Mental Health and Physical Activity 16 (2019) 1–7

Contents lists available at ScienceDirect

Mental Health and Physical Activity

journal homepage: www.elsevier.com/locate/menpa

Health care professionals' perspectives on physical activity within the Ugandan mental health care system

James Mugisha[a,b,*], Marc De Hert[c], Birthe Loa Knizek[d], Japheth Kwiringira[a], Eugene Kinyanda[e,f,g], William Byansi[l], Ruud van Winkel[c,h], Inez Myin-Germeys[h], Brendon Stubbs[i,j], Davy Vancampfort[c,k]

[a] Kyambogo University, Department of Sociology and Social Administration, Kampala, Uganda
[b] Butabika National Referral and Mental Health Hospital, Kampala, Uganda
[c] University Psychiatric Centre KU Leuven, Kortenberg, Belgium
[d] Norwegian University of Science and Technology, Faculty of Medicine and Health Sciences, Trondheim, Norway
[e] MRC/UVRI, Uganda Research Unit on AIDS, Entebbe, Uganda
[f] Department of Psychiatry, Makerere College of Health Sciences, Kampala, Uganda
[g] Senior Welcome Trust Fellowship, London, United Kingdom
[h] KU Leuven Centre of Contextual Psychiatry, Leuven, Belgium
[i] Physiotherapy Department, South London and Maudsley NHS Foundation Trust, Denmark Hill, London, SE5 8AZ, United Kingdom
[j] Department of Psychological Medicine, Institute of Psychiatry, Psychology and Neuroscience (IoPPN), King's College London, London, United Kingdom
[k] KU Leuven Department of Rehabilitation Sciences, Leuven, Belgium
[l] Brown School of Social Work, Washington University, St. Louis, USA

ARTICLE INFO

Keywords:
Physical activity
Exercise
Stigma
Community

ABSTRACT

Background: Mental health care systems in Africa are faced with a high burden of mental disorders. There is need to explore evidence-based, scalable interventions to compliment the "traditional" health care system. Physical activity (PA) can augment the effectiveness of existing programs. However, little is known about the perspectives of health care professionals on PA. Understanding this is key to implementation.

Methods: This was a qualitative exploratory study based on 13 key informant interviews among experienced health care professionals working at Butabika National Referral and Teaching Hospital, Uganda. Data was analyzed through content thematic analysis.

Results: Participants reported PA benefits were: improved individual competences and engagement, social re-integration and reduced family and community burden. Self-stigma, lack of community support, lack of infrastructure and equipment, lack of monitoring capacity, human resource challenges and a focus solely on pharmacotherapy were among the most reported barriers to application of PA in management of mental health problems.

Conclusion: Despite the high level of understanding of PA among health care professionals, PA promotion largely depends on implementation of strategies to deal with community and health systems barriers. Although patients need to be empowered to deal with their individual barriers, greater support and action is needed by policy makers. Public health programs should support PA through community engagement and social re-integration programs. The government should promote a holistic mental health care perspective and provide adequate infrastructural and human resources to support PA in the existing primary and mental health care systems.

1. Introduction

Mental, neurological and substance abuse disorders are a leading cause of disability in both high and low income countries (Whiteford et al., 2013). People with mental health problems worldwide die on average 14.5 years earlier and this mortality gap widens to almost 28 years in Africa (Hjorthøj, Stürup, McGrath, & Nordentoft, 2017). Despite this tremendous burden, in most low-income countries less than one percent of the health budget is spent on mental health (World Health Organization, 2011). As a result, mental health services are poorly resourced and treatment rates for people with mental, neurological and substance abuse disorders remain low, with over ninety

* Corresponding author., Kyambogo University, Department of Sociology and Social Administration, P.O. Box 1, Kyambogo, , United Kingdom.
E-mail address: jmmugi77@hotmail.com (J. Mugisha).

https://doi.org/10.1016/j.mhpa.2019.02.001
Received 15 November 2018; Received in revised form 3 February 2019; Accepted 15 February 2019
Available online 25 February 2019
1755-2966/

Table 1
Interview guide.

