Female Genital Mutilation (FGM) Registers in Health Facilities: A Novel Approach to Monitoring FGM Related Obstetric Complications

Sheriff T Sonko1, Abdou K Jallow2, Kunle Adeniyi3, Fatou Kinteh3, Amie Gaye1, Ba Foday Jawara2, Alieu Sarr4 and Mohammed L Janneh4

1A & T Consulting Services, Serrekunda, The Gambia, West Africa
2Reproductive and Child Health Unit, MoHSW, Kanifing, The Gambia, West Africa
3United Nations Population Fund, Cape Point, The Gambia, West Africa

Abstract

Introduction: The FGM Register is a good practice unique to The Gambia. Clinical data on FGM obstetrics and reproductive health complications and their management were collected in 37 Health Facilities (35 public and 2 private facilities; randomly selected from a total of 105 Health Facilities nationwide) from January 2013 to December 2016 using the registers. Objectives: (i) To assess the data quality of the FGM registers including obstetrics and reproductive health complications and its management in 37 health facilities (35 public and 2 private facilities) from 2013-2016 and (ii) To report on the FGM obstetrics and reproductive health complications and its management at health facility levels, documenting challenges of the FGM registers (i.e. data gaps, weaknesses etc.) and to make recommendations on how to improve the data collection system. Methods: Mixed method (quantitative and qualitative) data were collected for the assessment. For the quantitative data, nine enumerators used a pre-coded form similar in content and format to the FGM registers to transcribe the data from the registers. A total of 12 out of 37 health facilities were selected for the key informant interviews (KIIs) using a three-stage (i.e. tertiary, secondary and primary facilities) systematic sampling procedure. Three supervisors conducted the KIIs with the service providers. Results: The qualitative assessment found clinical data on 7,813 girls and women aged 10-49 years who had undergone FGM. Excision (Type II, n=4,027; 51.5%), was the most common form of FGM the women have undergone followed by clitoridectomy (Type I, n=2,807; 35.9%), and infibulation (Type III, n=401; 5.2%) and FGM status (n=578; 7.4%) was not recorded. The data suggest that all ethnic groups practice Type III FGM and increasing. The qualitative assessment found good knowledge base among the service providers (health personnel) on the obstetrics and FGM complications and its overall management at the health facilities. Limitations: The limitations include: the absence of a control group (i.e. girls and women who have not undergone FGM), registers not filled in on regular basis for 12 calendar months, incomplete records for most variables and no standardized ways of data entry into the FGM registers, resulting in huge variations from one health facility to the other. Conclusions: With improvements in data quality over time, the registers can be valuable source of clinical data on FGM research. Specifically, the register has the potential to transform attitudes towards FGM, and improve the reproductive health of affected individuals, with positive trickle down effects, if the data are disseminated in a timely and accessible format.

Keywords: FGM Registers; Prevalence; The Gambia; FGM: Female Genital Mutilation; Reproductive health

Introduction

Female genital mutilation (FGM) comprises all procedures that involve the partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons [1]. According to UNICEF [2], globally, over 200 million girls and women have undergone some type of FGM and each year, about 3 million girls are exposed to the risks of FGM in 29 countries mostly in sub-Saharan African (stretching from Senegal in Western Africa, Egypt in Northern Africa, Somalia and Kenya in Eastern Africa to the Democratic Republic of the Congo (DRC) in Central Africa and Southern Africa) including parts of Asia, the Middle East and among diaspora communities in the USA, Australasia and Europe. Several reasons have been advanced for the practice of FGM. These include the rites to adulthood, marriageability, purity and sexual control, among others.

Nevertheless, FGM is internationally recognized as a violation of the human rights of girls and women and constitutes an extreme form of discrimination against women due to the severe health consequences and the pain and risks involved [1]. There have been calls over the years to ban the practice in several African countries, including The Gambia.

The WHO [1], classified FGM into the following four broad categories:

- Clitoridectomy (Type I): Partial or total removal of the clitoris and/or the clitoral hood.
- Excision (Type II): Partial or total removal of the clitoris and labia minora, with or without excision of the labia majora.

DOI: 10.0000/JHSE.1000119 J Health Sci Educ Vol 1(3): 1-6
Infibulation (Type III): Narrowing of the virginal orifice with creation of a covering seal by cutting and placing together the labia minora and/or the labia majora, with or without excision of the clitoris.

