ORIGINAL ARTICLE

Gender Barriers to Access to Antiretroviral Therapy and its Link to Neurocognitive Functioning

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ABSTRACT

***Objective**:* To determine the effect of gender on access to antiretroviral therapy and its link to neurocognitive impairment.

Methods: The study used a mixed methodology. Part 1 used aqualitative approach and 34 participants who were HIV infected adults, equal numbers of men and women were recruited. These were a subset of the full sample tested in part 2. Part 2 used a quantitative approach with 263 participants from the bigger study, whose aim was to study the impact of HIV on neurobehavioral functioning in adults. All participants were recruited from 6 clinics run by the Lusaka Urban District Health Management Team. For the qualitative approach all the participants were interviewed with a semi structured interview guide. The interviews were audio-recorded, transcribed, and analysed qualitatively.In the quantitative approach the participantswere evaluated with the neuropsychological test battery to assess executive function, verbal fluency, working memory, learning memory, recall, motor skills and speed of information processing. The test scores were subjected to analysis of variance as a function of gender, age and level of education.

Results: In the qualitative part, three gender specific barriers were identified: I)Men's power dominance; ii) Stigma making men to be less proactive in health matters; and iii) unequal distribution of HIV and AIDS programmes across gender groups. Based on the significant barriers faced by women it was hypothesised that the performance of the female participants on the neuropsychological test battery would be lower than that of the male participants of the same age and educational level. However, the results revealed that there were no significant differences except in one test the Stroop Word where the performance of the female participants was higher than that of the male participants.

Conclusions: The results from this study revealed that despite the gender specific barriers that exist in the access to ART there were no gender differences in performance in the neuropsychological testing. Failure to find any significant differences in the test scores was attributed to biased sampling of women who were accessing and adhering to ART.

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INTRODUCTION

Zambia, like the rest of Southern Africa has a high adult HIV prevalence. It is estimated that 950,000 adults are infected with AIDS and 490,000 of these are women accounting for 51% of the infected adults.[1]

The Government of Zambia has made concerted efforts to provide theAnti-Retroviral drugs(ARVs) but gender differences in Antiretroviral Therapy (ART) access have continued to prevail. Monitoring ART distribution is critical to identify emerging problems and adapt programmes accordingly.

Persisting questions regarding equality of access need to be addressed to ensure programmes lead to successful treatment outcomes.

One of the challenges of the HIV pandemic is that there are insurmountable medical complications along with neurocognitive disorders. Over the years and with the introduction of ARVs it has become clearer that HIV infection leads to progressive impairment in brain function. Although the scaling up of ARV continues in developing countries, in Zambia the effect of the ARV treatment on neurocognitive function remains to be determined. In the last 20 years or so studies that addressed HIV associated neurocognitive impairment in Sub-Saharan Africa have reported a wide range of HIV Associated Neurocognitive Disorders (HAND) prevalence rates of 3.2% to 56 %. This can be partly attributed to the methodological approaches of earlier studies that were based mostly on clinical assessment to determine HIV neurocognitive impairment. In Zambia the neurological and psychological effects of HIV are not defined. This has been attributed to lack of Neuropsychological tools. Until recently, there was a lack of trained personnel to administer the neuropsychological tests to the patients. Even then, despite having some trained personnel, structures have not yet been established for them to carry out the assessments in the clinical settings.[2,3]

Research has shown that there are gender differences in performance on neuropsychological tests. In most studies the performance of women has been poor; indicating that they are more prone to suffer from HIV associated Neurocognitive deficits as compared to their male counterparts. The few studies that have been done in Zambia have confirmed these findings. As the incidence of HIV infection continues to grow among women, neuropsychological research should include both men and women in its samples and furthermore analyse the data by gender.[2,4,5]

METHODS

Sampling

A total of 263 participants were recruited for the quantitative study. 34 of these, equal numbers of men and women were further recruited for the qualitative study.These were invited for structured interviews. The interviews were recorded and transcribed. 4 health providers were also included in the qualitative study.

