

Panic disorder in rural Tanzania: an explorative study

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Abstract

Objective: Common mental disorders constitute a considerable disease burden in low-income countries, and there is a need for acceptable and effective brief interventions for such disorders in low-income countries. This article examines cultural based interpretations of the diagnosis of panic disorder (PD) in a rural Tanzanian hospital setting through clinical work. It also examines how to adapt and apply brief cognitive behaviour therapy (CBT) interventions to this setting. **Method:** A qualitative analysis of clinical data from ten participants in a hospital-setting in rural Tanzania. **Results:** The analysis suggests that the diagnosis of PD is relevant to this rural Tanzanian setting. Patients, relatives, and health personnel at the hospital accepted brief CBT interventions for PD and regarded psychoeducational information to patients as especially useful. **Conclusion:** A manual for brief interventions for PD may be adapted to a rural Tanzanian setting, also taking into consideration the limited financial and human resources in a rural low-income country setting.

Keywords: Panic disorder; Culture; Cognitive behaviour therapy; Low-income country

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Introduction

The detection of common mental disorders within health care services in low-income countries is minimal or nonexistent.¹ The high prevalence and major burden of common mental disorders in low-income countries makes the need for acceptable and applicable interventions in these countries evident.¹ However, research from low-income countries on the relevance of diagnoses and psychological interventions for common mental disorders is scarce and in demand.¹

Panic disorder (PD) is a disabling and common mental disorder, often co-morbid with depression and substance abuse.² Research on prevalence of PD in a Western setting indicates that 5% of the adult population suffers from lifelong PD.² PD causes substantial costs for those with the disease and health care providers, as PD is associated with great costs in general medical health services.^{2,3}

Cognitive Behaviour Therapy (CBT) has been reported as an effective psychological treatment for PD.⁴ Less is known about the applicability and acceptance of psychological interventions for PD in a rural low-income country setting, where the understanding of the etiology and treatment of PD is assumed to differ from that of Western settings. Furthermore, human and monetary resources are limited in this settings.⁵

Inspired by the work of Patel and colleagues, this explorative study examines cultural based interpretations of the PD diagnose and acceptance of brief CBT interventions for PD in a low-income country by asking the following two questions: How can cultural based interpretations of a common mental disorder be examined in a setting where it has not previously been reported? How can Western developed psychological interventions be adapted to a setting where they have not previously been applied?

Method

Context and Procedures

This study was approved by the National Institute of Medical Research in Tanzania.

The clinical work was conducted at Haydom Lutheran Hospital (HLH) in northwest Tanzania, a facility 300 kilometers from the nearest urban center with 350,000 people within the immediate catchment area. The population is ethnically diverse, the majority of residents are farmers and/or pastoralists, and most households are poor—having no electricity, sanitary facilities, or clean water attached to their houses. HLH has 400 beds and admitted 12,500 inpatients in 2008, with malaria and tuberculosis being the most frequent diagnoses.

The Mental Health Unit at HLH serves as a general psychiatric out-patient clinic and treats patients with neuropsychiatric disorders in all wards of the hospital. Diagnosis and delivery of medication to epileptic patients comprised 83% of out-patient consultations at the unit during the first six months of 2008. Epilepsy is included in mental health services in Tanzania, and the high figure of epilepsy-consultations reflects previous projects

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focusing on the identification and treatment of epilepsy. At the time of the present study no patients at Mental Health Unit previously had been diagnosed with anxiety disorder, and psychological therapies had not been utilized.

Assessment

In order to recruit patients to the study, patients were screened at the General Medical ward in a four week period by nurses being attentive to patients who reported panic attacks or panic disorder symptoms according to Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Nurses were provided with a list of symptoms associated with panic attacks and panic disorder; physical symptoms such as heart palpitations, sweating, trembling, dizziness, and cognitive symptoms such as fear of dying, losing control, or faint.⁶ Furthermore, patients who were in immediate need of treatment or had an identified medical cause for the listed symptoms were not invited to participate in the study.

