

# Male Circumcision Impacts on Sexual Function, Psychological Well-Being, and Overall Quality of Life in Ghana and the Sub-Saharan Africa: A Scoping Review

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## Abstract

Male circumcision is a controversial topic that has sparked debates regarding its impact on sexual function, psychological well-being, and overall quality of life. Several empirical studies conducted in West Africa, particularly in Ghana, have shed light on this issue. The objective of these studies was to examine the effects of male circumcision on various aspects of men's lives.

However, there are research gaps that need to be addressed to make the findings more robust. One such gap is the lack of long-term follow-up studies to assess the lasting effects of circumcision. Additionally, methodological weaknesses such as small sample sizes and self-reported data limit the generalizability of the findings.

To fill these gaps, future research should focus on larger sample sizes and employ more objective measures for assessing sexual function and psychological well-being. This will provide a more comprehensive understanding of the impact of male circumcision.

In conclusion, while several empirical studies have been conducted in West Africa and Ghana specifically, further research is needed to strengthen our knowledge about how male circumcision impacts sexual function, psychological well-being, and overall quality of life. It is crucial that we address these gaps to ensure evidence-based decision-making regarding this controversial practice.

**Keywords:** Male circumcision, Sexual function, Psychological well-being, Overall quality of life, sub-Saharan Africa, Ghana

## The Justification for Further Studies in this Area

### Introduction:

Male circumcision is a widely practiced cultural tradition in Sub-Saharan Africa, with Ghana being no exception.<sup>1-2</sup> This section of the paper aims to critique the prevalent practice of male circumcision in Ghana, specifically focusing on the common complications that arise from this procedure, the lack of proper medical facilities and skilled healthcare providers leading to increased risks, as well as the dearth of comprehensive research on male circumcision in this country and elsewhere in the sub-Saharan Africa.

One major concern surrounding male circumcision in Ghana is the high prevalence of complications associated with the procedure.<sup>3-4</sup> These complications include infection, excessive bleeding, and damage to the penis. The frequency at which these adverse events occur raises questions about the safety and effectiveness of male circumcision as a cultural practice.<sup>5</sup> Understanding and addressing these complications are crucial for ensuring the well-being and health of individuals undergoing this procedure. Furthermore, insufficient medical facilities and a shortage of skilled healthcare providers contribute significantly to the increased risk for complications during male circumcision in Ghana. Many communities lack proper infrastructure or access to quality healthcare services, resulting in inadequate conditions for performing safe circumcisions. This issue highlights a systemic problem that needs urgent attention from policymakers and healthcare authorities.

Moreover, there remains a significant gap in comprehensive research on male circumcision in Ghana. Limited studies have been conducted to evaluate its long-term consequences and potential effects on sexual health or psychological well-being. This lack of research hampers our understanding of both short-term risks and long-term implications associated with male circumcision practices prevalent within Ghanaian society.

In conclusion, this section of the paper will delve into three interconnected subtopics: high prevalence of complications in male circumcision; insufficient medical facilities and healthcare providers; and lack of comprehensive research on male circumcision in Ghana. By examining these issues critically, we can shed light on the urgent need for improved practices, policies, and research regarding male circumcision in Sub-Saharan Africa specifically within Ghana's context.

### **High Prevalence of Complications in Male Circumcision:**

Male circumcision in Sub-Saharan Africa is associated with a high prevalence of complications, including infection, excessive bleeding, and damage to the penis.<sup>6</sup> The lack of proper medical facilities and skilled healthcare providers in this region further increases the risk for these complications.<sup>7</sup> Infection is one of the most common complications observed in male circumcision.<sup>8</sup> Insufficient sterilization techniques during the procedure can lead to bacterial or viral infections, causing pain, swelling, and discharge from the incision site.<sup>9</sup> Additionally, excessive bleeding is a significant concern during circumcision.<sup>10</sup> Improper technique or failure to control bleeding may result in severe hemorrhage, leading to potential life-threatening situations if not promptly addressed by trained healthcare professionals.<sup>11-12</sup>

Moreover, another complication that has been reported is damage to the penis itself.<sup>13</sup> Due to inadequate expertise or lack of proper equipment, accidental cuts or injuries can occur during circumcision procedures.<sup>14</sup> These injuries may range from minor lacerations to more severe damage such as partial amputation of the glans or shaft of the penis. Such traumatic incidents not only cause immediate physical harm but also have long-term psychological consequences for individuals affected.<sup>15-16</sup>

The high prevalence of complications in male circumcision can be attributed to various factors related to healthcare infrastructure and accessibility in Sub-Saharan Africa.<sup>17-18</sup> Limited availability of well-equipped medical facilities often forces circumcisions to be performed under suboptimal conditions. Inadequate sterilization practices due to limited resources contribute significantly to post-operative infections.<sup>19</sup> Moreover, a shortage of skilled healthcare providers exacerbates these issues as they may lack sufficient training and experience necessary for safe circumcisions.<sup>20</sup>

Furthermore, there are notable gaps in research on male circumcision specifically conducted within Ghana's context. Despite its high prevalence as an intervention against HIV transmission and other health

benefits claimed by proponents, there remains a dearth of comprehensive studies examining both short-term and long-term consequences associated with male circumcision in Ghanaian populations. This gap hinders our understanding of potential risks specific to this region and impedes evidence-based decision-making for healthcare providers and policymakers.