Unclassified (Type IV): All other harmful procedures to the female genitalia for non-medical purposes, for example, pricking, piercing, incising, scraping and cauterturezation. FGM is widely practiced in all the regions of The Gambia and among most ethnic groups. The first nationally representative household survey to measure the prevalence and attitude towards the practice of FGM in the country was in 2005/6. According to the results, the overall prevalence rate was 78.3% and 71.1% of women aged 15-49 years believe that the practice of FGM should continue.

FGM prevalence was highest in the Basse and Mansakonko Local Government Areas (LGAs), 99% and 95.9% respectively and lowest in the Kerewan and Banjul LGAs, 60.8% and 44.8% respectively [3]. The most recent household survey results, [4] showed an overall prevalence of 74.9% with 65% of women aged 15-49 years who believed in the continuation of FGM. Prevalence was highest in the Basse LGA (90.5%) and Mansakonko (81.7%) and lowest in the Kuntaur LGA (40.8%) and Banjul (38.5%) with predominantly Wollof population most of whom do not practice FGM.

The Gambia is the 27th sub-Saharan African country to legislate against FGM. On November 24th 2015, the country joined 18 sub-Saharan African countries, including Nigeria to ban the practice. The National Assembly passed a bill on December 28th 2015 criminalizing the practice of FGM in The Gambia. This is consistent with the WHO [5] policy of zero tolerance against the practice of FGM.

Since 2009, the UNFPA and UNICEF-Gambia Country Offices have been supporting a joint programme for the accelerated abandonment of FGM in The Gambia with stakeholders from the Ministry of Health and Social Welfare (MoHSW), the Women’s Bureau and Non-Governmental Organization (NGO) partners, such as the Gambia Committee against Traditional Practices (GAMCOTRAP) and the Foundation for Research on Women’s Health, Productivity and the Environment (BAFROW). The MoHSW is responsible for the coordination and training of health personnel on the health and reproductive complications of FGM and its overall management. The Women’s Bureau under the Office of the Vice President and Ministry of Women’s Affairs is responsible for the coordination of legislative, policy and programme initiatives to address FGM whilst the GAMCOTRAP uses the cluster approach in its social mobilization activities with radio programmes as complements. BAFROW also uses a cluster approach to their interventions in the campaign against FGM in addition to mass public sensitization against the practice they do fistula repairs and rehabilitation of treated fistula patients.

The Wassu Gambia Kafo is an international NGO operating in The Gambia since 2008 to promote the abandonment of FGM. The NGO emphasises the need to preserve the cultural value of FGM practice with knowledge and respect as core values. Thus, Wassu Gambia Kafo uses a scientific approach where applied research on the “socio-cultural reality of FGM/C and its health consequences are conducted and the knowledge is transferred in a culturally respectful way to key social agents for them to be the ones transferring it to the society” [6]. In addition to preventive work on FGM and knowledge transfer, Wassu Gambia Kafo is promoting an alternative rite of passage called initiation without mutilation [6].

With funding from the Joint UNFPA and UNICEF Programme on FGM, the Wassu Gambia Kafo in 2011 supported the MoHSW to train 35 health professionals in the Central River Region (CRR) on the obstetrics, health and reproductive complications of FGM and its management including strategies for the prevention of FGM. In partnership with the Reproductive and Child Health Unit (RCH) of the MoHSW, the Wassu Gambia Kafo conducted similar trainings for health professionals on FGM in five different regions of the country for two weeks in January 2015 [6].

In July 2012, the MoHSW with financial support from the UNFPA Country Office developed and maintained the FGM Registers. The FGM Register is a good practice unique to The Gambia. Clinical data on FGM obstetrics and reproductive health complications and their management were collected in the 37 Health Facilities (35 public and 2 private facilities; randomly selected from a total of 105 Health Facilities nationwide) from January 2013 to December 2016 using the registers. From the outset, it is worth stressing that this is an assessment of the data quality collected in the registers and not an FGM research per se.

Objectives

In late 2016, the UNFPA funded a consultancy; (i) to assess the data quality of the FGM registers including obstetrics and reproductive health complications and its management in 37 health facilities (35 public and 2 private facilities) from 2013-2016 and (ii) to report on the FGM obstetrics and reproductive health complications and its management at health facility levels, documenting challenges of the FGM registers (i.e. data gaps, weaknesses etc.) and to make recommendations on how to improve the data collection system.