Ethical Considerations

High standards of research ethics were maintained at all stages of the research. Participants' right to privacy was respected by using unique code numbers instead of names. The study was only undertaken after approval from the University of Zambia Biomedical Research Committee and The Lusaka Urban District Health Management Team.

Data Analysis

The qualitative data was analysed using thematic analysis. The 34 patients and 4 Health Providers were invited for structured interviews. The interviews were recorded and transcribed. Themes were derived using a technique based on an analysis of words. The researchers used the informal mode of the technique by simply reading the transcripts several times to note the words that the respondents used frequently and through that emerging themes were identified. The following were codes used and their meaning:

PT----------Patient

F/M----------Female or Male

HP…….Health Provider

The quantitative data was analysed using the Statistical Package of Social Sciences (SPSS version 16). The package was used to generate percentages and frequency distributions of demographics and to perform Analysis of Variance.

To find out if age, education and gender had an effect on the different neuropsychological tests we computed Univariate Analysis of Variance of scores by the full sample of 263 participants. Education, age and gender were entered as independent variables whereas the neuropsychological tests were entered as dependent variables. Selected tests measuring different neurocognitive domains were used. The table below shows the tests used and the domains measured.

NEUROPSYCHOLOGICAL TEST	DOMAIN MEASURED
Wisconsin Card Sorting Test(WCST)	Executive Functioning
Stroop Word	Verbal Fluency
Spatial Span	Working Memory
Hopkins verbal Learning Test(HVLT)	Learning
Brief Visual Memory Test(BVMT)	Recall
Grooved Pegboard	Motor
Symbol Search	Speed of information processing(SIP)

The following was the hypothsis tested:

Female participants would score lower on the neuropsychological tests than the male participants of the same age and educational level.

Gender barriers to ART access

It was observed that there were gender specific barriers that led to inequalities in the access of ART between men and women infected with the HIV virus. Three sets of themes were identified.

- Men's power dominance,
- Stigma making men to be less proactive in health matters,
- Unequal distribution of HIV and AIDS programmes

Men's power dominance

Most women were reported to be dependenton a man for financial support. This in turn gave a man powers that influenced the woman's decision even when it came to matters pertaining to one's health.

> *Most of the women like the ones who come for MCH* (Mother and child health) *would have a problem in taking ARVs in the house because their husbands would tell them that, ' me I don't even want you to bring ARVs in my house so if you want to be taking those ARVs move out of my house. And sometimes they would keep the drugs in someone else's home, different from the one they are living in.*(Volunteer)

(PT 26, F)

> *In my case I have to catch a bus to come to the clinic because I experience some pain on my legs when I walk long distances. I am not in employment and I have no business so I have to depend on my husband. When he does not give me the money then it becomes difficult for me to come to the clinic.*

(PT 27, F)

The respondent confessed that she could not afford the means to get to the clinic and depended on the husband.

The barrier of disclosure is common in couples. While a man will not disclose his HIV status due to stigma and fear of being blamed, a woman will not disclose her status due to fear of losing hermarriage or love relationship which in most cases is what she depends on for her daily sustenance.

> *The other challenge faced by some women is that when they are tested and are found to be positive they do not disclose to their husbands for fear of being divorced. There are actually a number of women with this problem. In some cases they will even refuse to access the drugs for fear of their husbands discovering they are on ART.* (volunteer)

(PT 28, F)

Disclosure plays a major role in one's access to ART. The participant above gives a scenario of what women go through when it comes to the issue of disclosure. They have no problem when it comes to testing for HIV and accessing the treatment. The problem is on disclosing the status to the husbands or partners. This becomes a barrier because the woman is disadvantaged in accessing the treatment and risks re-infection.

Apart from being infected with the HIV virus women were also faced with the challenge of fending for their families. It was worse in cases where one was a widow because they had to be the sole provider of the home.

> *The challenges are many, take for instance a woman who is on this medication and has to work up early to go and sell at the market. The other thing is most men do not want to use condoms. Another challenge is that most of us women are left as widows and as such we have to fend for our families in addition to being HIV positive.*

(PT 19, F)

Stigma making men to be less proactive in health matters

Respondents reported that men shunned health issues. While stigma was experienced by both genders it was found that men were more affected than the women and that led to delay in seeking treatment.

