

The Practice Of Female Genital Mutilation Among The Rural Malays In North Malaysia

A Rashid, S Patil, A Valimalar

Citation

A Rashid, S Patil, A Valimalar. *The Practice Of Female Genital Mutilation Among The Rural Malays In North Malaysia*. The Internet Journal of Third World Medicine. 2009 Volume 9 Number 1.

Abstract

Introduction Female genital mutilation (FGM) is a serious problem occurring very commonly in the developing world and it has serious health implications. The purpose of this study was to determine the practice of FGM among the Malays living in a rural region of north Malaysia. Methods: The study is a descriptive survey supplemented by qualitative information conducted in five villages in north Malaysia comprising entirely of Muslim Malays. Results: 597 women who experienced FGM were interviewed and they cited religion as the main reason for the practice. It was commonly performed by a traditional practitioner of the art called 'Mak Bidan', but the more recent FGM were done in clinics by doctors ($P=0.000$). All female adults interviewed wanted the practice to go on ($P=0.05$). Comparatively the FGM practiced in these villages was less traumatic than that practiced in most other countries. In contrast with studies conducted elsewhere, the responders in this study believed that FGM actually helps to increase the female libido. Conclusion: The public and especially the 'Mak Bidan's' need to be educated on the dangers of female circumcision and the true requirements of circumcision in religion using an advocacy and social movement approach. This is best done by those from the state religious authority and it should be multisectoral, sustained and community led

INTRODUCTION

Female genital mutilation (FGM) is a serious problem occurring very commonly in the developing world. Female genital mutilation has been described by the United Nations as any non therapeutic caused injury to the female genitalia irrespective of cultural or religious purposes with the intention of reducing sexual responsiveness. 1, 2

The World Health Organization (WHO) classifies FGM into four types: 3

Type I: Partial or total removal of the clitoris and/or the prepuce (clitoridectomy).

Type II: Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision).

Type III: Narrowing of the vaginal orifice with creation of a covering seal by cutting and

appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation).

Type IV: All other harmful procedures to the female genitalia for non-medical purposes, for example: pricking,

piercing, incising, scraping and cauterisation.

It is estimated that 100 to 140 million girls and women worldwide are living with the consequences of FGM. 4 The prevalence and the forms of FGM differs within regions and even within a country due to many reasons especially ethnicity.3 In Africa, a serious form of FGM is practiced which involves the removal of the entire clitoris usually with the labia minora and sometimes even the entire external genitalia. Another form of FGM called infibulation is also practiced in Africa which involves the complete removal of the entire clitoris and the labia minora. The two sides of the labia majora are then partially sliced off or scraped raw and then sewn together. 4 Other less serious forms of genital mutilation have also been noted to occur in some countries in central and South America and Asia. Due to migration of people who practice FGM, the practice is now almost global. Women and girls of these families are undergoing or are at risk of FGM in their adopted countries. 3,4

Although FGM is illegal in Malaysia, Malays who comprise about 60% of the population 6 are known to practice both male circumcision and FGM. A hospital based study in Malaysia has shown FGM to be a common practice among

the Malays but with no clinical evidence of injury to the clitoris or the labia and no physical sign of excised tissue. 7

There are many reasons for FGM ranging from religion, tradition, fertility to cleanliness. Although FGM is commonly associated with Islam but not all Islamic countries practice

FGM and the practice is not exclusive to Muslims. 8 FGM was even condoned in United States of America during the 1950's. 9 The practice can be found among Egyptian Christians 10, Ethiopian Jews 11 and among some African animist tribes. 12 Many followers of Ethiopian Christian Church, Copts in Egypt and Islam claim that the procedure is compulsory, although Islamic scholars state that there is no such requirement of FGM stated in the Koran.⁵ Although large percentage of women whose genitals were mutilated are affiliated to the Islamic religion, FGM is a cultural practice and not a religious one as this practice is evident even before Islamization took place. 7 It is believed that FGM has its roots in the ancient African faiths and practices. 13

The objective of the study was to determine the practice of FGM among rural Malay women living in north Malaysia.

METHODS

Setting: this study was conducted in five villages in north Malaysia from 2008 to 2009. These villages comprised of 1581 Malay Muslims who were mostly farmers and fishermen. These five villages were chosen because they were easily accessible due to their proximity to the researcher's place of work. A private and a government clinic are available in a small town located 5 kilometers from these villages.

Study design: a cross sectional study design was chosen to achieve the objective of the study.

