Circumcision dates back more than 6000 years with the oldest documented evidence thought to date to a Sixth Dynasty (2345-2181 BC) tomb artwork in Egypt. Since that time different religions, cultures and countries have adopted various views on circumcision. Many theories have been proposed to the etiology of circumcision, including as a rite of passage, a religious sacrifice, aid to hygiene, a method to discourage masturbation, and a way to differentiate cultural groups.

Religions and cultures have developed ideology and practices regarding circumcision. Religions like Judaism and Islam promote circumcision while Hinduism discourages it. Similarly, countries like the United States tend to favor circumcision compared to the European countries. These religious and cultural attitudes toward circumcision are so engrained that it extends to the decisions regarding alternatives to circumcision for medical reasons. Dorsal slit is promoted in India while in Japan it is not preferred, while topical steroids appear to be a universally accepted circumcision alternative.

These controversies among different countries regarding circumcision as reflected by their medical, cultural and religious attributes is discussed in this issue of Dialogues in Pediatric Urology. Of course, all cultures and countries cannot be represented in this relatively brief discussion on the international view of circumcision. The goal of this exchange of ideas is to allow one to appreciate, respect, and better understand the diverse views on this topic to aid one in caring for patients.

FROM THE EDITOR

Anthony A. Caldamone, M.D.
Multiple centers have demonstrated a decreased incidence of urinary tract infection during the first year of life in boys that undergo newborn circumcision. In 1998, To et al reported on 69,100 infants of which 30,105 were circumcised. This group demonstrated an increased relative risk of urinary tract infection during the first month of life for 4.5 and 3.7 over the subsequent year in the uncircumcised group. In the circumcision group, 1.88 infections/1000 person-years were reported as compared to 7.02/1000 person years in the uncircumcised group.

Without question the costs associated with circumcision are in favor of having the procedure performed in the newborn period. Outpatient circumcision charges are between US$1500-2000 for combined surgical and anesthetic fees. In comparison, charges for newborn and postneonatal circumcision performed with local anesthesia charges are around $200. Of note, newborn circumcision may increase hospital stay and charges when not covered with the global reimbursement.

The association between sexual transmitted diseases (STD) and circumcision status have been mixed but the available literature appears to favor an association with the uncircumcised state. Although several randomized clinical trials from Sub-Saharan Africa have reported a significant reduction in the seroconversion rate of HIV in circumcised healthy young black males, no such data has been presented in the United States. To date, the AAP has not endorsed circumcision for the prevention HIV-1 transmission. Although no randomized study exist, the data is compelling to support the theory that newborn circumcision is preventative against penile cancer.

In summary, current parental opinions in the United States regarding newborn and postneonatal circumcisions are not evidence based. Strong traditional and religious beliefs drive the decision to circumcise a majority of newborn boys. In lieu of this approach, a considerable amount of credible data exists which substantiates such a practice.

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The Italian Point of View

Circumcision is certainly a controversial issue, and, undoubtedly, there is no approach totally devoid of risk. We would like first to mention that we deeply respect the belief of the religions that consider circumcision an essential step for all males. Ritual circumcision is not under discussion in this section. On the contrary, the medical aspects of circumcision deserve clarification.

The main question about circumcision for physicians is: can postectomy prevent urological diseases? Although many European urologists find this difficulty to believe, this is an unsolved important matter of discussion. Neonatal circumcision is almost a routine in the USA, but it is rarely done in Europe and this is one of the major disagreements between two advanced pediatric health care systems. On the other hand, it seems to be hard to express a common European prospect on this subject. Europe is a combination of many different regions, organizations and attitudes. A number of countries in Europe are inclined to accept some of the USA viewpoints on circumcision, whereas most of the European countries reject almost all of them. Furthermore, there are differences of opinion among European physicians, as well as among Americans.

The issue of neonatal circumcision remains particularly divisive. Data surrounding medical benefits and risks of this surgery are, in my opinion, not consistent and, therefore, confusing. Even from countries where there are no doubt that circumcision has to be done in all males, some data suggests postponing the practice until after the neonatal period to decrease the risk of complications. We should also acknowledge some European prejudices on the USA view that it is against nature and there is the suspicion that it is a good excuse for good business (1.4 million circumcisions are done each year in the USA). Interestingly, the Canadian Paediatric Society stated that “circumcision in newborns should not be routinely performed”, and Canada has a health care system similar to Europe.

