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Original Paper

Perceptions regarding postpartum psychotic illness in two districts in Central Uganda

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Abstract. ***Introduction:*** *Postpartum psychosis is a rare but severe mental illness that affects not only the mother and the infant but also close family members and friends. Little is known about perceptions regarding postpartum psychosis in sub-Saharan Africa and yet such perceptions about its causes and treatment may influence the nature of social support that postpartum mothers receive when they develop this illness.* ***Objective:*** *We aimed to explore the perceptions of postpartum mothers with and without psychotic illness, their caregivers as well as health care providers, including midwives and Traditional Birth Attendants (TBAs) regarding postpartum psychotic illness.* ***Methods:*** *A qualitative exploratory design using focus group discussions (FGDs) and in-depth interviews was employed. All the FGDs and interviews were conducted in Luganda language and tape-recorded. Thematic analysis was used for analyzing the transcripts.* ***Results:*** *Postpartum mothers without a psychotic illness and their caregivers as well as TBAs believed that postpartum psychotic illness was due to adultery of the expecting woman or her partner, or due to witchcraft. On the contrary, postpartum mothers with a psychotic episode and their caregivers deemed the illness to be due to stress, substance abuse, first time motherhood, and infection of the mother's blood during or after delivery. Trained health care providers were aware of the cultural perceptions regarding the illness.* ***Conclusion:*** *Perceptions about postpartum psychotic illness among mothers and their caregivers were dependent on whether they were directly affected by the condition or not.*

Keywords: Postpartum psychosis, TBA, culture, perceptions, focus group discussion, in-depth interview.

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INTRODUCTION Postpartum psychotic illness is a severe form of mental illness that affects 1 to 2 postpartum mothers per 1000 deliveries (Harlow *et al*, 2007). Whenever a mother develops postpartum psychosis, her life and the safety of her infant may be in jeopardy. In extreme cases there have been instances where psychotic illness of postpartum mothers has led to the demise of the infant through instances of infanticide or through neglect. In Texas, USA, a psychotic mother drowned her five children under the pretext that "Satan directed her to kill her children to save them from the fires and turmoil of hell" (Spinelli, 2004). Postpartum psychosis has also been associated with high levels of suicidal ideation and attempted suicide among the affected mothers. In a study on prevalence and correlates of suicide among Indian women with postpartum psychosis, 31 out of the 82 inpatient women reported having suicidal ideation, and 15 of the women reported having attempted suicide in their current postpartum psychotic episode (Babu *et al*, 2008). Despite the severity of this rare

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condition, global research has increasingly been focused on the more common depressive and anxiety disorders in the postpartum (Oates, 2003) with very little mention of postpartum psychosis.

In the Ganda culture of Central Uganda, psychotic mental illness or *eddalu* has been ascribed to either bewitchment (Orley, 1970), or vindictive ancestral spirits called *Lubaale*. *Lubaale* are believed to be spirits of dead ancestors from the same lineage, with superhuman attributes that if wronged may come back to haunt individuals of a clan by afflicting them with mental illness (Nzita & Mbaga-Niwampa, 1997). Apart from severe mental illness being caused by bewitchment, or *Lubaale*, a specific type of illness has been known to afflict postpartum mothers after the delivery of their infants. In Central Uganda, this was given the term *amakiro* (Cox, 1979). The Western term that would be synonymous to *amakiro* is 'postpartum psychosis'. In a study of 31 healthy mothers that attended antenatal and postnatal clinics in a Kampala suburb, a description of the beliefs of the Ganda about this illness was made. No woman in the study had a perception that western medicine could effectively treat postpartum psychotic illness because the cultural attribution for the cause of the illness was adultery of the pregnant woman, or her partner (Cox, 1979). In a follow up study, fifteen years later, findings described people's perceptions regarding *amakiro* and again alluded to adultery during a woman's pregnancy as the believed possible cause for the condition (Neema, 1994).

