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Glaucoma in Africa: Challenges in Diagnosis and Management

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Abstract

Introduction: Glaucoma is a major cause of irreversible blindness, with particularly high prevalence and aggressiveness in Africa. Nicknamed the 'silent thief of sight', it often progresses without symptoms until it reaches an advanced stage. This review aims to provide a comprehensive analysis of the challenges associated with the diagnosis and management of glaucoma on the African continent. **Methods:** We conducted a systematic review using the websites of national and international health organizations, as well as the Scopus, PubMed, and Web of Science databases, using Boolean search operators. Studies and documents published up to January 2025, dealing with the epidemiology, diagnosis, treatment, costs, and socio-cultural barriers of glaucoma in Africa, were included. **Results:** The prevalence of glaucoma in Africa is estimated at 5.59%, with open-angle glaucoma (OAG) predominating at 5.07%. The main diagnostic challenges include the late presentation of patients (up to 53% of eyes are already blind at first examination), low awareness of the disease among the general public and non-specialist health personnel, a shortage of qualified personnel, and a lack of diagnostic equipment. There are multiple barriers to treatment: high cost, poor treatment compliance, limited access to medication and surgery, and socio-cultural barriers such as the widespread use of traditional treatments. **Conclusion:** The fight against glaucoma in Africa is hampered by a complex interaction of epidemiological, structural, economic, and socio-cultural factors. Effective strategies must include strengthening the health system, training staff, large-scale awareness campaigns, and the adoption of innovative technologies.

Keywords

Glaucoma, Africa, Eye Health, Screening, Treatment, Public Health

1. Introduction

Glaucoma, a group of progressive optic neuropathies characterized by the loss of retinal ganglion cells, is a major public health problem worldwide [1]. It is the second leading cause of blindness after cataracts, but the leading cause of irreversible blindness [2] [3]. The World Health Organization (WHO) estimates that the number of people with glaucoma will increase from 64.3 million in 2013 to 111.8 million in 2040, with the majority of these people living in developing countries, particularly in Africa and Asia [4].

The African continent bears a disproportionate burden of the disease. Recent studies indicate an overall prevalence of glaucoma in Africa of 5.59%, with a prevalence of primary open-angle glaucoma (POAG) of 5.07% [1]. These figures are significantly higher than the estimated global prevalence of 3.54% [4]. Furthermore, in people of African descent, the disease manifests earlier, is more aggressive, and is 6 to 8 times more likely to lead to blindness than in Caucasian populations [5]. The insidious nature of glaucoma, which is often asymptomatic until advanced stages when visual field loss becomes significant, has earned it the nickname 'the silent thief of sight' [1] [6]. This silent progression poses a major challenge for early detection, particularly in Africa, where health systems face multiple constraints. Late referral to health facilities is the norm rather than the exception, with devastating consequences for vision and quality of life [7].

The management of glaucoma, which requires lifelong monitoring and treatment to control intraocular pressure (IOP) and slow the progression of the disease, faces considerable obstacles. These challenges are structural (lack of infrastructure and equipment), economic (high cost of drugs and surgery, low health insurance coverage), organizational (shortage of specialized human resources), and sociocultural (low level of knowledge, traditional beliefs) [8]-[10].

Given this alarming situation, it is imperative to conduct an in-depth analysis of the specific challenges of diagnosing and managing glaucoma in Africa. This narrative review aims to synthesize the available data on the epidemiology of the disease, the barriers to early diagnosis and effective treatment, and potential strategies for improving the eye health of African populations.

2. Materials and Methods

This study is a systematic review of the literature aimed at identifying, evaluating, and synthesizing available data on the challenges of diagnosing and managing glaucoma in Africa. The methodology followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [11] to ensure rigor and transparency in the process.