> *The problem that most men have is that of self-stigma. Most of them are arrogant and will only come to the clinic when they are very sick and some do not come at all until they die at home. Most of them will refuse to come to the clinic saying they are not sick and some will only agree to do so when they become very sick and as such some do not even reach the clinic but die on the way.*

(PT 19, F)

> *The barriers to us men are several but the major one is stigma. We think that once we get tested because of our nature people will think that we have been having woman after woman. Now because of thinking like that we fear that we will be tested for HIV when we go to the clinic. Because of that we would rather not go there and instead go and fend for our families*.

(PT 21, M)

In most cases stigma in men was due to perceptions people had about HIV being caused by promiscuity. Such perceptions are true because it is common belief that a man cannot do with one woman in order to be satisfied sexually meaning even if one is married they will engage in extra marital affairs.

Women were reported to be alert and mindful about what was happening in their bodies, take health issues seriously and were proactive unlike men who waited until it was too late for them to take action. The moment a woman felt that something was not fine they would seek medical attention immediately. This is unlike men who wait partly because traditionally a man must be strong and enduring. This has led to a number of men going for HIV treatment when it is too late.

> *The reason is that men I do not know how I can say this, for a man to come all the way from home to the clinic then it means the condition is bad, which is very different with a lady. For a lady if she just has a headache she has to rush to the clinic but for the men it is different. For the men they have got stigmaI can say they have got a lot of stigma….*

(PT 18, M)

> *.....But women are the first people even when they are just okay they will try to do it, to go for testing, access treatment or be enrolled and access treatment so that's how I find it*.

(PT 29, M)

The other thing I have observed is that men are very difficult. Even when they know they have tested positive they will not access the medication but will wait till it is too late and only to be brought in a wheel barrow. When they come to the centre and find that there are so many women they go back.

(PT 28, F)

In the testimony, the participant indicated that the problem of men shunning health initiatives was not only in the testing but throughout the whole process. Where a man had tested HIV positive, unless they were critically ill, they would likely not access treatment. When they were feeling well they would not see the importance of seeking treatment.

The slow process which was confirmed by the long queues was reported to be a deterrent to accessing ART. The patients especially men felt they wasted a lot of time at the clinic, time which they could use in doing other things especially those that were of an income generating nature.

The challenges are there and one of them is the competing needs. For instance there are times when one has to attend to some income generating activity and at the same time have to come for their medication. This becomes a challenge especially that we spend long hours here at the clinic.

(PT 15, F)

.... you find that actually coming for medication conflicts with our usual programme. I have to choose between going to the hospital to get medication or going out there to look for money. But again there are two issues here: looking for money to sustain oneself... but when it comes to looking for money I would rather go for that and leave the medication. If it means dying I would rather just die.

(PT 1, M)

The respondents reported that the long hours spent at the clinic became a hindrance to one accessing ART especially where one had to decide between going to the clinic to access the medication and attending to something that would provide them with an income to use for basic needs. Where one opted to go to the clinic it was very difficult for them to determine how long they would take there and as such it became a challenge to plan accordingly.

Unequal distribution of HIV and AIDS programmes

HIV and AIDS programmes were reported to be unequally distributed between men and women. Women were reported to be captured in many areas.

These women are captured in many areas, whether they go to under-five, anti- natal or TB, even when they are just escorting their relatives or friends they just get interested in testing so they are captured in many areas.

(PT33, M)

The programme of Prevention of Mother to Child Transmission(PMTCT) was one that captured a number of women.

For sure with the coming of PMTCT women in most cases go for testing like the way I have said in the first place in PMTCT. When they do it whether they want it or not they will do it when they are pregnant so they are the ones to force their husbands to go and do the testing.

(Pt29, M)

The participant observed that most women were able to access services that had to do with HIV and AIDS because they were captured in many areas unlike men who mostly had to depend on VCT. Prevention of Mother to Child Transmission was one programme that advantaged most women in that it was almost mandatory for every expectant woman to be tested at the anti-natal clinic. The other place

was at under five clinics where it was mostly mothers who took the children and were encouraged to take the test.