Twelve patients, ten female and two male, were identified as having panic attacks or panic disorder in the screening phase. Ten out of twelve patients, all women, agreed to participate in the study and signed the informed consent. The two patients who did not want to participate wanted further medical examinations. Participants were assessed by a clinical psychologist (the first author: TN) using the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition DSM-IV (SCID).⁶

Treatment

CBT for PD, as described by David M. Clark, was introduced to mental health staff by the first author and included 10 hours of teaching at weekly staff meetings on the following topics: Diagnose and symptoms of PD, general principles of CBT, the CBT model of PD, and case-formulation presentations.⁷ More specifically this included training in 1) basic assumptions of CBT including the relationship between thoughts, feelings, behaviour and physical sensations, 2) physical reactions to anxiety, especially regarding dizziness, heart palpitations, and sweating, 3) catastrophic cognitions during panic attacks or anticipated panic attacks, and its effect on feeling, and anxiety arousal. Finally, mental health nurses were trained and supervised in how to develop a CBT-based case formulation (trigger, feelings, thoughts, and physical sensations). Two mental health nurses received additional training in CBT-interventions for PD through their role as translators and co-therapists.

Mental health nurses in Tanzania have, depending on when they were trained, six weeks to two years of training in psychiatry in addition to their three years of training as a nurse.

Participants

Nine participants fulfilled the criteria for PD and one had agoraphobia with PD. The patients reported that the duration of their PD symptoms had lasted from one week to 15 years, with a mean of almost four years. Three patients reported a comorbid major depressive episode according to DSM-IV. All the patients were female with age from 20 to 45 (mean 31 years). Education levels varied from no formal schooling (most common) to the completion of secondary school (10 years).

Analysis

Clinical, qualitative data from patients with PD were analyzed and presented according to Interpretive Phenomenological Analysis.⁸

Data from the diagnostic interviews, history taking, interview about current complaints, understanding of problems, and brief interventions were collected during the clinical work with patients. Patients' responses were categorized drawing upon psychological literature and models regarding PD and CBT. When the co-authors disagreed about categorization of a patients' response, this was discussed until agreement was obtained. In addition to categorization of responses as presented in Table I, case presentations will be used to further illuminate the topic in question.

Results and Discussion

(Editor's note: Owing to the qualitative nature of the content the integration of results and discussion better suited the presentation of the material, hence the deviation from standard Journal format)

Cultural interpretations of a diagnosis of PD

Heart palpitations and dizziness were patients' most frequently reported PD symptoms. This finding is consistent with findings from patients with PD in Southeast Asia and North America.^{9,10} Furthermore, the main focus on bodily PD-symptoms in present setting were consistent with reports from Western countries, in which 85% of patients with PD primarily presented physical symptoms.¹¹

The most frequently reported catastrophic cognitions were: "I will die," and "I will faint", and fear of becoming paralyzed. The second most frequent catastrophic cognition was "I have a heart stroke" (Table I). A diagnostic interview is illustrated in the following: A patient was admitted to the General Medical ward due to heart palpitations and chest pain. Anti-malaria treatment was initiated, but as she had no signs of recovery, she saw Mental Health Unit staff five days later. The patient reported onset of chest-tightness related to a frightening episode that occurred four months prior to admission, when she was chased by an animal at home. Since that incidence she had several episodes of panic attacks without frightening stimuli. The patient reported physical symptoms in relation to these episodes, but catastrophic cognitions were difficult to obtain. However, upon further probing, she revealed that when she felt dizzy or experienced chest-tightness she believed she would have a "brain or heart stroke". She also feared that she would be paralyzed and unable to stand, walk, or talk during these episodes.

Three types of explanatory models of symptoms were identified during the interviews: medical diseases, stressful life events, and "spells" or "bad eye" (Table I).¹² All patients believed that their symptoms were due to an underlying medical disease, most commonly cardiac disease, followed by unspecific serious illnesses, progressive HIV/ AIDS, epilepsy, diabetes or malaria. Attribution of physical anxiety symptoms to medical diseases has also been reported among Cambodian refugees, patients in USA, South Africa, and in Norway.^{9,13,14,15} This could be expected, as catastrophic interpretations of physical anxiety symptoms is a core symptom of PD.

One patient interpreted PD symptoms as symptoms of malaria. This may be explained by the fact that the population in this area is alert to malaria symptoms as malaria is a major cause of morbidity and mortality.