Methods

This study was an assessment of the data quality of the FGM registers and the obstetric and reproductive health complications and its management at health facility levels. Mixed method (quantitative and qualitative) data were collected for the assessment. For the quantitative data, nine enumerators used a pre-coded form similar in content and format to the FGM registers to transcribe the data from the registers. A total of 12 out of 37 health facilities were selected for the key informant interviews (KIIs) using a three-stage (i.e. tertiary, secondary and primary facilities) systematic sampling procedure. Three supervisors conducted the KIIs with the following category of service providers (Midwives,
Nurses, Gynaecologists, Community Health Nurses (CHNs), Tutor/Regional Principal Nursing Officers (RPNOs), Officers-in-Charge (OICs) and the staff responsible for entering data in the FGM registers at the health facilities. The data collection (quantitative and qualitative) lasted for a period of six days. The Census and Survey data processing software (CSPro version 6.1) was used for data entry and cleaning. The tables were generated using STATA version 14 and a team of six persons compiled and analysed the KII.

Results

Curiously, the registers do not include girls and women who have not undergone FGM (control group) to compare with those who had undergone FGM. A total of 7,813 girls and women aged 10-49 years who had undergone FGM and delivered in the 37 health facilities from 2013-2016 were found. The mean ages for women with type I FGM is 24.9 years, type II (24.8 years) and type III (23.1 years). The overall mean age is 24.9 years. Mandinka, Fula and Jola ethnic groups constituted 42.3%, 30.6% and 9.7%, respectively. This is followed by Wolof (8.4%), Sarahule (5.2%), Serere (1.1%), other (1.1%), Bambara (0.9%), Manjago (0.5%), Aku Marabout (0.2%) and 1.4% have not stated their ethnicity.

Overall, excision (Type II, n=4,027; 51.5%), was the most common form of FGM the women have undergone followed by clitordieotomy (Type I, n=2,807; 35.9%), and infibulation (Type III, n= 401; 5.2%) and FGM status (n=578; 7.4%) was not recorded. Among women who have undergone type III FGM, the practice was highest among the age group 15-19 years, 7.3% and 20-24 years, 5.9% and lowest among the 40-44 age group, 1.7%. The data suggest that all ethnic groups practice Type III FGM. Type III FGM is more common in the Central River Region (CRR), 8.9%, followed by Western Region 1 (WR 1), 7.2% and Western Region 2 (WR 2), 5.4%. It is least practiced in the Upper River Region (URR), 0.5%. This may be due to under-reporting as the URR has the worst FGM register coverage rate of 4.2%.

Prolonged labour and haemorrhage are the leading obstetric conditions experienced by girls and women who had undergone FGM. Overall, 13.6% of women experienced prolonged labour. It is highest among young women aged 10-14, 15-19 and 20-24 years with 22.2%, 19.2% and 16.7% respectively and among older women aged 45-49 years (13.3%).

Prolonged labour and haemorrhage accounts for 2.5% with the highest rates among women aged 40-44, 6.7%, followed by women aged 30-34 and 35-39 years each with 2.7% and women aged 15-19 years, 2.5%. Tears accounts for 0.8% and is highest among women aged 10-14 years, 5.6% and lowest among women aged 25-29 years, 0.4%. Fistula accounts for 0.3%. For FGM complications, tears, 10.4%, account for the highest overall proportions. The age-specific rates for tears are 12.8%, 12.2% and 11.1% respectively for women aged 20-24, 15-19 and 10-14 years. The above figures (e.g. haemorrhage, prolonged labour, birth asphyxia and tears) should be treated with caution due to the high rates of “not stated” categories ranging from 40.9% to 51.5%.

As shown in the quality of the responses of the KII, there is a good knowledge base among the service providers (health personnel) on the obstetrics and FGM complications and its overall management at the health facilities. Here are some quotes from the KII on the health effects of FGM e.g. prolonged labour, tears and haemorrhage.

“It (FGM) causes prolonged labour during deliveries and perennial tears, fresh still births, episiotomies, septic tears or episiotomy after delivery. It also causes a lot of pain to the woman undergoing labour, repeated urinary tract infections, irregular bleeding, and vaginal bleeding and also causes fetus distress” (Kerewan Health Centre).

