

East African Medical Journal Vol. 97 No. 9 September 2020

**MALE CIRCUMCISION TRENDS AT A REFERRAL HOSPITAL IN WESTERN KENYA**

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**ABSTRACT**

**Background:** Circumcision involves excising sufficient foreskin of the penile shaft and inner epithelium leaving the glans uncovered. It is an old and common surgical procedure. Though simple, it is however associated with high complications.

**Objective:** To establish trends in the practice of male circumcision at Moi Teaching and Referral Hospital, Eldoret, Kenya

**Design:** A ten-year retrospective study

**Setting:** The Moi Teaching and Referral Hospital

**Subjects:** Three hundred and sixty-seven patient's clinical records during the study period

**Results:** A total of 367 records were reviewed with a mean age of circumcision at  $12.7 \pm 8.6$  years. The minimum age was one year and a maximum 78 years. Majority (38%) were circumcised during the months of December. About 58% of the respondents were circumcised at the outpatient department minor theatre and 42% in main theaters. Circumcisers were mainly nurses (53%), followed by surgeon (40%), Clinical Officers (5%), and lastly surgical registrars (2%). Phimosis was the most common medical indication for circumcision (69.4%). Majority 208 (57%) were circumcised as a cultural requirement compared to 156 (43%) who sought male surgical circumcision in hospital for non-cultural reasons.

**Conclusion:** Though male circumcision at MTRH still takes a cultural trend, voluntary circumcision is increasingly being embraced.

## INTRODUCTION

Circumcision aims at excising sufficient foreskin of the penile shaft and inner epithelium leaving the glans uncovered. It is one of the oldest, and one of the most performed surgical procedures. Generally thought to be a simple surgical procedure, it is associated with attendant high complications (1, 2). Many communities in Kenya practice adolescent male circumcision mainly for cultural reasons as a rite of passage. However, with the finding that it is protective in up to 60% in reduction of the risk of acquiring HIV, it has been recommended that it be integrated in the comprehensive HIV/AIDS intervention measures (3). There are other reasons for circumcision such as religious, medical or surgical such as phimosis and paraphimosis. Majority of cases of male Circumcision are performed by people with no formal medical training and in non-clinical settings (4). Circumcision is usually organized by parents, elders or church groups. Some parents get circumcisers perform the procedure at home or take their children to a health facility. There is, however, increasing number of cases of complications related to circumcision which have led to loss of the penile shaft or even death due to overwhelming sepsis especially during the peak circumcision season (5, 6). There is, therefore, a need to do an audit of our records for data that can be used in improving the provision of male circumcision services.

## MATERIALS AND METHODS

*Study Design:* This was a retrospective study performed at the Moi Teaching and Referral Hospital (MTRH) covering the period from 1<sup>st</sup> Jan 2006 to 31<sup>st</sup> Dec 2016.

*Study Participants/subjects:* The records of the patients circumcised over the period of study were identified from the medical records department and theatre record books.

*Data collection and Analysis:* Data was collected using a data sheet and then entered in an excel data sheet, cleaned and then analyzed. Descriptive statistics using mean for continuous data and proportion for categorical data were performed and presented.

*Inclusion and exclusion criteria:* Included were all males who were circumcised at MTRH while those who had penile abnormalities and were circumcised as part of the reconstruction and those who were circumcised elsewhere and admitted due to complications were excluded.

### *Ethical considerations*

The research was approved by the institutional research committee of Moi University and Moi Teaching and Referral Hospital.