Questions	Prompts
Based on your training and work-related experience, how do you describe physical activity?	
What is your understanding of the importance of physical activity in mental health care?	
	How have you come about this understanding?
	Are there any activities that have improved this understanding (e.g., short trainings, workshops, CEMs etc.)?
What are the activities that are performed in this hospital in relation to physical activity?	The focus here should on both inpatient and community outreach activities.
What do you see as the role of physical activity in the management of mental illness?	
Are there certain patients or certain time points when you feel it would not be appropriate to relay info about physical activity?	
Are they any different considerations that come to your mind for a patient with a mental illness compared to the general population?	
What are the barriers for patients in participating in physical activity?	
What are the barriers for clinicians/institutional in integrating in physical activity in the current model of care?	
What would be the factors that facilitate patients becoming more engaged in physical activity?	
What would help to facilitate clinicians/institutional level factors in integrating physical activity in the current model of care in this hospital?	
What are the possible strategies to improve integration of physical activity in the current model of care at the following levels	Policies and legislations
a) Hospital-based care?	Human resources
b) Primary health care levels?	Finances and budgets
	Monitoring and evaluation systems
	Training
	Ethics and ethics institutions
	Infrastructure
	Other supplies

percent not having access to any formal form of mental health care (Lund et al., 2015). Both global and local efforts are therefore needed to improve the health systems response to mental, neurological and substance abuse disorders (Hanlon et al., 2018; Petersen et al., 2017). Holistic care is part of these efforts and promoting an active lifestyle has been defined as an essential package in the provision of holistic care (World Health Organization, 2006). In recent years, there has been an increasing interest in physical activity beyond being a stand-alone or a complementary treatment modality in the treatment of mood disorders (Schuch et al., 2016), psychotic disorders (Firth, Cotter, Elliott, French, & Yung, 2015), alcohol use disorders (Hallgren, Vancampfort, Giesen, Lundin, & Stubbs, 2017), post-traumatic stress disorder (Rosenbaum et al., 2015) and anxiety disorders (Stubbs et al., 2017). However, most of the available evidence is derived from high-income settings and no studies have been conducted in Africa. Because physical activity may be implemented at low cost and often requires minimal resources, training and skills on the part of the individual doing the exercise it may be feasible in low resource settings.

One of the first essential steps needed in integrating physical activity within the mental health care systems of low-income countries is to be aware of the current perspective(s) of existing health workers in mental health facilities towards physical activity. Documenting these perspectives give us an understanding of the level of acceptability of physical activity, current level of awareness (including belief systems), and barriers and facilitators of physical activity in mental health service provision. This information is deemed vital in Africa in general and Uganda in particular, where currently there is an absence of studies on this subject. Health care professionals are the major gatekeepers for patients entering the physical activity referral process, and also immensely contribute to the design of physical activity services in health facilities (Vancampfort et al., 2017). This makes their involvement and information vital especially in young and poor resource settings such as Uganda. In our current study, we document perspectives relating to knowledge, barriers and facilitators of physical activity within a mental health hospital setting of a low-income country.

2. Methods

2.1. Protocol and setting

This is a qualitative study using semi-structured key informant interviews with mental healthcare professional staff working at Butabika National Referral and Mental Health Hospital. The hospital is located in the capital of Uganda (Kampala) and provides both outpatient and inpatient services. The hospital provides services to around 700 inpatients per month and offers both general and specialized mental health services. Qualitative methods were employed to explore in more details the views of mental health workers on physical activity in mental health care. The protocol was approved by Mengo Research Review Committee (MHRRC). The Committee is entitled to review and approve mental health research in Butabika National Referral and Mental Health Hospital.

2.2. Sampling and sampling process

Informants were purposefully selected. We approached the executive director of Butabika National Referral Hospital and the senior management team who identified relevant units in the hospital and the senior personnel that could participate in the study. This helped to ensure that only experienced mental health professionals with a minimum of 5 years clinical experience participated in the interviews. The selected units were the busiest in the hospital including the alcohol and drug unit and the male and female wards. Those that were nominated by the executive director and his senior management were approached by the first author in their offices and informed them about the study. Psychiatrists were selected because they were heads of the units while senior nurses, occupational therapists and psychologists play a vital role in the daily clinical practice. All the cadres that were involved in the interviews had not only clinical but also management roles in the hospital. In total, 2 psychiatrists, 2 nurses, 3 psychologists, 2 occupational therapists and 3 community health workers were interviewed. In total 13 interviews were conducted. All informants involved gave consent to the study. All interviews were conducted in their offices on appointment.

