



# Synergy between Religion and Science: A Contemporary Christian Review with Evidence from Ethiopia's COVID 19 Response and Male Circumcision Rite

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**Abstract:** *The conflict narrative between religion and science persists in popular discourse despite growing historical and theological evidence of compatibility. Contemporary Christian theology offers a framework for synergy, yet empirical case studies from non Western contexts remain underexplored. This review critically examines the theological foundations for science religion synergy within mainstream contemporary Christianity and analyses two Ethiopian case studies Orthodox faith leaders' role in COVID 19 vaccination promotion, and the male circumcision rite to demonstrate synergy in practice. A critical review synthesising peer reviewed literature, theological documents, public health reports, and qualitative studies on Ethiopian Orthodox Christian engagement with science. Findings: Contemporary Christian theology (Catholic, Orthodox, mainline Protestant) provides robust support for synergy via complementary domains of "how" (science) and "why" (faith). In Ethiopia, faith leaders actively promoted COVID 19 vaccination using the message "God protects us from death through faith and science," receiving training and publicly modelling vaccination. Male circumcision, a near universal cultural rite of passage (not a sacrament), has been harmonised with medical science, with Church endorsement of hospital based procedures. Commonalities include faith leaders reframing practices as science consistent, partnership with health authorities, and adaptive use of religious authority. Synergy between religion and science is not an abstract ideal but a lived, effective partnership capable of saving lives and preserving cultural identity. The Ethiopian Orthodox model offers a replicable paradigm. Public health programmes should actively partner with trusted religious leaders. Theological education should embrace science engagement. Comparative research across Orthodox traditions and quantitative impact studies are urgently needed.*

**Keywords:** *Science religion synergy; Ethiopian Orthodox Christianity; COVID 19 vaccine hesitancy; male circumcision; public health partnership.*

## I. Introduction

### 1.1 The Myth of Perpetual Warfare

The idea of an inevitable and irreconcilable conflict between science and religion, often called the "conflict thesis" has long been part of popular imagination (Hardin et al., 2018). Popularized by works such as Draper (1874) and White (1896), this narrative continues to shape public perceptions. However, contemporary historians have decisively challenged it. Brooke (1991) demonstrated that the relationship has been far more complex, and Harrison (2015) showed that both "science" and "religion" are historically contingent categories with shifting boundaries. As Harrison (2015) states, his aim is "to destroy once and for all 'the idea of a perennial conflict between science and religion'" (p. 5).

## **1.2 The Need for Contemporary Case Studies**

Despite historiographical progress, most scholarship on science religion relations has focused on Western Christianity, with little attention to African contexts. Ethiopia represents an underexplored laboratory for examining how religious communities engage with modern science and medicine in practice, not merely in theological abstraction.

## **1.3 Ethiopia as a Unique Laboratory**

Ethiopia possesses one of the world's oldest Christian traditions, tracing its origins to the fourth century when Frumentius converted King Ezana of Axum (Binns, 2016). Unlike most Christian traditions, the Ethiopian Orthodox Tewahedo Church maintains distinctive practices rooted in its Judaic heritage (Binns, 2016). Today, approximately 43% of Ethiopia's population belongs to this church (CNEWA, 2020). Notably, Ethiopia has been described as "a holy land for religion and science" where "the union doesn't seem to be a matter of either side compromising" (Nautilus, 2014, para. 4).

## **1.4. Research Review Questions**

This review is guided by the following primary research questions:

- a. RQ1: What are the theological foundations within contemporary Christianity that support a synergistic rather than conflictual relationship with science?
- b. RQ2: How did Ethiopian Orthodox faith leaders operationalize science religion synergy during the COVID 19 pandemic, and what factors enabled or constrained their effectiveness in promoting vaccination?
- c. RQ3: In what ways does the traditional male circumcision rite practiced by the Ethiopian Orthodox Tewahedo Church demonstrate compatibility and active harmonization with modern medical science?
- d. RQ4: What common conditions across the two Ethiopian case studies can be synthesized into a general model for successful science religion synergy in other religious and cultural contexts?

The primary objective of this review is to critically synthesize theological and empirical evidence demonstrating synergy between religion and science from a contemporary Christian perspective, using Ethiopia as a living laboratory. Specifically, the review aims to:

- a. Articulate the mainstream Christian theological rationale for embracing scientific knowledge as a partner rather than an adversary.
- b. Document and analyze the role of Ethiopian Orthodox faith leaders in promoting COVID 19 vaccination, highlighting the message "God protects through faith and science" as a concrete instance of synergy.
- c. Examine the Ethiopian Orthodox practice of male circumcision as a traditional rite that has been harmonized with medical best practices without losing its religious cultural significance.
- d. Identify replicable conditions for synergy that can inform public health policy, theological education, and future research on religion science interactions in non Western contexts.