Another service provider from Bansang Hospital made similar remarks:

“It (FGM) can cause health complications during labour and delivery and prolonged delivery can cause tears. I have seen certain complications like growth/keloids around the clitoris. Infections can also happen because the knife/razor blades were not sterilized and because of that FGM victims are prone to infections. Sometimes these infections can lead to infertility. I have seen a girl who reported to me that she does not enjoy sex because she was opened up when she got married” (Bansang Hospital).

The results on the type of FGM management at the health facilities are quite alarming. Overall, suturing/repair account for more than half (50.9%), followed by episiotomy, 7.8%, de-infibulations, 2.3% (n=96) mostly among women aged 15-29 years and augmentation 1.1%. The results are similar across age, ethnicity and region. The following two quotes from the KII describe in detail the type of FGM management undertaken by the health personnel.

“We first of all prepare them very well in order to avoid complications by assessing those who can deliver without problems. Those who are found to likely develop complications such as tears and excessive bleeding, are given episiotomy which is easier to suture and less likely to bleed excessively. Women who cannot be helped at all are referred for Caesarean Section (C/S) to be done to save the baby from distress due to prolonged labour and to avoid the mother having a deep tear which could be difficult to repair” (Jammeh Foundation Hospital).

“During delivery, I advise the nurses to do episiotomy to every woman who has a severe form of FGM, in order to prevent tears and also to give more space for the baby to pass easily. Because it is difficult to repair natural tears, we train our nurses on how to give episiotomy and stitch. In other ways where episiotomy cannot be done because the baby does not descend well and labour could be delayed, I do Caesarean Section (C/S). For women who have infertility due to FGM, I advise them to exercise” (Serekunda Hospital).

Since FGM has negative health consequences which could be both physical and psychological; Key informants interviewed during this assessment prescribed the treatment of medical conditions for women who developed complications.
related to FGM but they also believed that victims of FGM should be counselled and sensitized to increase their knowledge on the causes of their conditions. The counselling should also target their spouses for them to better understand the effects of FGM. Below are some of the statements recorded from the key informant interviews:

“There should be on-going counselling of the women, their spouses as well as all their family members. Some women encounter short-term complications whereas others encounter long-term complications. Those who develop short-term complications can be cared for immediately and if possible reverse their problems. When they are totally stable, health education is given to allow them understand the relationship between FGM and their complications. On the other hand those with long-term complications need to directly involve their families in their care in order to make future plans for their care e.g. in the case of the fistula which needs future operation and which is sometimes critical” (Jammeh Foundation Hospital).

“Educate and support them and highlight to them the reasons why they are experiencing these complications, this could help them prevent their children from undergoing the same procedures. Most of the complications they develop during labour and delivery are manageable at the level of the maternity wards. We even receive referrals from minor health centres to deal with e.g. 3rd degree tears. We stand by our vision to provide quality health care to the communities we are serving” (AFPRC Hospital).

Discussion

This is the first attempt to assess the data quality of the FGM registers since their introduction in July 2012. The clinical data from the FGM registers show a prevalence of 35.9% for Type I, (n=2,807), 51.5% for Type II, (n=4,027), 35.9% for Type III, (n=401) and FGM status (n=578; 7.4%) was not recorded. These are imprecise prevalence estimates, which do not take into account the girls and women who had not undergone FGM. Thus, the overall prevalence (Types I, II and III) of 92.6% from the FGM registers is not consistent with previous studies [4,9] at 74.9% and 75.6% respectively.

In general, the data quality of the registers, which is discussed in detail under limitations, is poor and there are major weaknesses. However, some of the findings are quite revealing and consistent with most studies. With improvements in data quality over time, the registers can be valuable source of clinical data on FGM research.

From this assessment, 7,813 women and girls had undergone the three types of FGM, a yearly average of 1,953 women and girls. This is by far the largest FGM clinical cases compared to the entire peer reviewed published studies on The Gambia [7-9] with small sample sizes of 1,157, 871 and 570 cases respectively. In fact, a most worrying finding from this assessment is that Type III FGM, which was a rarity in The Gambia, is now on the increase. According to peer-reviewed published research on The Gambia [7,8], Type III FGM were 10 and 65 clinical cases respectively in 2001 and 2011. By contrast, 401 cases of Type III FGM and counting were found in the data set. The results suggest that all ethnic groups in one small measure or other practice type III FGM and it is more prevalent among younger women aged 15-29 years. The question is: why would mothers subject their young daughters to this most severe form of FGM with all the attendant health consequences? What are the real motivations for Type III FGM? The reasons for the huge increase in Type III FGM are not clear. There is need for research on the upsurge of FGM III in The Gambia.