2.3. Data collection

A semi-structured interview guide was used to collect data (see Table 1). The interview schedule covered topics considering knowledge of physical activity, barriers to adaption of and facilitators to adaption of physical activity for people with mental illness. Each interview lasted approximately 60 min, was conducted in English and was recorded digitally by the first author.

2.4. Data analysis

Content thematic analysis was the main approach to data analysis. The objective of qualitative content thematic analysis is to systematically turn large amounts of data into a highly organised summary of key results (Erlingsson & Brysiewicz, 2017). Content analysis was found useful since we had a semi-structured tool meaning that we already had some pre-conceived categories before the study (Erlingsson & Brysiewicz, 2017). All interviews collected were transcribed verbatim. And the process of analysis started with reading and rereading of data (Erlingsson & Brysiewicz, 2017). This was intended to get a whole sense of the data and to gain a general understanding of what the participants were talking about (Erlingsson & Brysiewicz, 2017). After getting the general ideas from the general story given by our informants, line by line coding was conducted to all the transcripts. The researchers from time to time refined and upgraded the codes with more reading of data (Erlingsson & Brysiewicz, 2017). The ideas that were frequently mentioned were linked together to form meaningful units (Erlingsson & Brysiewicz, 2017). Out these, categories, themes and subthemes were created. To ensure reliability of coding and theme construction, all the categories, themes and subthemes emerging from the data were shared and agreed upon among members of the research group (Vaismoradi, Jones, Turunen, & Snelgrove, 2016). Triangulation was also done where views of different cadres (psychiatrists, nurses, psychologists etc) were compared on emerging themes and subthemes. For example, data was organised under categories such as knowledge of physical activity, barriers to physical activity and facilitators to physical activity. Under each of these categories the researchers then developed themes and subthemes as presented in this report.

3. Results

Findings indicated almost all of the health care professionals had a high level of understanding of physical activity. The reported physical activity benefits were improved individual competences and engagement, social reintegration and reduced family and community burden. Self-stigma, lack of community support, lack of infrastructure and equipment, lack of monitoring capacity, human resource challenges and a narrow biomedical focus on pharmacotherapy were among the most reported barriers. We deal with each one of them in some detail below. However, because there were few health professionals in some of the units selected, we only mentioned the professional titles of those selected for interviews and don't gave further information on age, sex and other socio-demographic variables as a way of maintaining confidentiality.

3.1. General understanding of physical activity

Almost all our informants, regardless of their level of training, had a clear understanding of physical activity and what it entails, and some gave a definition:

> *When we talk about physical activity we refer to sports and other activities that involve energy expenditure and [involve] sweating (Community health worker).*

When we asked more specifically what physical activity means to them as mental health workers, many of them gave us a variety of activities such as sports, dancing, gardening, yoga or more culturally embedded activities:

> *We have sessions like yoga, we have the "zulumbe" [a local music dance]; and these are active therapies where you have to use a lot of energy … you jump and make some dancing [and], quick movements (Nurse, ADU Unit).*

Also a number of other informants saw physical activity in terms of roles and responsibilities that they play in this field. An occupational therapist for example noted that:

> *We work with an occupational therapy department as part of our objective of providing holistic care and so the occupational therapy department has physical activity as one of its main packages in this respect (Community health worker).*

It seems clear from the quotes above that despite our informants working in a hospital that is located in a resource poor country, they were able to show an operational and elaborated understanding of the meaning of physical activity in a mental health care setting.

3.2. Experienced benefits

3.2.1. Individual level benefits

Quite a number of individual level benefits were mentioned by majority of the informants. These benefits seem to promote in particular the level of individual competence.

Symptom reduction. Almost all informants saw physical activity as a complimentary treatment and may help in reduction of symptoms for those with mental disorders. These informants reported symptom reduction for patients involved in physical activity:

> *[In respect to] symptom reduction, I would use the example of depression. When we talk about physical activity, we are trying to help them to get out there and engage in different activities to work on some of their symptoms (Consultant Psychiatrist).*

> *Even in those with voices, physical activities can help them to divert the mind from the voices they are struggling with, because when you ask them when do they experience the voices, it is when they are not engaged and when you engage them and when they have been playing football or netball and you ask them whether they have been hearing the voices they say "No, I am no longer experiencing the voices" (Senior Psychologist).*

In both quotes by our informants, the effect of symptom reduction seems to lie in the possibility of moving the patient's focus away from negative thoughts or psychotic experiences and thus create a better therapeutic platform for working on their symptoms. It was reported by quite a number of our informants that when the family and the wider community observe improvements following physical activity, also acceptance from these family members and the wider community for physical activity as a therapeutic method improves since the burden of care is reduced.