Physical conditions associated with maternal morbidity like HIV/AIDS, chronic pelvic infection and sepsis are well emphasized in healthcare in the Ugandan population. In contrast, not much attention has been paid to severe mental illness that affects postpartum mothers and the literature thus remains scanty (Malinga & Mbonye, 2008). Therefore, this study aimed to explore the perceptions of postpartum mothers with and without a psychotic illness, their respective caregivers as well as the Western trained and traditional healthcare providers with regard to postpartum psychotic illness. It is hoped that an insight into the ways in which people understand postpartum psychosis may lead to better management of mothers afflicted with the condition.

METHODS

Study site

This study was carried out in Kampala and Mukono districts both of which are located in Central Uganda. Study participants were recruited from four different district healthcare facilities spread out in Mukono and from the National Mental Referral and Teaching Hospital of Butabika in Kampala. The indigenous language used in the two districts is Luganda; a Bantu dialect and the tribe that speaks this language are the *Baganda* (plural) or *Muganda* for singular (Okello & Musisi, 2006). The root term, *Ganda*, is used to refer to everything of the *Baganda* e.g. *Ganda* culture etc.

Study Design

A qualitative design was used to explore the perceptions of postpartum psychotic illness for postpartum mothers, their respective caregivers, and the health care providers. Data were collected by using both Focus Group Discussions (FGDs) and in-depth interviews.

Focus Group Discussions: study participants

A total of 14 FGDs that included 5 to 8 participants each were completed as follows:

i) 4 FGDs were done with the mothers without a psychotic episode in the current postpartum period;
ii) 3 focus groups were with the caregivers;
iii) 4 FGDs were completed with the Western trained healthcare providers (i.e., nurses and midwives);
iv) 3 FGDs were done with the TBAs.

The number of participants in the FGDs and the study sites is shown in **Table 1**.

A caregiver in this study has been defined as the person who provided the most emotional and physical support for the postpartum mother during the delivery period. This could be a relative or a friend. The non-diagnosed postpartum mothers and their caregivers were recruited from the district hospitals before discharge after the delivery. The healthcare providers were Western trained nurses, midwives, and TBAs. These were directly concerned with the delivery of the infants. Nurses and midwives were recruited consecutively and purposively among the personnel coming off one work shift and going back home. The TBAs were recruited through their district association.

Table 1 Number of participants across the different categories of FGDs and study sites

Study site	Mothers (N=25)	Caregivers (N=20)	W. trained providers (N=23)	Traditional Birth Attendants (N=19)
Naggalama	8	8	8	-
Mukono	5	-	6	-
Nkokonjeru	5	5	5	-
Kawoolo	7	7	4	-
Kawoolo-Kiyindi	-	-	-	6
Kawoolo-Najjembe	-	-	-	6
Kawoolo-Towncouncil	-	-	-	7

A focus group guide with a case vignette (**Figure 1**) was developed by two of the authors (a psychologist and a psychiatrist) and was based on the criteria of postpartum psychotic illness as it is stated in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV; American Psychiatric Association, 2000). The case vignette described the symptoms of postpartum psychosis and illustrated the condition under discussion. The focus group guide was translated back and forth into Luganda and English by bilingual translators.

Figure 1 Focus group guide with a case vignette about postpartum psychoses

Nantongo, a 25 year old mother, delivered a baby girl 6 weeks ago. She started feeling sad, and became tearful. She started worrying that something bad was going to happen to her baby. After some few days she started having strong thoughts about wanting to harm the baby. She was talking to herself, had uncoordinated speech, was fearful and suspicious. She later became aggressive, and started destroying property. She explained to the health worker that she had an idea that the baby was harboring bad spirits and hence the reason for wanting to harm the baby.

1. Have you heard of or come across a mother with such an illness?
2. What do you call this illness? (Probe for the local terminology).
3. What do you think causes this illness?
4. What is normally done when a mother develops this problem?

In-depth interviews: study participants

The in-depth interviews were conducted among postpartum mothers who had been diagnosed with a psychiatric illness and their respective caregivers. At the time of admission into the National Mental Referral Hospital, potential study participants' names were entered into a registry for postpartum mothers. The register was created for the purposes of this study. During the mothers' stay in the mental health facility, assessment for a diagnosis was made using the M.I.N.I. International Neuropsychiatric Interview (Sheehan *et al*, 1998). The mothers and their caregivers were consecutively and purposively recruited after discharge from the mental health facility. A total of 30 mothers and their caregivers were interviewed until no new information was forthcoming. Socio-demographic characteristics about the study participants are displayed in **Table 2**.