Sample: all the females residing in the five villages were eligible to participate in the study. Inclusion criteria included those who consented and who were able to communicate effectively. A traditional practitioner of FGM known as 'Mak Bidan' who had performed FGM on some of the respondents in these villages was chosen to be interviewed in depth.

Tools: information was collected using a questionnaire which was specially designed for this study. The questionnaire was tested on selected residents for clarity and the understanding of the questions. Face to face interviews

were conducted using this questionnaire in the respondent's homes. All female participants above the age of 18 answered on their own behalf and the mothers of all female children under the age of 18 who consented became the responders. The quantitative component consisted of questions pertaining to the demographic characteristics of the respondents, age FGM was done, the reasons, place and the person who performed it and whether the practice of FGM should continue. Only married women were asked whether the procedure affected sexual performance.

An in depth semi structured interview using an interview guide was conducted along with eye witnessing a FGM procedure by the 'Mak Bidan'. The 'Mak Bidan' was asked on the reasons for the practice, how she acquired the skills, charges, taboos, rituals, equipments and problems faced during the FGM. A focus group discussion was held to understand the reasons behind the FGM practice. A selected group of women from different age groups and the age FGM was performed were chosen to participate in the discussion. They were asked on the religious aspect of the practice, the effect on female libido, complications, costs incurred and choice of person performing the procedure.

Research ethics: this study was ethically conducted and had received the approval of the university research board. Informed consent was obtained from the respondents and the confidentiality of the respondent's is totally assured.

Data analysis: descriptive statistics was used to explore the data and the results were analyzed using the Statistical Package for Social Sciences version 13.0 (SPSS Inc, Chicago, IL, USA). Chi square test was used to analyze the relationship between the socio demographic variables and the preference for place and person doing the circumcision. A 'p' value of <0.05 was considered statistically significant. The qualitative data was analyzed systematically. The transcript was recorded and coded.

RESULTS

QUANTITATIVE RESULTS

There were 630 females in the five villages. All 597 villagers who had FGM performed on them responded either for themselves or their children, giving a 100% response rate. The age of the respondents ranged from one month of life to 91 years. Of the 597 responders, 35.7% (213) were less than 18 years old, 14.4% (86) were between the ages of 18 and 30 and 49.9% (298) were above 31 years of age. About nine percent (55) were illiterate, 39.5% (236) had

education up to primary school, 39.2% (234) secondary school, about four percent (26) tertiary school and almost eight percent (46) were not in the school going age. Most (275) were single, 44.1% (263) married, almost nine percent (52) widowed and about one percent (7) divorced. Most (323) were working and were earning more than RM 529 (US\$ 151) per month. The age FGM was done ranged from one month to 78 months. Majority (529) had FGM when they were less than 12 months old, almost six percent (35) between the ages 13 to 24 months and equal numbers when they were more than 24 months of age. The more recent FGM were commonly performed by doctors in clinics.

As shown in table I, those who were below the school going age (P<t;0.05) and those who were below the age of 18 (P<t;0.05) had FGM performed by doctors in clinics as compared to those who were or have passed the school going age and above the age of 18.

Figure 1

Table I. Person and place FGM performed according to education level and age

	'Mak Bidan' (home) n=405 f (%)	Doctor (clinic) n=170 f (%)	Unsure n=22 f (%)	Total N=597 f (%)
A. Education level *				
Below school age	19 (41.3%)	27 (58.7%)	0 (0%)	46 (100%)
Illiterate	47 (85.5%)	3 (5.5%)	5 (9.1%)	55 (100%)
Primary	155(65.7%)	69 (29.2%)	12 (5.1%)	236 (100%)
Secondary	167 (71.4%)	62 (28.5%)	5 (2.1%)	234 (100%)
Tertiary	17 (65.4%)	9 (34.6%)	0 (0%)	26 (100%)
B. Age *				
<18	106 (49.8%)	107 (50.2%)	0 (%)	213 (100%)
18 – 30	56 (65.1%)	27 (31.4%)	3 (3.5%)	86(100%)
=>31	243 (81.5%)	36 (12.1%)	19 (6.4%)	298 (100%)

* P<0.05

Irrespective of the education level and age of the respondents, religion was cited as the most common reason for FGM as shown in table II. They also said that no one objected to the procedure when it was carried out and majority of the 384 females who were above the age of 18 wanted the practice to continue as shown in table III (P<t;0.05).