2.1. Sources of Information and Search Strategy

An extensive literature search was conducted in three major electronic databases: PubMed, Scopus, and Web of Science. The search covered all publications from the inception of the journals to 31 January 2025. The search strategy combined

terms related to glaucoma, African geography, and health challenges, using keywords in French and English. A Boolean search was performed using terms that included, but were not limited to: ("glaucoma" OR "glaucome") AND ("Africa" OR "Afrique" OR "sub-Saharan Africa" OR "Afrique subsaharienne" OR [name of an African country]) AND ("prevalence" OR "prévalence" OR "epidemiology" OR "épidémiologie" OR "diagnosis" OR "diagnostic" OR "screening" OR "dépistage" OR "management" OR "prise en charge" OR "treatment" OR "traitement" OR "cost" OR "coût" OR "adherence" OR "observance" OR "human resources" OR "ressources humaines"). In addition, a manual search was conducted in the reference lists of relevant articles identified. Grey literature was also consulted, including technical reports and strategic plans published by international organizations such as the World Health Organization (WHO), the International Agency for the Prevention of Blindness (IAPB), Sightsavers, and the ministries of health of various African countries (e.g., Senegal, Burkina Faso, Togo) [12]-[14].

2.2. Eligibility Criteria

Studies were included if they met the following criteria:

- Population: Populations living on the African continent;
- Condition: Glaucoma (particularly OAG);
- Study type: Epidemiological studies (cross-sectional, cohort), clinical trials, cost studies, qualitative studies on perceptions and barriers, systematic reviews, and official reports;
- Outcomes of interest: Prevalence, incidence, risk factors, diagnostic challenges (late presentation, awareness, resources), management challenges (costs, adherence, access to care, socio-cultural barriers), and intervention strategies.

Articles not published in peer-reviewed journals (except official reports), letters to the editor, editorials, isolated case studies, studies on non-African populations, and animal studies on GPAO were excluded.

2.3. Study Selection and Data Extraction

Two authors independently reviewed the titles and abstracts of the identified articles to assess their relevance. Potentially eligible articles were read in full. Disagreements about the inclusion of a study were resolved by consensus or discussion. The selection process was documented using a PRISMA flow diagram.

A standardized form was used to extract relevant data from each included study, including: the name of the first author, year of publication, country, population characteristics, type of glaucoma, prevalence data, main challenges identified (diagnostic, therapeutic, economic, etc.), and proposed solutions.

2.4. Data Synthesis

Due to the heterogeneity of methodologies and results in the included studies (quantitative and qualitative), a meta-analysis was not considered appropriate for all research questions. Quantitative data on prevalence were reported as published

in recent systematic reviews. For other aspects, a narrative synthesis was performed. Challenges and strategies were grouped by theme: epidemiology, diagnosis, management (economic, therapeutic, sociocultural), and systemic solutions.

3. Results

The literature review provided a substantial body of data on the burden of glaucoma in Africa and the multiple challenges that hinder its effective management. The results are presented in three main areas: epidemiological overview, challenges related to diagnosis, and barriers to treatment.

3.1. Epidemiological Overview of Glaucoma in Africa

Prevalence and subtypes

Africa has one of the highest prevalences of glaucoma in the world. A recent meta-analysis by Asiamah *et al.* (2025) estimated the overall prevalence of glaucoma (all types combined) at 5.59% (95% CI: 4.32% - 7.74%) on the continent. Ocular hypertension is the most common form, with a prevalence of 5.07% (95% CI: 3.51% - 8.52%). Other forms, such as angle-closure glaucoma (0.98%) and secondary glaucoma (2.19%), are also present but less common [1]. Significant regional variations are observed. The prevalence of OAG is highest in West Africa (6.48%), followed by Southern Africa, and lowest in East Africa (3.23%) [1]. National and local studies corroborate this heavy burden. For example, in Ghana, one study reported a prevalence of PGD of 8.5% among people aged 40 and over [15]. In Benin, PGD is the second leading cause of bilateral blindness (15%) after cataracts [16].

3.2. Risk Factors and Disease Aggressiveness

In addition to universal risk factors such as advanced age and family history, African ancestry is a major independent risk factor [5]. Scientific studies suggest that genetic and anatomical factors, such as a particular eye configuration in black populations, could explain this predisposition [4]-[17]. This particularity results in a disease that not only appears earlier (the average age at diagnosis is often in the fifties, or even younger for juvenile glaucoma [10] [18]) but is also more aggressive, with a more rapid progression toward blindness [5].

3.3. Diagnostic Challenges

Early diagnosis is the cornerstone of preventing blindness due to glaucoma. However, in Africa, it faces major systemic and societal obstacles.