Out of a total of 15 mothers with a postpartum psychotic illness, 5 were diagnosed with a bipolar disorder in the manic phase, 4 had a bipolar disorder in the depressive phase, 1 had schizophrenia, 1 had organic psychosis related to HIV/AIDS, 1 had depression while 3 were diagnosed with a not

otherwise specified psychiatric disorder using the DSM-IV criteria. The diagnoses were also verified by the psychiatrists' review notes and the blood tests that had been performed, for example in the case of organic psychosis related to HIV/AIDS.

An in-depth interview guide based on the categories that had been explored in the focus group guide was developed and adapted for the in-depth interviews. The interview guide was semi-structured to allow for flexibility (Rubin & Rubin, 1995). The in-depth interviews allowed for the use of more than one method of obtaining information; triangulation (Paré, 2002).

Table 2 Socio demographics of in-depth interview participants, parity and diagnostic characteristics of postpartum mothers

	Mothers (N=15)	**Caregivers (N=15)**
Age		
Oldest	43	69
Youngest	18	15
Mean	27	35
Education		
1-7 yrs	7	7
8-11 yrs	6	2
>11 yrs	2	6
Occupation		
Small business	5	7
Farmer	1	3
Salaried	3	3
Student	1	1
Housewife	2	1
Unemployed	3	-
Marital status		
Married	6	2
Separated	6	2
Single	1	7
Widowed	1	2
Visiting union	1	2
Current residence		
Relatives	12	-
Husband	2	-
Alone	1	-
Parity		
1 child	8	-
2 children	1	-
> 2 children	6	-
DSM-IV Diagnosis		
Bipolar/depressive	5	-
Bipolar/manic	4	-
Depression	1	-
Schizophrenia	1	-
Organic psychosis related to HIV	1	-
NOS	3	-

Procedure

The principal researcher and a research assistant were both trained by a qualitative research expert in the principles of qualitative data collection, conduction of FGDs and the study research ethics, with specific attention being paid to ensure that the collected data was trustworthy (Johnson, 1997). Each FGD had a moderator and an observer who summarized what participants said and did (Glaser, 1998). All the FGDs and in-depth interviews were conducted in Luganda, the local dialect. Data

collection was only stopped when no new information was forthcoming (Guest *et al*, 2006). After seeking permission from the participants, all interviews were tape- recorded and transcribed verbatim (Braun & Clarke, 2006). Note-taking to summarize the important issues in the discussion was also carried out. All the FGDs were carried out between March to June of 2008 and the in-depth interviews were carried out between December 2008, and September 2009. Transcribed data from each FGD group (i.e mothers, caregivers, trained healthcare providers, and TBAs) were read to some participants to confirm accuracy of the transcribed data that had been translated by a bilingual research assistant (Braun & Clarke, 2006). The clinical directors of the various hospitals and the district chairperson for the TBAs provided entry points and acted as gatekeepers.

Ethical considerations

Ethical clearance was obtained from the Research and Ethics Committees of the Faculty of Medicine, Makerere University, Butabika National Mental Referral and Teaching hospital, Uganda, and the Uganda National Council of Science and Technology. Further permission was then sought from the district medical officers of the two districts and the district chairperson for the TBAs. Privacy and confidentiality were accorded to the participants during the interviews by ensuring that there were no other people in the vicinity of the interview sessions and that only the researchers would have access to the raw data. Voluntary informed consent was obtained from all the participants.

Analysis

Coded transcripts were grouped according to categories set apriori that were explored from the case vignette and in-depth interviews. The original copy of the transcription was safely kept away. Out of the coded categories, we constructed thematic networks to derive global themes (Attride-Stirling, 2001). We then refined the networks. Multiple reading of the data was done by the authors to achieve a sense of familiarization. All the networks for the different categories were explored after the summaries were done and interpretations were made. Data analysis and interpretation were all done manually following standard guidelines (Lapadat & Lindsay, 1999).

