How to Cite:
Fitri, Y. E. (2025). Socioeconomic factors influencing voluntary acceptance of medical circumcision. *International Journal of Economic Perspectives*, *19*(7), 84–94. Retrieved from https://ijeponline.org/index.php/journal/article/view/1113

Socioeconomic factors influencing voluntary acceptance of medical circumcision

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***Abstract*---**The purpose of this study was to determine the socioeconomic factors influencing voluntary acceptance of medical circumcision. This research method used a literature review using the PubMed database and the Google Scholar search engine. Eight articles were extracted. Social and economic factors impact access to quality medical circumcision, limit economic activity, and reduce sustainability. Economic factors contribute to meeting the primary and secondary needs of families, which is a consideration for respondents when seeking health care. While the community has good knowledge about circumcision, the decision to circumcise children is still closely linked to religious and cultural beliefs. Some communities are reluctant to circumcise their children because it is not a religious or cultural obligation, even though it is highly beneficial for health. Therefore, the role of health workers is to encourage and continuously educate the community about the medical benefits of circumcision, without coercion. As health workers, one of their roles is as educators, and this function must continue.

***Keywords*---**Social, Economic, Socioeconomic, Influencing, Voluntary, Acceptance, Medical Circumcision

Introduction

Circumcision is medically known as circumcision. The word "circumcision" originates from the Arabic word "khitan," which means to cut (Wambura & Saronga, 2025). Circumcision is a medical procedure that involves removing the prepuce of the penis, exposing the glans penis (Wambura et al., 2017). Circumcision is generally performed on males through a surgical procedure and is performed for various reasons, including religious, cultural, social, and medical reasons. Religion and culture significantly influence the decision of parents or the

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Submitted: 09 May 2025, Revised: 18 June 2025, Accepted: 21 July 2025

male to undergo circumcision, in addition to health reasons (Vermeille et al., 2023). As many as 30% of men worldwide choose to undergo circumcision, and one-third of these are Muslim (Tusabe et al., 2022).

Public perceptions of reproductive health have shifted from religious to health reasons. Increasing numbers of men are undergoing circumcision for health, medical, and sexual reasons (Shezi et al., 2023). Many men undergo circumcision to prevent HIV (Sharma et al., 2021). Many parents consider circumcision important for their sons for health reasons. Typically, parents with a background in health care perform this procedure because they understand the health benefits of circumcision (Rupfutse et al., 2014).

According to WHO data from 2007, approximately 85% (8.7 million) of Muslim men have been circumcised, while only approximately 12% (10.2 million) of non-Muslim men have been circumcised. Male circumcision significantly reduces the risk of urinary tract infections by 87%. It also significantly reduces the transmission of human immunodeficiency virus among circumcised men by 70%. Circumcision in children and adolescents is associated with a 66% reduction in the risk of penile cancer. Circumcision is associated with a 43% reduction in human papillomavirus infection and a 58% reduction in the risk of cervical cancer among women with circumcised partners compared to women with uncircumcised partners. Circumcision of infant boys reduces the risk of foreskin inflammation by 68% (Omar et al., 2022). However, there are still pros and cons surrounding circumcision. Some argue that circumcision is linked to the prevention of reproductive diseases such as HIV/AIDS, while others argue that diligently maintaining reproductive organ hygiene can prevent various diseases.

Socioeconomic factors significantly influence medical circumcision. These factors include cost, employment, and religious beliefs, which can be barriers or incentives for circumcision. The purpose of providing explanations or guidance to patients undergoing circumcision is to provide detailed information about the circumcision process, its safety, the impact or after-effects of each method, and the cost differences between the two. The goal is to help patients avoid confusion when choosing and determining the circumcision method that best suits their needs. After selecting the appropriate circumcision method, the circumcision practitioner will perform the procedure according to the correct method and procedures, in accordance with the Standard Operating Procedures for each method (Agbeyangi & Lukose, 2025).

A person's perception greatly influences their decisions in life, including health. Whether someone who is sick goes to the hospital or clinic, or stays at home, is a decision closely linked to perception. Therefore, this study aims to determine the socioeconomic factors that influence voluntary acceptance of medical circumcision.