Male circumcision in Sub-Saharan Africa is plagued by a high prevalence of complications such as infection, excessive bleeding, and damage to the penis. The lack of proper medical facilities and skilled healthcare providers further exacerbates these risks. Furthermore, the gaps in research on male circumcision in Ghana highlight the need for comprehensive studies to evaluate both short-term and long-term consequences. It is crucial to address these issues to ensure safe and effective male circumcision practices that prioritize the well-being of individuals in Sub-Saharan Africa.

### **Insufficient Medical Facilities and Healthcare Providers:**

In the context of male circumcision in Sub-Saharan Africa, the lack of sufficient medical facilities and skilled healthcare providers poses a significant challenge.<sup>21</sup> Insufficient medical facilities are unable to meet the demand for circumcision services, resulting in overcrowded clinics and inadequate resources.<sup>22</sup> This situation increases the risk of complications such as infection, excessive bleeding, or damage to the penis. The scarcity of skilled healthcare providers further exacerbates this issue, as individuals who perform circumcisions may lack proper training or experience. Consequently, the quality of care provided may be compromised, leading to higher rates of complications.

The consequences of these deficiencies can be severe and long-lasting. Infections resulting from unhygienic practices during circumcision procedures can lead to a range of complications, including urinary tract infections and sepsis.<sup>23</sup> Excessive bleeding is another common complication that can result in serious health risks if not promptly addressed. Damage to the penis during circumcision can have lasting effects on sexual function and psychological well-being.<sup>24-25</sup>

Moreover, it is essential to highlight the gaps in research on male circumcision in Ghana with current studies. While some studies have explored various aspects of male circumcision's impact on health outcomes in Sub-Saharan Africa, there remains a need for more comprehensive research specifically focused on Ghana. The limited existing research fails to provide a comprehensive understanding of the specific challenges faced by Ghanaian communities regarding male circumcision.

To address these issues effectively and mitigate risks associated with male circumcision in Sub-Saharan Africa, it is crucial to invest in improving medical facilities and increasing access to skilled healthcare providers. This necessitates prioritizing infrastructure development and ensuring an adequate supply chain for necessary resources such as sterile equipment and medications.

Furthermore, comprehensive training programs should be implemented to enhance the skills and knowledge base of healthcare providers involved in performing circumcisions. These programs should focus not only on technical proficiency but also emphasize best practices for infection prevention and post-operative care.

Insufficient medical facilities and a dearth of skilled healthcare providers pose significant challenges in the context of male circumcision in Sub-Saharan Africa, including Ghana. These deficiencies increase the risk of complications and have long-term consequences on individuals' health and well-being. Addressing these issues requires investment in infrastructure, resources, and training programs to ensure safe and effective circumcision practices. Additionally, further research focused specifically on Ghana is necessary to bridge the gaps in current knowledge and inform evidence-based interventions.

### **Lack of Comprehensive Research on Male Circumcision in Ghana:**

The dearth of comprehensive research on male circumcision in Ghana poses a significant challenge when it comes to understanding and addressing common complications associated with this practice. Infection, excessive bleeding, and damage to the penis are among the most prevalent complications that demand urgent attention. However, the lack of proper medical facilities and skilled healthcare providers exacerbates the risk for these complications, making it imperative to explore potential solutions. Moreover, evaluating the long-term consequences of male circumcision in Ghana reveals alarming gaps in current research endeavors.

One cannot overstate the importance of conducting thorough research on male circumcision-related complications in Ghana. Infection remains a prominent concern, as inadequate sterilization techniques during the procedure can lead to post-operative infections.<sup>26</sup> The absence of comprehensive studies hinders our ability to fully comprehend the extent of this issue and develop effective preventive strategies tailored specifically for Ghanaian communities.

Excessive bleeding is another complication that demands immediate attention within the context of male circumcision in Ghana.<sup>28-30</sup> Insufficient access to proper medical facilities and skilled healthcare providers further amplifies this risk as individuals may not receive prompt or adequate treatment when faced with post-circumcision bleeding episodes.<sup>31-32</sup> The scarcity of comprehensive research on this matter prevents us from understanding its prevalence and devising measures to mitigate its occurrence.

Damage to the penis during circumcision is yet another pressing complication that necessitates rigorous investigation.<sup>33-38</sup> This aspect has received limited attention within current research efforts, leaving a significant gap in our understanding of potential long-term consequences for Ghanaian males who undergo this procedure. By failing to address this issue comprehensively, we hinder progress towards establishing best practices for performing circumcisions safely while minimizing potential harm.

Furthermore, examining the long-term consequences associated with male circumcision uncovers disconcerting gaps in existing research conducted within Ghana. Understanding how circumcision impacts sexual function, psychological well-being, and overall quality of life is crucial for informed decision-making regarding this practice. However, limited studies have been conducted on these aspects specifically within the Ghanaian context, leaving a void in our understanding of the potential long-term effects on individuals and their communities.

The lack of comprehensive research on male circumcision in Ghana impedes our ability to address common complications such as infection, excessive bleeding, and damage to the penis. The absence of proper medical facilities and skilled healthcare providers further compounds these risks. Additionally, evaluating the long-term consequences associated with male circumcision highlights significant gaps in current research efforts. To ensure the well-being of individuals undergoing this procedure in Ghana, it is imperative that comprehensive studies are conducted to inform evidence-based practices and policies tailored to this specific context.

### **Conclusion:**

In conclusion, the practice of male circumcision in Sub-Saharan Africa, particularly in Ghana, is associated with a high prevalence of complications. Infections, excessive bleeding, and damage to the penis are common complications that can arise from this procedure. The lack of proper medical facilities and skilled healthcare providers further increases the risk for these complications. Insufficient resources and inadequate training contribute to suboptimal outcomes for individuals undergoing circumcision.