Physical health improvements. In addition to symptom reduction, the majority of our informants reported a number of physical health benefits of physical activity:

> *Many of our people these days are suffering from diseases like high blood pressure and diabetes; these can be prevented or even managed using physical activities like sports (Senior Nurse, Women Ward).*

The participants acknowledged the importance of considering the high risk for somatic co-morbidities in people with mental illness and viewed physical activity as a way of reducing the risk for developing physical illness. Reduction in physical complaints is likely to contribute as well to more community acceptance of physical activity.

Regaining lost skills and new skills development. Many of the patients with mental disorders are institutionalized and stay at the hospital for a long time. Occupational therapists in particular reported that physical

activity helps in some long-stay patients to regain their lost skills while others develop new skills. Some of these skills could be cognitive like coping skills while others could be marketable skills. Confidence, self-esteem and feeling useful are reported by our participants as valuable effects of physical activity:

Definitely games rebuild any person's confidence and self-esteem (occupational therapist).

Regaining lost skills is crucial in patients being able to engage with the community after discharge.

Coping with drug abuse. In terms of coping skills during and after discharge, one participant noted how physical activity can reduce craving for drugs as well as fill leisure time with meaningful content and thus prevent renewed drug abuse:

[We] can help this person [the patient] to forget the craving that he had and also how to pass his free time after work because most of these [people] go for this substance [drug abuse] after work so if he is engaged in this, that so called free time is being catered for (Senior Psychologist).

Physical activity according to this participant has a double function in the prevention of drug abuse as a distraction strategy and as a meaningful activity.

Keeping patients motivated. As noted above, many of the patients at Butabika Hospital have long length of stays. Quite a number of informants noted that patients need to remain motivated as they work towards their recovery:

It is part of their recreation in form of sports and competition, so when they engage into these activities they feel that there is some level of engagement while they are undergoing treatment here (Occupational therapist, OT Unit).

Physical activity seems to give the patient a perspective that activity and consequently change is happening. This might instil them with hope during activity, while the opposite might be the case when the patient is inactive.

Regaining functionality. The majority of our informants reported that physical activity helps patients to regain their functionality. This seems to be an outcome of reduced symptoms, improved physical activity, coping and skills development.

In this hospital there is also gardening which provides benefits through various roles, but it is also a physical activity. It helps with regaining function. It helps with making some one useful, learning new skills, but also for health reasons and it provides an opportunity for leisure and esteem (Community health worker).

3.2.2. Community level benefits

Social integration. Due to long stay in the hospital and partly due to community stigma, the majority of our informants noted that some patients lose their social skills and connectivity. Thus, they have to be re-trained in social skills and being assisted to reconnect socially. The hospital uses games to achieve this:

… For example, during the time for football, they do not play alone like maybe patients from a particular ward, they get in contact with patients from other wards and then sometimes they have minor tournaments with outsiders or with the staff so they get to know that "Okay, we can also play with people who are "normal" (i.e. not having a mental disorder) much as we are called mental patients, we are going to be with the normal people". It also helps them regain their trust that they are really still useful (Nurse ADU).

Yeah, because there is a schedule [for games] that everyone follows and that schedule has a rich interplay of activities, it helps somebody to have a normalized pattern, it's like a social reunion (Occupational therapist, OT Unit).

The feeling of being useful even in a setting with people without a mental illness is important and restores confidence in the patient and contributes to social (re)integration.

3.3. Barriers to physical activity in a mental health setting

These include individual, community and institutional level barriers.

3.3.1. Individual level barriers

Limited knowledge on the existence of physical activity. Most informants expressed the view that some patients do not appreciate the importance of physical activity in their recovery as they are not aware of the benefits.

Some of the patients regard physical activity as not useful and they may not find time for it (Occupational therapist, OT Unit).

Relatedly, a number of our informants reported that patients may not be aware of the existence and availability of physical activity services. For example, the outpatient unit, which sees a large number of patients with non-complex conditions is quite detached from the main hospital and such patients may never get to know the existence of the physical activity services which are all confined to the main hospital. This is not helped by the high patient numbers, which limit information sharing between patients and health staff.

