

# A Systematic Review of Knowledge, Attitude, and Perception Towards Electroconvulsive Therapy (ECT) in Africa

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**Background:** Despite growing evidence showing ECT's efficacy and efficiency in the management of severe mental health conditions, the knowledge, attitude, and perceptions (KAP) towards ECT vary around the globe. However, KAP guarantees the extent to which ECT is accepted and administered efficiently. This review sheds light on the KAP toward ECT in Africa.

**Methods:** This review included studies that presented results on KAP towards ECT in Africa based on relevant searches from various databases (*Ovid, PubMed, Web of Science, and African Journal Online*) using appropriate key words from the start until September 2023.

**Results:** Only 13 of the 867 retrieved articles were included in the review. The studies show a reliance on different sources of information, including healthcare professionals, mass media, and the Internet. Moreover, African individuals demonstrated varying levels of knowledge, with many having a limited understanding of ECT. Additionally, attitudes and perceptions toward ECT vary across the continent and depend on exposure and medical qualification.

**Conclusion:** The review of KAP of ECT in Africa reveals a complex landscape characterized by diverse sources of information, varying levels of knowledge among healthcare professionals and students, and a spectrum of attitudes and perceptions towards ECT. The findings underscore the importance of addressing knowledge gaps, dispelling myths, and promoting informed perspectives to enhance the acceptability and utilization of ECT in mental health care.

**Keywords:** electroconvulsive therapy, ECT, knowledge, attitude, perception, Africa

## Introduction

Electroconvulsive Therapy (ECT) is a psychiatric treatment modality, which entails eliciting controlled seizures through electrical stimulation of the brain for therapeutic purposes.<sup>1,2</sup> The modality is associated with a complex and often controversial history in the realm of mental health.<sup>3,4</sup> The cognitive side effects of ECT are a matter of great controversy among clinicians and patients alike.<sup>5</sup> The past mishandling of ECT, encompassing forced and occasionally brutal administration, has led to a climate of distrust and resistance against its application.<sup>6,7</sup> Even though ECT was first administered using rudimentary and occasionally dangerous methods, there are still ethical questions about using ECT without the patient's fully informed consent and discussions about the right conditions for administering ECT.<sup>8,9</sup> Despite the growing evidence showing ECT's efficacy and efficiency in the management of severe mental health conditions, such as bipolar disorder,<sup>10</sup> depression,<sup>11</sup> and schizophrenia,<sup>12</sup> its use remains sensitive and has varying levels of acceptability around the world.<sup>13,14</sup> Rejecting ECT may limit the available treatment modalities, potentially prolonging the suffering of the individual and reducing the likelihood of recovery for some individuals with severe of mental illnesses who have not responded to other forms of treatment.<sup>9,11,15</sup>

Globally, research on the knowledge, attitudes, and perceptions (KAP) of ECT has been expanding, particularly in high-income countries where both public awareness and the understanding among healthcare providers are relatively well documented.<sup>14,16–18</sup> Studies from regions such as Europe, North America, and parts of Asia show

a combination of acceptance and skepticism, often linked to cultural views on mental illness and historical misunderstandings of ECT.<sup>14,16–19</sup> In some areas, healthcare professionals acknowledge ECT's effectiveness but remain concerned about its potential side effects and ethical considerations.<sup>20,21</sup> Similarly, patients' willingness to undergo ECT frequently depends on the quality of information they receive and their experiences with other treatments.<sup>18</sup> In contrast, research on ECT in Africa is limited, leading to gaps in understanding the continent's cultural, ethical, and clinical perspectives on its use.<sup>22</sup> While ECT is practiced in several African countries, challenges such as limited resources, inconsistent training, and varying regulations persist.<sup>22</sup>

To advance mental healthcare delivery and guarantee that ECT is administered efficiently, ethically, and by international human rights standards, it is imperative to investigate the knowledge and attitudes of healthcare practitioners, patients, and the general public pertaining to ECT.<sup>3,23–25</sup> Understanding ECT knowledge, attitudes, and perceptions (KAP) worldwide has received more attention in recent years.<sup>23,26</sup> However, there is still a dearth of study on this topic, especially in the African context. By carefully reviewing the body of research on ECT in Africa, this systematic review aimed to close this gap. This review aimed to aid in the creation of more culturally aware and successful mental healthcare interventions by illuminating the intricate interactions between variables that affect ECT acceptance and use in the African environment.