## RESULTS

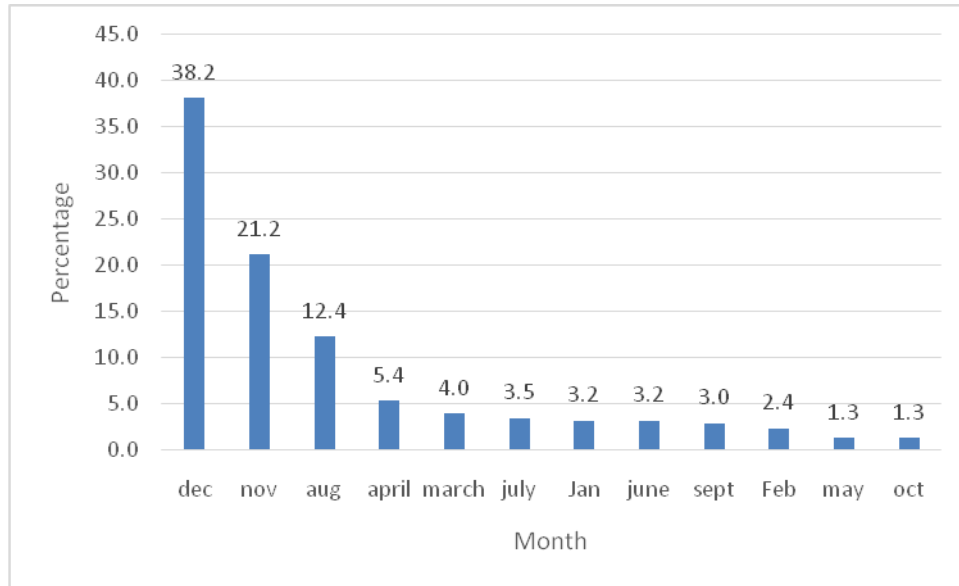
A total of 367 records were reviewed, thus the n<sup>th</sup> for the study was 367.

### *Age profile of the patients*

The age ranged from one year to 78 years with a mean of 12.7±8.6

### *Seasonal distribution of circumcision*

Majority (38%) of the clients were circumcised in December followed by November (21.2%) and August (12.4%).

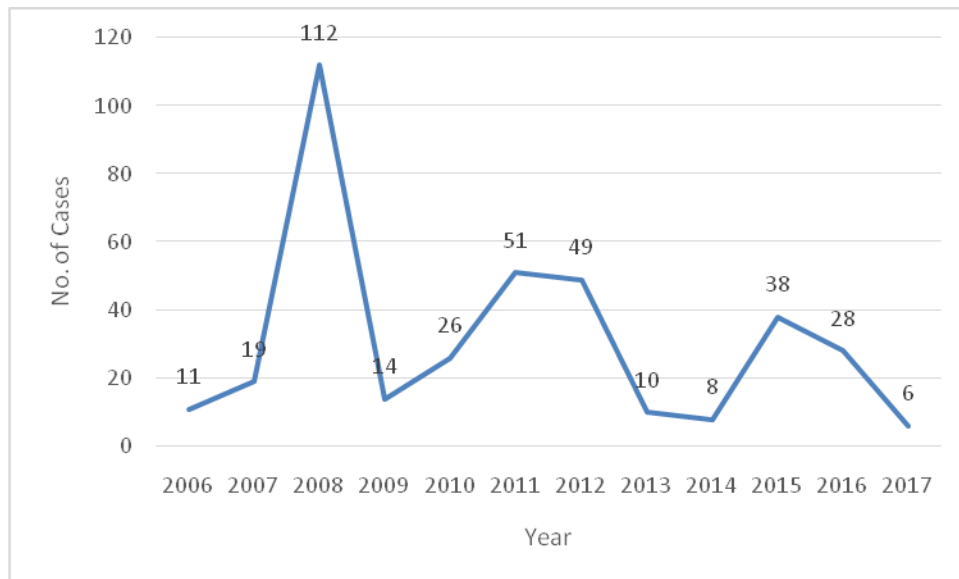


**Figure 1: Seasonal distribution of the pattern of circumcision at MTRH**

#### *Service point*

About 58% of the respondents were served at OPD minor theatre, followed by 42% performed in main theaters.