RESULTS Four categories were identified in the transcripts: a) recognition, b) safety for the infant and prompt referral, c) causes, and d) treatment. We will describe the themes identified in connection with these categories.

a) Recognition

The FGD participants did recognize various symptoms and signs described in the case vignette. The main theme was the local name *amakiro* by which the condition is known. The western trained healthcare providers identified the condition with the known Western terminology:

> *It is psychosis in the postpartum.*
>
> (FGD1 for Western trained healthcare providers)
>
> *I think that disease is traditionally called* amakiro.
>
> (FGD2 for TBAs)

The category of recognition further yielded the themes that included physical symptoms, general psychological symptoms, and psychological symptoms that were directly related to the mother being a danger to her infant when she developed this condition.

The physical symptoms ranged from a change in skin color, to convulsions, high blood pressure, and eclampsia:

> *There was another lady who delivered but she developed high blood pressure. Then her blood pressure went so low that she started convulsing and in the end she started behaving like she was mad. She also had edema…*
>
> (FGD 2 for Western trained healthcare providers)

All the FGDs suggested psychological symptoms that indicated that a mother with the condition had developed a mental illness as shown below:

This woman gave birth and she immediately became disturbed. By the time it came to midnight, she was taking out things, destroying them, and throwing them out.

(FGD 3 for healthcare providers)

A consistent finding across the FGDs was the emphasis that was put on the symptoms that were related to the danger the mother posed to the infant. Although other symptoms were discussed, the welfare of the infant seemed to take center stage in what would distinctly differentiate the condition from other problems:

A woman was operated on... After recovery from theatre, she wanted to strangle the baby. The baby was put near her but every time we would attempt to put the baby closer to her, she would say "I am going to kill this baby".

(FGD 2 for Western trained healthcare providers)

Symptoms related to the wellbeing of the infant were not only about infanticide but also about rejection of the baby:

…mother becomes very sad after which she dislikes her baby...

(FGD 2 for TBAs)

Psychological symptoms with hallucinations

Mothers recognized that they were sick and they reported specific psychological symptoms. Hallucinations included auditory, visual and tactile experiences. Mothers experienced hearing voices that no one else could hear, some were seeing things that no one else was seeing, and still others felt a burning sensation on their skin.

There were things that were hitting where I was sleeping. Then there were noises like plates cluttering but I was the only one who was hearing them.

(Mother with a manic episode).

I was hearing voices telling me that my uterus had been removed.

(27 year old first time mother with a first time psychotic episode)

She tells me that she hears voices telling her that her neighbors are going to kill her.

(Caregiver of a 27 year old first time mother with a first time psychotic episode)

With my second delivery I started seeing things that other people could not see.
I saw myself with other people but they were dead. Later these people were speaking to me and to one another! I knew something was wrong!

(Mother with a psychotic depressive episode).

My sister said that she was seeing dead relatives running after her.

(Caregiver of a 19 year old first time mother with HIV related psychosis).

There was a burning sensation on top of my head. It felt like some one was burning me with a cigarette! I wondered whether I was not running mad!

(Seventh time mother with a second psychotic episode).

Psychological symptoms of affect such as anger or thinking too much

Emotional and cognitive disturbances were also reported by mothers and their caregivers. They came up with excessive anger and thinking too much:

I was angry. I told him that I had all this anger because of him.

(A 26 year old mother with a first psychotic episode and a third child).

She was fighting and beating up people all the time!

(A husband to a third time mother with a first psychotic episode).

She thinks a lot about her things and her children.

(Caregiver to a first time mother with a first psychotic episode).

Psychological symptoms of a behavioral nature such us poor sleep, disturbed appetite and urges to harm the baby.

Failure to sleep was reported by the mothers and their caregivers. This was accompanied with a loss of desire to eat and sometimes an urge to want to harm the baby as reported:

My wife was not sleeping, she was not eating.

(Caregiver to a third time mother with a first psychotic episode).

I lacked sleep and I did not want to eat.