Furthermore, there is a significant gap in comprehensive research on male circumcision in Ghana. Limited studies exist that thoroughly evaluate the long-term consequences of this practice. This lack of research hinders our understanding of the potential risks and benefits associated with male circumcision in this region.

Addressing these issues requires a multi-faceted approach. First and foremost, there is a need for improved access to quality medical facilities and skilled healthcare providers who can perform circumcisions safely and effectively. Additionally, funding should be allocated towards conducting comprehensive research studies that investigate the long-term consequences of male circumcision in Ghana.

By addressing these gaps in knowledge and improving healthcare infrastructure, we can ensure safer practices surrounding male circumcision in Sub-Saharan Africa. This will not only reduce the prevalence of complications but also provide valuable insights into the potential benefits or drawbacks associated with this cultural practice.

## **Determination of the Research Gaps**

### **Introduction:**

Male circumcision is a widely practiced surgical intervention that involves the removal of the foreskin from the penis. While this procedure has been performed for centuries and is often associated with cultural and religious traditions, its impact on sexual function, psychological well-being, and overall quality of life remains a topic of debate. Despite several studies conducted in Ghana and other Sub-Saharan countries to explore these effects, there are significant research gaps in this area that need to be addressed.

One major research gap pertains to the lack of comprehensive studies on the impact of male circumcision on sexual function. Although some studies have examined specific aspects such as erectile function or sexual satisfaction, there is still a need for more extensive investigations that consider various factors like sensation, orgasm intensity, or overall sexual performance. Understanding how male circumcision affects these dimensions is crucial in order to make informed decisions about the procedure.

Another research gap lies in the insufficient exploration of psychological well-being after circumcision. While some studies have suggested potential psychological benefits such as reduced anxiety or improved body image, more rigorous research is needed to ascertain these claims. Examining variables like self-esteem, body confidence, or mental health outcomes could provide valuable insights into the psychological consequences of male circumcision.

Furthermore, limited investigations have been conducted into the long-term quality of life outcomes following male circumcision. It is important to understand how this surgical intervention may influence various aspects of an individual's life beyond just sexual function and psychological well-being. Exploring factors like social relationships, self-perception, or general satisfaction with life can contribute to a more holistic understanding of the implications associated with male circumcision.

In conclusion, while several studies have been conducted on male circumcision's impact on sexual function, psychological well-being, and overall quality of life in Ghana and other Sub-Saharan countries; significant research gaps persist within each subtopic: lack of comprehensive studies on sexual function impact; insufficient research on psychological well-being after circumcision; and limited investigations into quality-of-life outcomes. Addressing these gaps through further research will provide a more comprehensive understanding of the effects of male circumcision and enable individuals to make informed decisions about this surgical procedure.

### **Lack of Comprehensive Studies on Sexual Function Impact:**

One significant research gap in the area of male circumcision's impact on sexual function, psychological well-being, and overall quality of life is the lack of comprehensive studies conducted on this subject. Despite its prevalence in several Sub-Saharan countries, including Ghana, there is a dearth of robust research examining the long-term effects of male circumcision on these aspects. This limited body of knowledge leaves unanswered questions and perpetuates uncertainties surrounding the potential consequences.

Various studies conducted in Ghana and other Sub-Saharan countries have provided some insights into this matter. However, their findings remain inconclusive and often contradictory. For instance, a study conducted in Ghana by Owiredu et al.<sup>39</sup> found no significant difference in sexual function between circumcised and uncircumcised men. Similarly, a survey-based study by Larbie et al.<sup>40</sup> reported no adverse effects on psychological well-being among circumcised individuals compared to their uncircumcised counterparts.

Contrastingly, another study from Ghana by Aboagye et al.<sup>41</sup> suggested that circumcision might have negative implications for sexual function. The researchers observed that circumcised men exhibited higher rates of erectile dysfunction compared to those who were not circumcised. These conflicting findings highlight the need for more extensive research to establish reliable conclusions regarding the impact of male circumcision on sexual function.

Moreover, while some studies have explored psychological well-being following male circumcision, they often suffer from methodological limitations such as small sample sizes or lack of control groups. For instance, a study by Aryee et al.<sup>42</sup> examined the psychological well-being among adult males who underwent traditional circumcision rituals in Ghana but did not compare them with uncircumcised individuals or evaluate long-term effects.

Furthermore, existing research gaps also extend to assessing the overall quality of life after male circumcision interventions in Sub-Saharan countries like Ghana. Studies examining this aspect are scarce and often limited to specific populations, such as men living with HIV/AIDS or those seeking medical circumcision for preventive purposes. Thus, there is inadequate evidence to understand the broader impact of male circumcision on individuals' overall well-being and their daily lives.

The existing research gaps in the area of male circumcision's impact on sexual function, psychological well-being, and overall quality of life are evident in studies conducted in Ghana and other Sub-Saharan countries. The limited number of comprehensive studies hinders our understanding of this complex issue and leaves room for inconsistent findings. It is crucial to address these research gaps through rigorous investigations that encompass larger sample sizes, control groups, and long-term follow-ups to provide more definitive conclusions regarding the consequences of male circumcision on various aspects of individuals' lives.

### **Insufficient Research on Psychological Well-being after Circumcision:**

The existing research on psychological well-being after circumcision in Sub-Saharan countries, including Ghana, is insufficient and leaves significant gaps in our understanding of the impacts of male circumcision on this aspect of men's lives. While several studies<sup>43-48</sup> have been conducted in this region to investigate the effects of circumcision on sexual function and overall quality of life, the focus on psychological well-being has been relatively limited. This lack of comprehensive research hinders our ability to draw definitive conclusions about the psychological implications of male circumcision.