There are quite a number of patients that do not know that such a service exists in the hospital. Hospitals in Uganda are only known for drugs (Senior Psychologist)

Self-stigma. Since most of the physical activities are done open door, a few of our informants noted that some patients prefer not to be seen there [open door], because the general public will get to know that they have a mental illness.

They would prefer to stay in the wards so that they are not seen and at the end of the day it is the stigma that denies them that opportunity [of engaging in psychical activity] (Occupational therapist, OT Unit)

The patients seem not to be interested in being seen in the mental health treatment centre and therefore avoid physical activity.

3.3.2. Community level barriers

It was reported by a majority of our informants that people in the community may not be willing to be associated with those with mental illness:

Many people don't want to be associated with those who have ever been admitted to Butabika … (Occupational therapist, OT Unit)

Also a majority of our informants reported that due to limited community support, partly due to stigma, patients lacked basic items that are essential in supporting physical activity participation. Some of these included sports ware and food items (i.e. refreshments). Sports ware becomes important because patients are allowed a limited number of clothes and feed items/refreshments are also vital because patients depend on a limited number of meals a day, sometimes one meal a day while in hot weather conditions drinkable water is a must.

So now you also require some money for refreshments, when going to play football. It should be an ideal for all of us. And you know if it is you who has taken them [to play football] and you do not give them water, they tend to become very hostile. Yeah, but they are right. Here we cannot even afford clean water and you know such a thing becomes a luxury and yet it is a basic and the community does not come in to support this deficit (Senior Psychiatrist).

Limited opportunity for physical activity. A few of participants noted that apart from the traditional economic activities such as gardening or hunting, avenues for physical activity are limited in the rural areas.

In town, you might find people engaged in many activities sports and other like going to the gym. In the villages, these are hard to find today. People go to the gardens and go home (Senior Psychiatrist 1).

3.3.3. Health system barriers

Preference for pharmacology. A few informants expressed the view that the medical staff may prefer only pharmacology in the management of mental disorders;

Most of our schedules here are governed by the nursing team. They might think physical exercises are not important and it is only medication that works (Occupational therapist, Unit).

It was also noted that some mental health workers, especially lower level cadres, may not know that physical activity is vital.

We are not at the same level. The more you go down the ladder [in terms of cadre] the less the appreciation of physical activity (Consultant Psychiatrist).

It is indicated by the participant that the question of appreciation of physical activities is a question of education. The more educated the more recognition of physical activity as useful. However, due to regular workshops and seminars, it was noted that quite a number of the mental health workers have now started to appreciate physical activity as a cost-effective package.

Human resource challenges. Almost all informants reported that the number of patients compared to health care workers in the hospital is overwhelming and this stifles efforts to make physical activity a cornerstone in the treatment of every patient. For example, due to a high patient load, it is hardly possible to develop a patient treatment plan including a focus on physical activity for every patient.

Physical activity needs to be tailored to the presentation of a patient, the clinical presentation, so ideally we would like to have a physical activity plan for every patient. In our setting, we do not have that luxury because the numbers of patients is so high … (Community health worker).

In addition, the scarceness of resources hinders the use of physical activities as this could provide a security gap:

Yes, …when you look at games; sometimes you find that the patients want to be active outside … [But]-you fear that, since we are few in the wards, if they go alone, they might either escape or end abusing substances where they have gone. So, because of the limited human resources, it also becomes challenging to supervise them, to see what they are really doing (Nurse, ADU).

Despite these institutional challenges, there were reports by a few informants that there were a small number of motivated staff who were keen at delivering physical activity

… I think is one thing that keeps Butabika performing to this level in spite of the many challenges is the motivated staff [Senior Psychiatrist].

This motivated staff member seems to have undergone training which impact on their general outlook to delivery of mental health services. A few informants also reported availability of physical activity manuals and guidelines in the hospital. These guidelines help mental health workers deliver a standard package of physical activity. In addition to the above, the hospital policy framework also defines physical activity as a core program.

Limited packages. Quite a number of informant expressed the notion that the packages offered at the hospital are quite limited and this sometimes de-motivates the patients. For example, football is highly valued, but the hospital cannot afford sufficient number of balls to play with. Other games are also in demand, but not available.

