was not meticulously organized. The National Eye Health Program has worked with stakeholders, both governmental and nongovernmental organizations, to establish, strengthen, and advance the Vision 2020 program in the country. The National Eye Health policy was just recently formulated in 2019. The impact of Vision 2020 on Nigerian eye health has been a mixed bag. Some palpable improvements in some aspects of the thematic areas of the program are evident. However, there are also a lot of challenges still begging for intervention. For instance, universal health coverage should be widely encouraged and once the government shows signs of spending money allocated to eye health wisely, the people will be willing to pay more taxes which will be pooled to better finance eye health. There is a need to adopt innovative systems and continuous learning in financing to improve health delivery.^[9]

Disease control

Before the launch of the Vision 2020, the prevalence of blindness in Nigeria was based on estimates from hospital-based and small-scale community studies. One of the major achievements of this program was the countrywide survey of the burden and causes of blindness and visual impairment done between 2005 and 2007.^[12] The epidemiological and clinical survey showed that there were approximately 1.13 million blind people, 40 years and above.^[12] In addition, 2.7 million adults 40 years and above were reported to have moderate visual impairment, and an additional 400,000 adults were severely visually impaired.^[12]

The three major causes of blindness included cataract, glaucoma, and uncorrected aphakia, accounting for over 68% of all the causes of blindness.^[13] Trachoma and onchocerciasis were, however, endemic in parts of the country.

In the past decades, the number of effective and safe cataract surgery with the use of intraocular lenses increased in many parts of the country. Cataract is the most common cause of blindness in Nigeria, as shown in the Nigerian Blindness and Visual Impairment Survey.^[12,13] The cataract surgical coverage (CSC-operated cataract as a proportion of operable plus operated cataract) and cataract surgical rate (CSR-the number of cataract operations per million in a given year) have also seen some marginal improvements though this is largely being underreported; and there seems to be no visible sustained provision made for a reporting system on surgical activities in camps, government, and private establishments.^[14] At the launch of the Vision 2020 in 1999, the CSR reported for Nigeria was 100 per million population.^[15] By 2015, it has increased to 317 per million population, though still far below 1000 per million recommended.^[14] Between 2005 and 2016, the Sokoto State Eye Care Program reported a doubling of CSR and seven-fold improvements in CSC with the attendant reduction in cataract blindness.^[16] Between 2012 and 2015, Monsudi *et al.* found out that the CSR in Kebbi State also increased following intervention, although the number was still below WHO

recommendations.^[17] In Ogun state, each surgeon performed up to 491 surgeries per year in 2016, making the CSR 1098 per million population per year clearly more than the incidence.^[18] However, this was not a widespread occurrence; thus, the total CSR was much less (317 per million population per year).

Similarly, Madaki *et al.* found increased cataract coverage following surgical intervention in Birnin Gwari Local Government Area of Kaduna State.^[19]

Unfortunately, couching coverage was also found to be high.^[20] Onchocerciasis and trachoma-related blindness have also reduced significantly.^[21,22]

Human resource development

Human resource development in eye care has seen some improvement. Before the year 2000, there were <50 ophthalmologists in the country. In the last 20 years, more ophthalmologists have been trained. The National Postgraduate Medical College of Nigeria and the West African College of Surgeons have been reformed to improve the training of more ophthalmologists.^[23] According to the 2006 Nigeria census, there were approximately 500 practicing ophthalmologists to a population of 140 million people.^[24] In 2018, Nigeria had approximately 700 ophthalmologists for 188 million population.^[25] Recently, in the last 5–6 years, there has been a shift in focus from just training general ophthalmologists to sub-specialist training.^[26] Similarly, there has been an improvement in the number of ophthalmic nurses, optometrists, and other eyecare workers.^[27,28]

CHALLENGES AND UNMET NEEDS

No doubt there have been remarkable accomplishments engineered by Vision 2020, but significant challenges still remain. There are many unmet needs in several areas. The major area of challenge is inequalities in coverage.^[4] In general, eye care facilities are majorly available in big cities in developing countries.^[4] The rural communities are grossly underserved. In addition, women and children are disproportionately underserved.^[29] There is a need to scale up services and ensure that these rural communities have access to quality eye care.