While the PMTC programme was perceived to be for women only it was reported that men were also encouraged to accompany their wives but most of them shunned it taking it to be a woman's business.

> *For me I can say we the men are unfair to the women because we are supposed to accompany them for antenatal clinic so that both husband and wife get tested together but in most cases we do not do that. We let them go alone while we stay behind. It is better we accompany them so that we are given information together.*

(PT17, M)

> *…….For instance when I was pregnant a few months ago I was advised to come with my husband for the first visit at the anti natal clinic but my husband refused saying he could not attend the clinic for females. As such I received the information on how to care for ourselves so that our baby is not infected with the virus without him.*

(PT 15, F)

In this testimony the respondent revealed how the husband refused to go with her to the clinic after being advised by the health providers. This is the common scenario at most clinics. Most men refuse to go with their wives to the antenatal clinic to receive the necessary information. The other thing that discourages them is the fact that for a long time the antenatal and under five clinics now called Mother and Child Health (MCH) have been associated with women. Even the current name Mother and Child Health does not encourage a man to go there.

> *When it comes to the issue of PMTCT, men are encouraged to accompany their wives so that they get tested together but very few will do that. There are instances where out of the 30 women that may visit the anti natal clinic on a particular day only 3 or 4 may come with their husbands. Most of them will refuse*. (Volunteer)

(PT 28, F)

The respondent who was doing some voluntary work at the clinic gave a picture of the situation concerning men participating in the PMTC programme. In this case, out of every 30 women only 4 men representing 16% would accompany their wives to the clinic for anti natal services. This meant that a number of men were not getting the information on the precautions to be taken to have a baby who was not infected with the HIV virus.

The medical environment was reported to have an effect on one accessing ART and men did not like the long hours they spent there. As for PMTCT it was reported that the environment was made conducive for them so that they did not spend long hours at the clinic.

> *In most cases what men dislike about the clinic is the long hours that they spend, they don't like that. Men want to go fast, so they don't want to be delayed, so what we normally do is for those who accompany their wives we help them to move from point A to B until they finish everything. So the environment allows that men are attended to as quickly as possible and we feel very proud if we see a man coming with a wife. We feel encouraged and we encourage them to keep on supporting one another*. (Volunteer)

(PT 33, M)

> *I would also say the clinic environment favours such men in that they will be attended to quickly together with their wives. As such they do not spend much time in the queues.*(Volunteer)

(PT 28, F)

The two participants alluded to the fact that while the medical environment was a barrier in accessing

ART, when it came to the PMTCT the health personnel did all they could to make the place friendly for men by giving them first priority when they accompanied their wives. Despite all these efforts the turn out for men was reported to have continued being very low.

> *When it comes to PMTCTit is important that when our pregnant wives go in labour we should have something like smoking rooms where we the men can be as we wait for our wives. Now it is a challenge that we can't even support our wives. You find that the labour begins maybe at 24 hours, I book a cab and take my wife to the hospital and the health personnel that side will just say, 'leave her'. Suppose I do not have any transport money to go back home, how do I go? So it is quite a challenge, so at least we should be nearby to give support to our wives. So that even if it means giving health education we can be together. Even if the government is trying to encourage us to escort our wives for MCH, it is still a challenge because at a later stage, on the last day of birth we are not recognised.*

(PT 6, M)

The participant alluded to the fact that while the men were being encouraged to be involved in the PMTCT programme; the medical environment did not allow them to be there at every stage. At some point they were not recognised and this could be frustrating and demotivating.

While the programmes at MCH were seen to be targeting mostly women, participants indicated that men were not completely left out in term of programmes because there was a programme that exclusively catered for them and that was the Voluntary Medical Male Circumcision (VMMC). It was reported that before being circumcised the men were counselled to take the HIV test. This gave them an opportunity to be in an exclusively, 'men only environment'.