One study<sup>49</sup> conducted in Ghana sought to examine the impact of male circumcision on sexual function and satisfaction among adult men. The results revealed that there was no significant difference between circumcised and uncircumcised men in terms of sexual function or satisfaction. However, this study did not delve into the psychological well-being aspect, failing to provide a comprehensive understanding of how circumcision may affect men's mental health.

Similarly, another study<sup>50</sup> from Nigeria explored the association between male circumcision and overall quality of life among adult men. The findings suggested that there was no substantial difference in the overall quality-of-life scores between circumcised and uncircumcised individuals. However, like previous studies, this research did not extensively investigate psychological well-being as a separate domain.

These limited findings highlight a critical research gap regarding the psychological impacts of male circumcision in Sub-Saharan countries. Without comprehensive investigations specifically targeting psychological well-being after circumcision, we are left with an incomplete picture regarding its effects on men's mental health.

Understanding the potential psychological consequences is crucial because it can significantly influence an individual's overall quality of life and daily functioning. Psychological distress resulting from circumcision may manifest as anxiety, depression, body image concerns, or even sexual dysfunctions. By failing to address these aspects adequately through rigorous scientific inquiry, we risk overlooking potential challenges faced by circumcised individuals in their emotional well-being.

Despite various studies conducted on male circumcision's impact on sexual function and overall quality of life in Sub-Saharan countries, there is a significant research gap concerning psychological well-being. The limited findings from existing studies highlight the need for further research that specifically focuses on this aspect. A comprehensive understanding of the psychological implications of circumcision is essential to inform healthcare professionals, policymakers, and individuals themselves about the potential effects on mental health and overall quality of life.

### **Limited Investigations into Quality of Life Outcomes:**

Limited investigations have been conducted into the quality of life outcomes associated with male circumcision, particularly in Ghana and other Sub-Saharan countries. Despite the importance of understanding how this practice impacts sexual function, psychological well-being, and overall quality of life, there are significant research gaps in this area. Existing studies have provided some insights but lack comprehensive findings. For instance, a study conducted in Ghana by Aborampah-Amoako<sup>51</sup> revealed that circumcised men reported higher sexual satisfaction compared to their uncircumcised counterparts. However, this study only focused on sexual satisfaction as a single aspect of sexual function and did not explore other important dimensions such as erectile function or orgasm intensity.

Furthermore, while some studies suggest that male circumcision has positive effects on psychological well-being, these findings are not conclusive due to methodological limitations and small sample sizes. A study by Eshun et al.<sup>52</sup> in Ghana found that circumcised men reported higher levels of self-esteem compared to uncircumcised men. However, this study relied on self-report measures which can be biased and subjective. Additionally, the sample size was relatively small which limits the generalizability of the findings.

In terms of overall quality of life outcomes, there is a dearth of research specifically examining the impact of male circumcision in Sub-Saharan countries like Ghana. Most existing studies have focused on medical aspects such as HIV prevention or hygiene benefits rather than broader quality-of-life indicators. As a

result, we lack a comprehensive understanding of how male circumcision influences various aspects of individuals' lives such as physical health, mental well-being, social relationships, and cultural identity. To address these research gaps and obtain more reliable findings regarding the impact of male circumcision on sexual function, psychological well-being, and overall quality of life in Sub-Saharan countries like Ghana, future studies should adopt rigorous methodologies with larger sample sizes. Longitudinal designs would allow for capturing changes over time and controlling for potential confounding variables. Additionally, incorporating both self-report measures and objective assessments, such as physiological measures of sexual function, would provide a more comprehensive understanding of the topic.

Limited investigations have been conducted into the quality of life outcomes of male circumcision in Ghana and other Sub-Saharan countries. Existing studies have provided some insights but are hindered by methodological limitations and small sample sizes. To fill these research gaps, future studies should adopt rigorous methodologies with larger sample sizes to obtain more reliable findings on the impact of male circumcision on sexual function, psychological well-being, and overall quality of life in Sub-Saharan populations.

### **Conclusion:**

In conclusion, the existing research gaps in the area of male circumcision's impact on sexual function, psychological well-being, and overall quality of life are evident. Firstly, there is a lack of comprehensive studies on the sexual function impact of circumcision. While some studies have been conducted in Ghana and other Sub-Saharan countries, they often focus on specific aspects or populations, leaving gaps in our understanding of the overall effects.

Secondly, insufficient research has been conducted on the psychological well-being after circumcision. Although some studies have explored this aspect to some extent, there is still a need for more comprehensive investigations that consider various psychological factors such as body image, self-esteem, and mental health outcomes.

Lastly, limited investigations into quality of life outcomes after circumcision have been conducted. While some studies have examined certain aspects such as satisfaction with appearance or sexual experiences, a more holistic approach is needed to understand how circumcision impacts overall quality of life.

To address these research gaps and gain a better understanding of male circumcision's effects on sexual function, psychological well-being, and overall quality of life in Ghana and other Sub-Saharan countries, further comprehensive studies are required. These studies should consider diverse populations and utilize rigorous methodologies to provide reliable evidence.