An important matter of principle should also be taken into consideration: “should infant male circumcision be considered an abuse of the rights of the child?” Circumcision is believed by some to be a male genital mutilation performed without personal consent. Even if circumcision is believed to have some benefits, these are mainly related to adult life, consequently, why should circumcision be performed in newborns rather than waiting until age of consent?

In Italy, we do not do circumcision routinely. Ritual circumcision is not allowed in public hospitals under the free health care system, because the procedure is not recognized/accepted as a therapeutic process. In some Departments of Pediatric Surgery/Urology in Italy, there is even the rule not to touch/retract the foreskin before the age of 5 years. After 5 years of age, we may check for residual preputial adhesions and phimosis.

When phimosis is truly present (long, non-retractile prepuce with stenotic ring, impossibility of urethral meatus exposure, and ballooning during micturition) we suggest a conservative management with topical steroid application. We do not consider surgical intervention until topical therapy has been given an adequate trial (ointment treatment can be effective in 70% of cases if adequately prolonged). When phimosis is truly present and conservative management unsuccessful, we take into consideration the surgical intervention, which, in our practice, is not circumcision, but rather an “internal z-plasty of the phimotic ring with preservation of foreskin” (preputioplasty). We rarely do circumcision even in our spina bifida population under treatment with clean intermittent catheterisation. In hypospadias repair, many Italian pediatric surgeons/urologists perform preputial reconstruction when feasible, and to avoid post-operative dissatisfaction, we have to explain very well in advance to the parents when we plan to remove the foreskin, even if clearly abnormal.

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Surgical intervention of the foreskin of children involves cultural, religious, historical, social and psychological issues. Old reports from ancient Egyptian documents describe circumcision as a method to differentiate between winners and losers/slaves. Circumcision is widely associated with religious rituals in Jewish and Muslims groups, and seems to have been incorporated as a medical procedure as late as the 19th century. Strict medical indications are the cure of phimosis or other specific conditions such as balanitis xerotica obliterans (B XO). It is also being recognized that circumcision provides some protection against urinary tract infections (UTI), especially if dilatation of the urinary tract and urinary stasis are present. Recent studies supporting that circumcision provides additional protection against sexual transmitted diseases (STD) have been reported.1

The procedure is practiced in most regions of the world and has been influenced by local cultural issues, despite the overall influence of globalization. The Brazilian population was formed by miscegenation of Europeans (who came as settlers or colonizers), Africans (slaves), Asian (Japanese immigrants) and native South American Indians. Due to a great cultural diversity, a tolerant society was generated despite significant differences in religious and cultural backgrounds. The majority of the population (approximately 180,000, about 30,000 people).2 There is a significant influence of the Afro-American culture, modified along the years as a result of diffuse miscegenation.

In Brazil circumcision is performed mainly by urologists, pediatric surgeons and, to a smaller scale, general surgeons. Pediatricians and obstetricians participate only as family counselors in discussions about circumcisioning the child. The procedure is generally accomplished under general anesthesia in pediatric patients, almost exclusively by medical doctors, with the exception of the Jewish ritual circumcision. Complications seem to be rare when specialists or non-specialists perform the procedure, but there is paucity of data in the local literature. In the Brazilian society circumcision for cultural reasons seems to be done more frequently in individuals from higher social classes. In the poor population the operation is performed almost exclusively when preputial disease is present. Amaral et al. reported an epidemiologic study where 5% of Brazilian children from public schools were circumcised compared to 50% from private institutions.2

Technically speaking, the diagnosis of phimosis is strictly reserved for those individuals unable to retract the foreskin after the physiological period (infancy), when preputial adhesions are normally present and prevent glans exposure. However, as in most parts of the world, there can be great confusion among family members and even caregivers to determine the presence of true versus “physiologic” phimosis. It is relatively common to receive referrals for circumcision with simple preputial adhesions in infants and toddlers with mild, non-fibrotic narrowing of the foreskin. It is not uncommon for medical doctors to advise mothers to forcefully retract the foreskin, a maneuver that can result in bleeding due to minor lacerations and leads to fibrosis and acquired phimosis. For this reason most pediatric specialists should not recommend this routine. Unfortunately there remains a significant number of physicians who still counsel retraction, or, worse, carry out forceful glans exposure during physical examination of male patients in the office, causing unnecessary psychological trauma in this group of patients.