Figure 2

Table II. Reason for FGM according to education level and age

	Religion n=520 f (%)	Tradition n=24 f (%)	Hygiene n=41 f (%)	Unsure n=6 f (%)	No comme nt n=6 f (%)	Total N=597 f (%)
A. Education level						
Below school age	42 (91.3%)	0 (0%)	4 (8.7%)	0 (0%)	0 (0%)	46 (100%)
Illiterate	50 (90.9%)	2 (3.6%)	3 (5.5%)	0 (0%)	0 (0%)	55 (100%)
Primary	206 (87.3%)	9 (3.8%)	14 (5.9%)	3 (1.3%)	4 (1.7%)	236 (100%)
Secondary	202 (86.3%)	9 (3.8%)	18 (7.7%)	3 (1.3%)	2 (0.9%)	234 (100%)
Tertiary	20 (76.9%)	4 (15.4%)	2 (7.7%)	0 (0%)	0 (0%)	26 (100%)
B. Age						
<18	193(90.6%)	4 (1.9%)	13 (6.1%)	2(0.9%)	1 (0.5%)	213 (100%)
18 – 30	71(82.6%)	5 (5.8%)	8 (9.3%)	1 (1.2%)	1 (1.2%)	86 (100%)
=>31	256 (85.9%)	15 (5%)	20 (6.7%)	3 (1%)	4 (1.3%)	298 (100%)

Figure 3

Table III. Opinion on whether FGM should be continued by education level and age

	Continue with Female Circumcision		
	Yes n=372 f (%)	No n=12 f (%)	Yes n=372 f (%)
A. Education level			
Illiterate	53 (96.4%)	2 (3.6%)	55 (100%)
Primary	121 (96.0%)	5 (4.0%)	126 (100%)
Secondary	173 (97.2%)	5 (2.8%)	178 (100%)
Tertiary	25 (100%)	0 (0%)	25 (100%)
B. Age *			
18-30 years	86 (100.0%)	0 (0%)	86 (100%)
>=31 years	286 (96.0%)	12 (4.0%)	298 (100%)

*P<0.05

The 263 married women were asked questions on their perception about FGM. Irrespective of age and the education

level, majority responded that FGM did not reduce their sexual desires as shown in table IV.

Figure 4

Table IV. Opinion on whether FGM reduces sexual desire by education level and age

	Continue with Female Circumcision		Yes n=263 f (%)
	Yes n=16 f (%)	No n=246 f (%)	
A. Education level			
Illiterate	2(6.9%)	27(93.1%)	29(100%)
Primary	7 (7.2%)	90(92.8%)	97(100%)
Secondary	6(4.5%)	126(95.5%)	132(100%)
Tertiary	1(20.0%)	4(80.0%)	5(100%)
B. Age			
18-30 years	1 (3.8%)	25 (96.2%)	26 (100%)
>=31 years	15 (6.3%)	222 (93.7%)	237 (100%)

QUALITATIVE FINDINGS

I. IN-DEPTH INTERVIEW WITH ‘MAK BIDAN’

An in-depth interview was held with, a practitioner of FGM also known as ‘Mak Bidan’ and first hand observation of the procedure was recorded. The ‘Mak Bidan’ was a 61 year old lady living a comfortable life with all her basic necessities of life fulfilled. According to her she does not need to work for money as her financial support comes from her husband, who is a retired soldier and her grown up children who were working. She emphasized that she was not practicing FGM for the money but to help the community fulfill their religious obligations and because of her duty to god.

The thought of her doing a noble service gives her the strength and the will to continue the job which she has been doing since she was 25 years old. Trained by her grandmother, she also conducts delivery and massage services for post natal mothers. According to her, she took up the responsibility because there was no one else who wanted to perform the procedure in the community. She charges a nominal fee of RM10 (US\$ 3.50) for the services rendered. She has no formal medical training and has only attended school for six years. On an average she does 2-3 FGM a month and appointments are required for preparations to be made before the procedure. FGM is not performed on Tuesdays and Sundays as according to her the

Malay community considers these as not auspicious days.

According to the ‘Mak Bidan’, FGM is preferred during infancy as early as 2 months because if done later the skin becomes too thick and the procedure will take a longer time to complete. The ritual of performing FGM traditionally varies from state to state in Malaysia. Generally, before the procedure is performed, offerings which consists of glutinous rice, eggs, virgin thread, daun sirih (Piper betel) and pinang (areca nut) along with the FGM fee is handed to the ‘Mak Bidan’ on a plate by the parents of the child.