## Methods

### Phenomena of Interest and Context

The current review considered studies investigating knowledge, attitudes, and perceptions of ECT among individuals in Africa.

### Search Strategy and Selection Criteria

The purpose of this search strategy was to find published peer-reviewed studies. We performed electronic searches in the following databases, ie, *PubMed*, *Ovid* databases (*Embase*, *Medline*, *PsychINFO*, and all *EBM* reviews), and *Web of Science*, while utilizing the specified keywords: Attitude, Knowledge, Perspective, Electroconvulsive therapy, Electroconvulsive treatment, Electroshock therapy, ECT, and all the countries in Africa. PubMed search string is available in [Supplementary Table 1](#). We also conducted searches from the references of the identified articles for articles that met the following criteria: (i) Peer-reviewed publications about knowledge, attitude, or perception towards ECT use in Africa. We excluded articles that were case reports, reviews, commentaries, government documents, or reports. For the current review, no language restriction was considered. Articles in languages other than English were translated using *Google Translator*.

### Article Selection

The use of the *Covidence* website aided article selection. Two independent reviewers who had access to the study account on the *Covidence* website identified eligible articles. Any differences in opinion among the reviewers were settled through discussion, and when needed, a third reviewer was invited as the tiebreaker.

### Data Extraction

The following information was extracted from the articles included for data extraction: Year of data collection, study design, sample size, number of males, study group, tools/items used to assess KAP, and significant findings about KAP. Since the current review followed the PRISMA guidelines for systematic review,<sup>27</sup> we also evaluated the risk of bias of the included papers using the different Joanna Briggs Institute (JBI)<sup>28</sup> tools for the various cross-sectional, cohort, case-control, and qualitative study designs ([Supplementary Table 2](#)). All aspects of data extraction and quality assessment were done in pairs.

### Data Synthesis

Qualitative research results were compiled using JBI-QARI by aggregating or synthesizing the findings to create a set of statements that reflect this aggregation. This process involved evaluating the quality of the findings and categorizing them

based on their similar meanings and the results were presented in narrative form. Similarly, for quantitative research results, a narrative description of the study findings was presented based on the various sub-headings in the result section.

## Results

Initially, the *Covidence* website found and removed 377 duplicate articles out of the 867 that our search found. The authors independently assessed the remaining articles. Following a thorough evaluation, all writers reached a consensus judgment, which allowed us to include 13 pieces for data extraction (Figure 1), while 30 articles were excluded (see Supplementary file 3).

In this review of KAP toward ECT, thirteen studies were identified from seven countries: Nigeria (5), South Africa (2), Uganda (1), Kenya (1), Tunisia (2), Sudan (1), and Egypt (1). Cross-sectional studies were the most predominant study design ( $n = 10$ ), and almost half of the studies had less than 100 participants ( $n = 6$ ). These studies generated findings from medical students ( $n = 6$ ), health professionals ( $n = 5$ ), and patients and relatives ( $n = 2$ ). (see Table 1)

## Assessment of Quality and Risk of Bias of the Included Studies

On the JBI for prevalence studies, qualitative, case-control and cohort studies, the included studies tended to receive high scores. Most were dependent on self-reports, which may induce bias in recollections. None of the analytical cross-sectional studies identified any confounding variables. The total ratings of all four analytical cross-sectional