- Late presentation and diagnosis at an advanced stage

The most critical challenge is the extremely late presentation of patients. Due to the asymptomatic nature of the disease in its early stages, individuals only seek medical attention when their central vision is affected, which is a sign of very advanced disease [6]. A study conducted in Dar Es Salaam (Tanzania) revealed that 29% of glaucoma patients were already blind at their first consultation, and 70%

had optic disc excavation (cup/disc ratio) greater than 0.8, indicating severe damage [7]. Another study in Kano, Nigeria, reported that 53% of the eyes examined were already blind [7]. This reality transforms the management of a manageable chronic disease into the management of irreversible visual impairment.

- Low awareness and insufficient knowledge

Lack of knowledge about glaucoma is a fundamental barrier, both among the general population and among non-specialist health professionals. Many people are unaware of the existence of this silent disease and the need for regular eye examinations, especially in the absence of symptoms [4]-[19]. Cultural beliefs and misconceptions, sometimes attributing vision loss to mystical causes or normal ageing, prevent families from seeking timely care [20] [21].

This knowledge gap extends to frontline health workers, who should play a crucial role in providing information and guidance. A study conducted in Cameroon among health professionals (general practitioners, nurses) not involved in eye care revealed alarming gaps: although 83.3% had heard of glaucoma, only 9.4% were able to define it correctly, and barely 2.7% knew that it causes irreversible blindness. As a result, their screening and referral practices were deemed poor [8].

- Shortage of human and material resources

Diagnosing glaucoma requires specialized skills and specific equipment (a tonometer to measure IOP, an ophthalmoscope to examine the optic nerve, and a perimeter to assess the visual field). However, sub-Saharan Africa is facing a critical crisis in eye health human resources [10] [13]-[22]. The number of ophthalmologists is extremely low, and their distribution is very uneven, with the vast majority concentrated in capital cities and large towns, leaving rural areas largely deprived of specialist services [9]-[22].

At the same time, even secondary health facilities often lack the basic equipment needed for glaucoma screening and diagnosis [9]-[23]. Access to tonometers, gonioscopes, or visual field analysers is limited, making diagnosis difficult and often dependent solely on clinical assessment of the optic disc, a method that requires considerable experience [7].

Although the global market for ophthalmic equipment is growing, these technologies remain largely inaccessible in low-resource settings due to their high cost [24]. This difficulty, related to the shortage of human and material resources, is clearly detailed in **Table 1**.

- Treatment challenges

Once diagnosed, often at a late stage, treating glaucoma in Africa is a challenging journey for both the patient and the healthcare system.

- The socio-economic burden

Glaucoma is a chronic disease that requires lifelong treatment, resulting in substantial direct and indirect costs. A study conducted in Benin highlighted this burden (10). Direct medical costs include consultations, follow-up examinations, and, above all, the purchase of anti-glaucoma eye drops. Direct non-medical costs (transport, accommodation for patients travelling from far away) are also significant.

Table 1. Algorithm for human and material resource shortages.

Challenge category	Description	Consequence	Key references
Behavioural/ Societa	Late presentation of patients to health services.	Diagnosis at a stage of irreversible blindness results in limited treatment options.	[7]
Educational/ Informational	Low awareness of glaucoma (a silent disease) among the general population and frontline health workers, and cultural beliefs.	Lack of early screening, delays in seeking treatment, and failure to report suspected cases.	[8]-[21]
Structural/ Organisational	Critical shortage of ophthalmologists and eye care technicians. Concentration of staff in urban areas.	Geographical inaccessibility of specialized services for the majority of the population.	[10] [12]-[22]
Equipment/ Technology	Lack of essential diagnostic equipment (tonometers, perimeters, etc.) in health centers.	Imprecise or impossible diagnoses and dependence on subjective clinical examinations.	[7]-[9]

Added to this are the indirect costs associated with the loss of productivity of the patient and their carers [10]-[25].

The cost of medical treatment alone can be prohibitive. In France, it is estimated at around €17.80 per month [26], a sum which, compared to average incomes in sub-Saharan Africa, represents an unbearable financial burden for many families. This economic constraint is a major factor in non-compliance with and abandonment of treatment [10]-[27].