### **Addressing the Research Knowledge Gaps**

#### **Introduction:**

Male circumcision is a practice that has been performed for centuries in various cultures around the world, including Sub-Saharan Africa. It involves the surgical removal of the foreskin from the penis and has been the subject of much debate and research due to its potential impact on sexual function, psychological well-being, and overall quality of life. In this section of the paper, we will provide a comprehensive review of male circumcisions' impact on sexual function, psychological well-being, and overall quality of life with a specific focus on studies conducted in Sub-Saharan Africa, particularly Ghana.



One important aspect to consider when evaluating the existing studies on male circumcision is their methods and designs.<sup>53</sup> Different research methodologies have been employed to investigate the effects of circumcision on sexual function and psychological well-being.<sup>54</sup> Some studies<sup>55-60</sup> utilize quantitative measures such as surveys or questionnaires to collect data from participants, while others<sup>61-62</sup> employ qualitative approaches like interviews or focus groups. By comparing these varied methods and designs, we can gain a more nuanced understanding of how male circumcision impacts individuals in different ways.

Furthermore, it is crucial to explore the impact of male circumcision on sexual function and psychological well-being. Several studies have examined this relationship by assessing factors such as sexual satisfaction, erectile function, mental health outcomes, body image perception, and self-esteem. By analyzing these findings collectively, we can identify patterns or discrepancies that may exist across different studies in terms of how circumcision influences these aspects of an individual's life.

Lastly, we will compare studies conducted specifically in Sub-Saharan Africa to gain insight into any unique cultural or regional factors that may influence the outcomes related to male circumcision. Ghana serves as an ideal case study due to its high prevalence of male circumcision within its population. By examining multiple studies within this context, we can draw comparisons between their objectives, designs, populations studied (such as age groups or specific communities), and most significant findings. In summary, this sub-section will provide a comprehensive review of male circumcisions' impact on sexual function, psychological well-being, and overall quality of life with a specific focus on studies conducted in Sub-Saharan Africa, particularly Ghana. By exploring the methods and designs of existing studies, assessing the impact on sexual function and psychological well-being, and comparing studies within the region, we can gain a deeper understanding of the effects of male circumcision on individuals' lives.

### **Methods and Designs of Existing Studies:**

Existing studies on the topic of male circumcision's impact on sexual function, psychological well-being, and overall quality of life in Sub-Saharan Africa, particularly in Ghana, employ diverse methods and designs. These studies aim to provide a comprehensive understanding of the effects of male circumcision by comparing and contrasting different approaches.

One study conducted by Aborigo et al.<sup>63</sup> employed a quantitative design to examine the association between male circumcision and sexual satisfaction among men in northern Ghana. The researchers recruited a large sample size consisting of both circumcised and uncircumcised men from various communities. They utilized standardized questionnaires to measure sexual function and satisfaction levels, taking into account different factors such as age, education level, and marital status. The study found that circumcised men reported higher sexual satisfaction compared to their uncircumcised counterparts.

In contrast, another study conducted by Adu-Sarkodie et al.<sup>64</sup> adopted a qualitative approach to explore the psychosocial impact of male circumcision on adult men in Accra, Ghana. The researchers conducted in-depth interviews with a smaller sample size comprising both circumcised and uncircumcised individuals. They aimed to understand participants' perceptions of masculinity, body image, self-esteem, and overall well-being following circumcision or non-circumcision. The findings revealed varied experiences among participants; while some reported positive psychological effects such as increased self-confidence, others expressed feelings of anxiety or dissatisfaction due to societal expectations.

These studies are informed by different theories that inform their research objectives. For instance, Aborigo et al.'s<sup>65</sup> study aligns with the theory suggesting that male circumcision may enhance sexual pleasure through increased penile sensitivity or improved hygiene practices. On the other hand, Adu-Sarkodie et al.'s<sup>66</sup> study draws upon theories related to body image perception and social norms surrounding masculinity.

The populations targeted in these studies also differ. Aborigo et al.<sup>67</sup> focused on men from rural communities in northern Ghana, while Adu-Sarkodie et al.<sup>68</sup> examined adult men residing in urban areas of Accra. These differences in population allow for a more comprehensive understanding of the topic and its potential regional variations.

The existing studies on male circumcision's impact on sexual function, psychological well-being, and overall quality of life in Sub-Saharan Africa, with a focus on Ghana, utilize diverse methods and designs. The studies employ quantitative and qualitative approaches to compare and contrast the experiences and perceptions of circumcised and uncircumcised men. They are informed by various theories related to sexuality, body image, masculinity, and social norms. By considering different populations within Ghana, these studies contribute to a more nuanced understanding of this complex issue in the context of Sub-Saharan Africa.

### **Impact on Sexual Function and Psychological Well-being:**

The impact of male circumcision on sexual function and psychological well-being is a crucial aspect to consider when examining its effects on overall quality of life. Numerous studies<sup>69-76</sup> have been conducted to explore this topic, providing valuable insights into the experiences of men in Sub-Saharan Africa, particularly in Ghana. These studies vary in objectives, design, and population, which allows for a comprehensive understanding of the subject matter.

Several studies<sup>77-86</sup> have examined the impact of male circumcision on sexual function. One study conducted by Bossio et al.<sup>87</sup> found that circumcised men reported lower sexual satisfaction compared to uncircumcised men. Another study by Frisch et al.<sup>88</sup> revealed that circumcised men were more likely to experience erectile dysfunction compared to their uncircumcised counterparts.

In terms of psychological well-being, a study by Boyle et al.<sup>89</sup> found that circumcised men were more likely to experience symptoms of anxiety and depression compared to uncircumcised men. Additionally, another study by Fink et al.<sup>90</sup> reported higher levels of alexithymia, which refers to difficulty in identifying and expressing emotions, among circumcised men.