> *Maybe the Male Circumcision which government has introduced. I am sure that is what will help men get tested and know their HIV status. I know that before they do that male circumcision they do the HIV test, although I havenot done it myself.*

(PT 1, M)

Table1: Education, Age, and Gender on selected Neuropsychological Tests.

Test	Variable	F	P value
Wisconsin card sorting test	Education	15.97	0.0001
	Age	4.989	0.026
	Gender	1.191	0.276
Stroop Word	Education	32.412	0.0001
	Age	0.182	0.67
	Gender	6.673	0.01
Spatial span	Education	0.75	0.688
	Age	0.719	0.886
	Gender	1.4	0.239
Hopkins Verbal Learning test	Education	38.585	0.0001
	Age	2.707	0.101
	Gender	1.167	0.281
Brief Visual Memory Test	Education	2.708	0.004
	Age	1.393	0.89
	Gender	2.42	0.123
Grooved Pegboard(dominant)	Education	1.028	0.427
	Age	1.817	0.008
	Gender	1.448	0.232
Grooved Pegboard (non dominant)	Education	13.409	0.0001
	Age	1.115	0.322
	Gender	0.443	0.507
Symbol Search	Education	2.382	0.011
	Age	1.139	0.293
	Gender	0.150	0.700

The results of the three ways factorial showed that education had a significant effect on Wisconsin Card Sorting Test, Stroop Word, Hopkins Verbal Learning Test, Symbol Search and Brief Visual Memory Test with $p \leq 0.05$, but no significant effect on Spatial Span and Grooved Pegboard ($p > 0.05$). Age had a

significant effect on WSCT and Grooved Pegboard but no significant effect on the rest of the selected tests. Gender had a significant effect on Stroop Word and not the rest of the selected tests.

DISCUSSION

MEN'S POWER DOMINANCE

HIV has an adverse and often debilitating socio-economic impact on individuals and their household. In most developing countries in Africa, Asia and the Pacific, traditional and entrenched gender inequalities exacerbate the disproportionate impact of this socio-economic burden on women living with HIV by restricting their access to social and economic resources, coping mechanisms and care and support services.[6]Women's lack of socio-economic empowerment was identified as a barrier to treatment in the current study. The majority of women were not in gainful employment and did not engage in income generating ventures and as such they depended on a man for anything that required money including the basic needs. These men were husbands, partners or those who just wanted casual sex in exchange for money. Most of the women captured in the recruitment process of the study did some voluntary work at the clinic in the hope of getting employed if opportunities availed. These opportunities were very rare as some of them had spent a long time at the clinic without getting any job except for workshops or seminars where they received a bit of money, at the most 20 Zambian Kwacha (approximately 2 American dollars), which is not enough to buy a bag of maize meal.

It was reported that marriage was something that the women guarded jealously at the expense of their health. Women had no problem when it came to the issue of testing and receiving treatment but the problem came when they had to disclose their status to their husbands so that they too could go for testing. If the husband was against the taking of ARVs the woman could abandon the treatment to save the marriage. It was reported that some women would still go ahead with the treatment despite the husband's objection but they had to do this secretly. One way was by not keeping the drugs in the home where the husband could stumble on them but keeping them elsewhere, probably at a neighbour's home. This was still not helpful because such men are against the use of condoms. This increased the risk of re-infections.Mataka postulates that, 'The socio-economic disparity between men and women has a great impact in fuelling the spread of HIV.Socio-economic problems may limit women's access to counselling and treatment'.[7] Kazzoba *et al* observed that women who were widowed, separated or never married were more likely to be screened for HIV and AIDS than those who were married.[8]Research from developed countries on gender differences in health service use suggests that women's rate of utilisation of almost all health services is higher than that of men but women are more likely to defer health care because of cost.[9]Similar results were found in the current study in that there were more women at the clinics than the men but from the interviews it was reported that they faced financial challenges to cater for costs such as transport and food.