Limited infrastructure. The majority of the informants reported that infrastructure for some of the activities was lacking especially for activities that require some reasonable space and some of the outdoor activities.

I am telling you about football but only few patients can engage in football … we do not have the space [for other activities] … (Senior Psychiatrist).

However, due to donor support, the hospital had improved on the scale of activities in the occupational therapy unit as one of the vital steps to support psychical activity in the hospital. There were also reports by a few informants that through community outreach programs, community support and engagement had started to improve

And recently we had a nearby school allowing us that if we want to use a gym we can go with our patients and they even do swimming (occupational therapist, OT Unit).

Lack of monitoring capacity. A few informants noted that due to limited number of staff and partly due to poorly developed health information management systems, capacity to monitor the rate of recovery due to physical activity was limited. This limits their capacity to mobilize resources to physical activity programs since its impact remains largely undocumented.

4. Discussion

This is the first study to document health care professionals' perspectives on physical activity within the mental health care system of Uganda and Africa more broadly. This study is important because physical activity is one of the ways to provide holistic care for people with mental health problems in low income countries such as Uganda. A holistic approach should become a priority in the existing Mental Health Action Plans in Sub-Saharan African countries where the mental health care focus is still too much on a narrow biomedical approach (Mugisha et al., 2017).

In a similar way to a study conducted in a high-income country (United States) (Leutwyler, Hubbard, Jeste, & Vinogradov, 2013), one of the major findings reported in this study is the high level of awareness of the meaning and importance of physical activity by the mental health staff. This finding indicates that the existing work staff is also in a challenging care environment ready to endorse a more holistic mental health care. This high level of knowledge could be possible because the interviews were conducted in a national level hospital where the staff, in addition to their medical training, are exposed to continuing medical education (CME) which is likely to impact on their level of knowledge and their understanding of the mutual relationship between body and mind and hence how physical activity has beneficial effects on mental problems. Currently, such training is in Uganda only provided in Butabika hospital, which is a national referral hospital. Only in this setting the staff is exposed to information related to physical activity, owing to the fact that the hospital runs a bigger budget than regional centres, and receives more funds from both local resources and donors for CMEs. Some of the previous CMEs were indeed focused on physical activity. The high level of awareness of the meaning of physical activity reported in this study can be an entry point for further training initiatives elsewhere in the country. It can also be an entry point for training in other aspects of daily physical activity delivery.

In this qualitative study, benefits at the individual and community level were reported. At the individual level symptom reduction, improved physical health, and regaining skills (among others) were the most reported ones while at community level physical activity can reduce stigma towards mental health and improve social connectedness. This way, physical activity might facilitate community acceptance of mental health problems. These are vital benefits in societies where mental health problems are still largely neglected and a taboo. On the other hand, less experienced community stigma will increase a patient's self-confidence and will facilitate social re-integration. It was reported already previously (Mugisha et al., 2017) that socio-ecological considerations influence adaptation and maintenance of physical activity.

In essence, connectedness with the social and physical environment seems to influence a higher likelihood of being active in physical activity (Burgoyne, Woods, Coleman, & Perry, 2008).

There were a number of barriers reported in this study to the promotion of physical activity. Among the individual level barriers was the negative attitude of patients with regards to physical activity. The possible reason to explain why a few patients were reported to have a rather negative attitude towards physical activity could be lack of knowledge on the benefits of physical activity. Informants reported limited time to engage with patients due to heavy workloads and the possible bias to pharmacology as the sole treatment (Mugisha et al., 2017). At a community level, lack of social support was reported and this was largely augmented by community stigma. Protracted anti-stigma campaigns will be important to deal with community level barriers to enhancement of physical activity in mental health care settings in Uganda. On the other hand, there were also human resource challenges and these included: lack of human resource, infrastructure, and limited monitoring capacity among others. However, these factors are not new to the health systems in Uganda (Ahumuza, Rujumba, Nkoyooyo, Byaruhanga, & Wanyenze, 2016; Asiimwe et al., 2012). These challenges do not affect only the delivery of physical activity but also other mental health programs in Uganda and other low income countries (Mugisha, Ssebunnya, & Kigozi, 2016). Deliberate efforts by policy makers and budget holders need to be undertaken to deal with these structural challenges in order to improve the delivery of holistic care in Uganda (Kigozi, Ssebunnya, Kizza, Cooper, & Ndyanabangi, 2017; Mugisha et al., 2016). The Uganda Ministry of Health needs to look into these constraints through its strategic and mental health care plans. Unfortunately, mental health budgets are still less than one percent of the health care budgets (Kigozi et al., 2017) and therefore these challenges are likely to persist for a long time. The alternative would be to introduce and strengthen the integration of physical activity in the ongoing efforts to integrate mental health into primary health care levels (Mugisha et al., 2016; Ugandan Ministry of Health, 2010). It would be vital that community resource persons (e.g., village health teams) at the primary health care level are empowered to deliver physical activity. However, the staff at this level are already overwhelmed by patient numbers.