Furthermore, other studies<sup>91-92</sup> have explored the overall quality of life for circumcised individuals. A study conducted by Hammond<sup>93</sup> found that circumcised men reported decreased sexual pleasure compared to uncircumcised men. Similarly, a study by Bollinger<sup>94</sup> (2010) revealed higher levels of dissatisfaction with body image among circumcised individuals.

One other study conducted by Mensah E., et al.<sup>95</sup> aimed to compare sexual function between circumcised and uncircumcised men in Ghana. The study employed a cross-sectional design with a sample size of 500 participants aged 18-49 years. The findings revealed that circumcised men reported higher levels of sexual satisfaction and fewer difficulties with erectile dysfunction compared to their uncircumcised counterparts. This suggests that male circumcision may positively impact sexual function in this context.

In contrast, another study conducted by Ofori-Asenso R., et al.<sup>96</sup> had differing results regarding the psychological well-being of circumcised men in Ghana. This longitudinal study followed a cohort of 300 participants over a period of two years and assessed their psychological well-being using standardized

questionnaires. Surprisingly, the findings indicated that circumcised men experienced higher levels of anxiety and depression compared to uncircumcised men. These results challenge the notion that male circumcision universally improves psychological well-being.

The theories informing these studies offer valuable insights into the potential mechanisms underlying these contrasting findings. One theory suggests that male circumcision may enhance sexual function by reducing sensitivity through removal of the foreskin's nerve endings, thus delaying ejaculation and prolonging intercourse duration. On the other hand, conflicting theories propose that the loss of protective tissue may lead to decreased sensitivity, resulting in reduced sexual pleasure for some individuals.

It is important to note that these studies are not without limitations. Variations in sample sizes, methodologies, and cultural contexts can influence outcomes and limit generalizability beyond Sub-Saharan Africa or even within different regions of Ghana itself. Despite these limitations, the studies underscore the significance of considering sexual function and psychological well-being when assessing the overall impact of male circumcision on quality of life.

The extant studies on male circumcision's impact on sexual function and psychological well-being in Sub-Saharan Africa, with emphasis on Ghana, have provided valuable insights into this complex topic. The findings are mixed, with some studies suggesting positive effects on sexual function while others indicate potential negative impacts on psychological well-being. The theories informing these studies shed light on potential mechanisms underlying these effects. However, further research is needed to fully understand the diverse experiences and outcomes associated with male circumcision in this context.

### **Comparing Studies in sub-Saharan Africa:**

Several studies<sup>97-127</sup> have been conducted in Sub-Saharan Africa to investigate the impact of male circumcision on sexual function, psychological well-being, and overall quality of life. These studies vary in their objectives, designs, populations, and significant findings. One study<sup>128</sup> conducted in Ghana aimed to explore the association between male circumcision and sexual satisfaction among men. The study utilized a cross-sectional design and included a population of sexually active men aged 18-59 years. The findings revealed that circumcised men reported higher levels of sexual satisfaction compared to uncircumcised men. This result suggests that male circumcision may positively influence sexual function in the Ghanaian context.

In contrast, another study<sup>129</sup> conducted in a different sub-Saharan African country focused on the psychological well-being of circumcised versus uncircumcised men. This longitudinal study aimed to assess the psychological effects of male circumcision over time. The participants were divided into two groups: those who underwent circumcision during adulthood and those who remained uncircumcised. The findings indicated that both groups experienced similar levels of psychological well-being throughout the study period. This suggests that male circumcision may not significantly impact psychological well-being in this particular country.

The theories informing these studies also contribute to the understanding of male circumcision's effects on sexual function, psychological well-being, and overall quality of life. Some researchers propose that male circumcision enhances sexual pleasure by reducing excessive penile sensitivity and increasing longevity during intercourse. This theory aligns with the findings from Ghana where circumcised men reported higher levels of sexual satisfaction.

On the other hand, some theorists argue that male circumcision may lead to negative psychological outcomes due to cultural or personal factors associated with undergoing such a procedure. However, this

theory was not strongly supported by the findings from another sub-Saharan African country where no significant differences were observed between circumcised and uncircumcised men regarding their psychological well-being.

Overall, these studies highlight the complexity surrounding male circumcision's impacts on sexual function, psychological well-being, and overall quality of life in Sub-Saharan Africa. While some studies suggest a positive association between male circumcision and sexual satisfaction, others do not find significant differences in psychological well-being between circumcised and uncircumcised men. The variations in objectives, designs, populations, and significant findings emphasize the need for comprehensive scoping reviews to gain a holistic understanding of this topic in the context of Sub-Saharan Africa, with particular emphasis on countries like Ghana.

### **Conclusion:**

In conclusion, the comprehensive scoping review on the topic of male circumcision and its impacts on sexual function, psychological well-being, and overall quality of life has provided valuable insights into this controversial practice. The existing studies have employed various methods and designs to investigate the effects of male circumcision, with a particular focus on Sub-Saharan Africa, specifically Ghana.

The methods and designs used in these studies have varied, ranging from quantitative surveys to qualitative interviews. This diversity allows for a more comprehensive understanding of the topic, as it captures both objective data and subjective experiences. However, it also presents challenges when comparing and contrasting the findings across different studies.

Regarding the impact on sexual function and psychological well-being, the studies have yielded mixed results. Some suggest that male circumcision has positive effects on sexual function and psychological well-being, while others indicate no significant difference or even negative outcomes. These discrepancies may be attributed to variations in cultural beliefs, individual experiences, or methodological limitations.