(26 year old mother with a first episode and a third child).

She was mistreating the baby. She would beat the baby and throw her down. You cannot start mistreating a baby that you have given birth to if you are in your right senses.

(caregiver of first time mother with a first time psychotic episode).

b) Safety for the infant and prompt referral

Ensuring the safety of the infant was deemed very important when a mother developed the condition. Healthcare providers were aware of when they should refer mothers to higher facilities for specialized care:

When a person helps deliver a mother who then develops amakiro, this person should be cautious; and remove the baby from the mother's vicinity because the mother may harm or bite the baby.

(FGD 3 for caregivers)

I usually refer such mothers to a higher health unit.

(FGD 2 for TBAs)

When we realize that the mother is not improving in the anticipated time, we refer her.

(FGD 1 for Western trained providers)

When alternative healing practices were not producing results, then mothers were referred for biomedical treatment:

The pastor of the church referred us to this hospital

(Brother to a 19 year old mother with HIV-related psychosis)

c) Causes

The themes from assumed causes were adultery, failure to use preventive measures, supernatural causes, and an expectant mother carelessly sitting in places where adulterous people could have sat. Being a first time mother was also perceived to predispose the expectant mother to developing the condition.

Adultery and adultery by proxy

Adultery of the expectant mother or the partner was thought to lead to the development of the condition:

It is basically caused by adultery of especially the pregnant woman!

(FGD 3 for TBAs)

Both men and women when adulterous can cause amakiro.

(FGD 4 for caregivers)

Adultery was further expounded to encompass other individuals. If a male partner had other wives that were adulterous, the expecting mother could then suffer from the condition:

A co-wife may not be faithful in the relationship. … If she has an affair, comes back and sleeps with the husband, then the expectant mother may develop amakiro.

(FGD 3 for TBAs)

Supernatural causes

Some of the FGDs raised witchcraft as a cause for the condition. For instance in a focus group of Western trained healthcare providers, it was believed that a man could think that his wife had been bewitched. Other supernatural causes were ancestral spirits. If one's ancestors were not pleased by what he/she had done, they were believed to often come back to haunt the person by causing mental illness:

Sometimes mothers will develop problems after delivery because of their ancestry! Culturally they could have done things that displeased their ancestors.

(FGD 1 for caregivers)

Commonly *mayembe*, which is a local name given to a specific form of witchcraft, was mentioned as being the cause of the condition:

> *This is* mayembe *because when I broke down, I was hearing voices that told me of where the witchcraft had been planted around my house! I was able to point out spots where it had been planted.*
>
> (38 year old mother with a first time psychotic episode)

The *mayembe* are given personal attributes. They may talk and when individuals with a mental illness are hearing voices that others are not hearing, then understandably the witchcraft due to *mayembe* would be invoked in this cultural context.

Non-specific witchcraft was also mentioned by mothers as a possible cause for their condition:

> *They thought that it was witchcraft but the traditional healers did not get to know the person that was doing the witchcraft.*
>
> (First time mother with a first psychotic episode)

Even when the caregivers could not come out directly to say that their loved ones had been bewitched, this was often implied in their statements as is illustrated by the quotation below:

> *I cannot confidently tell you what caused the illness but the Traditional Healers said that we had been bewitched and there are some things that we saw in our home by the front door. Something was folded in a piece of cloth and in it there were bones that appeared like they were human bones. These had been put at my front door and when it rained, the top soil was washed away and they started showing.*
>
> (Husband of a mother with 7 children and a second psychotic episode)

Carelessly sitting in "unclean" places by an expecting mother

The FGDs also revealed that the places where individuals who had been adulterous sat before taking a shower became unclean and so they would lead to expectant women developing the condition if they sat in these places:

> *… This idea of just sitting anywhere is dangerous. You may sit with a neighbor or a friend who in the previous night had sex and has not showered and if this person sits down and you immediately sit where they have been sitting, you the expectant mother may develop* amakiro
>
> (FGD 1 for mothers)

Physical causes

Physical causes were most regularly mentioned according to the FGDs among western trained healthcare workers. As a result of physical complications, postpartum mothers were known to convulse, develop hypertension or edema, and subsequently behave like they were mentally disturbed:

> *Sometimes some new mothers may have hypertension and this may contribute to the worries that the mother has and precipitate a breakdown.*
>
> (FGD 2 for western trained healthcare providers)

Physical cause related to infection

The FGDs of western trained healthcare providers revealed that sepsis was one reason for a mother to develop the condition after delivery. They observed that if bacteria went into the woman's blood stream during or after delivery this would lead to postpartum psychosis:

> *It was due to sepsis, so the mother developed septicemia and the bacteria circulated into the blood and then went to the brain.*
>
> (FGD 4 for western trained healthcare providers)

Still others came up with the idea that if a woman had a caesarean section during the delivery of her infant, then this would be a cause for her to develop postpartum psychosis.

> *If someone is operated upon and germs get into the main blood stream, this person can mentally break down!*
>
> (27 year old mother from an in-depth interview)

Working too hard

A postpartum mother would fetch water and firewood from a long distance, and then come home and do other household chores. This was deemed to be too much work for a postpartum mother and it was thought to cause the condition:

> *Others thought that I had broken down because I had worked so hard when I was in the postpartum.*
>
> (A first time mother with a first time psychotic episode)

History of mental illness

A history of mental illness in some mothers was raised as a possible cause for the development of postpartum psychosis:

Others may have a history of mental illness which may predispose them to puerperal psychosis.

(FGD 2 for western trained health providers)

Change of sexual partners

Change of sexual partners even when it was not related to adultery was deemed to be a possible cause for the development of the condition as is indicated in the excerpt:

The first two deliveries she had, she had no problems but on the third delivery she got a new man and so what I think is that the new blood did not match; the new husband's and the mother's because for the other two children this mother had not had any problems. She had not had problems prior to this third delivery!

(FGD 4 for western trained healthcare providers)

First time motherhood

A first time mother may have had multiple and concurrent sexual relationships and if this is coupled with a failure to use herbal remedies during pregnancy, the mother has a higher risk of developing the mental illness after delivery:

This is especially true for first time mothers. Sometimes they do not have permanent relationships.

(FGD 2 for western trained healthcare providers)

Substance-related withdrawal

Some mothers may be habitual alcohol abusers. After the onset of labour pains during delivery, they are not able to access alcohol and the time spent without drinking may predispose them to withdrawal symptoms which could manifest in the same way as the condition described:

If a mother has been alcoholic and then during the period of delivery, she does not drink, when she delivers, she gets into a withdrawal state and she may develop amakiro.

(FGD 3 for western trained healthcare providers)

d)Treatment options and prevention

Three types of treatment were mentioned and these included traditional treatment, western treatment and faith healing. Alongside treatment was the idea of prevention and protection.

Traditional treatments

Traditional treatment was essentially the same as that for prevention and it included the use of herbs and the husband's personal effects. When herbs were not readily available, the husband's personal effects would be used.

Herbal remedies were reported to be used both for oral ingestion and for bathing by the mother. Traditional remedies were taken to be very important. The belief was that:

Western medicine acts as a first aid treatment however traditional remedies have to be used!

(FGD 1 for mothers)

Biomedical treatment appeared to be used together with other modes of treatment.

Some mothers thought that traditional methods of treating the condition had given them relief. They were concurrently using both traditional and biomedical treatment as illustrated below from an in-depth interview:

There was some improvement in my condition when they took me to the traditional healers.

(Second time mother with several psychotic episodes)

I know that I am obtaining western treatment but I cannot start discrediting traditional medicine in the treatment of my condition.