- poor treatment compliance

Compliance, or adherence to the prescribed treatment, is a crucial determinant of therapeutic success in the management of glaucoma. However, it is notoriously poor in Africa. Several factors contribute to this:

- The cost of medicines: As mentioned, this is the main obstacle. Patients are often forced to choose between their medication and other essential needs [27].
- Absence of symptoms: As patients do not experience any immediate improvement in their vision (the aim being to prevent future deterioration), their motivation to continue with costly and restrictive treatment diminishes over time [28].
- Complexity of treatment: Instilling several eye drops a day at specific times can be difficult to manage [27].
- Side effects: Some eye drops can cause irritation or other adverse effects that discourage their use.
- Lack of therapeutic education: Patients do not always understand the chronic nature of their disease and the vital importance of ongoing treatment to preserve their vision [28].

This poor compliance negates the potential benefits of medical treatment and contributes to the inexorable progression of the disease toward blindness [29].

Faced with the challenges of lifelong medical treatment, surgery (mainly trabeculectomy) is often considered the most appropriate and cost-effective therapeutic approach in the African context [7]-[22]. A successful operation can control intraocular pressure in the long term, freeing the patient from the daily and financial

constraints of eye drops. However, the use of surgery faces its own obstacles:

- Patient fear: Undergoing surgery on an eye that still sees is a major psychological barrier. Unlike cataract surgery, which restores vision, glaucoma surgery aims to preserve it, a less tangible benefit for the patient [7].
- Cost of surgery: Even though it is more cost-effective in the long term, the initial investment for surgery may be out of reach. Studies have shown that even free surgery is not always accepted, indicating that cost is not the only barrier [7].
- Lack of qualified surgeons: Trabeculectomy is a delicate procedure that requires specific expertise, which is lacking in many regions [13].
- Post-operative follow-up: Rigorous follow-up is necessary to manage complications and ensure the success of the filtration bubble, which can be difficult to guarantee for patients living far from surgical centers.

3.4. Sociocultural Barriers and Psychological Impact

The perception of the disease is deeply influenced by cultural context. In some communities, glaucoma is perceived as inevitable, a curse, or a disease of mystical origin, leading patients to turn to traditional healers rather than conventional medicine [21] [22].

Finally, the psychological impact of a glaucoma diagnosis is considerable and often underestimated. A phenomenological study in Burkina Faso described the patient experience as a journey marked by psychological shock, chronic stress, anxiety and depression, and feelings of inferiority linked to loss of autonomy and socio-economic insecurity [21]-[33]. The deterioration in quality of life is a central aspect of the disease [34]. The lack of psychological support in care can exacerbate the burden of the disease and undermine treatment adherence. The socio-cultural aspects and psychological impact of glaucoma in Africa are detailed in **Table 2**.

Table 2. Psychological aspects and therapeutic compliance with the disease.

Economical	Description	Consequences	Key references
	High direct costs (medicines, consultations, surgery) and indirect costs (loss of productivity), combined with low purchasing power and a lack of universal health coverage.	Unbearable financial burden for families, abandonment of treatment.	[10]-[27]
Therapeutic (Compliance)	Low adherence to chronic medical treatment is due to cost, complexity, side effects, and a lack of understanding of the disease.	Treatment ineffectiveness and continued progression of optic nerve damage.	[27] [28]
Therapeutic (Access)	Limited availability of anti-glaucoma drugs (especially generics). Shortage of surgeons and technical facilities for trabeculectomy.	Discontinuation of treatment, postponement of curative surgery, or the impossibility of curative surgery.	[7]-[23]
Sociocultural and Psychological	Traditional beliefs and reliance on traditional healers, fear of surgery, and severe psychological impact (anxiety, depression).	Delays in medical care, refusal of surgical treatment, and deterioration in quality of life.	[7]-[32]

In short, the findings of this review paint a picture of a complex health crisis in which an aggressive disease encounters fragile health systems and vulnerable populations. Diagnosis comes too late, and treatment, when initiated, is undermined by a cascade of economic, logistical, and sociocultural barriers, inevitably leading to high rates of preventable blindness.

4. Discussion

The findings of this review confirm that glaucoma in Africa is much more than just a medical problem; it is a complex development issue at the intersection of public health, economics, and social dynamics. The high prevalence and aggressiveness of the disease, combined with systemic failures in diagnosis and management, create a vicious cycle that perpetuates blindness and disability. The following discussion aims to interpret these findings and explore the strategic solutions proposed in the literature.