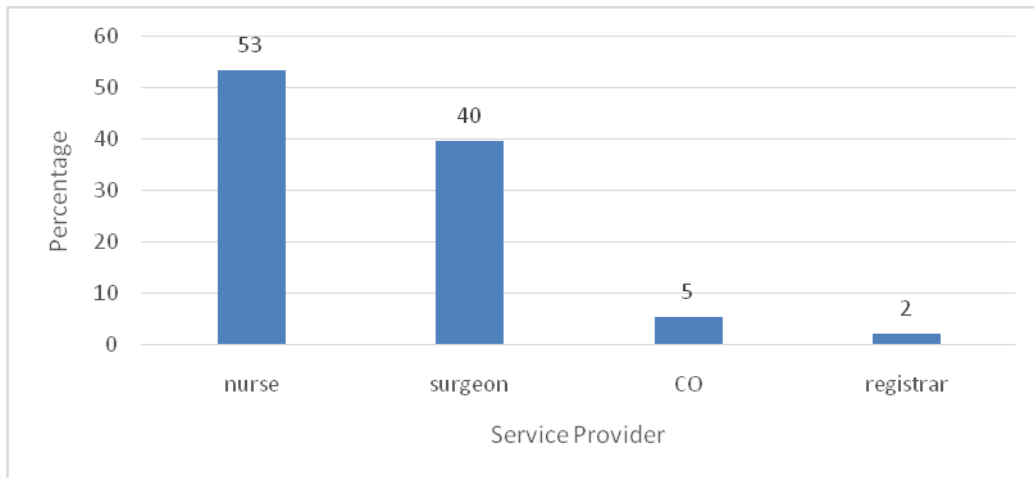
#### *Circumcisions performed yearly over the period of study*



**Figure 2: Trend of hospital circumcision at MTRH**

#### *Health professionals performing circumcision*

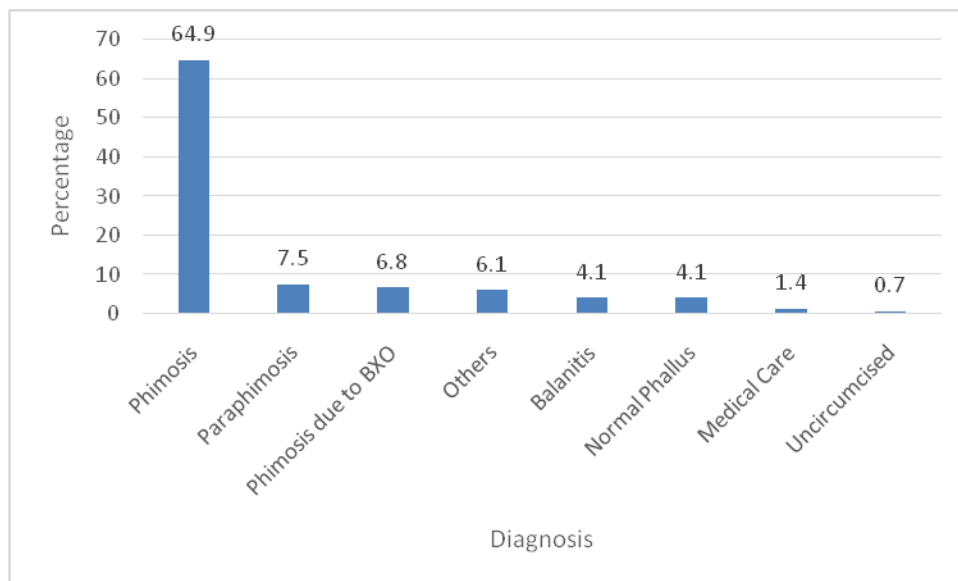
Most (53%) of the professionals doing circumcision were nurses while (2%) were surgical registrars.