In Brazil indications for circumcision are similar to the European population and the procedure is indicated only when medical conditions are present. Circumcision in the pre-school age group may cause significant emotional distress and feeling of castration. Psycho-analytic data support that the phallic phase of development can be affected by circumcision performed during this stage of psychological development and strongly advise against surgical procedures during this period. Although problems are usually transient, these children often question possibility of emasculation and even death related to the surgery and is not uncommon to see some patients exposing their genitals to adults or behaving with reassuring masculine attitudes after surgery.4,5

Another controversial issue related to circumcision is related to penile aesthetics after surgery. In some cultures the absence of foreskin is considered undesirable and in others very appealing. In Brazil the concept of normality includes an uncircumcised penis, with the foreskin covering the glans, at least partially. It is very common to have parents demanding a prepuce-sparing procedure to correct phimosis, which attests to their preoccupation with the issue. When circumcision is performed in Brazil it is not uncommon to see surgeons purposely leaving a segment of prepuce covering part of the glans, providing an uncircumcised looking penis. There are even some reports of litigations against surgeons, where the parents complain about the final appearance of the circumcised penis. As a result, complications such as recurrence of phimosis or preputial adhesions are relative more common than in classical repairs where the distal foreskin is completely removed. Interestingly, some parents express the desire to spare the prepuce even in situations such hypospadias, adding an extra challenge to achieve customer satisfaction in these special conditions. There are controversies regarding genital sensitivity in circumcised penis, an element often disputed by healthcare professionals, posing even more confusion to parents when deciding the need to the procedure for their children.

Medical treatment using topical steroids is very well accepted among Brazilians, which is easy to understand, considering the feelings to avoid circumcision. The excellent results using topical steroid treatment for phimosis often published in South American or European series are not easily reproduced in other parts of the world.6,7 In the North American health care system a significant percentage of parents come to clinic already determined to have circumcision and topical treatment, although not typically rejected, often brings frustration to the parents who feel that circumcision will eventually be necessary and the nonoperative treatment will likely not work. These feelings may be responsible for lack of compliance with topical treatment and could explain the unsatisfactory results observed in our services.

Typical indications for circumcision include failure of topical treatment, recurrent balanitis, associated congenital uropathies and BXO.10 Indications and discussions for and against circumcision will remain controversial in various parts of the world where the procedure is seen from diverse vantage points, depending on religious and cultural backgrounds. In our opinion the surgeons performing circumcision should be aware of these differences, tailoring their approach to the diversity of the populations they serve.

(continued on next page)
The Israeli Point of View

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At present, Israel which has recently celebrated its 60th Independence Day has a population of 7,282,000 people, including 5,500,000 Jews (75%), 1,260,000 Moslems (20%) and 322,000 others (5%). The Israeli society is even more intermingled than the Jewish population and is mainly formed from people who have emigrated from numerous countries all over the globe, representing different cultural backgrounds and a wide spectrum of attitudes towards religion. However, as circumcision is commonly practiced in the Jewish and Islamic faiths, the vast majority of this heterogeneous population eventually undergoes circumcision. Recent data show that over 52,000 Jewish, Muslim and Christian infants are traditionally circumcised in Israel every year.1 The aim of this review is to present some of the religious, cultural and medical aspects of this procedure in the various sub-populations composing the Israeli people.

RELIGIOUS ASPECTS

The Jewish Perspective

According to the bible, the act of circumcision represents a covenant made between Jewish males and God, as first performed by Abraham. Under Jewish law, circumcision is a mitzva asch (“positive commandment” to perform) and is obligatory for all Jewish-born males, and for Jewish male converts.2 It can only be postponed or avoided in the case of threat to the life or health of the child.