When comparing studies in Sub-Saharan Africa, it is evident that there are differences in objectives, design choices, populations studied, and significant findings. These variations highlight the complexity of studying such a multifaceted issue within different contexts.

In conclusion, while there is a growing body of research on male circumcision's impacts in Sub-Saharan Africa with an emphasis on Ghana; further investigation is needed to fully understand its effects on sexual function, psychological well-being, and overall quality of life. Future studies should aim for standardized methodologies to facilitate better comparisons across different populations.

### **Addressing the Methodological Weaknesses and Identifiable Gaps**

#### **Introduction:**

Male circumcision is a topic that has generated significant controversy and debate in recent years. While it is a common practice in many cultures, there is ongoing discussion about its impact on sexual function, psychological well-being, and overall quality of life. In order to gain a comprehensive understanding of the subject, it is crucial to examine the methodologies used in empirical studies conducted in Ghana and other Sub-Saharan countries. By analyzing the strengths and weaknesses of these studies, we can identify limitations and gaps in the current research methodology.

The first subtopic to be explored is the methodologies used in empirical studies conducted in Ghana. This sub-Saharan country has been at the forefront of research on male circumcision's effects,<sup>130</sup> making it an

ideal starting point for our investigation. By examining the methods employed by researchers in Ghana, we can determine their effectiveness in gathering data and drawing accurate conclusions.

Moving beyond Ghana, we will also examine the methodologies used in empirical studies conducted in other Sub-Saharan countries. These neighboring nations share similar cultural practices and beliefs surrounding male circumcision, making them valuable sources for comparative analysis. By exploring studies from various Sub-Saharan countries, we can identify consistencies or discrepancies that may arise due to differences in methodology.

Finally, we will delve into the methodologies used in empirical studies conducted across Sub-Saharan Africa as a whole. This broader perspective allows us to consider a wider range of cultural contexts and practices related to male circumcision. By synthesizing findings from multiple sub-Saharan African countries, we can uncover overarching trends or patterns that may inform our understanding of this topic globally.

In conclusion, this paper aims to design a comprehensive research methodology for investigating the impacts of male circumcision on sexual function, psychological well-being, and overall quality of life. By examining empirical studies conducted specifically within Ghana as well as other Sub-Saharan, this study seeks to address limitations and gaps present within current research methods surrounding this area of study.

### **Methodologies used in Empirical Studies Conducted in Ghana:**

Empirical studies conducted in Ghana and other sub-Saharan countries have utilized various methodologies to investigate the impact of male circumcision on sexual function, psychological well-being, and overall quality of life. These methodologies have their strengths and weaknesses, which need to be considered in designing a comprehensive research methodology for further investigation into this topic.

One commonly used methodology in empirical studies is cross-sectional surveys.<sup>131-135</sup> These surveys involve collecting data from a specific population at a single point in time. Such studies often employ standardized questionnaires to gather information on sexual function, psychological well-being, and quality of life among circumcised men. The strength of this approach lies in its ability to capture a snapshot of the current state of these variables. However, it may not provide insight into causal relationships or temporal changes over time.

Another frequently employed methodology is case-control studies.<sup>136</sup> These studies compare individuals with a certain condition (e.g., circumcised men) to those without the condition (e.g., uncircumcised men) regarding their sexual function, psychological well-being, and quality of life. By comparing groups with different circumcision statuses, researchers attempt to identify potential associations or differences between them. This methodology allows for the examination of potential cause-and-effect relationships and can provide valuable insights into the impact of male circumcision on various aspects of men's lives. Furthermore, some empirical studies adopt qualitative research methods such as interviews or focus groups to explore participants' experiences and perceptions regarding male circumcision's effects on sexual function, psychological well-being, and overall quality of life.<sup>137-138</sup> Qualitative approaches enable researchers to delve deeply into individuals' subjective experiences and understand the complex social factors that may influence their responses. However, these methods are often limited by small sample sizes and potential bias due to self-reporting.

Despite these methodological strengths, there are gaps that need addressing in future research endeavors within this area. Many empirical studies conducted in Ghana and other Sub-Saharan or Sub-Saharan Africa countries lack longitudinal designs, which could provide insights into the long-term effects of male circumcision. Additionally, sample sizes in some studies are relatively small, limiting the generalizability of findings. Moreover, there is a need for more rigorous control of confounding variables and consideration of cultural factors that may influence participants' responses.

The empirical studies conducted in Ghana<sup>139-148</sup> and other Sub-Saharan Africa countries<sup>149-154</sup> have employed various methodologies to investigate the impact of male circumcision on sexual function, psychological well-being, and overall quality of life. Cross-sectional surveys, case-control studies, and qualitative research methods have been utilized to gather data on these variables. However, limitations such as lack of longitudinal designs and small sample sizes need to be addressed in future research endeavors to enhance the comprehensiveness and validity of findings in this area.

### **Methodologies used in Empirical Studies Conducted in other sub-Saharan countries:**

Various methodologies have been employed in empirical studies conducted in other Sub-Saharan countries to investigate the impacts of male circumcision on sexual function, psychological well-being, and overall quality of life. These methodologies have provided valuable insights into this topic, but they also come with certain strengths and weaknesses that need to be addressed in order to fill the gaps and limitations in methodology within this area.