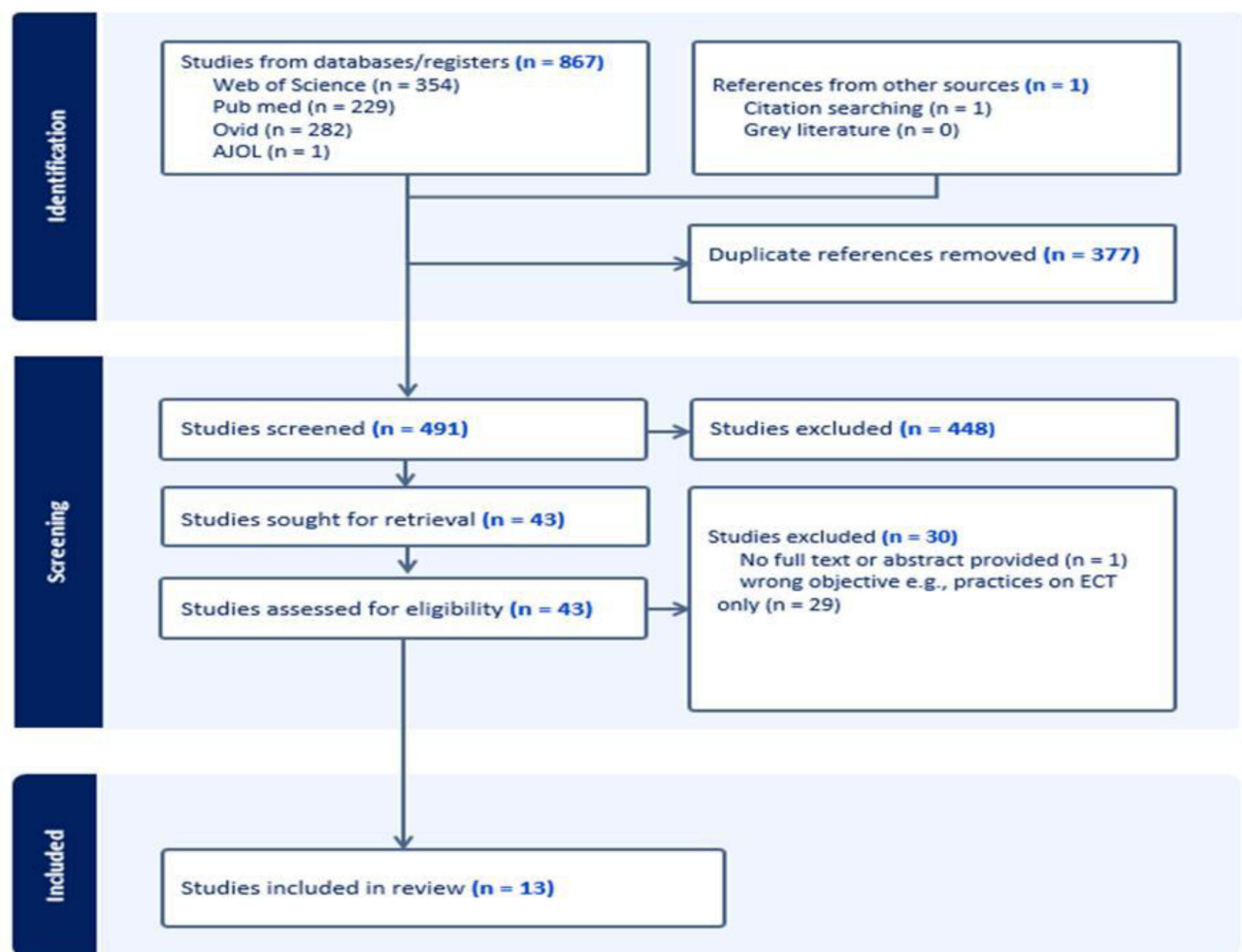


Figure 1 PRISMA flow diagram for KAP of ECT in Africa.