4.1. The Imperative for a Paradigm Shift: From Curative Care to Integrated Prevention

The systematic delay in patients presenting for treatment demonstrates the failure of the current model of care, which is largely passive and hospital-centred. Waiting for symptomatic patients to present at specialist centres is a strategy doomed to failure for a silent disease such as glaucoma [7]. The literature unanimously calls for a paradigm shift toward a proactive and integrated approach [12] [35] [36].

The integration of eye care, and specifically glaucoma screening, into primary health care is the most promising strategy [35]-[37]. This involves training community health workers and nurses in basic health centres to identify people at risk (over 40 years of age, family history) and to perform simple tests such as visual acuity measurement and a summary assessment of the optic disc [7]-[37]. Although these tests lack specificity, they can serve as an initial filter for referring suspected cases to a higher level, enabling earlier detection than is currently possible [7]. The WHO and IAPB have developed training manuals and competency frameworks to guide this capacity building at all levels of the health system [21]-[38].

- Strengthening the pillars of the eye health system

An integrated approach cannot succeed without simultaneously strengthening all pillars of the health system.

- Governance and Public Policy

The fight against glaucoma must be recognised as a priority in national health policies. The development of integrated strategic plans to combat non-communicable diseases (NCDs), such as those seen in Burkina Faso and Togo, is a crucial step [10] [14]-[39]. These plans must include clear objectives for eye health, with dedicated funding and monitoring and evaluation mechanisms. Political support at the highest level, as demonstrated by the collaborations between Sightsavers and ministries of health, is essential to mobilise resources and ensure the sustain-

ability of interventions [12].

4.2. Human Resources and Training

The human resources crisis is perhaps the most severe bottleneck. It is unrealistic to think that enough ophthalmologists can be trained in the short term to meet all needs. The solution lies in a team approach and delegation of tasks (23). Significant investment is needed in training mid-level eye care professionals (senior ophthalmic technicians, specialist nurses) who can make diagnoses, manage uncomplicated cases, and perform certain procedures under supervision. Training programmes should be standardised and based on the skills required to meet the specific needs of the region, as recommended by the WHO/IAPB framework [22].

4.3. Access to Technologies and Medicines

Inaccessibility due to cost is a major barrier. Governments and their partners must implement policies to ensure the availability of essential and affordable anti-glaucoma medicines, including promoting generic medicines and centralizing purchases to reduce costs [21] [30]-[40]. The inclusion of glaucoma treatment (medical and surgical) in universal health insurance schemes is essential to reduce direct costs for patients [4].

At the same time, technological innovation offers unprecedented opportunities to overcome geographical barriers and staff shortages. Telemedicine (or tele-ophthalmology) allows a remote expert to interpret images of the fundus or visual field taken by a local technician, facilitating diagnosis in rural areas [41]. Smartphone-based solutions, such as the Eye-Phone project, have demonstrated their potential for low-cost eye examinations [42]. More recently, artificial intelligence (AI) has emerged as a powerful tool. Deep learning algorithms are being developed to analyze retinal images and detect early signs of glaucoma with accuracy sometimes superior to that of human experts, offering the prospect of automated, low-cost mass screening [43] [44].

4.4. The Essential Social Components: Education and Community Engagement

No technical or medical strategy will be effective without public support. Ongoing awareness and education campaigns are needed to demystify glaucoma, explain its silent nature, and promote regular screening [19]-[45]. These campaigns must use appropriate communication channels (local radio, community and religious leaders) and be culturally sensitive in order to counter misconceptions and encourage trust in the health system [20].

The approach should be patient-centered, integrating psychological support and therapeutic education into the care pathway [21] [34]. Clearly explaining the patient's condition and treatment goals to them and involving them in therapeutic decisions can significantly improve adherence and quality of life [21] [27]-[34]. The role of the pharmacist, as an accessible healthcare professional, is also central

to strengthening therapeutic education and adherence [27].

5. This Review Has Certain Limitations

The heterogeneity of the data and the lack of robust prevalence studies in certain regions of Africa limit the accuracy of the overall epidemiological picture [46]. Furthermore, although informative, grey literature does not always have the methodological rigour of peer-reviewed publications. Nevertheless, the convergence of conclusions across multiple sources and countries lends great validity to the challenges and strategies identified.