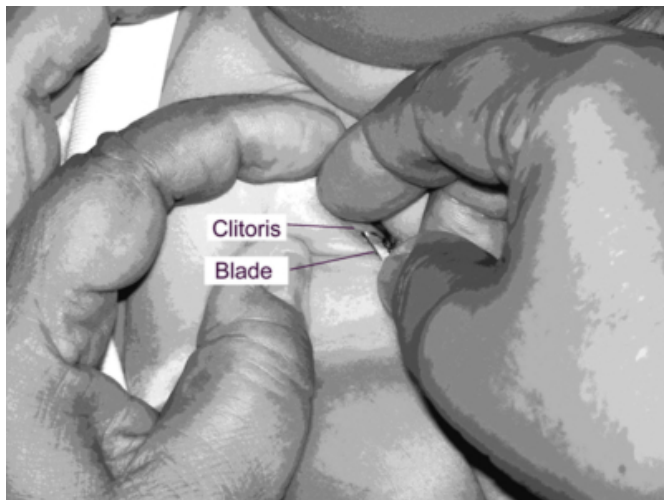
She uses a razor blade bought from a local sundry store. The blade is broken in half to produce a sharp pointed end while the other half is discarded. Razor blade is preferred as it can be disposed off after use and it is cheap. She emphasizes that only new blades are used to avoid any infection. All the materials used are not sterilized and the procedure performed without any sedation or anaesthesia. Gloves are not used throughout the process; however, the ‘Mak Bidan’ washes her hands with soap and water prior to the procedure

Preceding the ritual several prayers in praise of God and the prophet Mohammad is recited. The vagina is opened using the fingers and the procedure is limited to only nicking the tip of the clitoris or prepuce with the blade (Figure1). There is no major injury to the clitoris or labia. There is only a very small piece of teased out tissue and only a drop of blood from the cut which is then covered with a piece of cotton. According to the ‘Mak Bidan’ the drop of blood fulfills the requirement of the ritual. The tissue from the cut is then put on a cotton piece and given to the mother to be buried. From her experience and from what she has heard from other FGM practitioners, there has never been any case of infection or complications from the procedure.

According to her not many young people are interested in inheriting this skill and she dreads that these skills will one day be lost.

Figure 5

Figure I. Female Genital Mutilation (FGM)



II. FOCUS GROUP DISCUSSION

All ten women who volunteered were randomly picked to participate in the discussion felt that FGM is 'wajib' or a religious obligation and no woman is considered to be a Muslim if she has not undergone the procedure especially if they are of the Syafiee sect (there are 4 sects in Islam: Hanafi, Hanbali, Maliki, and Syafiee. Only the Syafiee sect regards female circumcision as compulsory). In Malaysia the majority of the Muslims are of the Syafiee sect.

They believe that it is written in the Holy Quran that performing the FGM ritual is compulsory although none of them were able to point out the exact verse in the Holy Quran where such an edict exists. According to them, usually FGM is performed anywhere between the age of 6 and 12 months, to avoid embarrassment. If someone were to convert to Islam, irrespective of her age she will have to undergo the procedure.

Unanimously they believe that FGM does not reduce the female libido and they believe that if FGM is not performed, the part of the clitoris which is supposed to be cut off will grow into a big piece of tissue and it will hang out of the vagina and this will make penetration during sexual intercourse difficult and cause decrease in sexual pleasure.

According to them, although there are doctors who perform FGM, they prefer the 'Mak Bidan' to perform the procedure because it is less costly and it is convenient as she usually comes to their homes to do this procedure. They were unaware if anyone had any complications following the procedure. They were receptive to the idea of having the procedure performed by a trained medical practitioner under

aseptic conditions. Again everyone was in agreement that this procedure will continue to be practiced by the coming generations.

DISCUSSION

All non therapeutic procedure to the female genitalia is considered to be FGM and this procedure has been recognized internationally as a violation of human rights of girls and women.^{14,15,16} Despite this all female respondents of this study had undergone FGM irrespective of their levels of education. Studies in Egypt show the incidence of FGM as 81.6%¹³, more (97.5%) uneducated families impose FGM on their daughters compared to educated families (66.2%)¹⁷

In general FGM is mostly carried out on young girls between infancy and 15 years of age. In Egypt virtually all FGM occurs before the age of menstruation, majority occurring between the ages 6-11¹³. In this study the most common age of circumcision was less than 12 months of age. This finding is consistent with another study conducted in Malaysia.⁷ The reasons for this could be because the 'Mak Bidan's' believe that it is easier to perform FGM on a soft skin at this age and probably because many parents want to avoid the embarrassment of having their children undergo FGM at an older age.