In healthy babies, Jewish circumcision is performed on the eighth day after birth in a ceremony called in Hebrew Brit milah, which means “Covenant of circumcision”. It is usually performed either at home with the presence of the close members of the family or in event halls, in presence of the whole extended family and friends, as a special celebration which is usually accompanied by a ceremonial meal. Typically, an experienced non-medical practitioner, called mohel, performs the procedure. The circumcision is composed of few obligatory steps. A flat metal guard with a central fine slit (Mogen = “shield”; see Figure 1) which grips the prepuce and protects the glans is applied, ensuring that the correct amount of skin is to be removed and the act of cutting is performed by a two-sided blade. The cutting edge of the inner prepuce is torn and the mucosal collar is pulled down and approximated to the proximal skin edge, and according to a ritual instruction, a few drops of blood should be drawn from the incision site before a haemostatic dressing is applied.3 Traditionally, this “sucking” act has been performed orally, though nowadays it is performed by using a glass tube which is placed over the cut penis and which obviates any contact of the neonate’s skin with the circumciser’s mouth. As no sutures are applied, a rolled tight dressing should be put to prevent bleeding and it should be routinely removed and changed with a less tight one, 20 minutes following the procedure, to verify that no excessive bleeding occurs. The whole procedure performed by a trained experienced mohel takes only few minutes, and is performed in neonates and infants up to the age of 6 months without anesthesia. In older children (>6 months) the procedure must be performed under some sort of anesthesia, by a licensed circumcising physician or a physician assisted by a mohel.

The Arabic Perspective

In Islam, circumcision is mentioned in some hadith, the oral traditions relating to the words and deeds of the Islamic prophet Muhammad., but not in the Qur’an. Some scholars state that circumcision is recommended (Sunnah) while others insist that it is obligatory, though most scholars note that it is not a requirement for converting to Islam.1 Currently, in the Muslim world circumcision is most prevalent, though the timing of circumcision is flexible, most often during infancy. Nowadays, in the Middle East region and particularly in Israel, the ritual circumcision is commonly practiced in the Jewish and Islamic faiths, the vast majority of this heterogeneous population eventually undergoes circumcision. Recent data show that over 52,000 Jewish, Muslim and Christian infants are traditionally circumcised in Israel every year.1 The aim of this review is to present some of the religious, cultural and medical aspects of this procedure in the various sub-populations composing the Israeli people.

FIGURE 1: Jewish ritual circumcision instruments including a glass tube for suction of blood, a double blade scalpel and a Mogen guard.
usually takes place during the first month of life, often around the age of 1 week, and is nearly invariably performed. Similar to the Jewish tradition, the procedure is often celebrated with members of the family and friends with a special ceremonial meal and prayers. Nowadays, in accordance with the increasing tendency in the Jewish society to prefer medical circumcision, there is a similar trend in the Arabic society, and Christian Arabs in Israel currently perform circumcision in more than 50% of the newborns, following the surrounding societal norms. However, despite the fact that Arabs constitute more than 20% of Israel’s population, there is still a paucity of data regarding the circumcisions currently performed in this sector of the population.

**CULTURAL ASPECTS**

In Judaism, the ritual circumcision is regarded as a deeply profound religious symbol, as it represents the fulfillment of the covenant between God and Abraham. Moreover, circumcision represents a fundamental part of a lifelong Jewish identity. However, there is an increasing tendency nowadays, among the more secular population, to perform this delicate procedure in an alternative, more friendly and more humane fashion. This population increasingly prefers medical intervention, performed by a physician, in order to ensure improved sterility and local anesthesia. Medical circumcisions are often performed by obstetricians, neonatologists, pediatricians, general practitioners, general surgeons etc., and only rarely by urologists, usually in the physician’s clinic and not in front of an audience.

**MEDICAL ASPECTS**

Complications of circumcision are rare in Israel, and in most cases are mild and correctable. The estimated current complication rate is around 0.34%, similar to the figures previously reported in the literature. However, despite the imposed obligation (by The Ministry of Health) of the emergency room staff to report every circumcision-related complication, there might be under-estimation as many complications are quite minor and do not deserve surgical repair, while others are diagnosed late and are mistakenly not attributed to the circumcision. Excessive bleeding is the most common immediate complication which is usually treated by local compression and dressing, though suturing may sometimes be necessary. Among the late complications, the most common are retained excessive foreskin, although shortage of skin or formation of phimosis, inclusion cysts, penile curvature and urethral fistula are also encountered. Nonetheless, there are still rare devastating cases of partial or complete amputation of the glans penis which should have been prevented by a careful surgical technique. A survey conducted in Israel in 2001, showed similar types of complications comparing circumcisions performed by ritual circumcisers and physicians, both being rare, mild and correctable.