Similarly, de-infibulations (2.3%, n=96) was also found among young women aged 15-29 years. There are severe long-term health consequences for girls and women who have undergone de-infibulations. The finding has policy implications and calls for concerted efforts on all stakeholders, including the UNFPA, UNICEF, the government and the NGO partners. This is all the more urgent given that FGM is banned and practitioners are now more likely to go underground including the medicalization of FGM.

According to the results, the leading obstetric conditions experienced by girls and women who had undergone FGM are prolonged labour, haemorrhage, episiotomies, birth asphyxia and tears. Younger women aged 10-24 years mostly bear the brunt of these obstetric conditions followed by older women aged 45-49 years, which are consistent with previous studies [9-11].

The results from the KII’s also show high knowledge among the service providers (health personnel) on the obstetrics and FGM complications and its overall management. The findings from the KII’s are consistent with a study which measures changes in knowledge, attitudes and practices on FGM among 1,288 health care professionals and students of health sciences in The Gambia between 2012 and 2014. The results showed that 76.4% are “eager to abandon FGM, and 71.6% regard it as a harmful practice with negative consequences on life and health”. By contrast, 25.4% want the continuation of FGM; whilst 24.4% expressed intention of subjecting their own daughters to undergo the practice and 10.5% (n=135) declared to have performed FGM ‘within their professional praxis’. Interestingly, the study showed that medicalization of FGM is still supported by close to 30% of health care professionals. Barring these caveats, the findings confirm that the training of health care professionals to enable them to identify the practice, be more aware of its health complications and more concerned of their essential roles as social agents of change was, in general, a success [12].

Since 1996, the Population Council [13] has an on-going project, “A Research Agenda to End Female Genital Mutilation/Cutting (FGM/C) in a Generation”. Twelve sub-Saharan African countries (Burkina Faso, Egypt, Ethiopia, Gambia, Ghana, Guinea, Kenya, Mali, Nigeria, Senegal, Somalia and Sudan) and Indonesia are listed as potential participants.

However, project activities are currently being implemented only in seven countries – Burkina Faso, Egypt, Ethiopia, Ghana, Kenya, Nigeria and Senegal. The MoHSW should explore the possibility of funding for the FGM registers from this project. The reliance on a sole source of

DOI: 10.0000/JHSE.1000119 J Health Sci Educ Vol 1(3): 1-6
funding for most of the reproductive health interventions is no longer a viable option. There is greater need now more than ever to seek for alternative funding sources, particularly for the FGM registers.

**Self-reported FGM versus clinical examination**

All household survey data on FGM are self-reported by women aged 15-49 years; See for example [3,4]. By contrast, most peer-review published research on FGM is based on clinical examination of the women aged 15-49 years. According to Shell-Duncan B, et al. [14], researchers have recently assessed two aspects of self-reported data, namely: 1) the reliability of women’s self-reports about having been cut or not and 2) The reliability of self-reports of the type of FGM/C performed. The women’s self-reports about having been cut or not were then compared with clinically observed signs of FGM.

A study in The Gambia [7] found 3% disagreement between the women’s self-reports and the clinical examination. By contrast, similar studies conducted in Tanzania and Nigeria; See for example; [15-18] found disagreements in more than 20% of the women. All these studies [7,15-18] were conducted long before these countries legislated against FGM. Thus, it is reasonable to conclude that the magnitude of errors; 3-20% of self-reported data on FGM cannot be attributed to the ban on FGM. However, in a longitudinal study in Ghana, Jackson et al. [19], found discrepancies among large number of adolescent girls who initially reported having undergone FGM but subsequently denied being cut. The researchers concluded that the denials of the adolescent girls were at the time influenced by anti-FGM campaigners and the legislation banning FGM in Ghana. According to Askew cited in Shell-Duncan et al. [14], the context in which the FGM status questions are asked should be considered. For instance, if the practice of FGM is socially acceptable and widespread without any publicized anti-interventions that may bring into question its acceptability and legality, then self-reporting is likely to be valid. However, if the reverse is true, i.e. FGM is socially unacceptable with publicized anti-interventions and questions about its legality or legislation against the practice, then self-reporting is likely to be invalid. It is important to bring this to the fore as The Gambia finds itself in an analogous situation like Ghana where FGM is now banned.