(First time mother with several episodes)

Water that was rinsed from the husband's undergarments was reportedly used to treat the condition:

They use the husband's underwear (People laugh!) *You rinse it out somewhere else and bring the water!*
(FGD 2 for caregivers)

The first aid that they give is to get the hem of his pair of trousers, rinse it in water and bathe the new mother in the rinsed water
(FGD 4 for caregivers)

Western treatment

This involved counseling, sedation, and treating for the underlying physical cause.
Counseling would be initiated if the mother was developing the condition. Counseling was also done for the caregivers of the mothers regarding medication:

Especially when it is just starting and the mother does not like her baby, you can calm her down by talking. This is the starting point. But there are times when you receive a mother when you can not do this because she comes fighting.
(FGD 4 for western trained healthcare providers)

Sedation of the mothers: One of the things reported to be done by the western trained mid-wives and nurses was to sedate the mother:

When a mother develops such an illness, the very first things that we do is to ensure that we sedate her.
(FGD 1 for western trained health providers)

Treating the underlying cause: Western trained health providers indicated that mothers may develop the condition because of an underlying physical cause. They pointed out that they always investigated for the underlying cause:

When a mother develops such an illness… then we start on investigations; blood, sometimes with a high fever or malaria a woman can develop this illness. We test the mother's urine. We do a thorough investigation.
(FGD 2 western trained healthcare providers)

Faith healing

Prayers were sometimes thought to be an effective treatment especially for the devoted. Since it was thought that the cause of the condition was related to adultery that was triggered and brought on by demons, praying would exorcise the demons out of the mother:

A mother with amakiro *can get cured of the illness, if she is prayed for!*
The people who pray have a belief that the demons brought into the mother and baby by adultery need to be fought using prayer.
The mother and the baby may improve without the use of the herbal baths but by prayer.
(FGD 2 for mothers).

For a while we were taking her to church because we thought that these were demonic attacks. We especially were convinced about it because she was seeing dead ancestors.
(A caregiver to a 19 years old first time mother with HIV-related psychosis)

Christian faith healing as well as the Islamic faith healing along with biomedical treatment was all being used simultaneously.

We used to have duwa prayers for her. We still carry out the duwa prayers for her.
(A caregiver of a first time mother with several psychotic episodes)

Preventive and protective measures

It was thought to be essential that a woman uses traditional herbal remedies during her pregnancy to protect herself from later on developing the condition. Sometimes the husband would also be required to use traditional herbal remedies to prevent the development of the illness in the event that he had been adulterous:

If a mother does not bathe using herbs while pregnant, then she develops amakiro.
(FGD 1 for mothers)

This is also true when the man does not use herbal remedies after adultery, then comes and sleeps with the expectant mother.
(FGD 2 for mothers)

DISCUSSION The aim of the study was to explore the perceptions of postpartum psychotic illness of the mothers with and without a psychotic episode in the current postpartum period, their caregivers and healthcare providers. This differs from previous studies in Uganda that investigated perceptions regarding postpartum psychosis in mothers without a psychotic episode in the current postpartum period (Cox, 1979; Neema, 1984). The caregivers were those that directly supported the mothers at home and the healthcare providers were those involved in facilitating the delivery of babies. They were midwives, nurses and TBAs.

Usage of the Luganda word *amakiro* in findings was broad and it encompassed all illnesses that afflict mothers in the postpartum. Participants listed both psychological and physical symptoms related to the condition. Postpartum psychosis as described in previous research (Cox, 1979), irrespective of cause was seen to be one of those illnesses in the *amakiro* spectrum in the postpartum. This especially makes sense since mothers can develop psychosis as a result of other organic syndromes presenting with physical symptoms (Kumar, 1994). Mothers that had suffered from the condition and their caregivers came up with recognizable symptoms that were specific to psychosis; like hallucinations and aggressiveness. Mothers who had not had postpartum psychosis were understandably not able to come up with specific psychotic symptoms because they had not directly experienced the condition. Participants in the FGDs were able to come up with symptoms related to the mother doing harm to the infant and this was referred to as "wanting to eat the baby" and rejecting the baby. This was alluded to by a previous study (Cox, 1979). This made it evident that even when the participants were not the real sufferers, they were aware of the condition in the postpartum that related to infanticide (Kumar, 1994) and infant neglect.