Nine patients explained their symptoms as a consequence of current, stressful life- events. These included difficulties in the marriage and extended family, poverty, chronic disease, and work related problems. Similar findings have been reported from Western cultures.¹⁶

Table 1: Panic disorder symptoms and history

<i>Panic disorder symptoms</i>			<i>Treatment history</i>	
<i>Case</i>	<i>Physical symptoms</i>	<i>Catastrophic cognitions</i>	<i>Western medicine</i>	<i>Traditional healing</i>
1	Heart palpitations, sweating, breathing difficulties, shaking, nausea, headache, body weakness	Something is wrong with my heart; I will die, I am unable to stand, I have heart disease	Admitted to ward	Yes
2	Dizziness, spasm, tightness in side	I will faint, I will have a spasm, I have epilepsy	Admitted to ward Fenobarbiton, Valium 20 mg per day	Yes
3	Dizziness, sweating, breathing difficulties, chest pain, feeling hot and cold, heaviness in body, numbness	I will faint, I have malaria, I will throw-up, have a brain stroke, heart stroke, choke, be paralyzed, I will not manage	Admitted to ward Valium 10 mg per day Brufen, Largactil, amoxicillin, quinine	Yes
4	Heart palpitations, dizziness, chest pain, coughing, blurred vision	I have a heart disease, I will be paralyzed from anxiety and unable to move	Admitted to ward Quinine	No
5	Heart palpitations, feeling hot and cold, body weakness, tiredness in joints	I will faint, vomit, and be paralyzed. I have a serious illness	Previous admissions Amoxicillin, quinine	No
6	Heart palpitations, dizziness, chest tightness, nausea	I have a heart problem, I will hurt my child, I will die	Admitted to ward Amoxicillin	Yes
7	Heart palpitations, chest pain, abdominal discomfort, pressure in head, tired, shaking	I will have a heart stroke, my heart will grow too big, I will die	Admitted to ward Amoxicillin, quinine	No
8	Heart palpitations, dizziness, hiccups	I will fall, I have a serious illness	Admitted to ward Amoxicillin	No
9	Heart palpitations, dizziness, feeling hot and cold, abdominal pain	Progressing HIV, I will die, my children will be left alone	Admitted to ward Antiretroviral treatment	No
10	Heart palpitations, dizziness, sweating, breathing difficulties, feeling hot and cold	I will faint	Admitted to ward	Yes

Five patients, who explained their symptoms as a consequence of physical disease and/ or reaction to stressful life events, also saw their symptoms as caused by "spells" or "bad eye" (coercion), most likely brought on by a neighboring clan. These patients had had their spell diagnosed by a traditional healer and symptoms of a spell included ill health, lack of concentration, poor school results, and social problems.

The coexistence of varied and sometimes divergent explanatory models has also been reported in urban Tanzania, where patients with common mental disorders sought and accepted help from both Western and traditional medicine.¹⁷ Patel with colleagues reported the same pattern in Zimbabwe, and in USA patients with PD reported to use alternative medicine more often than those without PD.^{5,18} This indicates that patients may have multiple and divergent beliefs about symptoms and treatments and seem to be willing to try different options and approaches.

Treatment history

Nine of the 10 of the participating patients had recently undergone medical treatment as inpatients at the hospital (malaria and antibiotic treatment were most common). Prior to the present hospitalization, all patients had received medical treatment for their PD symptoms; from one to seven times at the hospital. The following treatment history illustrates this: the patient had been

admitted to the General Medical ward one week prior to being referred to the Mental Health Unit with. The current admission to the hospital was due to fainting episodes, and was the seventh in four years. Her main complaints were general weakness, heart palpitations and chest pain, stomach discomfort, hot and cold sensations, and trembling. She had repeatedly had been treated with amoxicillin (antibiotics) for these complaints. When interviewed about the fainting, she revealed that she had not actually ever fainted, but felt dizzy and needed to sit down.

Health personnel's readiness to focus on somatic symptoms in PD was in line with patients' understanding of their symptoms. As a consequence, psychological symptoms were easily overlooked, a pattern that is well recognized from other health care systems i. e. in Norway.¹⁵ This pattern seemed to be even more evident in the current setting, in the presence of fatal tropical diseases, limited availability of effective medical assessment tools, and corresponding treatments for these diseases. Another factor, not specific to this setting, may be the medical teaching that somatic disease should be ruled out before considering psychiatric disease.³ However, whenever a patient receives a false positive medical diagnosis or does not present his or hers psychological complaints, the assessment is likely to stop after the somatic examination. This may make the sequential assessment strategy problematic in some health care settings.