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**The Japanese Point of View**

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At birth, there is normally a physiologic phimosis or inability to retract the foreskin. A couple of large statistical studies regarding the natural history of foreskin have been performed in Japan. Kayaba et al evaluated preputial retractability in 603 Japanese boys 0 to 15 years old and reported the incidence of completely retractable prepuce of 0% at 6 months of age and 62.9% by 11 to 15 years of age. However, the incidence of completely unretractable prepuce was 47.1% and 0%, respectively.

Globally, most circumcisions are performed for religious reasons. *Shinto* is a general term for the activities of the Japanese people to worship all the deities of heaven and earth, and its origin is as old as the history of the Japanese. In Japan, circumcision as a rite of passage of religion or culture is not requested by parents. Also, circumcision as prophylaxis for medical conditions is another proposed indication. Incomplete preputial separation has been considered responsible for colonization of the prepuce by pathogens, which leads to balanoposthitis or UTI, especially in the United States. Circumcision as prophylaxis to UTIs has been rarely performed in Japan because it is not a decisive reason for justifying indiscriminate circumcision. The incidence of carcinoma of the penis varies greatly with the standards of hygiene and the religious and cultural practices of different countries. In Japan, patients with penile cancer have an incidence of phimosis between 57% and 97% (including cases with retractile foreskin). However, neonatal circumcision to prevent future occurrence of penile cancer has never been customary in Japan possibly due to penile cancer being an extremely rare disease with an incidence of 0.4 to 0.5 per 100,000 men in Japan.

Several alternatives to circumcision have been recommended for phimosis. One option is retraction. In 2001, at the 10th annual meeting in Japanese Society of Pediatric Urology, current practice patterns for circumcision in children were investigated. Ninety-six Japanese physicians including urologists, pediatric surgeons and pediatricians were asked about foreskin retraction for asymptomatic phimosis as prophylactic therapy with 48% of the respondents agreeing while 48% disagreeing. Currently in Japan, retraction therapy for asymptomatic phimosis tends to be limited.

Another option is the use of topical steroids. The use of topical betamethasone for the treatment of phimosis has been easily accepted by Japanese physicians because it has been widely used to treat children with balanoposthitis. In Japan, the success rate for phimosis is between 84% to 94% without a reported complication. In Japan, the topical application of estrogen has a reported success rate of 76 to 100%, but gynecomastia is one of the complications. In Japan, many physi-
cians used to perform a dorsal slit for boys with phimosis as another alternative to circumcision. However, Matsuoka et al found 30% of boys expressed some dissatisfaction with the penile appearance after a dorsal slit. Therefore, elective dorsal slit is rarely recommended in Japan as the cosmetic result is unsatisfactory and hence formal circumcision almost always ensues. Preputioplasty is another option to circumcision. Preputioplasty has been less popular than expected in Japan because boys believe that the genital appearance of the exposed glans looks unusual.

Finally, immediate and definitive medical indications for circumcision in Japan are not different from those in other countries and communities. An absolute indication for circumcision is a pathological phimosis associated with voiding problems or balanitis xerotica obliterans and a relative indication is a recurrent balanoposthitis. Paraphimosis is one of the few urologic emergencies.

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The Indian Point of View

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India is multiethnic with a population over 1 billion consisting of Hindus, Muslims, Sikhs, Christians and others smaller sects. Also, India being a secular country, different practices are followed by different religious communities. Circumcision is not a commonly performed institutional procedure for two reasons: 1. Hindus (70%) and others including the Christians, Jains, Sikhs, Buddhist, Parsis, and Aryans (10%) form about 80% of the total Indian population and they do not practice circumcision as this is not part of their religion, and 2. there is a relatively small population of Jews and Muslims in India who practice the act on religious grounds at birth. Very rarely does a Hindu parent accept the procedure of circumcision of their male child. It is part of the ingrained Hindu psyche that having an uncircumcised member sets them apart from their Muslim colleagues. If needed they would prefer a dorsal slit of the prepuce.

The Moslem community, about 15% of the total Indian population, still follow the traditional method of ritual circumcision. This is mostly performed by local untrained persons experienced in the procedure. Only a smaller, educated and influential group has circumcision done in the hospitals. The ritual circumcision is also followed by a traditional feast in the family which includes the operator.