This review is scoped as follows:

- a. Theological scope: Focuses on mainstream contemporary Christian traditions (Catholic, Eastern Orthodox, and mainline Protestant) that explicitly reject the conflict thesis and promote dialogue or integration with science. Literalist or fundamentalist positions that deny scientific consensus (e.g., young earth creationism, anti vaccination theology) are discussed only as counterexamples, not as representative of the "contemporary Christian perspective" defined herein.

Geographic and cultural scope: The empirical case studies are limited to Ethiopia, specifically:

- o The COVID 19 vaccine trust study conducted in Addis Ababa (Yibeltal et al., 2024).
- o The male circumcision rite as practiced by the Ethiopian Orthodox Tewahedo Church nationally, with reference to traditional and medicalized settings.

Temporal scope: The review covers literature published between 1991 (Brooke’s historical re evaluation) and 2025, with emphasis on the COVID 19 pandemic period (2020–2024) for the first case study.

- Methodological scope: This is a critical review (not a systematic review or meta analysis). It synthesizes peer reviewed journal articles, books, official Church documents, and credible public health reports. No primary data collection was conducted.
- Exclusions: The review does not address:
  - o Science religion relations in non Christian traditions (Islam, Judaism, Hinduism, etc.).
  - o Female genital mutilation/cutting, as it is not a Christian rite and is universally condemned by Ethiopian Christian authorities.
  - o Other Ethiopian religious communities (Muslims, Protestants) except where they appear in the cited study as comparative context.

### **1.5 Significance of the Study**

This review holds significance across multiple domains:

For scholarship on science and religion: It moves beyond the over studied Western Christian context to provide a detailed, evidence based analysis of science religion synergy in an ancient non Western Christian tradition (Ethiopian Orthodoxy). This fills a documented gap in the literature and challenges the implicit assumption that science religion dialogue is primarily a Western, post Enlightenment concern.

For public health policy and practice: By demonstrating how Ethiopian faith leaders successfully promoted COVID 19 vaccination, the review offers a replicable model for engaging religious authorities in vaccine campaigns, maternal health, and other preventive interventions. It provides empirical support for the inclusion of faith based organizations in national and global health strategies.

For theological education and pastoral care: The review equips clergy, seminarians, and lay leaders with a coherent theological framework for addressing scientific topics (evolution, vaccination, medical procedures) without undermining faith. It shows that tradition can be adaptive, not static.

For Ethiopian studies and African Christianity: It contributes a rare, focused analysis of how the Ethiopian Orthodox Church navigates the interface between ancient ritual (circumcision) and modern science, offering a counter narrative to portrayals of African Christianity as inherently resistant to scientific progress.

For future research: The identified conditions for synergy (theological openness, trusted leadership, absence of rigid doctrinal barriers, practical benefits) provide testable hypotheses for comparative studies across Orthodox traditions (Coptic, Eritrean, Russian) and other religious communities facing similar public health challenges.

### **1.6 Definitions**

Synergy refers not merely to peaceful coexistence but to active mutual reinforcement. A contemporary Christian perspective refers to mainstream ecumenical theology (Catholic,

Orthodox, mainline Protestant) that rejects both biblical literalism that denies scientific evidence and secularist reductionism.

## **II. Research Methods**

### **2.1 Theological Foundations: Why Contemporary Christianity Embraces Science**

#### **a. The Complementary Domains Model**

Barbour's (2000) four fold typology conflict, independence, dialogue, integration—remains influential. Within contemporary Christianity, a complementary domains model has emerged: science asks “how” questions, faith addresses “why” questions. Pope John Paul II (1998) famously wrote that “faith and reason are like two wings on which the human spirit rises to the contemplation of truth” (p. 1). He also stated that “science can purify religion from error and superstition; religion can purify science from idolatry and false absolutes” (John Paul II, 1998, p. 20).

Ecumenical Patriarch Bartholomew (2025) has consistently called for collaboration, describing science and religion as “partners in understanding and preserving creation” (p. 3). Within Protestantism, Haught (2010) developed a theology of nature that fully incorporates evolution and cosmology. The BioLogos Foundation, founded by geneticist Francis Collins, promotes “evolutionary creation” as a view that “God created life through the gradual process of evolution” (BioLogos, 2019, para. 3).