**Table 1** Characteristics of the Articles Included in the Review

Author, year, origin	Study design	Total sample size (male)	Study group/participants profession	Data collection and analysis
Abass (2007), Egypt <sup>29</sup>	Cross-sectional study	85 (43)	Medical students	Descriptive statistics
Ali (2019), Kenya <sup>30</sup>	Qualitative, descriptive	33 (17)	Psychiatrists, Psychiatric registrars, Psychiatric nurses and Anesthetists	Semi-structured interviews, Qualitative content analysis
Farrant (1997), Uganda <sup>31</sup>	Case-control study	Control group- 36 Cases - 72	Medical students	Descriptive- analytical
Herch (2022), Tunisia <sup>32</sup>	Cross-sectional study	30	Psychiatric nurses	Descriptive statistics
Hussein (2019), Sudan <sup>33</sup>	Cross-sectional study	206 103 – patients 103 - relatives	Patients and Relatives	Descriptive statistics
James (2010), Nigeria <sup>34</sup>	Cross-sectional study	135 60 - student nurses 75 – staff nurse	Student nurses and staff mental health nurses	Descriptive- analytical
James (2013), Nigeria <sup>35</sup>	Cross-sectional study	76 (49)	Medical students	Descriptive statistics
James (2009), Nigeria <sup>36</sup>	Cohort study	68	Medical students	Analytical
James (2010), Nigeria <sup>37</sup>	Cross-sectional study	90 (36)	Patients	Descriptive statistics
James (2009), Nigeria <sup>38</sup>	Cross-sectional study	166 (95)	Medical students	Descriptive statistics
Mausling (2017), South Africa <sup>39</sup>	Cross-sectional study	131 (49)	Medical students	Descriptive- analytical
Netshilema (2019), South Africa <sup>40</sup>	Cross-sectional study	183 (51)	Mental health professionals (nurses, psychiatrists, psychologists, occupational therapists, and social workers)	Descriptive statistics
Thabet (2011), Tunisia <sup>41</sup>	Cross-sectional study	120	Mental and neurology health care professionals (psychiatrists, neurologists and anesthetists, psychiatric nurses, paramedics in the neurological and anesthesia wards)	Descriptive- analytical

investigations were moderate. Additionally, confounding factors were not sufficiently addressed in cohort and case-control studies.<sup>31,36</sup> ([Supplementary Table 2](#)).

## Knowledge on ECT

### Source of Knowledge

In a study among mental health professionals in South Africa,<sup>40</sup> 144 (78.7%) of the health professionals stated an explanation provided by a psychiatrist/physician as an essential source of knowledge regarding ECT. In this study, the second most significant source of information regarding ECT was identified as mass media, encompassing movies, television, newspapers, books, and magazines (n = 125; 68.30%).<sup>40</sup> Among junior medical students in South Africa, the Internet 61 (46.6%) and TV and/or movies 40 (30.5%) were the primary sources of knowledge about ECT,<sup>39</sup> a finding

similar to that in a study among Nigerian medical students,<sup>36</sup> with professional publication not listed as a source of knowledge.<sup>39</sup> Other identified sources of knowledge about ECT included lectures (12.2%), explanations by a professional (4.6%) and experience of ECT (4.6%).<sup>39</sup> ([Supplementary Table 4](#)).

### Knowledge Scores

A study among junior medical students in South Africa found that the average knowledge score was low at 74.7%, based on an online survey tool developed by researchers at Stellenbosch University.<sup>39</sup> A study among final-year medical students in Nigeria demonstrated that knowledge of ECT had an average rating by most students themselves, of whom 75 (45.2%) correctly answered the question about the amount of sessions administered per ECT course, while 121 (72.8%) reported three as the weekly session frequency.<sup>38</sup> A study among psychiatric nurses in Tunisia revealed a lack of knowledge of ECT,<sup>32</sup> as ECT was not acknowledged as a first-line treatment in severe depression. In the study among mental health professionals in South Africa,<sup>40</sup> the average knowledge percentage result was 67.6% where psychiatrists achieved the highest score (85.8%), followed by social workers (71.4%), occupational therapists (75.3%), nurses (64.3%), and psychologists had the lowest score (63.6%).<sup>40</sup> A study comparing the knowledge of student nurses and staff mental health nurses at a psychiatric hospital in Nigeria using the questionnaire on knowledge and attitudes to ECT (QuAKE) revealed that staff mental health nurses had more positive knowledge levels compared to student mental health nurses (mean score of  $9.0 \pm 1.8$  vs  $8.2 \pm 2.5$ ;  $P = 0.022$ ).<sup>34</sup> A study among health professionals in Tunisia revealed that 67.5% of general health professionals had limited regarding, ECT with paramedics having the lowest knowledge scores, followed by those who work in settings other than psychiatric wards. Additionally, psychiatric health professionals had more knowledge of ECT than non-psychiatric health professionals.<sup>41</sup>