Alongside these constraints, there were quite a number of opportunities reported by informants that might facilitate physical activity within the Ugandan mental health care system. These included: positive attitudes towards physical activity by staff, perceived cost effectiveness of the package by staff, and the existence of a supportive local policy framework. These factors are also not new and have been reported in other health programs delivered by hospitals in Uganda (Nakku et al., 2016). The Ministry of Health needs to consolidate these opportunities while working on the above limitations and barriers. For example, it should take advantage of existing donor support to commit more resources to improve these opportunities. A systemic approach is also recommended instead of small and piecemeal interventions.

Overall, there is need to change the current emphasis on pharmacotherapy to a more holistic care with a specific focus on low-cost lifestyle interventions. Almost all the recurrent budget in Uganda is spend on pharmacology at the expense of other services (Mugisha et al., 2017). Cost-effective methods of management of mental, neurological and substance abuse disorders such as promoting an active lifestyle should be embraced given the very limited resources available for the mental health sector in Uganda. Fortunately, the benefits of physical activity were quite clear to many of our informants and they are part of the policy makers in the hospital. A phased and systematic integration of physical activity within primary health care levels will be vital and sustainable in the long-run.

4.1. Study limitations

First, since this was an exploratory qualitative study undertaken only in Butabika national referral hospital, the findings may not be easy to generalise to other hospitals at the regional and district level and staff there may not have the same level of exposure to physical activity as an approach in management and recovery from mental illness at other levels. A more representative sample will be vital in future research covering as well local districts and regional referral hospitals. Second, due to the small sample size, data saturation cannot be assured. Therefore, an in-depth assessment including a larger sample size of health care professionals and policy makers at all levels of care is important in establishing the specific needs for physical activity programs within the existing mental health care system. Such research will be able to inform future training programs and mental health policy development in Uganda.

5. Conclusion

The current level of awareness adduced in this study creates inroads for more application of physical activity in the management and recovery of people with mental disorders at Butabika hospital. However, there is still urgent need by policy makers and senior level managers at the hospital to deal with the institutional barriers identified in the study.

Declarations of interest

None.

Conflicts of interest

The authors declare that they have no competing interests.

Funding

This study was funded by Geestkracht VZW, Kortenberg, Belgium.

Acknowledgements

The authors would like to thank the health care workers of the Butabika National Referral and Mental Health Hospital who were interviewed for the purpose of this study.

References

Ahumuza, S. E., Rujumba, J., Nkoyooyo, A., Byaruhanga, R., & Wanyenze, R. K. (2016). Challenges encountered in providing integrated HIV, antenatal and postnatal care services: A case study of katakwi and mubende districts in Uganda. *Reproductive Health, 13*, 41.

Asiimwe, C., Kyabayinze, D. J., Kyalisiima, Z., Nabakooza, J., Bajabaite, M., & Counihan, H. (2012). Early experiences on the feasibility, acceptability, and use of malaria rapid diagnostic tests at peripheral health centres in Uganda-insights into some barriers and facilitators. *Implementation Science, 7*, 5.

Burgoyne, L.,N., Woods, C., Coleman, R., & Perry, J. I. (2008). Neighbourhood perceptions of physical activity: A qualitative study. *BMC Public Health, 8*, 101.

Erlingsson, C., & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *African Journal of Emergency Medicine, 7*, 93–99.

Firth, J., Cotter, J., Elliott, R., French, P., & Yung, A. (2015). A systematic review and meta-analysis of exercise interventions in schizophrenia patients. *Psychological Medicine, 45*(7), 1343–1361.

Hallgren, M., Vancampfort, D., Giesen, E. S., Lundin, A., & Stubbs, B. (2017). Exercise as treatment for alcohol use disorders: Systematic review and meta-analysis. *British Journal of Sports Medicine, 51*(14), 1058–1064.