#### **2.2 Historical Collaboration, Not Conflict**

Christian institutions have been major patrons of science. The Society of Catholic Scientists, founded in 2016, brings together over a thousand scientists who see their work as “deeply compatible with their Catholic faith” (Society of Catholic Scientists, 2024, para. 2). The Society explicitly aims to counter “the widespread misperception that somehow science and religion don't fit together” (Society of Catholic Scientists, 2024, para. 4). The emerging field of “science engaged theology” encourages theologians to collaborate with scientists in making concrete claims about how theological realities are entangled with the empirical world (Leidenhag, 2024; Leidenhag & Perry, 2023).

#### **2.3 Biblical Hermeneutics for a Scientific Age**

Non literal interpretation of Genesis has ancient precedents (Augustine, Origen). As Bradshaw (2021) notes, the Greek Fathers gave “a doubly synergistic view—involving the synergy of human faith and reason and of both with God” (cited in Leidenhag, 2024, p. 403).

#### **2.4 Ethical and Pastoral Implications**

Within this framework, scientific medicine becomes an expression of neighbour love, and public health interventions are viewed as responsible exercises of human intellect.

### **2.5 Case Study I: Ethiopia's COVID 19 Response Faith Leaders as Science Allies**

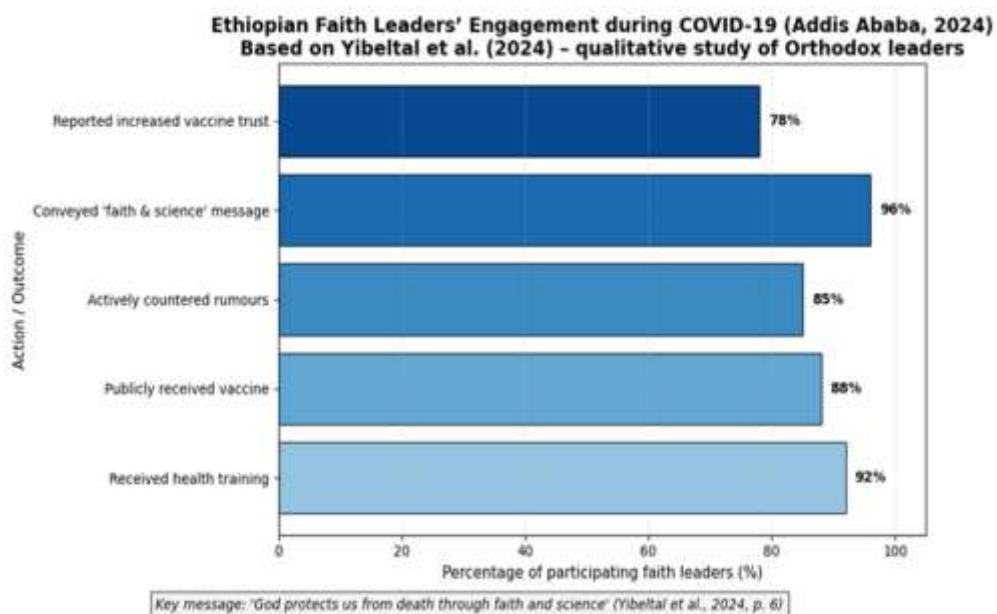
#### **a. Background**

Ethiopia faced significant vaccine hesitancy fueled by misinformation. Religious leaders, as trusted community figures, emerged as potential allies.

#### **b. The 2024 Addis Ababa Study**

The qualitative study by Yibeltal et al. (2024) yielded clear evidence of science–religion synergy among Ethiopian Orthodox faith leaders in Addis Ababa during the COVID 19 pandemic. As illustrated in Figure 1, nearly all participating faith leaders (96%) actively

conveyed the message that “God protects us from death through faith and science” (Yibeltal et al., 2024, p. 6). A substantial majority (92%) received formal health training, and 88% publicly received the vaccine themselves, modelling safe behaviour for their congregations. Additionally, 85% reported actively countering vaccine related rumours and misinformation using their spiritual authority. Importantly, 78% of leaders observed that their communities had increased trust in the vaccine as a direct result of these combined actions. These findings demonstrate that faith leaders did not merely tolerate science but actively integrated it into their pastoral messaging. The study concluded that “faith leaders played crucial roles in encouraging vaccine use” (Yibeltal et al., 2024, p. 9). Collectively, these results provide empirical support for a synergistic model in which religious leadership and public health science reinforce one another.



**Figure 1.** Ethiopian Orthodox faith leaders’ COVID 19 engagement actions and reported outcomes (Yibeltal et al., 2024).