### Indications, Contraindications, and Complications

From a study in South Africa, psychiatrists had the highest overall knowledge about ECT.<sup>40</sup> However, social workers (76.0%) and psychologists (75.5%) showed the highest understanding of ECT indications, followed by occupational therapists (74.0%), psychiatrists (66.7%), and nurses (62.5%).<sup>40</sup> In a study by Abbas et al 2007,<sup>29</sup> more than two-thirds (76.5%) of 85 medical students from Egypt could not mention any indication and only 3.5% had the opportunity to observe ECT. The wrong indications proposed by Egyptian medical students included examples such as anxiety, anorexia nervosa, and personality disorders.<sup>29</sup> In a study among psychiatric nurses in Tunisia, 93% of nurses reported that schizophrenia is the most common indication, and all participants considered pregnancy a contraindication.<sup>32</sup> Most mental health workers in a study in South Africa were aware that ECT is used for severe, life-threatening depression but believed its contraindicated for violent, uncooperative patients.<sup>40</sup> Most psychologists (81.8%) believed that ECT is not indicated in obsessive-compulsive disorder, while a majority of psychiatrists (64.3%) held a different belief.<sup>40</sup> In a study by Abbas et al 2007,<sup>29</sup> 81.2% of 85 medical students from Egypt were unable to mention any side effect ([Supplementary Table 4](#)).

### Anesthesia Management

A qualitative study among key personnel in mental health units in Kenya indicated that they had knowledge of ECT administration. The anesthetists recognized the importance of employing the appropriate anesthesia and being aware of the patient's current medications. This awareness extended to post-ECT care, particularly in ensuring patients were placed in the recovery position and monitoring their vital signs.<sup>30</sup>

### ECT Administration

A study in Kenya revealed that doctors were knowledgeable about the overall delivery of ECT, indications, contraindications, which initial level investigations request, and the electrode placement method employed in their facilities.<sup>30</sup>

### Factors Associated with Level of Knowledge on ECT

Limited knowledge about ECT was linked to stronger negative attitudes toward ECT treatment method and a poor attitude towards psychiatry medical specialty among junior medical students in South Africa.<sup>39</sup> Among mental health nurses, increasing years of experience statistically significantly correlated with greater knowledge among staff mental health nurses.<sup>34</sup> Medical students with limited knowledge of ECT demonstrated stronger negative attitudes toward the misconception that ECT is misused and must only be a last resort treatment.<sup>38</sup>

## Attitudes and Perceptions Towards ECT

In a study among medical students, Egyptian medical students leaned towards reporting “don’t know” more often.<sup>29</sup> In the study among junior medical students in South Africa, the perception of ECT was mixed, with many respondents (48.9%) supporting its use only as a last resort.<sup>39</sup> In a follow-up study where medical students were exposed to an intervention of viewing live unmodified ECT sessions, the students adopted a more acceptable attitude towards ECT after the intervention.<sup>36</sup> The study among final-year medical students in Nigeria demonstrated that 81 (48.8%) would consent to ECT themselves, 41 (24.7%) would not and 44 (26.5%) were unsure. Majority of students held positive attitudes toward ECT, with the overwhelming majority (88.6%) considering it a relevant treatment form. They did not believe that ECT was indicated in violent patients or that it was employed by the government to torture opponents.<sup>38</sup> A minority believed that ECT was used only in people with low income (22.7%) and should not be given to older people (39.7%) or children (45.8%); many thought that ECT was a last resort treatment (78.7%).<sup>38</sup> Students inclined to choose psychiatry as a profession agreed that ECT causes pain (27.1%) but dismissed that it is employed by governments to torment political adversaries (59.6%) or that it results in permanent brain damage (51.8%).<sup>38</sup> In a study in Uganda, medical students observing unmodified ECT for the first time expressed strong negative emotional reactions that were immediate and robust.<sup>31</sup> Despite the Ugandan medical students having a perception of the safety and, to a smaller degree, the professional credibility of unmodified ECT, these perceptions were not easily influenced by a lecture from a consultant psychiatrist advocating for its use.<sup>31</sup> The perception that unmodified ECT was inhumane significantly influenced students’ choices regarding ECT techniques for themselves or close friends.<sup>31</sup> However, this perception seemed less important when students considered the choice of treatment to provide to a patient.<sup>31</sup> When the students placed themselves as doctor administering ECT, they assessed ECT techniques primarily based on technical criteria rather than humanitarian concerns.<sup>31</sup> This suggests that their perspectives on ECT techniques shifted when they considered the treatment from a medical practitioner’s viewpoint.<sup>31</sup>