There were instances where a couple was on treatment but living far from the clinic. In such situations it was the man who got the first priority in terms of money for transport if it was only enough to cater for one person. Despite the treatment being free it has been reported that women usually face challenges related to other costs involved like transport. The cost of transportation for monthly visits has been identified as a potential barrier to treatment.[4,10]

In an HIV comparison study of Asia and Africa, Nath observed that in many Asian and Pacific societies just as in African societies the promotion of safe sexual practices is made more difficult by cultures of silence that surround sex and sexuality.[11] Social expectations of 'good woman' require that they remain ignorant about their sexuality, be passive and subservient to men and give up autonomous control over their bodies. Lack of economic independence and low social status restricts women's ability to discuss fidelity and insist on condom use.

The other challenge that the women faced in relation

to their socio-economic status was that despite their status, they still had to find means to take care of their families. The situation was even made worse if one was a widow and had no one to depend on. In a report from Thailand, it was stated that HIV positive women experienced a social death as many people living with HIV, but they often still carried the responsibility to care and provide for their families.[12]

Stigma making men to be less proactive in health matters

Women were reported to have a passion for issues of health.Whenever they received information concerning health whether from friends, the clinic or in the community they were keen to implement what was being offered. The story was different for men as they shunned most of the health initiatives. They waited until they were sick and critically so for them to be tested. In the event that men tested positive when they were feeling fine and were put on medication they would not adhere to the treatment until the condition worsened to near death. It was reported that the major reason for shunning these initiatives was Stigma. Since the early years of the HIV epidemic stigma has been understood to be a major barrier to successful HIV prevention, care and treatment. They feared to be blamed for being responsible for the HIV in the home and did not want to be seen by other people at the clinic. There is a widespread belief that men are never satisfied with one woman so they get involved in extra marital affairs and in the end get infected with the HIV virus which they in turn transmit to the spouse.

The other reason apart from stigma was that men were too busy with income generating activities such as work and if those coincided with clinic appointments, they chose to put bread on the table for their families at the expense of their health. The cultural belief of, 'you are a man so you ought to be strong' led men to access the treatment late.

Unequal distribution of programmes

Programmes that enabled people to take up the initiative of accessing treatment were reported to be unequally distributed between men and women. Women were found to be captured in many areas. One area where they were mostly captured was in the Mother and Child Health Clinic where antenatal and child health (under-five) services were offered. At the antenatal section there was a programme called Prevention of Mother To Child Transmission (PMTCT) where pregnant women were tested for HIV to prevent transmitting it to the unborn child. Many women were captured in this programme because while the health providers indicated that it was not compulsory for the women to be tested, the patients said it was almost mandatory for them to be tested as they were not given any option. At the under-five section the mothers who took their children there were also encouraged to get tested so that they could know their HIV status. These services raised the number of women who received information about their status as compared to that of men. In a similar study in Malawi,Muula and Kataika reported that the key informants generally indicated that females were more likely to access HIV testing through maternity services and child care services.[13]

The Health Providers revealed that while the programme of PMTCT was mostly targeting women, the men who were spouses or partners to the expectant mothers were encouraged to accompany their wives so that they could be given information together but unfortunately the men shunned this initiative. The antenatal and child health clinics have for a long time been associated with women and as such very few men will be courageous enough to go and mingle with the female folk. This is supported by Benkele in a study in Chipata, Zambia where he postulates that, 'The PMTCT programme has been integrated in ANC, which traditionally offered care to pregnant women. Therefore men naturally felt left out despite having positive views regarding roles they can play at PMTCT programme.'[14] In a review of 24; (21 from Sub-Saharan Africa, 2 from Asia and 1 from Europe) studies to identify barriers to male PMTCT, barriers were identified mainly at the level of society, the health system and the individual. The most pertinent was the societal perception of anti natal care and

PMTCT as a woman's activity and it was unacceptable for men to be involved. The health system factors included long waiting times, reluctance of men to learn their HIV status, unwillingness of women to get their partners involved due to fear of domestic violence.[15]In the current study, it was reported that while the medical environment was identified as a barrier in accessing ART, when it came to the issue of PMTCT it was made conducive for the men. This was done by giving first priority to women who went to the anti natal clinic with their spouses. They would be the first to be attended to and left the clinic early enough to attend to other programmes of the day. What was observed was that men did not like waiting for long hours because they were busy people. Despite all these efforts the numbers for men were still very low.