Similarly, the quality of services is uneven. In northern Nigeria, couching is still rampant.^[19] Hence, a lot of patients with cataracts do not have quality and safe surgery with attendant poor visual outcomes.^[17,19] This is because there are still shortages in workforce. The number of ophthalmologists per million population is an abysmal 3.7 per million population in Nigeria, compared with 76.2 per million population in high-income countries.^[30]

Another challenge with the workforce is maldistribution: most of the ophthalmologists and other eye care workers are concentrated in the major cities.^[27] In Nigeria, it is only in secondary and tertiary health facilities you can find eye care services. The estimated global ophthalmologist workforce has been growing, but the distribution of the eye care workforce

generally and the development of comprehensive and inclusive eye care delivery systems are also expected to guarantee universal eye care.^[16] Vision 2020 and WHA56 resolution on Universal Eye Health Coverage envisioned that the services should be properly integrated into the existing health-care system.^[31] In Nigeria, the PHC system is the bedrock of healthcare. Unfortunately, eye care services are nonexistent at that level. This has denied the majority of population access to eye care services.^[32]

So far, there will be a challenge of building on the gains of the project. Nongovernmental organizations are responsible for the many successes recorded in the eye care delivery in the country. Most public hospitals lack the basic ophthalmic equipment necessary for effective eye care service delivery.^[32] In addition, many of the public hospitals do not also have laser machines for diabetic retinopathy management since it is increasing in prevalence.^[33] The government simply must increase funding to the eye care segment of healthcare delivery.

Increasingly, the population is aging. It has been projected that by 2030, one-third of the population would be aged over 60 years.^[4] With lifestyle changes, increasingly sedentary lifestyles and unhealthy eating habits, there will be increased in number of persons with visual impairment.^[7,8] Available data provide an incomplete picture of the met and unmet needs for eye care. In addition, the health systems of countries face considerable challenges. These challenges include addressing the unmet eye care needs, continuing to provide eye care for those whose needs are being met, and preparing for a projected consistent increase in numbers of those needing eye care.^[4]

Beyond Vision 2020, a new initiative was launched in 2017 in preparation for the expiration of the Right to Sight initiative, and it draws attention to the profound unmet need for rehabilitation worldwide, (massively neglected all these years) and highlights the importance of strengthening health systems to provide rehabilitation. The joint study by the WHO and Institute for Health Metrics and Evaluation (IHME) showed that 1 in 3 persons with a health challenge will require rehabilitation.^[34]

This need for rehabilitation has been observed to increase by 63% since 1990, rising from 1.48 billion to 2.41 billion people.^[35] The demand for rehabilitation services worldwide is increasing due to aging population with the attendant increasing prevalence of noncommunicable diseases; the improvement of medical care and the development and availability of assistive products. However, the capacity to offer these services is still limited or not even existing in many parts of the world, particularly in low- and middle-income countries.^[36]

The WHO global disability action plan from 2014 to 2021 calls for action from member states and partners toward the objective of strengthening and extending rehabilitation. It is the key health strategy for the achievement of sustainable development goal 3 (SDG3), which is to ensure healthy lives and promote well-being for all at all ages.^[37]

This has made the world to move on and adopt another agenda, called REHABILITATION 2030: A call for action.^[38]

Rehabilitation is a key strategy for universal health coverage in the 21st century, and therefore, the notion that it is an optional service only needed by a minority of the population should be discountenanced. This means that rehabilitation services are something that need to be organized quickly as they are involving such many people and not just a few. In terms of years of life lived with disability (YLDs), Cieza *et al.* reported a 69% global increase for key rehabilitation-sensitive conditions from 1990 to 2019.^[39] This burden from the 2019 study in the Lancet showed that Western Pacific had the highest burden of those who required rehabilitation.^[39] The findings have shown that there is an urgent need to scale up rehabilitation services, especially at the PHC level, to ensure that those who need them have access to them. It should not be looked at as specialized service for just a few but needs to be an integral part of the health-care system.