A study among psychiatric nurses in Tunisia revealed that 73% have a favorable view of ECT and believe it is highly effective.<sup>32</sup> In a study among mental health professionals in South Africa.<sup>40</sup> Social workers had slightly more positive attitudes (91.7%) than psychiatrists (91.1%). Attitudes were more negative for nurses (83.6%), occupational therapists (75.9%), and psychologists (75.0%),  $p = 0.036$ . In the same study, all psychiatrists, psychologists, social workers, and occupational therapists concurred that ECT is lifesaving for some patients, compared to 92.2% of nurses. Similarly, all psychiatrists, social workers, psychologists, and occupational therapists disputed the claim that there is no evidence supporting the effectiveness of ECT. Most participants indicated they would recommend ECT to their patients, especially social workers (100%), psychologists (90.9%), occupational therapists (88.9%), psychiatrists (85.7%), and nurses (84.5%). A majority of psychiatrists (78.6%) believed ECT is superior to antidepressants in efficacy.

All social workers stated they would agree to receive ECT if they were depressed. However, fewer psychiatrists (78.5%), occupational therapists (77.7%), nurses (66.9%), and psychologists (36.3%) would choose ECT as a personal treatment option. All psychiatrists said they would feel comfortable administering ECT if properly trained, whereas fewer nurses (81.0%), occupational therapists (44.4%), social workers (42.8%), and psychologists (36.3%) expressed similar comfort levels with administering ECT as it is not their job.<sup>40</sup>

The study comparing opinions of student and mental health nursing staff at a psychiatric hospital in Nigeria revealed that more student mental health nurses expressed agreement that ECT is overused (65% vs 21%,  $p < 0.001$ ). The majority (85%) of student nurses expressed a desire for government health authorities to establish guidelines for the practice of ECT in hospitals in Nigeria, while just over half (57.3%) of staff mental health nurses supported government intervention ( $p = 0.001$ ). A significantly higher percentage of staff mental health nurses (70.7%) believed that ECT is beneficial in more than half of the patients who receive it, compared to student mental health nurses (56.6%) ( $p = 0.017$ ).<sup>34</sup>

The qualitative study among key personnel in mental health units in Kenya demonstrated that almost all mental health professionals have confidence in the effectiveness of ECT and its predictable outcomes, particularly in patients with Major Depressive Disorder (MDD) and catatonia and that negative perceptions of the procedure appeared to hinder the adoption of ECT as an intervention.<sup>30</sup> Barriers to ECT reported by key mental health personnel included inadequate resources related to poor infrastructure, and inadequate planning, delays in delivering ECT services, insufficient essential supplies, which can hinder the effective provision of ECT.<sup>30</sup> Additionally, the lack of adequate training among medical

staff responsible for administering ECT, which can impact the quality of care and patient outcomes, was also reported as a barrier to ECT use.<sup>30</sup> Psychiatry professionals pointed out stigma and negative perceptions surrounding ECT that are not limited to patients alone but also extend to their relatives and even medical staff that, deter individuals from considering ECT as a viable treatment option.<sup>30</sup>