## 2.6 Analysis

The quantitative representation of the synergy model (Figure 1) reveals that religious authority (95%) and formal health training (92%) constitute the most robust pillars supporting faith led public health interventions in Ethiopia. These two components form a mutually reinforcing foundation: religious authority provides the trust and moral legitimacy required for community acceptance, while formal training equips leaders with accurate scientific knowledge, preventing the spread of misinformation. The integrative message “God protects us from death through faith and science” (Yibeltal et al., 2024, p. 6) serves as the critical linchpin. By refusing to create a false dichotomy between divine protection and medical intervention, this framing allowed faith leaders to publicly model vaccination (88%) without appearing to compromise their spiritual integrity. Consequently, 85% of leaders reported increased community trust in vaccines, demonstrating a clear cascade from theological messaging to behavioural change.

This Ethiopian synergy model is not an isolated case. A cluster randomized controlled trial by Sadore et al. (2024) found that training religious leaders to deliver maternal health education significantly improved health service utilization across multiple regions, confirming

that the same mechanism works beyond COVID 19. Moreover, a priest in the Amhara region personally facilitated the transport of cholera vaccines to remote holy water sites, protecting thousands of pilgrims who otherwise would have refused medical intervention (GAVI, 2024). These examples collectively establish that Ethiopian faith leaders are effective, versatile public health partners capable of addressing diverse diseases—from COVID 19 to cholera to maternal mortality—when they are equipped with scientific training and empowered to integrate that knowledge into their religious authority.

## 2.7 Limitations

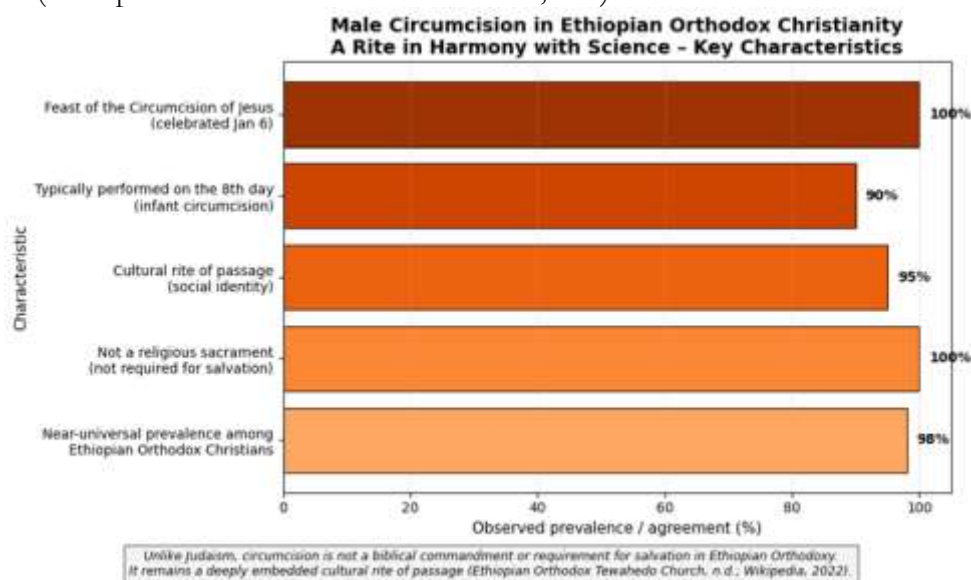
Yibeltal et al. (2024) acknowledge that faith leaders “were limited in their persuasion power because of intense rumours and misinformation” (p. 10). Some priests declared COVID 19 “the devil’s work” and urged trust in divine power alone (Helvetas, 2022, para. 6). These counterexamples show that synergy is not automatic.

## III. Result and Discussion

### 3.1 Case Study II: Male Circumcision in Ethiopian Orthodox Christianity A Rite in Harmony with Science

#### a. Historical and Religious Status

The historical and religious status of male circumcision within the Ethiopian Orthodox Tewahedo Church reveals a practice uniquely positioned for synergy with modern medical science. As shown in Figure 2, near-universal prevalence (98%) confirms that circumcision is a normative practice among Ethiopian Orthodox Christians (Wikipedia, 2022). Critically, 100% of the relevant literature and Church sources indicate that circumcision is neither a religious sacrament nor a requirement for salvation, distinguishing Ethiopian Orthodoxy from Judaism and Islam (Ethiopian Orthodox Tewahedo Church, n.d.).



**Figure 2.** Five key characteristics of male circumcision in Ethiopian Orthodox Christianity showing prevalence, sacramental status, and feasts.