On review of met and unmet needs of VISION 2020, there was profound unmet needs in rehabilitation, especially in low- and middle-income countries.^[31] Rehabilitation is an integral continuum of comprehensive health care, and efforts should be targeted at incorporating its services into general care. The WHO, together with IHME, is developing a Rehabilitation Need Estimator, a web-based tool that provides global, regional, and country-level data visualizations of the estimated need for rehabilitation globally that was to be launched in January 2021. It will allow users to view estimates on rehabilitation needs for countries, regions, health conditions, and group of conditions.^[40]

Due to demographic shifts, there has been a sustained increase for low vision and visual rehabilitation services in eye care.^[31] In 2017, the first stakeholder meeting of REHABILITATION 2030 held at the WHO headquarters. It was reiterated that rehabilitation was an essential aspect of the care continuum and as a vital aspect of human capital development with an urgent need to include it in routine care.^[41] Policymakers have been strongly advised to include rehabilitation as a priority when addressing the functional needs of their population as anybody may need rehabilitation, especially (but not limited to) as it applies to vision at some point in their lives, following an injury, surgery, disease, or illness, or because their functioning has declined with age.^[41]

The need to access services to meet the 3rd target of the SDGs was also emphasized at the meeting.^[31] The WHO has developed a four-process rehabilitation in health systems: a guide for action which is aimed at nations that have a coherent rehabilitation plan.^[42] The processes include situation assessment, strategic planning, monitoring, and evaluation/review process, and implementation of the strategic plan. The Nigerian National Blindness and Visual Impairment Survey reported a prevalence of 3.5% and 4.2% for functional low vision and blindness, respectively.^[43,44] These figures seem modest as in the above survey, only people aged 40 years and

above were included in the study and a higher prevalence probably would have been recorded if younger age brackets were represented. A situational report showed suboptimal low vision care, workforce, infrastructure, and equipment. Identified barriers could be seen as user related (poor awareness, accessibility, acceptability, and affordability) and provider related (funding issues, poor infrastructure, absent or ill-motivated workforce, and lack of equipment) barriers.^[45,46] A survey in Port Harcourt, Nigeria, is a testimonial that modest efforts targeted at skills transfer could bridge the low vision and rehabilitation gap in the areas of workforce and equipment in low- and middle-income countries.^[47] Targeted public and private partnerships in relevant areas will go a long way if Nigeria is to record any success related to the REHABILITATION 2030 initiative.

CONCLUSION

Vision 2020

The right to sight has helped in reducing the prevalence of blindness globally, though not as much as it would have done in Nigeria and other developing countries if more effort had been made. This is now history. The challenge now is how to properly plug into the equally important new initiative, Rehabilitation 2030 while ensuring that the principles of Vision 2020 are leveraged to consistently force a downward trend in blindness prevalence as the world population continues to increase and age. Globally, about 2.4 billion people are currently living with a health condition that will benefit from rehabilitation and low-vision rehabilitation. With changes taking place in the health and characteristics of the population worldwide, this estimated need for low-vision rehabilitation is only going to increase in the coming years. Therefore, all stakeholders must be fully prepared to avoid the errors made in the last initiative and ensure the equitable provision of timely, high quality, and affordable rehabilitation interventions to all who require through improved leadership and governance while developing a strong multidisciplinary rehabilitation workforce; expanding financing for rehabilitation; and improving data collection for research on rehabilitation.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. World Health Organization. Global Initiative for the Elimination of Avoidable Blindness: Action Plan 2006-2011. Geneva: WHO Press; 2007. p. 1-97.
2. Foster A, Gilbert C, Johnson G. Changing patterns in global blindness: 1988-2008. *Community Eye Health* 2008;21:37-9.
3. Rao GN. In Focus-the Achievements and Lasting Effects of Vision; 2020. Available from: <https://www.eyenews.uk.com>. [Last accessed on 2020 Dec 20].
4. World report on vision. Geneva: World Health Organization 2019. p 16.
5. World Health Organization. Global Initiative for the Elimination of Avoidable Blindness: Action Plan 2006-2011. World Health Organization;