**Figure 3: Cadres of health professionals performing circumcision**

*Medical indications for circumcision*

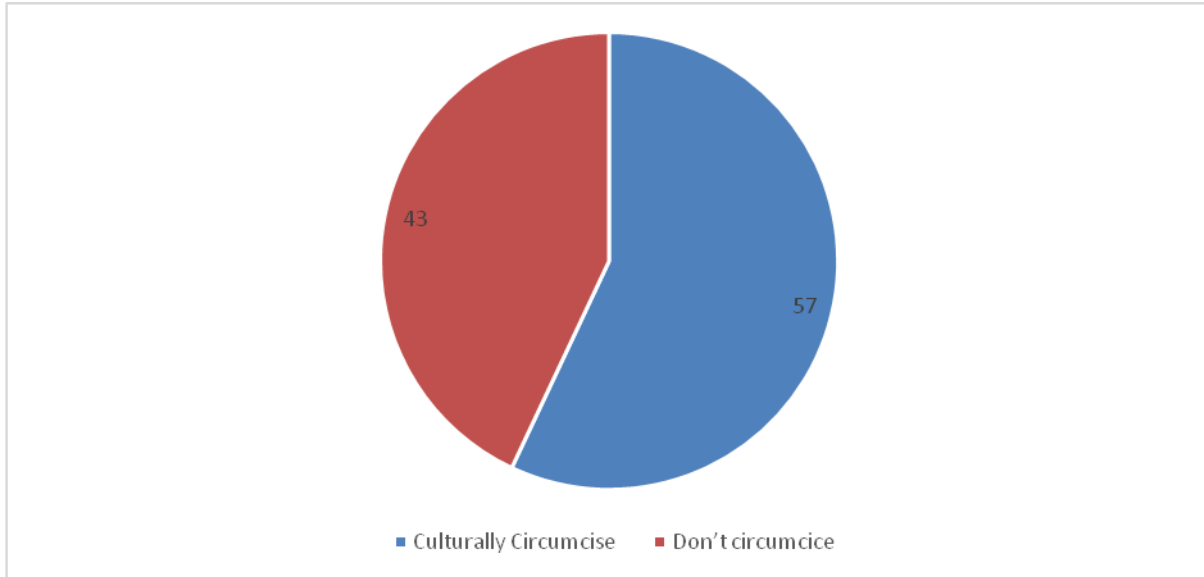
Among the indications, 69.4% of the respondents, Phimosis took the lead while a lower number (0.7%) were uncircumcised as indicated below: -



**Figure 4: Medical indications for circumcision.**

*Voluntary Circumcision (as a cultural and communities that do not practice voluntary circumcision)*

Fifty-seven per cent (57%) of the subjects belonged to communities with the cultural orientation of male circumcision while 43% belong to ethnic communities that were not.



*Figure 5: Distribution of cultural and non-cultural circumcision at MTRH.*

## DISCUSSION

A ten-year review from 1<sup>st</sup> Jan 2006 to 31<sup>st</sup> Dec 2016 of clinical records of patients circumcised at MTRH, a national referral Hospital, only yielded 367 records. This is a small number in a region that is inhabited by people who culturally practice male circumcision. It is highly likely that the inhabitants of this region prefer traditional circumcision to hospital procedure. Whereas rite of passage is the main indication for circumcision in the region, globally religion ranks top as the reason for male circumcision (7). Over the years, there has been modification of this rite of passage by gathering boys in circumcision schools within which the procedure is carried out and boys allowed to heal. In addition, some boys may still be circumcised at home during the circumcision season. In both cases, health workers may be hired to perform the procedure. Alternatively, traditional circumcisers perform the procedure in up to 74% of the cases in Kenya and as high 90% in neighboring Uganda (8, 9).

The peak season for circumcision at MTRH was during the months of August, November and December. This takes the pattern of cultural circumcision practiced by the communities that resides in the region, a period aligned to school holidays. Cultures tend to determine the time of the year when this rite is performed (10). There was however, an observed declining demand for circumcision in hospital over the period of study. There is trend of parents, irrespective of their social class, going back to cultural practice of rites of passage in many cultures in Sub-Saharan Africa. There have been cases of Africans in the Diaspora sending back their children to circumcision schools in their native countries to undergo this ritual. The dip in the pattern in Figure 2 occurs when communities do not circumcise. Some communities perform the rite after every two years, others during odd years. There is an acknowledgement even within international public health agencies that clinical male circumcision can never completely replace traditional male circumcision because of the existing and ongoing human resource

constraints and cultural implication of male circumcision (11).