The majority of participants were able to recognize the severity of the condition. Both biomedical healthcare providers and TBAs believed that they could make prompt decisions about referral because they recognized that it was a condition that required urgent attention. This is consistent with other research where the condition is reported to be a psychiatric emergency (Spinelli, 2009). Prompt referral appeared to be even higher when the safety of the infant was at stake. The main characteristic of postpartum psychosis seemed to be when the mother could be a danger to herself and to her infant. Reports indicate an infanticide rate of 4% in mothers with postpartum psychosis (Spinelli, 2009). This was well expressed in perceptions of participants in this study that had not suffered from a psychotic episode. The mothers with a psychotic episode did not report infanticide. It is probable that they did not remember or they were uncomfortable to talk about the harm they could have inflicted on their infants.

The FGD participants reported that the cause of postpartum psychosis was adultery of either of the partners. This is in line with previous research in Uganda that suggested promiscuity as a cause of postpartum psychosis (Cox, 1988). In an exploratory study that investigated home and community newborn care practices in Uganda, it was reported that adultery during pregnancy was a taboo and, could lead to the mother wanting to "eat her baby" (Nsungwa-Sabiiti, 2008). When there is adultery in a relationship, there is likely to be subsequent neglect by the adulterous party. Therefore, adultery is a stressful factor to the postpartum mother. It is therefore understandable that if one was adulterous, then a postpartum mother that desperately needs social support at this special time would develop *amakiro*/postpartum psychosis. There is an emphasis of social stressors contributing to maternal mental illness in the postpartum (Kumar, 1994). The reported and prominently assumed cause from mothers that had suffered from a psychotic illness was the idea that there were supernatural causes that led to the development of the illness. In the Ganda culture, psychotic mental illness or *eddalu* has always been ascribed to supernatural causes like bewitchment (Orley, 1970). The results of this study indicate that these perceptions have not changed over time.

Pregnancy is a social and cultural event (Nsungwa-Sabiiti, 2008), and protective measures in the Ganda culture were devised to ensure that bad luck does not befall a pregnant mother hence the use of herbal remedies and the husband's personal effects during pregnancy. Failure to use these measures would render the pregnant woman vulnerable to suffering from *amakiro*/postpartum psychosis. Measures were also taken to reduce/prevent the man's adultery when the wife was pregnant.

Treatment options for postpartum psychosis were both perceived to be traditional and biomedical. The traditional preventive and protective measures were in line with the idea of what the possible cause for the condition could be. If the cause was assumed to be supernatural like witchcraft, then protecting the mother before the condition occurred was of paramount importance (Nsungwa-Sabiiti, 2008) and the mother had to use herbs for bathing for the protection and treatment (Quinn, 2007).

There was a perceived relationship between the development of the condition and the model of treatment. If the perceived cause was adultery, then cleansing with herbs would be effective. An alternative to herbal remedies was using the personal effects of the husband. Since men in the Ganda culture can be polygamous, treatment had to be centered on them and hence the use of their personal effects. This may have a psychotherapeutic effect on the mother, as it placates the husband. If one thinks that they are also receiving treatment they may actually improve (Arnstein, 2003). Counselling was also used as a treatment method because it is a support process that aims to help an individual solve a problem.

STUDY LIMITATIONS

The way specific FGDs were constituted was a limitation because the researchers had no control over who had to be in which group since there were a limited number of participants that met the eligibility criteria. However, due to the constraints of transporting focus group participants to one central location, the group formation that we opted for was the best at the time. It was not possible to have specific FGDs for males and females. This may have influenced the gender sensitivity in how male and female participants interacted in the same FGD groups. The majority of caregivers were females and the responsibility of caring for postpartum mothers has traditionally been for women in Uganda.

CONCLUSIONS

We aimed to explore the perceptions of mothers with and without postpartum psychosis, their respective caregivers and healthcare providers regarding postpartum psychosis. The study findings pointed to the differences in perceptions regarding postpartum psychosis depending on whether participants had formed their perceptions from hearsay, or they had the experiences of suffering from the condition or of taking care of a mother with postpartum psychosis. This study has implications for the need to incorporate a culturally sensitive curriculum that highlights perceptions about the condition. Clinical implications would be that pregnant mothers and their caregivers need to be educated about mental illness in the postpartum. A future research question would be to explore the health-seeking behavior of caregivers of postpartum mothers when they develop psychiatric illness.

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