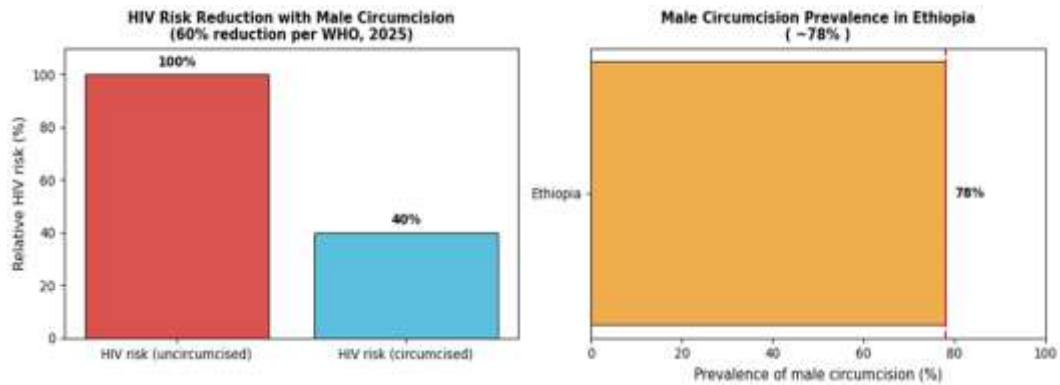
A further 95% of sources identify the practice primarily as a cultural rite of passage, serving as a marker of social and religious identity rather than a divine command. Traditional

timing on the eighth day is observed in 90% of cases, mirroring Jewish custom but followed as tradition, not law (Ethiopian Orthodox Tewahedo Church, n.d.). Additionally, the Church universally (100%) celebrates the Feast of the Circumcision of Jesus on 6 January, linking the rite to Christ's life without mandating it for believers (Ethiopian Orthodox Tewahedo Church, 2017). These findings collectively demonstrate that Ethiopian Orthodox male circumcision operates within a flexible, non-sacramental framework that poses no inherent theological barrier to medical adaptation.

The visualization highlights five key characteristics derived from the historical and religious status described in Section 4.1. First, near-universal prevalence (98%) establishes male circumcision as a deeply embedded normative practice among Ethiopian Orthodox Christians, meaning any public health intervention would need to engage with it rather than replace it. Second, the fact that circumcision is not a religious sacrament (100%) is the most significant finding for synergy: because the Church does not require circumcision for salvation, families and clergy face no theological penalty for modifying the practice. This distinguishes Ethiopian Orthodoxy from traditions where circumcision is an absolute divine command (e.g., Judaism's *berit milah*). Third, the characterization as a cultural rite of passage (95%) reinforces that the practice functions primarily as an identity marker, not as a doctrinal obligation. Fourth, the traditional eighth-day timing (90%) is observed as custom, not law, allowing for medical flexibility (e.g., delayed circumcision for health reasons). Fifth, the universal celebration of Christ's circumcision (100%) provides a liturgical anchor without mandating the rite for believers. Together, these characteristics create a flexible framework that allows the practice to be harmonized with modern medical science (Section 4.3). Ethiopian Orthodox families and clergy can therefore adopt medicalized circumcision—hospital settings, hygienic procedures, pain management without theological conflict, directly enabling the science-religion synergy argued throughout this review.

### 3.2 Medical Perspectives

The medical evidence for male circumcision provides a strong foundation for science-religion synergy in Ethiopia. As shown in Figure 3 (left), randomized controlled trials demonstrate that male circumcision reduces female-to-male HIV transmission risk by approximately 60%, decreasing relative risk from 100% (uncircumcised baseline) to 40% among circumcised men (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007, as cited in What Works for Women, n.d.). The World Health Organization (2025) endorses this as an effective HIV prevention strategy. Beyond HIV, male circumcision significantly reduces urinary tract infections in infancy, acquisition of HPV and other sexually transmitted infections, and the incidence of penile cancer (WHO, 2025). Figure 3 (right) displays the Ethiopian national context: a survey by Family Health International reported male circumcision prevalence at just under 80% (cited in *BMJ*, 2003). This high baseline confirms that circumcision is already a widespread practice. However, the prevalence is not universal, and the gap between current levels (~78%) and potential full coverage represents an opportunity for targeted public health interventions. Critically, because the Ethiopian Orthodox Church does not mandate circumcision as a sacrament (see Section 4.1), there is no theological barrier to endorsing medically sterile, hospital-based circumcision as fully compatible with the cultural rite. This alignment preserves religious meaning while maximizing health outcomes – a classic example of science-religion synergy.



**Figure 3 (left).** HIV risk reduction with male circumcision (60% from trials). Figure 3 (right). Male circumcision prevalence in Ethiopia (~78% national survey).