The mean age of patients who underwent circumcision was  $12.7 \pm 8.6$  years, the youngest being one year and the oldest 78 years. Though showing a wide age range, majority are circumcised in childhood and adolescent, a common practice in many African cultures. This is in keeping with traditional male circumcision practice that is performed mainly on adolescents and young men (4). In most countries, the age of initiates ranges from 13 to 20 years (8-9, 12-14). Whereas majority of African communities perform adolescent circumcision as a rite of passage, with a self reported prevalence of 20% in Uganda and 80% in Kenya (8, 15), most communities however avoid neonatal circumcision. The latter has better long term clinical benefits such as prevention of cancer of the penis (14, 16). Neonatal circumcision is a delicate procedure that requires trained professionals and performed in a clinical setting (17). However, current evidence show that the medical benefits outweigh the risks and therefore neonatal circumcision should be encouraged (18). Neonatal circumcision has lower complications of up to 0.2-0.4% when performed by trained professionals in a clinical setting compared to 10 to 20-fold when performed on older boys (19). Neonatal circumcision has also been found to be more cost effective than male adult circumcision and therefore needs to be encouraged (20). Male circumcision has been proven to lower the risk of HIV infection (3).

It is therefore a good practice since majority of the initiates are likely to engage in risky sexual behavior. Majority of the boys (58%) were circumcised in minor theatre in outpatient department, as day care surgical procedure. Forty two per cent (42%) were circumcised in main theatre and mainly

patients with surgical indications. The minor theatre circumcised patients were mainly boys seeking circumcision during the circumcision season for their culture with no surgical indications. Phimosis was the most common surgical indication at 69.4%.

Majority of the boys seeking circumcision at the hospital (57%) came from communities that culturally practice male circumcision compared to 43% from the communities that did not. This is an extension of the cultural practice by those seeking hospital environments for circumcision which guarantees sterility and safety. It indicates that communities which in the past did not practice male circumcision are embracing it because of its known benefit and especially the proven benefits in HIV prevention (3, 21).

Just like in Nigeria and other West African countries nurses are the main service providers (22, 23). The decision of the ministry of health in training nurses to offer safe circumcisers is therefore in the right direction (24). Doctors perform the procedure in patients who have surgical indications because the procedure is likely to be more complicated. Circumcision is generally regarded as a simple surgical procedure, however, adequate training in the surgical skills is necessary to avoid serious complications that can affect both the urinary system and the sexual life of the patient permanently. Clinically there are three procedures than can be used in adult and adolescent male circumcision. These include, the forceps guided method, the dorsal slit and the sleeve method. The sleeve method is considered the tidiest but requires a higher level of surgical skill. All the procedures require suturing for haemostasis and to promote good and faster wound healing (25). It is also possible that the male nursing staff who performed most of the circumcisions in

the outpatient department are skilled in the cultural circumcision procedure preferred by the parents of some of the patients but modified by applying surgical sutures for haemostasis. One of the procedures is different from the conventional sleeve circumcision commonly practiced. It involves partial dorsal circumcoronal incision through the outer and inner preputial skin, then buttonholing the glans penis through the incision bringing the prepuce ventrally. When practiced culturally, there are no sutures applied on the edges of the skin, and there is no bleeding ventrally because the frenulum artery is not affected. Culture would demand that only male nurses would be allowed to perform such a procedure. The other culturally practiced procedure involves complete excision of the prepuce without application of sutures on the edges of the skin, and the wound heals by secondary intention. This carries the risk of excessive bleeding and skin loss, and a high risk of infection (26). However, when performed in hospital, sutures are applied, which give a dual benefit of homeostasis and good wound healing by primary intention.

*Recommendations:* A prospective study to capture patients who are circumcised in other health facilities will give an actual pattern of the trend of circumcision within the region.

### CONCLUSION

Male Circumcision that is carried out at MTRH takes a pattern of the cultural rite of passage observed in the tribes resident in the region. Voluntary male medical circumcision (VMMC) is picking up as indicated by the number of circumcision of males among communities that do not culturally circumcise and therefore needs to be encouraged.

However, the overall trend in numbers during the period of the time of study shows a decline in those seeking hospital circumcision. Neonatal circumcision which has more medical benefits and cost effective needs to be embraced as a practice in the region.

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