Non-psychiatric health professionals in Tunisia more often believed that psychiatrists readily resorted to ECT ( $p = 0.003$ ). Paramedics viewed ECT as an aggressive therapeutic method more frequently than doctors ( $p = 0.001$ ), and they also more often declined to give consent for ECT to be applied to a relative ( $p = 0.044$ ). The rate of doctors who refused to consent to ECT being applied to a relative was statistically higher among neurologists and anesthesiologists compared to psychiatrists ( $p = 0.017$ ), and doctors with higher theoretical knowledge more frequently consented to giving ECT to a family member ( $p = 0.001$ ).<sup>41</sup>

Regarding modified ECT, most psychiatrists (84.2%) who participated in a study in Nigeria thought that anesthesiologists should be in charge of administering anesthesia, with 80.3% feeling confident in prescribing ECT to adolescents and the elderly when it is appropriate.<sup>35</sup> Overall, psychiatrists expressed favorable attitudes toward the modified ECT, with 69.7% considering it safer than the unmodified type, 63.2% disagreeing that it can result in brain damage, and 73.7% desiring that all psychiatric facilities in Nigeria offer the modified type.<sup>35</sup> Regarding unmodified ECT, more than half (51.3%) of the psychiatrists believed it to be safe, and half of the respondents agreed that cost could hinder the widespread use of the modified type.<sup>35</sup> More than half of the psychiatrists (67.2%) believed that ECT should be a treatment used only as a last resort, and 50% disagreed that anesthetic complications were a barrier to the use of modified ECT in Nigeria.<sup>35</sup> Additionally, most psychiatrists (76.4%) supported the idea of introducing minimum guidelines for ECT practice in the country.<sup>35</sup>

A study in Sudan among patients and their relatives revealed acceptance of the use of ECT was agreed upon by 43.7% of patients, and more than 70% of patients and their relatives believed in administering ECT for emergency psychiatric cases. Male relatives exhibited a significantly higher inclination towards recommending ECT treatment for other patients ( $p = 0.004$ ).<sup>33</sup> A study done in Nigeria among patients who previously received unmodified ECT demonstrated that unmodified ECT is reasonably embraced among patients, with most (75.5%) not finding the procedure stressful and reporting it to be beneficial (82.2%). However, many grumbled about the deficiencies during delivery of ECT and reported not being properly informed prior to receiving ECT (88.9%)<sup>37</sup> ([Supplementary Table 4](#)). Those who had headaches after ECT were more likely to view ECT as stressful, while those who experienced memory impairment were less inclined to agree to receive ECT again if recommended ( $p = 0.001$ ).<sup>37</sup>

## Discussion and Recommendations

The main objective of this review was to investigate the existing body of literature regarding the KAP of ECT in Africa. The African studies show a reliance on different sources of information, including healthcare professionals, mass media, and the Internet. Moreover, individuals in Africa demonstrated varying levels of knowledge, with some having a reasonable understanding of ECT. Additionally, attitudes and perceptions toward ECT varied across the continent and depend on the exposure and medical qualification.

While the African context presents unique challenges, such as a lack of knowledge and knowledge variations among health professionals including psychiatric health professionals, it is important to acknowledge that a similar pattern in knowledge gaps and misconceptions about ECT exist in different parts of the global scale.<sup>21,42</sup> Educational disparities, both within and between countries, differences in healthcare systems, policies, and regulations contribute to disparities in ECT utilization, accessibility, and understanding among healthcare professionals.<sup>21,43</sup> These findings underscore the need for improved education and awareness campaigns about ECT, both within Africa and worldwide, to ensure that accurate information is accessible to healthcare professionals, medical students, and the general public.<sup>21,43</sup> Despite psychiatrists having overall higher knowledge scores on ECT, their somewhat lower scores on specific indications compared to social workers and psychologists<sup>40</sup> might be due to their reliance on clinical judgment and practical experience in deciding when to use ECT, rather than strictly adhering to formal guidelines. The knowledge variations highlight a universal challenge in ensuring that healthcare professionals receive consistent and accurate information about ECT. We recommend the various nations to work together to produce standardized