FGM is usually performed by an elderly woman with no medical training using unsterilized razor blades.¹ In Egypt, most FGM were performed at home and by mid wives¹³ and in Sudan FGM are commonly performed by traditional matrons, midwives and very rarely by physicians.¹² Findings of this study suggests that although FGM has been traditionally performed by the 'Mak Bidan's' at home but it was also noted that recently doctors and clinics are becoming popular choices for FGM.

In Egypt religious beliefs are strong predisposing factor for female genital mutilation.¹³ Similarly in this study religion was cited as the main reason for the procedure. Although FGM in Malay is known as 'Sunat' which means it is not a religious obligation (it is encouraged but it is not compulsory) yet most respondents believe that females who had not undergone the procedure were not Muslims. In Africa those who practice FGM believe that excision is a custom that must be complied with and a female who has not had this procedure is shunned and is perceived as not fit for marriage.⁵ In some societies, clitoris connotes maleness and the external genitalia is perceived as ugly and must be removed to make her more appealing to the male whereas

others believe that excision increases fertility.⁷ In Africa the most common reason for the genital mutilation is to eliminate the female sexual pleasure and thus keeping the moral behaviour of woman.⁵ In Sudan, it is believed that if clitoris is not cropped at a young age it will grow to an enormous size and dangle in between the legs like a man's penis.² However in this study, during the focus group discussion, enhancing the libido was cited as a reason for FGM. Here the respondents believe that the uncut tissue may grow and ultimately reduce sexual pleasure. This finding is in contrast to another study in Malaysia where respondents believe that the procedure was conducted to reduce the sexual drive of women.⁷

In some parts of the Middle East and Africa the procedures are carried out on unwilling children held down by force on the ground in dark huts. Crude knives or cutting tools are used and much physical and mental trauma is inflicted in the process.⁵ In Egypt, females have their clitoris and labia removed.¹³ In Sudan the procedure is equally crude, fusion or infibulation of the bilateral wound is performed.² These findings are completely the opposite of the practice in Malaysia. Here a tissue is teased out from the side of the clitoris with barely a drop of blood. According to the respondents there were no residual effects. Similarly in another study conducted in Malaysia, the physical examination showed no residual effects.⁷ This is in contrast to the crude forms of female genital mutilation carried out elsewhere where women experience severe pain, shock, urine retention, ulceration or fatal haemorrhage, infection, formation of cysts, abscesses, keloid scarring, urinary incontinence, dyspareunia, sexual dysfunction, urinary tract infection and infertility.^{1,2}

Although WHO passed a resolution forbidding medicalisation of FGM and to discourage health professionals from performing such surgery,¹⁸ unfortunately in Malaysia where it is illegal for doctors to perform FGM, some doctors are performing the procedure and are becoming a popular choice among parents.

In this study as well as in another study conducted in Malaysia the respondents affirmed that they will continue the ritual on their daughters because they see no harm in the procedure.⁷

CONCLUSIONS

FGM practiced by the Malay community in north Malaysia is not the same as the FGM performed elsewhere. It is generally agreed that religious institutions and ancient social

customs are responsible for the FGM in Malaysia although there is no definite statement in the Koran¹² to justify the practice and it is agreed that FGM and its irrationality and its harmful influence of religious circles promoting it should be combated.¹⁹ But it is also important to be cognizant of the fact that there cannot be one solution to fit all especially as different countries have different cultural, religious and legal background.

In Malaysia although FGM is labeled as illegal it is almost impossible to implement this rule. There is a fear that strict implementation of this rule could ultimately hurt women by driving it underground and out of medical reach. The believers may take a fanatic stand and practice FGM by visiting untrained practitioners who may unknowingly be transmitting more serious forms of infectious diseases like Human Immunodeficiency Virus (HIV) and Hepatitis B. It is imperative to address this public health problem with strategies which involve the undertaking of gender sensitive initiatives addressing the sexually transmitted diseases and to promote research and disseminate information on women's health.²⁰

The public and especially the 'Mak Bidans' need to be educated on the dangers of female circumcision and the true requirements of circumcision in religion using an advocacy and social movement approach.²¹ This is best done by those from the state religious authority and it should be multisectoral, sustained and community led. Among the Jewish and Arab population of Israel, an improvement in demographic and educational variables has managed to change the perception of the population of Israel on FGM.²²

LIMITATIONS

The study has some limitations. Due to financial and time constraints, the study was conducted in only five villages in a sub district in north Malaysia. The selection of these villages was based on convenience and they might not represent the population as a whole. The in-depth interview conducted by the researchers on one 'Mak Bidan' may not represent the practice through out the country and only a single focus group discussion which was conducted may not truly represent the opinions of the rural Muslim community on FGM.