As The Gambia prepares to conduct its fifth round of the Multiple Indicator Cluster Survey (MICS) in December 2017, it would be interesting to see how the women’s self-reported FGM status would influence the prevalence in the context of the FGM ban. In this regard, the utility of household survey data will be greatly enhanced if backed by clinically observed data from the FGM registers.

More importantly, this issue of self-reported FGM versus clinical examination is discussed to make a case for the FGM registers, where clinical data are recorded following an examination. It is strongly argued here that the future of FGM research would be clinical data. The reasons are not far-fetched when succeeding generations find FGM socially unacceptable and distasteful to report their FGM status.

**Limitations**

One of the major limitations is the absence of a control group (i.e. girls and women who have not undergone FGM) in the registers to compare with those who had undergone FGM. Despite the abundance of data on the health and FGM obstetric complications and its management in the registers, the absence of a control group has greatly hampered a more robust analysis of the data.

There are huge data gaps in the registers. Most of the registers were not filled in on regular basis for 12 calendar months. The records were incomplete for most variables resulting in large categories of “not stated” ranging from 40.8% to 51.5%.

There are no standardized ways of data entry into the FGM registers. There are huge variations in data entry from one health facility to the other; including the misclassification of entries, terms etc. The coders corrected the misclassification of entries, terms and other errors before the data entry. The procedures for staff handing-over at the health facilities are mostly not strictly adhered to, thus, new staff is unlikely to know the existence of the FGM registers.

**Way forward**

Meanwhile, the UNFPA is supporting the MoHSW to address the recommendations emanating from the assessment. These include: the need to revise the registers to capture all women regardless of their FGM status; the need to streamline the variables in the registers in a bid to reduce the workload of entering too many details; the need to train staff on how to fill the registers and to provide instructions on how to fill the register on the cover pages. This training should emphasise the need for standardized data entry and to reduce data gaps and minimize missing cases. Also, terms and definitions should be thoroughly explained to avoid misclassification of entries into the registers. One key recommendation is to provide support to the RCH Unit to conduct quarterly follow-up monitoring of the trained service providers.

**Conclusions**

Undoubtedly, the FGM Register is a useful tool for the planning, monitoring and evaluation of the reproductive health of women and girls and in this regard, has great potentials. While the prevalence of FGM among women aged 15-49 years and attitudes to its continuation are available from the household surveys, very little is known about FGM obstetrics and reproductive health complications and its management at health facility levels. The register has the potential to transform attitudes towards FGM, and improve the reproductive health of affected individuals, with positive trickle down effects, if the data are disseminated in a timely and accessible format.

Competing Interests

The authors declare that they have no competing interests.

Acknowledgements

We acknowledge the useful comments on the initial draft from Dr. Omar Janneh, BSc, PhD, FHEA, Institute of Medical and Biomedical Sciences, University of London, and Dr. Hassan Barrow, University of London, Tooting, SW17 0RE, London, UK. We are also grateful to the KII’s analysts – Mohammed L. Janneh, Awa Nagib, Madi Mangan, Omar Dramneh, Ebrima Suso and Alagie Fanneh; the three field supervisors – Ousman Janneh, Ousainou Mbaye and Basiru Dramneh; the nine field enumerators – Mariama Koteh, Amie Njie, Penda Jallow, Basiru Sarr, Sekou Sonko, Momodou Lamin S. Dibba, Saikou Jawara, Sukai Suso and Maja Sonko; the data coders – Antou Faal and Amie Njie; the data entry clerks – Fatou Joberth, Nancy Jow, Bubacarr Camara, Ansumana Singhateh and Morro Sanyang.

References

6. Foundation Wassu Lab.

*Corresponding author: Sheriff T Sonko, A & T Consulting Services, Serrekunda, P.O. Box 2675, The Gambia, West Africa, Tel: +220-758-5222; Email: stsonko@outlook.com

Received date: September 27, 2017; Accepted date: October 12, 2017; Published date: October 16, 2017