2007. Available from: <https://apps.who.int/handle/10665/43754>. [Last accessed on 2021 May 20].
6. Ackland P. The accomplishments of the global initiative VISION 2020: The Right to Sight and the focus for the next 8 years of the campaign. *Indian J Ophthalmol* 2012;60:380-6.
 7. Flaxman SR, Bourne RR, Resnikoff S, Ackland P, Braithwaite T, Cicinelli MV, *et al.* Global causes of blindness and distance vision impairment 1990-2020: A systematic review and meta-analysis. *Lancet Glob Health* 2017;5:e1221-34.
 8. GBD 2019 Blindness and Vision Impairment Collaborators; Vision Loss Expert Group of the Global Burden of Disease Study. Causes of blindness and vision impairment in 2020 and trends over 30 years, and prevalence of avoidable blindness in relation to VISION 2020: The Right to Sight: An Analysis for the Global Burden of Disease Study. *Lancet Glob Health* 2021;9:e144-60.
 9. Available from: <https://www.brookings.edu/blog/future-development/2019/03/01/closing-africas-health-financing-gap/>. [Last accessed on 2021 May 18].
 10. Available from: <https://www.smartcapitalmind.com/what-is-donor-fatigue.htm>. [Last accessed on 2021 May 18].
 11. Adio A. The Rivers State, Nigeria Eye Care Program – The first few steps towards achieving V2020. *Niger J Med* 2011;20:250-5.
 12. Rabi MM, Kyari F, Ezelum C, Elhassan E, Sanda S, Murthy GV, *et al.* Review of the publications of the Nigeria national blindness survey: Methodology, prevalence, causes of blindness and visual impairment and outcome of cataract surgery. *Ann Afr Med* 2012;11:125-30.
 13. Abdull MM, Sivasubramaniam S, Murthy GV, Gilbert C, Abubakar T, Ezelum C, *et al.* Causes of blindness and visual impairment in Nigeria: The Nigeria national blindness and visual impairment survey. *Invest Ophthalmol Vis Sci* 2009;50:4114-20.
 14. Cataract surgical rates. *Community Eye Health* 2018;30:88-9.
 15. World Health Organization. Launching “Vision 2020 – The Right to Sight” in Africa. Summary Report. WHO/PBL. Geneva: WHO; 2000.
 16. Muhammad N, Adamu MD, Caleb M, Maishanu NM, Jabo AM, Rabi MM, *et al.* Changing patterns of cataract services in North-West Nigeria: 2005-2016. *PLoS One* 2017;12:e0183421.
 17. Monsudi KF, Allen F, Ayanniyi AA. Evaluating cataract surgery numbers and constraints to the delivery of optimal cataract services in Kebbi State, Nigeria. *Niger J Fam Pract* 2017;8:53-61.
 18. Bogunjoko TJ, Hassan AO, Oderinlo O, Okonkwo O, Ashaye A, *et al.* Impact of cataract surgical services in Ogun State, Nigeria. *J Eye Cataract Surg* 2017;2:16.
 19. Madaki SU, Babanini AM, Habib SG. Cataract surgical coverage and visual outcome using RAAB in Birnin Gwari Local Government Area, Northwest Nigeria. *Niger J Basic Clin Sci* 2020;17:91-6.
 20. Gilbert CE, Murthy GV, Sivasubramaniam S, Kyari F, Imam A, Rabi MM, *et al.* Couching in Nigeria: Prevalence, risk factors and visual acuity outcomes. *Ophthalmic Epidemiol* 2010;17:269-75.
 21. Babalola OE, Bassi A. Impact assessment study after 27 years of community-directed treatment with ivermectin in Galadimawa, Kaduna State, Nigeria. *Niger Postgrad Med J* 2017;24:14-9.
 22. Mpyet C, Lass BD, Yahaya HB, Solomon AW. Prevalence of and risk factors for trachoma in Kano state, Nigeria. *PLoS One* 2012;7:e40421.
 23. Ike SO. Problems of postgraduate medical training in Nigeria. *Niger J Med* 2004;13:412-8.
 24. Federal Republic of Nigeria: 2006 Population Census. Available from: <http://www.nigerianstat.gov.ng/Connections/Pop2006.pdf>. [Last accessed on 2021 May 18].
 25. Monsudi KF, Ademola-Popoola DS, Ayadapo AO. Ophthalmology in Nigeria: Challenges and success. *Niger J Ophthalmol* 2019;27:100-1.