Medical reasons are a less common indication on the advice of the medical community. These include phimosis, balanoposthitis not responding to non-surgical procedures (adhesion lysis, stretching, application of ointments, and non-compliance by the patient or the parents), trauma, chronic urinary tract infection and the suspected chronic ulceration or malignancy in adults. The other still less common indications include prevention of sexually transmitted diseases and carcinoma of the penis. A study from South India reported an association of phimosis in 21% of cases of penile carcinoma while the incidence was only 12% in cases without phimosis.

The surgical procedure for ritual circumcision differs from that for medical reasons in non-Moslem communities. To make the circumcision effective and acceptable religiously (Moslem community), the prepubial skin needs to be excised sufficiently so that corona is visible all the time. The procedure should also be completed during the early months after birth, and surely before the first birthday. If performed for medical reasons in the non-Moslem communities, the corona needs to remain covered with the prepuce skin. It is also quite common that the parents would demand just a dorsal slit of the prepuce be performed so that the identity of the child with an intact prepuce remains. This keeps the latter socially distinct from the community practicing ritual circumcision. The technique of surgery also varies. Most surgeons practice excision of the prepuce skin with knife, cautereze the identifiable vessels, with careful attention to the frenular artery on the ventral side in the midline, and then suture both the skin layers with absorbable interrupted sutures. The use of the Plastibell is not at all popular in India. The traditional surgeons involved in this practice of circumcision are so good that there is less than 0.5% incidence of complications (bleeding, infection, injury to the glans, inadequate skin removal).

Religious circumcision includes the circumcision starting with stretching of the foreskin and pulling it forward as much as possible. With this act, the penis is almost withdrawn inside the body. Then the person places it on a flat object or chopping board which he has brought. He then uses the knife and removes the foreskin in a sharp and quick action where the foreskin removal does not last even a minute. The penis is then covered with a thick bandage where almost the whole penis is covered and a small part of the glans remains visible.

At birth, the meatus is barely visible at the glans. The separation of prepuce from the glans surface continues and is completed by the age of about 2 years. In babies with phimosis, the traditional method of blowing into the foreskin by the elderly women (called Dais) after an oil massage to facilitate the natural retraction of the foreskin in the Hindu community is still followed in villages. This facilitates the natural process of prepuce separation and thus prevents severe prepuce adhesions that may necessitate circumcision due to repeated urinary tract infections. Steroid or estradiol cream is rarely used for this purpose.

There is currently little information on the acceptability of male circumcision in India. Circumcised men have a lower risk of HIV-1 (continued on next page)
infection than uncircumcised men.\textsuperscript{7,9} Laboratory findings suggest that the foreskin is enriched with HIV-1 target cells. However, available data suggested that circumcision could simply be a marker for low-risk behaviour patterns. In a prospective study of 2298 HIV-uninfected men attending sexually transmitted infection clinics in India, it was reported that circumcision was strongly protective against HIV-1 infection (adjusted relative risk 0.15; 95\% CI 0.04-0.62; \( p = 0.0089 \)); however, no protective effect against herpes simplex virus type 2, syphilis, or gonorrhoea was noted.\textsuperscript{7} The specificity of this relation suggests a biological rather than behavioural explanation for the protective effect of male circumcision against HIV-1.\textsuperscript{7}

A cross-sectional survey was conducted among 795 women attending a reproductive health clinic in Mysore, India, on the acceptability of male circumcision.\textsuperscript{8} The majority of women were Hindus (78\%), 18\% were Muslims, and 4\% were Christians.\textsuperscript{8} After the women were informed about the risks and benefits of male circumcision, majority of women with uncircumcised children (\( n = 564, 81\% \)) preferred to have their children circumcised if the procedure were offered in a safe hospital setting, free of charge, and only a smaller number (\( n = 50, 7\% \)) were indecisive of the procedure.

There are sparse data on circumcision and HIV in India, which has the largest number of HIV cases in the world. The odds ratio for HIV among Muslims (circumcised) compared to Hindus (uncircumcised) was 0.43 (95\% confidence interval 0.29-0.67). Despite of the facts that a particular community has more partners and visits to commercial sex workers, the rates of syphilis and gonorrhoea were similar. The results suggest that a biological effect of circumcision protects against HIV infection.\textsuperscript{9}

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