Method

This research uses a Literature review method. Framework of Inclusion and Exclusion Criteria. Inclusion criteria for articles: 1) Articles are published in English and Indonesian, 2) Articles are published in 2015-2025, 3) These articles

discuss several Socioeconomic Factors Influencing Voluntary Acceptance of Medical Circumcision, and 4) There are no specific criteria for target countries. Exclusion criteria for articles are reports and comments.

Article Search Flow Literature search utilizes articles for 2015-2025 limited to those using English and Indonesian, free full text, data for the last 10 years. Keywords must appear in the title/abstract. The articles used were from the *PubMed* and *Google Scholar*. Search was performed using keywords *(((((“Social”) OR (“Socio”)) OR (("Socioeconomic")) AND (“Economic”)) AND (“Factors”)) OR (“Factor”)) AND (“Voluntary”)) AND (“Acceptance”)) AND (“Khitan”)) OR (“Medical Circumcision”))))*. Then the next stage is the selection of articles according to the criteria set by the researcher, and it is in accordance with the research questions. The articles appearing are then sorted until no similar articles are found. Then sorted based on the inclusion and exclusion criteria that have been determined extracted. Extraction of articles by author, country, year, and search results performed. Article Selection During an article search, 19 articles were from the PubMed database and 31 Search Engine Google Scholar. After a review of all those articles were filtered based on relevance, there were 50 articles found. Next, Form those articles, a selection was done to find appropriate references about Socioeconomic Factors Influencing Voluntary Acceptance of Medical Circumcision. Then there were 8 articles obtained. Those will be used for Literature Review Research. The author considered the titles and abstracts of all articles to be used as inclusion criteria. Full text studies have been conducted and independently reviewed against these criteria. This therefore leaves 8 articles for final review.

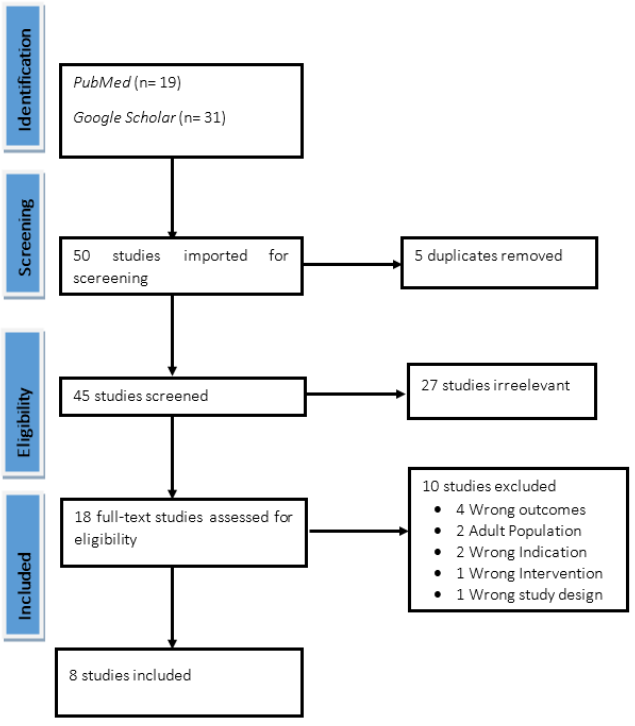

Figure I. Preparation steps based on PRISMA Chart

Results and Discussion

Results

The identification results obtained from the search method in the online library of PubMed and Google Scholar obtained up to 50 search results data. Finder contains selections including the results of the same search data and with the same search title. After the screening step, the inclusion step was carried out by matching the study data with the inclusion criteria set by the researcher, including the study of Socioeconomic Factors Influencing Voluntary Acceptance of Medical Circumcision in full text of articles from 2015-2025 obtained from international journals. The research results are collected and selected to include documents meeting the research criteria. The results showed there were 8 articles obtained that matched the research criteria, and the process then continued to provide important reflections.