Hanlon, C., Semrau, M., Alem, A., Abayneh, S., Abdulmalik, J., Docrat, S., et al. (2018). Evaluating capacity-building for mental health system strengthening in low- and middle-income countries for service users and caregivers, service planners and researchers. *Epidemiology and Psychiatric Sciences, 27*(1), 3–10.

Hjorthøj, C., Stürup, A. E., McGrath, J. J., & Nordentoft, M. (2017). Years of potential life lost and life expectancy in schizophrenia: A systematic review and meta-analysis. *The Lancet Psychiatry, 4*(4), 295–301.

Kigozi, F., Ssebunnya, J., Kizza, D., Cooper, S., & Ndyanabangi, O. (2017). Mental health and poverty project. *International Journal of Mental Health Systems, 4*, 1. https://doi.org/10.1186/1752-4458-4-1.

Leutwyler, H., Hubbard, E. M., Jeste, D. V., & Vinogradov, S. (2013). We're not just sitting

on the periphery": A staff perspective of physical activity in older adults with schizophrenia. *The Gerontologist, 53*(3), 474–483.
Lund, C., Alem, A., Schneider, M., Hanlon, C., Ahrens, J., Bandawe, C., et al. (2015). Generating evidence to narrow the treatment gap for mental disorders in sub-saharan Africa: Rationale, overview and methods of AFFIRM. *Epidemiology and Psychiatric Sciences, 24*(03), 233–240.
Mugisha, J., Abdulmalik, J., Hanlon, C., Petersen, I., Lund, C., & Upadhaya, N. (2017). Health systems context (s) for integrating mental health into primary health care in six emerald countries: A situation analysis. *International Journal of Medical and Health Sciences Research, 11*, 7.
Mugisha, J., Ssebunnya, J., & Kigozi, F. N. (2016). Towards understanding governance issues in integration of mental health into primary health care in Uganda. *International Journal of Mental Health Systems, 10*(1), 25.
Nakku, J. E., Okello, E. S., Kizza, D., Honikman, S., Ssebunnya, J., & Ndyanabangi, S. (2016). Perinatal mental health care in a rural african district, Uganda: A qualitative study of barriers, facilitators and needs. *BMC Health Services Research, 16*, 295.
Petersen, I., Marais, D., Abdulmalik, J., Ahuja, S., Alem, A., Chisholm, D., et al. (2017). Strengthening mental health system governance in six low- and middle- income countries in Africa and south asia: Challenges, needs and potential strategies. *Health Policy and Planning, 32*(5), 699–709.
Rosenbaum, S., Vancampfort, D., Steel, Z., Newby, J., Ward, P. B., & Stubbs, B. (2015). Physical activity in the treatment of post-traumatic stress disorder: A systematic review and meta-analysis. *Psychiatry Research, 230*(2), 130–136.
Schuch, F. B., Vancampfort, D., Richards, J., Rosenbaum, S., Ward, P. B., & Stubbs, B. (2016). Exercise as a treatment for depression: A meta-analysis adjusting for publication bias. *Journal of Psychiatric Research, 77*, 42–51.
Stubbs, B., Vancampfort, D., Rosenbaum, S., Firth, J., Cosco, T., Veronese, N., et al. (2017). An examination of the anxiolytic effects of exercise for people with anxiety and stress-related disorders: A meta-analysis. *Psychiatry Research, 249*, 102–108.
Ugandan Ministry of Health (2010). *Uganda health sector strategic investment plan.* Kampala: Ugandan Ministry of Health.
Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice, 6*, 5.
Vancampfort, D., Stubbs, B., De Hert, M., du Plessis, C., Gbiri, C. A. O., Kibet, J., et al. (2017). A systematic review of physical activity policy recommendations and interventions for people with mental health problems in Sub-Saharan African countries. *Pan African Medical Journal, 26*, 104.
Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., et al. (2013). Global burden of disease attributable to mental and substance use disorders: Findings from the global burden of disease study 2010. *The Lancet, 382*(9904), 1575–1586.
World Health Organization (2006). *Global strategy on diet, physical activity and health a framework to monitor and evaluate implementation.* Geneva: World Health Organization.
World Health Organization (2011). *Mental health atlas 2011.* Geneva: World Health Organization.