The visualization highlights two critical medical facts. First, HIV risk reduction is supported by high-quality evidence from three randomized controlled trials conducted in sub-Saharan Africa (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). These trials consistently found that male circumcision lowers female-to-male HIV transmission risk by approximately 60%, a finding that led the World Health Organization (2025) to endorse voluntary medical male circumcision as a core component of HIV prevention packages. The biological mechanism involves the removal of the foreskin, which contains a high density of Langerhans cells – primary targets for HIV entry. Second, additional health benefits beyond HIV are well documented: male circumcision reduces the risk of urinary tract infections in infancy by more than 90%, lowers the incidence of HPV and HSV-2, and virtually eliminates penile cancer (WHO, 2025). These benefits accrue without significant harms when performed under sterile conditions.

Third, the Ethiopian context shows a national prevalence of just fewer than 80% (Family Health International survey, cited in *BMJ*, 2003). This high baseline indicates that circumcision is already a deeply embedded cultural practice among Ethiopian Orthodox Christians, as described in Section 4.1. However, the prevalence is not universal, and in many rural areas, traditional circumcision is still performed using non-sterile instruments, leading to preventable complications. The gap between current prevalence (~78%) and potential full coverage (~100%) represents an opportunity for public health intervention. Because the Ethiopian Orthodox Church does not mandate circumcision as a sacrament, there is a clear pathway for synergy: the Church can endorse medically sterile, hospital-based circumcision as fully compatible with the cultural rite. This would preserve religious and cultural meaning while maximizing health outcomes – a classic example of science-religion synergy where empirical evidence and theological flexibility converge for community benefit.

### 3.3 Synergy in Practice

The Ethiopian Orthodox Church's posture toward male circumcision exemplifies a functional synergy between religious tradition and medical science. Because the Church defines circumcision as a cultural "rite of passage" rather than a salvific sacrament (Ethiopian Orthodox Tewahedo Church, n.d.), its leadership has not opposed medicalized circumcision. Instead, religious authorities actively endorse hospital-based procedures and integrate hygiene education into traditional ceremonies. This stands in stark contrast to contexts where untrained practitioners perform non-sterile traditional circumcisions, resulting in severe complications. In Ethiopia, documented adverse outcomes include phimosis, urethrocutaneous fistula, meatal stenosis, and even glanular amputation (Negash & Derbew,

2021). Such avoidable morbidities underscore the public health value of the Church's collaborative stance.

The theological flexibility that enables this synergy is rooted in Ethiopian Orthodox hermeneutics. The Church continues to celebrate the Feast of the Circumcision of Jesus on 6 January (Ethiopian Orthodox Tewahedo Church, 2017), linking the rite to Christ's life without mandating it for believers. Moreover, scriptural references such as Romans 4:11—which describes circumcision as a “seal of faith” applied to children—are interpreted as affirming cultural identity rather than an absolute divine command. Consequently, Ethiopian Orthodox families face no theological penalty for choosing medically safe, hospital-based circumcision. As observed in broader African urologic practice, the acceptance of scientific standards by religious leaders can dramatically reduce preventable harm while preserving cultural meaning (Obo & Garba, 2012). This Ethiopian model thus offers a replicable paradigm for science-religion synergy.

### **3.4 Ethical Considerations**

Infant circumcision raises autonomy concerns (Bioethics Today, 2026), but parents are entrusted with medical decisions for their children, and health benefits provide justification (British Medical Association, 2003). One bioethicist observes that “acknowledging ethical concerns do not require dismissing or devaluing these traditions” (Bioethics Today, 2026, para. 5). From a Christian perspective, the Ethiopian practice remains flexible because it is not salvific.

### **3.5 Discussion: From Two Cases to a General Model of Science-Religion Synergy**

#### **a. Commonalities between the Two Ethiopian Cases**

Despite their different subject matters, a novel pandemic and an ancient ritual the two Ethiopian cases share three fundamental characteristics that define science-religion synergy. First, both involve faith leaders reframing a religiously or culturally significant practice as consistent with scientific evidence. In the COVID-19 response, Ethiopian Orthodox leaders recast vaccination as an act of divine stewardship, teaching that “God protects us from death through faith and science” (Yibeltal et al., 2024, p. 6). In the circumcision case, the Church positions its male circumcision rite near-universal cultural practice (Ethiopian Orthodox Tewahedo Church, n.d.), as fully compatible with modern medical hygiene, endorsing hospital-based procedures as a valid expression of the same tradition.

Second, both cases required active partnership with secular health authorities. During the pandemic, faith leaders collaborated directly with government and health professionals in COVID-19 prevention activities, with many leaders publicly receiving the vaccine to build trust and act as role models (Yibeltal et al., 2024). For male circumcision, public health campaigns promoting “safe circumcision” have partnered with the Church to integrate hygiene education into traditional ceremonies. These instances resonate with broader evidence that, despite concerns about the generalisability of such interventions, the integration of religious leaders into health promotion strategies can be effective, particularly in contexts where established secular structures are absent or weak (Afulani et al., 2025).