Table I. Article Extraction

No	Author/Year	Country	Result
1	(Ganczak et al., 2017)	Poland	Of the 539 participants, 40.8% were men, 66.8% were Polish, and the median age was 25. It had an MC rate of 16.7%. 34.2% of the students were aware that MC lowers the risk of HIV infection, while 66.6% of the students scored more than 75% on the HIV/AIDS knowledge test. 9.1% of respondents, or one in eleven, said that men who had undergone circumcision experienced more intense sexual pleasure. Over half of the participants (54.8%) stated that they would suggest MC to adult HIV-at-risk patients. Knowledge about MC in relation to HIV risk reduction and the notion that circumcised men experienced more intense sexual satisfaction were linked to higher odds of recommending adult MC (OR=3.35 and OR=2.13, respectively).
2	(Masese et al., 2017)	Malawi	Only 6.3% (n = 15) of individuals who had been circumcised (90.8%, n = 238) had done so in a therapeutic setting, according to the study. The main barriers to VMMC adoption were limited availability to services, expense, discomfort, receiving care from female practitioners, and cultural influences.
3	(Mathias et al., 2023)	Tanzania	Males under thirty years old, single, unemployed, with only an elementary education as their greatest level of schooling, and Muslims made up the majority of the survey participants' sociodemographic makeup. For a male family member who has not yet received circumcision, the majority of responders (92%) suggested circumcision. According to the study, the main reasons why respondents used VMMC treatments were better sexual performance (81%), penile hygiene (97%), and circumcision as a modern culture (96%). Only 20.6% of the respondents, however, could hardly state that VMMC is a surgical treatment performed under anesthesia by trained medical professionals. The main justifications for suggesting that their family members use VMMC services were the program's effectiveness in reducing STIs (48.9%), cultural customs and traditions (31.5%), better penile cleanliness (17.4%), and religious beliefs (2.2%).

No	Author/Year	Country	Result
4	(Bautista-Arredondo et al., 2018)	Kenya, Rwanda, SouthAfrica, and Zambia	In Kenya, the average VMMC unit cost was US$66 (SDUS $79), while in South Africa, it was US$160 (SDUS $144). Estimates of the total cost function aligned with economies of size and scope. The number of VMMC clients and VMMC unit cost were found to be negatively correlated, with a 3% drop in unit cost for every 10% rise in client count. Additionally, we discovered a negative correlation between the cost of VMMC units and the availability of other HIV services. Additionally, primary healthcare facilities had lower VMMC unit costs than hospitals, as did facilities that used task shifting.
5	(Shikesho, 2024)	Namibia	Although the prevalence of male circumcision was high, it fell short of the UNAIDS target. Among the Herero/Himba tribes, being circumcised was strongly linked. Acceptability was similarly high, with 84.29% of females with uncircumcised partners supporting their partners' circumcision and 74.77% of uncircumcised males eager to get circumcised. The majority of respondents (91.44%) were aware that male circumcision lowers the risk of HIV transmission.
6	(Ekidor et al., 2023)	Turkana	The study's findings revealed that, of the 374 male participants, 79.9% had undergone circumcision, 77.0% were between the ages of 18 and 35, 94.1% identified as Christians, 44.7% were unemployed, and 54.8% were married. Responses to socioeconomic factors had an overall mean score of 2.894 (negative). According to the study, adopting VMMC was significantly predicted by socioeconomic characteristics. However, it was discovered that socioeconomic factors reduced VMMC uptake by 0.37 [OR = 0.371; 95%CI: -0.577-0.166, P=0.000].
7	(Gyan et al., 2017)	West Africa	Even after controlling for religious affiliation, infants from the lowest income households (325, 84.0%) had a higher likelihood of getting circumcised by an unofficial provider than infants from the highest income households (260, 42.4%) (adjusted odds ratio [aOR] 4.42, 95% CI 3.12–6.27 p = <0.001). As the distance to a medical facility rose, there seemed to be a dosage response with an increased probability of getting circumcised from an unlicensed practitioner (aOR 1.25, 95 CI 1.30–1.38 P = <0.001). Compared to 27.9% (171) of the highest income households, only 9.0% (34) of the families in the lowest socioeconomic quintile obtained free circumcision procedures.