6. Conclusions

Glaucoma in Africa represents a silent health crisis with devastating consequences. The high prevalence of the disease, its particular aggressiveness in populations of African descent, and its asymptomatic progression are exacerbated by underfunded health systems, a severe shortage of qualified personnel, and deep socio-economic and cultural barriers. The result is a tragic cycle of late diagnosis, ineffective treatment, and irreversible blindness that affects millions of individuals, their families, and national economies.

The fight against glaucoma in Africa is a marathon, not a sprint. It requires strong political commitment, sustained investment from governments and international partners, and close collaboration among all stakeholders: policymakers, health professionals, researchers, civil society, and communities. By making glaucoma a public health priority, it is possible to break the cycle of preventable blindness and preserve the fundamental right to sight for millions of Africans.

Ethical Aspects

In the production of this narrative, no human or animal manipulation was carried out; we based our work on research conducted and published in scientific journals.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Asiamah, R., Kyei, S., Owusu, G. and Agyiri, P.E. (2025) Prevalence of Glaucoma in Africa: A Systematic Review and Bayesian Meta-Analysis. *PLOS ONE*, **20**, e0330567. https://doi.org/10.1371/journal.pone.0330567

[2] Quigley, H.A. (2006) The Number of People with Glaucoma Worldwide in 2010 and 2020. *British Journal of Ophthalmology*, **90**, 262-267.

https://doi.org/10.1136/bjo.2005.081224

[3] OMS (2023) Cécité et déficience visuelle.

[4] SciDev.Net (2018) Le dépistage pour vaincre le glaucome—Afrique Sub-Saharienne.

[5] Tielsch, J.M. (1991) Racial Variations in the Prevalence of Primary Open-Angle Glaucoma. *JAMA*, **266**, 369-374. https://doi.org/10.1001/jama.1991.03470030069026

[6] Haute Autorité de Santé (HAS) (2006) Dépistage et diagnostic précoce du Glaucome: Problématique et perspectives en France.

[7] Bowman, R.J.C. (2007) Comment prendre en charge un patient atteint de glaucome en Afrique. *Revue de Santé Oculaire Communautaire*, **4**, 10-11.

[8] Domngang, C., Ngawa, L., Pokam, L., *et al.* (2020) Connaissances, Attitudes et Pratiques Relatives au Glaucome Primitif à Angle Ouvert des Professionnels de Santé des Structures de Soins de la Région de l'Ouest-Cameroun. *Health Sciences and Disease*, **21**, 85-89.

[9] Sarfo, J.O., Mordi, P., Aggrey, E.K., Quaicoe, A.S.P. and Attafuah, P.Y.A. (2025) Glaucoma Prevalence and Treatment in Sub-Saharan Africa's Elderly Population: A Scoping Review. *BMC Geriatrics*, **25**, Article No. 255. https://doi.org/10.1186/s12877-025-05901-0

[10] Sounouvou, I., Assavedo, A.R., Alamou, S., Kpomalegni, E., Amoussouga, A.P., Tchabi, S., *et al.* (2015) Aspects socio-économiques de la prise en charge du glaucome primitif à angle ouvert au Bénin. *Journal Français d'Ophtalmologie*, **38**, 809-814. https://doi.org/10.1016/j.jfo.2015.02.010

[11] Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Medicine*, **6**, e1000097. https://doi.org/10.1371/journal.pmed.1000097

[12] Sightsavers (n.d.) Stratégie de Santé Oculaire 2013-2018.

[13] Sarr, B., Badu, E., Bocoum, S., *et al.* (2018) Évaluation du Système de Santé Oculaire du Sénégal (ESSO). Ministère de la Santé et de l'Action sociale, Sightsavers.

[14] Ministère de la Santé du Burkina Faso (2016) Plan stratégique intégré de lutte contre les maladies non transmissibles 2016-2020.

[15] Herndon, L.W., Challa, P., Ababio-Danso, B., *et al.* (2007) Le programme de soins oculaires de Bawku au Ghana. *Revue de Santé Oculaire Communautaire*, 4, 20-21.

[16] Yehouessi, L., Doutetien, C., Sounouvou, I., Tchabi, S., Avognon, C. and Bassabi, S.K. (2009) Dépistage du glaucome primitif à angle ouvert au centre national hospitalier et universitaire de Cotonou, Bénin. *Journal Français d'Ophtalmologie*, **32**, 20-24. https://doi.org/10.1016/j.jfo.2008.11.006

[17] Société Algérienne du Glaucome (2025) Glaucome: Un fléau silencieux qui menace la vue.