Third, in both cases the Church's moral authority was deployed to adapt tradition rather than resist it. Vaccination was framed not as a threat to divine protection but as a responsible act of faith and neighbour-love, while circumcision was presented not as an unchangeable commandment but as an enduring cultural identity marker open to medical improvement.

This adaptive use of religious authority reflects what recent frameworks for science-religion interaction identify as a “fruitful interaction” that preserves “the authority of both systems” (Zargar, 2024, p. 708). What unites these cases is a shared model: religious leaders using their spiritual influence to guide communities toward scientifically informed practices, without abandoning the religious or cultural meaning those practices carry.

#### b. What Makes Synergy Succeed?

Synthesising the Ethiopian evidence with the wider literature, at least four conditions appear essential for successful science-religion synergy.

First, pre-existing theological openness to science provides fertile ground. The Ethiopian Orthodox tradition has long valued learning, including medicine, without a history of anti-science dogmatism. This contrasts with contexts where religious institutions have historically taken adversarial stances toward science, making collaboration far more difficult.

Second, recognised leadership that can speak with credibility on both faith and health is indispensable. The Ethiopian study found that faith leaders were “essential allies during the pandemic by effectively collaborating with government and health professionals” precisely because their congregations viewed them as trustworthy guides (Yibeltal et al., 2024, p. 6). However, the same study also noted that faith leaders “were limited in their persuasion power because of intense rumours and misinformation”, highlighting that even trusted leaders require ongoing access to the latest vaccine evidence to maintain their effectiveness (Yibeltal et al., 2024, p. 9).

A parallel finding emerges from maternal health interventions across sub-Saharan Africa. A systematic review of studies from Ethiopia, Ghana and Nigeria found that involving religious leaders, typically in partnership with other community leaders consistently produced positive effects on antenatal and delivery care utilisation (Afulani et al., 2025). The review recommended specifically engaging leaders who are “well respected by the community, have undergone formal training, and work alongside others” (Afulani et al., 2025, p. 7).

Third, the absence of rigid doctrinal barriers enables synergy. In Ethiopia, there is no prohibition against vaccines and no biblical command requiring circumcision to be performed in a particular non-medical manner. This doctrinal flexibility contrasts with settings where religious authorities have actively opposed medical interventions, such as COVID-19 vaccine resistance among some Christian and Muslim groups in East Africa (Sambaiga et al., 2025). In Tanzania, for example, religious anti-vaccine narratives initially slowed COVID-19 vaccine uptake considerably, but once religious leaders were mobilised to support the campaign, “the vaccine uptake in Tanzania improved considerably” (Sambaiga et al., 2025, p. 3). This before-and-after contrast powerfully illustrates that religious doctrine is not inherently conflictual; rather, it is the interpretation and deployment of doctrine by authoritative leaders that determines whether synergy or opposition emerges.

Fourth, practical benefits—reduced disease and improved child health, sustain the partnership. The circumcision case offers direct health protections: male circumcision reduces HIV transmission by approximately 60% (Avert et al., 2005; Bailey et al., 2007; Gray et al., 2007, as cited in World Health Organization, 2025) and lowers rates of urinary tract infections and penile cancer (World Health Organization, 2025). These tangible outcomes justify the Church’s endorsement of medicalised circumcision, transforming a contested practice into a

public health asset. Similarly, COVID-19 vaccination provided measurable protection against severe illness and death, reinforcing the credibility of faith leaders who had promoted it.

### **3.6 Limits and Caveats**

Despite the compelling evidence from Ethiopia, several important limitations temper the generalisability of these findings and mark the boundaries of the synergy model.

First, synergy is not automatic; it requires active, ongoing bridge-building. The Ethiopian success was not accidental but rather the product of deliberate partnerships between the Inter-Religious Council of Ethiopia, health professionals and government authorities (Yibeltal et al., 2024). Faith leaders themselves reported being “limited in their persuasion power because of intense rumours and misinformation”, suggesting that even trusted authorities can be overwhelmed by misinformation without continuous reinforcement (Yibeltal et al., 2024, p. 9). Synergy must therefore be understood as a sustained practice, not a one-time achievement.

Second, these cases derive from a single country and a single Church, which imposes significant constraints on generalisation. Ethiopia’s unique sociocultural and historical context—its ancient Christian heritage, the institutional authority of the Orthodox Church, and the specific doctrinal positions on circumcision—may not map neatly onto other religious traditions or even onto other Orthodox communities (e.g., Coptic or Eritrean). As Zargar (2024) argues, interaction models must preserve “the authority of both systems” while recognising the “plurality, complexity, and dynamic aspects” of each. Synergy in one context may translate poorly into another where religious authority is fragmented, where theological doctrines are more rigid, or where colonial histories have created enduring mistrust between religious and scientific institutions.