No	Author/Year	Country	Result
8	(George et al., 2017)	South Africa	The chance of getting circumcised was positively correlated with the perceived value of VMMC (AOR: 1.41, p = 0.01). The likelihood of undergoing VMMC was negatively correlated with self-efficacy in using condoms (AOR: 0.75, p < 0.01). Learners were more inclined to have VMMC if they believed it would allow them to use condoms less frequently, improve penile hygiene, and reduce their risk of HIV and STIs, among other health benefits. It is concerning to note that students who felt secure about using condoms with their partners and having access to them were less likely to have VMMC.

Discussion

Social Factors Influencing Voluntary Acceptance of Medical Circumcision

A high level of education is associated with the perspective that circumcision is an important medical procedure and aims to prevent the risk of urinary tract infections (Azizoglu et al., 2024). From the results of this study, respondents' knowledge is in the sufficient category, namely 47.2% (51 respondents) of a total of 108 respondents, meaning that the respondents involved have not very good knowledge and are not bad about circumcision. Regarding attitudes, as many as 66.7% (72) respondents do not agree that their children should be circumcised. According to the researcher, although respondents' knowledge is quite good about circumcision, the decision to circumcise a child still requires a lot of consideration. This is evidenced by the data on questions related to attitudes where as many as 41.7% (45) respondents stated that they would not circumcise their children because it is not religiously obligatory, as many as 77.8% (84) respondents stated that they would not circumcise their children because people around them do not do it. Culture influences a person's decision to do something. Circumcision performed on men aims to fulfill religious and cultural rules, not as a way of preventing HIV (Yuriah, 2024). However, circumcision in some countries is also performed for health reasons. HIV is the main reason for male circumcision, in addition to religious and cultural reasons (Kibel et al., 2019).

Research by Feng, DC, et al. (2019) states that the oval circumcision method shows satisfactory results, especially in the treatment of urological diseases in children. Circumcision can improve the quality of sexual life (Sepriani et al., 2024). Due to its health benefits, circumcision still needs to be socialized by health workers to the general public, but people have the autonomy to choose or not to undergo circumcision. The results of a 2014 study by Maibvise, C, and Mavundla, TR in Swaziland, where religion plays a significant role in the community's views on circumcision. Some communities have positive and negative views of circumcision, so the positive views are used as a strength to promote circumcision to the community there. A good understanding of the medical benefits of circumcision can encourage people to undergo circumcision.

This is not easy for health workers, but promotional actions through education are very important, carried out consistently and continuously.

Economic Factors Influencing Voluntary Acceptance of Medical Circumcision

The results of this study align with Notoadmojo's (2018) statement that fulfilling primary and secondary needs is easier for families with a higher economic status than for families with a lower economic status. Low economic status can be a factor in respondents' decisions to access desired health services, considering the economic value of transportation and costs. Based on the description above, the researcher believes that income is a primary factor. The data shows that 11 respondents (40.7%) have an income of less than IDR 1,500,000. This factor influences parents' decisions to access desired health services and choose conventional circumcision methods. Conventional circumcision methods are more affordable than modern circumcision methods (Haryanti & Yuriah, 2025).

According to Wulandari (2013), economic factors are factors related to income or finances. In the decision-making process, parents choose conventional circumcision procedures because they are cheaper and more affordable, and from a medical perspective, have fewer benefits and risks. According to Notoadmojo (2018), families with a better economic status find it easier to meet primary and secondary needs than families with a lower economic status (Awaliyah & Yuriah, 2025). From the description above, it can be concluded that of all the factors influencing patients' decisions in choosing conventional circumcision services at Rumah Sunat Ceria in Pasuruan Regency, economic factors are the most important. Economic factors play a significant role because they influence access to health facilities and are a primary consideration in the decision-making process for circumcision services and methods, as they are adjusted to the respondent's family income.

Conclusion

While many people recognize the medical benefits of circumcision, social and economic factors are key reasons for avoiding it, especially among non-Muslims. Understanding the local community can be a valuable resource for healthcare providers in educating the public about circumcision, particularly its medical benefits. However, the decision to perform circumcision largely depends on community autonomy.
Healthcare providers should always provide health education about the medical benefits of circumcision, but religious and cultural factors need to be considered when raising awareness in the community through health education.

Acknowledgments

We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.

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