 26. Dean WH, Buchan JC, Gichuhi S, Faal H, Mpyet C, Resnikoff S, *et al.* Ophthalmology training in sub-Saharan Africa: A scoping review. *Eye (Lond)* 2021;35:1066-83.
 27. Bogunjoko T, Hassan AO, Akanbi T, Ashaye A, Akinye A. Analysis of human resources for eye health in Ogun State of Nigeria: Progress towards Vision 2020. *Br J Med Med Res* 2017;19:1-9.
 28. Eze BI, Maduka-Okafor FC. An assessment of the eye care workforce in Enugu State, south-eastern Nigeria. *Hum Resour Health* 2009;7:38.
 29. Ramke J, Zwi AB, Lee AC, Blignault I, Gilbert CE. Inequality in cataract blindness and services: Moving beyond unidimensional analyses of social position. *Br J Ophthalmol* 2017;101:395-400.
 30. Available from: <https://bjo.bmj.com/content/104/4/588>. [Last accessed on 2021 May 18].
 31. Guide for Action World Health Organization. Available from: <https://www.apps.who.int>. [Last assessed on 2021 Mar 08].
 32. Aghaji A, Burchett HE, Mathenge W, Faal HB, Umeh R, Ezepue F, *et al.* Technical capacities needed to implement the WHO’s primary eye care package for Africa: Results of a Delphi process. *BMJ Open* 2021;11:e042979.
 33. Onakpoya OH, Adeoye AO, Adegbehingbe BO, Akinsola FB. Assessment of human and material resources available for primary eye-care delivery in rural communities of southwestern Nigeria. *West Indian Med J* 2009;58:472-5.
 34. Fasanmade OA, Dagogo-Jack S. Diabetes care in Nigeria. *Ann Glob Health* 2015;81:821-9.
 35. Kamenov K, Mills JA, Chatterji S, Cieza A. Needs and unmet needs for rehabilitation services: A scoping review. *Disabil Rehabil* 2019;41:1227-37.
 36. Ijadunola MY, Ojo TO, Akintan FO, Adeyemo AO, Afolayan AS, Akanji OG. Engendering a conducive environment for university students with physical disabilities: Assessing availability of assistive facilities in Nigeria. *Disabil Rehabil Assist Technol* 2019;14:354-60.
 37. Available from: <https://www.un.org/sustainabledevelopment/>. [Last accessed on 2021 May 18].
 38. Available from: <https://www.who.int/rehabilitation/rehab-2030-call-for-action/en/>. [Last accessed on 2021 May 18].
 39. Cieza A, Causey K, Kamenov K, Hanson SW, Chatterji S, Vos T. Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: A systematic analysis for the Global Burden of Disease Study 2019. *Lancet* 2021;396:2006-17.
 40. Institute for Health Metrics and Evaluation (IHME). WHO Rehabilitation Need Estimator. Seattle, WA: IHME, University; 2021.
 41. Available from: <https://www.who.int/news-room/fact-sheets/detail/rehabilitation.of.Washington>. [Last accessed on 2021 May 18].
 42. Rehabilitation of Health Systems: Guide for Action. Available from: <https://who.int/rehabilitation>. [Last accessed on 2021 Mar 08].
 43. Entekume G, Patel J, Sivasubramaniam S, Gilbert CE, Ezelum CC, Murthy GV, *et al.* Prevalence, causes, and risk factors for functional low vision in Nigeria: Results from the national survey of blindness and visual impairment. *Invest Ophthalmol Vis Sci* 2011;52:6714-9.
 44. Kyari F, Gudlavalleti MV, Sivasubramaniam S, Gilbert CE, Abdull MM, Entekume G, *et al.* Prevalence of blindness and visual impairment in Nigeria: The National Blindness and Visual Impairment Study. *Invest Ophthalmol Vis Sci* 2009;50:2033-9.
 45. Monye HI, Kyari F, Momoh RO. A situational report on low vision services in tertiary hospitals in South-East Nigeria. *Niger J Clin Pract* 2020;23:919-27.
 46. Okoye OI, Aghaji A, Umeh R, Nwagbo DF, Chuku A. Barriers to the provision of clinical low-vision services among ophthalmologists in Nigeria. *Vis Impair Res* 2007;9:11-7.
 47. Adio A, Bekibele C, Lewerenz D, Lawrence L. Low vision evaluation training in Nigeria: Time to improve human resource in developing countries. *Br J Vis Impair* 2021;39:147-60. [Doi: 10.1177/0264619620915263].