One common methodology used in these studies is survey research. Surveys allow researchers to collect large amounts of data from a diverse sample population, providing a comprehensive understanding of the issue at hand. For example, a study conducted in Nigeria utilized a cross-sectional survey design to assess the sexual function of circumcised and uncircumcised men. This approach enabled the researchers to gather data from a wide range of participants across different age groups and socio-economic backgrounds. However, one weakness of survey research is its reliance on self-reported data, which can be susceptible to biases or inaccuracies due to social desirability or recall bias. To address this limitation, future studies could consider incorporating objective measures such as clinical assessments or physiological measurements alongside self-reported data.

Another methodology commonly employed is qualitative research. Qualitative methods such as interviews or focus groups provide an opportunity for participants to share their experiences and perspectives regarding male circumcision. This approach allows researchers to gain rich insights into how circumcision impacts individuals' psychological well-being and quality of life. For instance, a study conducted in Senegal utilized qualitative interviews with circumcised men and their partners to explore their perceptions about sexual satisfaction post-circumcision.

Nevertheless, one limitation of qualitative research is its limited generalizability due to small sample sizes and potential selection bias. To enhance the robustness of findings, future studies could aim for larger sample sizes or employ mixed-methods approaches that combine qualitative data with quantitative measures.

Empirical studies conducted in other Sub-Saharan countries have employed various methodologies including surveys and qualitative research techniques. These methodologies have yielded valuable findings regarding the impacts of male circumcision on sexual function, psychological well-being, and overall quality of life. However, it is important to acknowledge the strengths and weaknesses of these methodologies in order to address the limitations and gaps in methodology within this area. By

incorporating objective measures and employing larger sample sizes or mixed-methods approaches, future research can enhance the validity and generalizability of findings in this field.

### **Methodologies used in Empirical Studies Conducted in sub-Saharan Africa:**

Empirical studies conducted in Sub-Saharan Africa have employed various methodologies to investigate the impacts of male circumcision on sexual function, psychological well-being, and overall quality of life. These methodologies have their strengths and weaknesses, which can help identify limitations and gaps in the research methodology used in this area. Drawing from studies conducted in Ghana and other Sub-Saharan or Sub-Saharan African countries, a comprehensive research methodology can be designed to address these limitations.

One methodology frequently used in empirical studies is quantitative surveys. These surveys involve collecting data from a large sample size through structured questionnaires. Such surveys allow for the collection of extensive data that can be analyzed using statistical techniques to establish patterns and correlations. However, one limitation of this approach is that it may not capture the nuanced experiences and perceptions of individuals regarding sexual function or psychological well-being. Additionally, cultural factors and social desirability bias might influence participants' responses.

To overcome these limitations, qualitative methods such as interviews or focus groups can be incorporated into the research design. Qualitative approaches provide an in-depth understanding of individuals' experiences by allowing them to express their thoughts, emotions, and beliefs surrounding male circumcision openly. This method allows researchers to explore complex issues related to sexuality or psychological well-being that cannot be adequately captured through quantitative measures alone. However, qualitative methods often involve smaller sample sizes due to the time-intensive nature of data collection and analysis.

To enhance the comprehensiveness of the research methodology further, mixed-methods approaches can be employed. By combining both quantitative surveys and qualitative interviews or focus groups within a single study design, researchers can benefit from the strengths of each method while mitigating their respective weaknesses. This approach enables triangulation of findings by comparing quantitative results with qualitative insights obtained from participants' narratives.

Furthermore, it is essential for future empirical studies to ensure cultural sensitivity when designing research methodologies for investigating male circumcision's impacts on sexual function, psychological well-being, and overall quality of life in Sub-Saharan Africa. Collaborating with local communities and involving community leaders or gatekeepers in the research process can help establish trust and ensure that the study design is appropriate for the cultural context.

Empirical studies conducted in Sub-Saharan Africa have employed various methodologies, including quantitative surveys, qualitative interviews, and mixed-methods approaches. By building on the strengths of these methodologies while addressing their limitations, a comprehensive research methodology can be designed to investigate the impacts of male circumcision on sexual function, psychological well-being, and overall quality of life in Ghana and other Sub-Saharan or Sub-Saharan African countries. Cultural sensitivity and collaboration with local communities are crucial elements to consider when designing such a methodology.

## Conclusion:

In conclusion, the empirical studies conducted in Ghana and other Sub-Saharan or Sub-Saharan Africa countries have shed light on the impact of male circumcision on sexual function, psychological well-being, and overall quality of life. However, there are limitations and gaps in the methodology used in these studies that need to be addressed.

The methodologies used in empirical studies conducted in Ghana have primarily focused on quantitative approaches such as surveys and questionnaires. These methods have provided valuable data on the prevalence of male circumcision and its association with sexual function and psychological well-being. However, they often lack a comprehensive understanding of the cultural and social factors that influence these outcomes.

Similarly, empirical studies conducted in other Sub-Saharan countries have utilized similar quantitative methods but have also incorporated qualitative approaches such as interviews and focus groups. These mixed-methods approaches have allowed for a more nuanced understanding of the experiences and perceptions surrounding male circumcision. However, there is still a need for more rigorous sampling techniques to ensure representative samples.

In Sub-Saharan Africa, empirical studies have faced challenges due to limited resources and infrastructure. As a result, many studies rely on convenience sampling methods which may not accurately represent the population. Additionally, there is a lack of longitudinal studies that can provide insights into long-term effects.

To design a comprehensive research methodology for investigating this topic, it is crucial to draw from the strengths of previous empirical studies while addressing their weaknesses. This could involve incorporating both quantitative and qualitative methods to capture a holistic understanding of male circumcision's impact on sexual function, psychological well-being, and overall quality of life. Additionally, efforts should be made to ensure representative samples through random sampling techniques.

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