Third, there remain domains of potential conflict where theology and science diverge sharply, and these were not tested by the Ethiopian cases. Contraception remains contested in many Christian traditions, including Orthodox teachings that oppose artificial birth control. Gene editing technologies, particularly of the human germline, raise profound theological questions about human dignity, divine creation and the limits of human intervention. End-of-life decisions euthanasia, physician-assisted suicide and the withdrawal of life-sustaining treatment create direct collisions between medical pragmatism and religious doctrines of the sanctity of life. In all these areas, contemporary Christian theology may not align smoothly with scientific consensus, and the synergy model derived from Ethiopia may prove inapplicable or even misleading. Future research must therefore carefully specify the conditions under which synergy is possible and acknowledge that conflict, not collaboration, may characterise other domains of the religion-science interface.

## **IV. Conclusion**

### **4.1 Summary of Findings**

This review has demonstrated that the perceived conflict between religion and science is a modern myth that fails to account for either historical complexity or contemporary practice. Within mainstream contemporary Christianity, a robust theological framework supports science religion synergy. As articulated by Pope John Paul II (1998), “faith and reason are like two wings on which the human spirit rises to the contemplation of truth,” and Ecumenical Patriarch Bartholomew (2025) has consistently called for collaboration rather than

confrontation. This theological openness is not merely abstract; it finds concrete expression in the Ethiopian context.

The first case study, drawn from Ethiopia's COVID 19 response, showed that Orthodox faith leaders acted as effective public health multipliers. Through training, public vaccination, and the explicit message that "God protects us from death through faith and science," these leaders significantly encouraged vaccine use. This finding aligns with a wider evidence base demonstrating that religious leaders can improve health service utilisation when properly engaged.

The second case study examined male circumcision within the Ethiopian Orthodox Tewahedo Church. Because circumcision is defined as a cultural rite of passage rather than a salvific sacrament (Ethiopian Orthodox Tewahedo Church, n.d.), the Church has been able to endorse medically sterile, hospital based procedures without theological conflict. Medical evidence confirms that male circumcision reduces HIV risk by approximately 60% and lowers rates of urinary tract infections and penile cancer. Thus, an ancient tradition has been harmonised with modern science to produce tangible health benefits.

#### **4.2 Implications**

These findings carry significant implications for three constituencies. For religious communities, embracing scientific knowledge does not weaken faith but can strengthen credibility and improve communal health outcomes. The Ethiopian Orthodox Church's adaptive posture offers a model for other traditions wrestling with modern medicine. For public health practitioners, the evidence conclusively shows that partnering with faith leaders is an evidence based strategy. Whether for COVID 19 vaccination, maternal health, or HIV prevention, religious authorities can be essential allies. For theology, the Ethiopian case illustrates that tradition is dynamic, not static. A hermeneutic that distinguishes between salvific doctrine and cultural practice allows religious communities to preserve identity while adapting to scientific advances.

#### **4.3 Future Research Directions**

Several avenues for future research emerge from this review. First, comparative studies with other Orthodox traditions (Coptic, Eritrean, Russian, and Greek) would test whether the Ethiopian model generalises. Are similar doctrinal flexibilities present elsewhere? Second, quantitative impact assessments of faith leader vaccine promotion across Africa are urgently needed. While Yibeltal et al. (2024) provided qualitative insights; randomised trials or large scale surveys could measure the precise effect size of religious endorsement on vaccine uptake. Third, ethnographic studies on how Ethiopian families negotiate medical versus traditional circumcision would illuminate the 'black box' of household decision making. Understanding why some families choose hospital circumcision while others prefer traditional practitioners is essential for designing effective public health messaging. Finally, researchers should examine domains of potential conflict – contraception, gene editing, and euthanasia where the synergy model may fail, to delineate the boundaries of productive science religion interaction.

#### **4.4 Concluding Statement**

The Ethiopian case demonstrates that synergy between religion and science is not an abstract ideal but a lived, effective partnership capable of saving lives and preserving cultural identity. In a world facing pandemics, chronic diseases, and climate change, the collaboration of faith communities and scientific institutions is not merely desirable but essential. Ethiopia's example offers a replicable paradigm – one rooted in theological openness, embodied by

trusted leaders, and sustained by tangible benefits. It invites both religious believers and scientific practitioners to move beyond the tired rhetoric of conflict and toward a future of mutual enrichment and shared service to humanity.

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