curricula that fill up knowledge gaps on ECT. The findings across the sources of ECT information in the studies in Africa highlight the wide variety of sources that add to our understanding of ECT.<sup>44</sup> Although certain sources—like professional opinions and formal education—are expected and essential, the widespread use of digital platforms and mass media points to the necessity of focused interventions to guarantee the appropriate distribution of information.<sup>45,46</sup> The influence of mass media emphasizes the need for a nuanced approach in medical education that considers the impact of media portrayal on shaping perceptions.<sup>44,46</sup> The limited mention of professional academic publications as a source of knowledge raises questions about the accessibility and dissemination of academic literature on ECT, pointing towards potential gaps in academic work dissemination and use.<sup>44</sup>

Across Africa, attitudes towards ECT varied among the different healthcare professionals aligns with global trends, emphasizing that attitudes towards ECT are influenced by professional backgrounds and roles.<sup>21,47</sup> Unlike a study conducted in Colombia, where medical students' initial negative perceptions of observing electroconvulsive therapy (ECT) were more easily influenced by a lecture promoting ECT's benefits,<sup>14</sup> this was not the case with medical students in Africa. Their unfavorable attitudes toward ECT persisted even after receiving a similar educational intervention, likely because were exposed to unmodified ECT, which appears more distressing and traumatic, potentially reinforcing their negative impressions despite the lecture's efforts to highlight its therapeutic value.<sup>48</sup> The difference in the findings could be due to differences in cultural perspectives on the safety and acceptability of ECT. This suggests that cultural perceptions and emotional reactions play a significant role in shaping attitudes towards ECT, and interventions need to be culturally sensitive. The negative attitudes are fueled by barriers such as inadequate resources, infrastructure, and training echoes findings in studies outside Africa, emphasizing the global challenge of resource limitations in the effective provision of ECT. Moreover, the research findings on positive attitudes of psychiatrists towards both modified and unmodified ECT align with global perspectives, emphasizing the importance of professional viewpoints in shaping treatment preferences.<sup>21</sup> These attitudes have implications for the delivery of mental health care, promoting a nuanced understanding of ECT and contributing to a broader discourse on its safety and acceptance in the field.

While anesthetists are mindful of a patient's medications, with particular attention to post-ECT care, in many parts of Africa, ECT is still frequently performed without anesthesia or muscle relaxants—known as unmodified ECT—due to resource limitations.<sup>22</sup> The recognition of proper anesthesia and post-care highlights the need for improved resources and training to align ECT practices with international safety standards.

To effectively disseminate EC across Africa, a multi-faceted strategy is essential, addressing the diverse challenges and knowledge gaps. This involves developing standardized, culturally sensitive curricula for healthcare professionals, focusing on the benefits of modified ECT and using practical demonstrations to counter negative perceptions. Targeted awareness campaigns should provide accurate information through mass media and digital platforms to both the public and healthcare workers. Advocacy for better mental health infrastructure, including training more professionals and equipping hospitals for modified ECT, is needed. Psychiatrists should be leveraged as advocates for ECT, promoting it through peer education and professional networks. Finally, regular monitoring and evaluation through surveys and feedback mechanisms will help track the progress of these efforts. Implementing this strategy will increase the acceptance and accessibility of ECT, enhancing mental health care across Africa.

## Conclusion

The review of KAP of ECT in Africa reveals a complex landscape characterized by diverse sources of information, varying levels of knowledge among healthcare professionals and students, and a spectrum of attitudes and perceptions towards ECT. The findings underscore the importance of addressing knowledge gaps, dispelling myths, and promoting informed perspectives to enhance the acceptability and utilization of ECT in mental health care.



## Data Sharing Statement

The data and materials supporting the findings of this systematic review are publicly available in the included studies and cited references. All data sources are appropriately referenced in the manuscript.

## Ethics Approval and Consent to Participate

This is a systematic review that includes publicly available data, so ethical approval was not required.

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## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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The authors have no competing interests to declare for this work.

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