References

1. Hamilton J. UN condemns female circumcision. *BMJ*. 1997; 314:1145.
2. Lightfoot-Klein H. The sexual experience and marital adjustment of genitally circumcised and infibulated females

- in Sudan. *The journal of sex research*.1989; 26:375-92.
3. World Health Organization. Eliminating female genital mutilation: an interagency statement UNAIDS, UNDP, UNECA, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNIFEM, WHO, 2008.
 4. Yoder PS, Abderrahim N, Zhuzhuni A. Female genital cutting in the Demographic and Health Surveys: A critical and comparative analysis, DHS Comparative Reports No.7(Calverton, MD:ORC Macro, September 2004).
 5. Hosken FP. Female genital mutilation: strategies for eradication. Proceedings of the 1st international symposium on circumcision; 1989 March 1-2; Anaheim, California. Available at: www.nocirc.org/symposia/first/hosken.html [Accessed August 13, 2008]
 6. Department of statistics. General report of the population census volume 1. Department of statistics. 1992. 1993. 1995. Kuala Lumpur.
 7. Isa AR, Shuib R, Othman MS. The practice of female circumcision among Muslims in Kelantan, Malaysia. *Reprod Health Matters* 1999; 7:137-43.
 8. Gaudio A, Pelletier R. [Women of Islam or sex prohibited] Femmes d'islam ou le sexe interdit, Gallimord Gonthier, Paris ;1980 : pp 53-4.French.
 9. Rathmann WG. Female circumcision: indications and a new technique. *GP* 1959; 20:115-20.
 10. Zenie Ziegler, Wedad. [The veil of Egyptian, Mercury of France] La face voile des femmes d'Egypte, Mercure de France, Paris.1985 : pp.62 & 140. French.
 11. Leslau W. [Customs and beliefs of falashas, (Jews of Abyssinia), Ethnographic Institute] Coutumes et croyances des falachas (juifs d'abyssinie), Institute d'ethnographic, Paris. 1957: p93. French.
 12. United Nations' Organization. Economic and social council, 1986. [Report on the traditional practice]Rapport sur les pratiques traditionnelles, Addis Abeda, 1990, p56: UNO, Economic and social council, E/CN. 1986;19. French.
 13. Badawi Mohamed. Epidemiology of female castration in Cairo, Egypt. Presented at the first international symposium on circumcision, Anaheim, California, 1989 March 1-2; 11.In press.
 14. World Health Organization. Female genital mutilation, Fact sheet no. 241 (Geneva: WHO, May 2008). Available at: <http://www.who.int/mediacentre/factsheets/fs241/en/> [Accessed July 22, 2008]
 15. World Health Organization. Female genital mutilation: an overview. Geneva, WHO, 1998.
 16. World Health Organization. Report of a WHO technical working group. Geneva. 17-19 July1995. Geneva. 1996.
 17. El-Saadawi N. The hidden face of Eve, Women of Arab World, Translated and edited by Sherif Hetata, Zed Press, London, 1980. pp34.
 18. WHO. Resolution of the regional committee for Africa, thirty ninth session, AFR/RC39/R9, Sept 13, 1989.
 19. Aldeeb AS. To mutilate in the name of Jehovah or Allah: Legitimization of male and female circumcision. *Medicine and Law*, 1994; 13:575-622.
 20. Yadav H. Status of women's health: The need for better access and affordable health services. *Asia Pacific J Public Hlth*, 2001; 13: 65-7.
 21. Molleman G, Franse L. The struggle for abandonment of Female Genital Mutilation/Cutting (FGM/C) in Egypt. Editorial. *Global Health Promot*.2009; 16:57-60.
 22. Halila S, Belmaker RH, Yunis AR, Froimovici M, Applebaum J. Disappearance of female genital mutilation from the Bedouin population of southern Israel. *J Sex Med* 2009; 6:70-3.

Author Information

Abdul Khan Rashid, MBBS, MHSc

Associate Professor, Department of Public Health Medicine, Penang Medical College

Sapna S. Patil, MBBS, MD

Department of Public Health Medicine, Penang Medical College

Anita S Valimalar

Medical student, AIMST University