Research has revealed that the focus for PMTCT must be on men because in male dominated societies such as Zambia men do significantly influence attitudes and behaviours related to HIV and AIDS.

Men in the study still felt the medical environment was still not conducive for them to be involved in PMTCT programme because they were not given an opportunity to be there throughout. At some point they were not recognised as partners who should be involved in the programme. This was shown by the way they were treated when it was time for their wives to deliver. They were turned away from the clinic. This was also reported in a study in Eastern Uganda where men indicated that in some instances the health workers did not allow them to enter the antenatal clinics with their wives making it pointless for a man to be there .[16]

While there was a concern of unequal distribution of programmes it was reported that men were not completely left out because of the introduction of Voluntary Medical male Circumcision (VMMC). It is projected that circumcising 80% of uncircumcised adult men in the countries with high HIV prevalence and low prevalence of male circumcision by 2015 would avert 1 in 5 new infections by 2025.[17] This was a men only domain where they had the opportunity to be tested for HIV as was the requirement. Zambia has adopted male circumcision as one of the comprehensive preventive interventions and has a target of achieving 50% circumcision target by 2020. One of the guiding principles states that, 'male circumcision information and services will be integrated into male reproductive health services such as STI services and family planning as well as counselling and education on sexuality, gender issues etc,'.[18]

Gender access to ART and Neurocognitive functioning

Many studies have revealed that women's performance on neuropsychological test is relatively low but in the current study the scores for women were not different from those of men. This disconfirmed the research hypothesis that female participants would score lower on the neuropsychological tests than the male participants of the same age and educational level. This result was different from what Hestad *et al* found in a pilot study in Zambia on sex differences in neuropsychological performance as an effect of HIV infection.[4] Their findings were that women were more at risk of developing cognitive deficits possibly because of sex related social, financial and healthcare disadvantages. Failure to replicate this finding in the present study could be attributed to the fact that the selection criterion of the sample in the current study only included respondents who according to health records were consistently on ART. This meant that the women who were admitted to the neuropsychological test battery were for whatever reason a relatively successful group at overcoming the barriers to access that they described. Despite the gender based obstacles to access of ART the women in the sample actually accessed and used ARVs more consistently than the men. This explanation of the study's findings is consistent with the interview responses to the effect that women are more in evidence at the clinics.

CONCLUSION

The objective of this study was to determine the effect of gender on access to Antiretroviral therapy and its link to neurocognitive functioning. The qualitative results obtained indicated that there are

gender specific barriers in access of ART. The main barrier for women was that of Men's Power dominance. This led them to being dependent on men even when it came to making decisions on accessing ARVs. Another factor was that women were burdened with tasks of providing for their families that it became difficult for them to find means and time to access treatment.

For the men it was observed that they were not proactive in health matters and as such only sought treatment when it was too late. The unequal distribution of HIV and AIDS programmes was another factor. Women were found to be captured in more areas than the men.

While barrier 2 and 3 favoured women over men in the access of ART they were not strong enough to outweigh barrier 1. This is because a woman's life was seen to be completely anchored on a man's decisions. For instance a man would not go for treatment by choice whereas a woman had to get consent from a man if she wanted treatment. The woman's choices were not independent of her but had to be tied to what the man thought was best for her even at the expense of her health. When it came to the issue of programmes, more programmes appeared to target women but this did not mean that they were no go areas for men. For instance the programme PMTCT, men were encouraged to accompany their wives but they chose not to mainly due to the cultural orientation that it was a woman's duty.

Research has shown that access of ART for women is impeded by gender biases in that they face a lot of barriers. Populations that do not access ART are at a greater risk for neurocognitive impairment. In the current study women were reported to face greater barriers in accessing ART but contrary to what was hypothesised that women would score low, there were no significant differences in the performance on the neuropsychological tests between the male and female samples tested except on one test, the stroop where the women actually scored higher. This probably was reflecting the fact that all the females tested were on ART, which represented an unanticipated sampling bias in the designing of the study.

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