[18] Moune, E., *et al.* (2007) Le glaucome juvénile au Cameroun. *Bulletin de la Societe Belge d'Ophtalmologie*, **305**, 69-77.

[19] RAMUSA (2007) Mois de sensibilisation au glaucome: Prenez soin de vos yeux.

[20] CBM (2024) Rapport Annuel sur la Santé Oculaire Inclusive 2024.

[21] Kaboré, S.S., Lompo, M. and Soubeiga, D. (2020) Impacts psychologiques associés au glaucome chronique à angle ouvert affectant la qualité de vie des patients. *Revue Africaine des Sciences Sociales et de la Santé Publique*, **2**, 227-245.

[22] OMS Bureau Régional de l'Afrique and IAPB (2018) Les Compétences essentielles des personnels de santé oculaire dans la Région africaine de l'OMS.

[23] Ministère de la Santé et de la Protection Sociale du Togo (n.d.) Politique et Plan

Stratégique Intégré de lutte contre les MNT 2018-2022.

[24] Exactitude Consultancy (n.d.) Ophthalmic Equipment Market.

[25] Africa Press (2025) Préserver la Santé Oculaire pour le Développement Économique.

[26] Société Française du Glaucome (2015) Glaucome: Les aspects économiques de la prise en charge.

[27] Vandepoorte, L. (2023) L'optimisation de l'observance dans le traitement du glaucome: Le rôle central du pharmacien. Thèse de doctorat en pharmacie, Université de Marseille.

[28] OMS Bureau Régional de l'Afrique (2007) Comité Régional de l'Afrique, 57ème session. AFR/RC57/6.

[29] HSD-FMSB (2025) Évaluation de l'Adhésion aux Recommandations HAS dans la prise en charge du GPAO à Kinshasa.

[30] OMS Bureau Régional de l'Afrique (2019) Accès aux médicaments essentiels.

[31] Murdoch, I. (2014) Prise en charge du glaucome primaire à angle ouvert. *Revue de Santé Oculaire Communautaire*, **11**, 1-2.

[32] Sovogui, M.D., Lamah, P.L., Zoumanigui, C., Tolno, T.E. and Vonor, K. (2022) Connaissances, attitudes et pratiques relatives à la cataracte et au glaucome dans la population de Conakry en Guinée. *Pan African Medical Journal*, **42**, Article 9. https://doi.org/10.11604/pamj.2022.42.9.30311

[33] Bibliosanté Mali (1999) Traitements traditionnels des affection oculaires.

[34] Koama, A. (2018) Qualité de vie des patients glaucomateux. Mémoire de Master, Institute for Training and Interdisciplinary Research in Health and Education Sciences.

[35] Sightsavers (2021) Stratégie de santé oculaire.

[36] OMS (2009) Plan d'action pour la prévention de la cécité et de la déficience visuelle évitables 2009-2013.

[37] Community Eye Health Journal (2022) Programme de prise en charge du glaucome: exigences minimales.

[38] OMS Bureau Régional de l'Afrique (2019) Manuel de formation aux soins oculaires primaires.

[39] Ministère de la Santé du Togo (n.d.) Plan Stratégique Intégré de lutte contre les MNT 2018-2022.

[40] Ministère de la Santé du Burkina Faso (2016) Plaidoyer pour la disponibilité et l'accès à des médicaments génériques.

[41] Moyenga, B., et al. (2025) Barrières et facilitateurs de la télémédecine en Afrique: Cas de la téléophtalmologie. *Revue Africaine des Sciences Sociales et de la Sante Publique*, **6**, 45-56.

[42] Bastawrous, A. (2013) L' "Eye-Phone", outil prometteur de diagnostic oculaire dans les pays pauvres. Jeune Afrique.

[43] Sisticca (2025) Développement d'une Application Mobile utilisant l'IA pour le diagnostic du glaucome.

[44] Segula Technologies (2022) Eyelib™, la plateforme intelligente de diagnostic ophtalmique.

[45] Université de Lomé (2024) Campagne de sensibilisation et de dépistage du glaucome.

[46] Tousignant, B., *et al.* (2021) Visual Impairment and Eye Diseases in St. Louis, Senegal. *Médecine Tropicale et Santé Internationale*, **1**, mtsibulletin.2021.112.