Acceptance of CBT Interventions

A total of ten patients received CBT interventions for PD. All interventions were delivered individually, often with a relative or friend present. Three patients attended five to eight sessions, three attended three, two attended two, and two attended one session only. In-patients at General Medical ward were seen in the ward, and out-patients were seen at the Mental Health Unit office. For the majority of out-patients it was difficult to attend pre-scheduled sessions due to long distances, unpredictable transport because of rain, and a heavy work burden at home with house, children and agriculture. Thus, most sessions were given on a drop-in basis.

Case Formulation and Psychoeducation

The CBT model for PD was introduced to the patients through the development of a CBT-based case formulation. A case formulation was developed in order to inform patients about maintaining mechanisms in PD and to tailor CBT interventions to the patient. This is also a recommended approach in a setting where no treatment manual exists.¹⁹ The following two cases illustrate this work: A patient was hospitalized as she was preparing to start on antiretroviral medication (HIV medication). She had started to have panic attacks during hospitalization, and reported worries about the future of her children as the trigger of the panic attacks. Heart palpitations, dizziness, chest pain, and pain in her abdomen were main physical symptoms. She interpreted the initial symptoms as progressive HIV (a catastrophic thought) and became even more afraid when the symptoms increased, which she subsequently saw as proof that her condition was worsening and worries about the children increased. The CBT-based case formulation was developed, and included description on how bodily reactions, feelings, behaviour and catastrophic cognitions interact during panic attacks. At the end of the session, she reported that the non-catastrophic interpretation of her physical symptoms was in line with what women in the neighboring beds in the ward had told her; that her panic attack symptoms did not resemble what they knew as symptoms of progressive HIV/AIDS.

Another patient experienced two daily attacks, mostly nocturnal, for the last three months. She had become increasingly tired. After assessment, she was explained that she met the criteria for panic disorder. She received the message with dissatisfaction as she believed she was "really ill". In spite of her dissatisfaction, she agreed to continue the session. After a case-formulation was developed and the interaction of physical, cognitive, behavioural and emotional symptoms was revealed, she responded that finally her problems had been well understood.

As these clinical data illustrates, the CBT-model for PD gave meaning to the patients, indicating acceptance of a CBT-based model for PD in this setting.¹⁹ We hypothesize following reasons for this: First, working with the CBT-model for PD contributed to the establishment of a collaborative relationship between the patient and the therapists.¹⁹ This may be of special importance as "talking therapy" was unfamiliar in this setting and the majority of patients previously had received unhelpful medical treatments. Second, the PD-model established a link between the trigger and the physical, emotional, cognitive, and behavioral symptoms.¹⁹ Through this, patients were offered alternative interpretations of their physical symptoms. Third, it provided direction for strategies of symptom relief.⁷ Mental health nurses involved in the study reported that case-formulation and psychoeducation was especially applicable in their own work, and reported one year after to still use these interventions.

It was found to be essential to invite relatives and health personnel into the case-formulation/ psychoeducation sessions. Relatives were asked to assist the patient to recall relevant information after the session. The importance of involving relatives has been recognized within CBT and may be even more important in the current setting, where knowledge of PD and its treatment is lacking, and most patients received few follow-up sessions.⁷ Patients also received general information about anxiety in a pamphlet entitled "Better Mental Health in Tanzania" (published by National Mental Health Association of Tanzania). Three patients reported this to be particularly useful, but were also sad, as they felt they could read about themselves. One woman gave the pamphlet to a relative and at follow-up she reported that her relative had started to give her supported in relation to her symptoms within her extended family.

Because CBT was an unfamiliar treatment in the current setting, we found it necessary to underline that CBT would not remove the stressors themselves, but rather was a treatment that could reduce disabling symptoms and through that, had the potential to increase the patients' capacity to manage real-life stressors.

Testing Negative Automatic Thoughts

With the case-formulation and psychoeducation as a background, patients were encouraged to participate in a hyperventilation test together with the therapist in order to test catastrophic beliefs of anxiety symptoms. The hyperventilation test will for many patients evoke symptoms that resemble panic symptoms after 30-40 seconds of shallow and fast breathing. When the therapists reported her symptoms evoked by hyperventilation (i.e. numbness in cheeks, dizziness, dry mouth) and this was similar to what the patient experienced this led to a discussion about the cause of panic symptoms. The hyperventilation test may last for 90-120 seconds to gain full effect, but most patients disengaged in the test after 30-40 seconds as their symptoms increased. However, when hyperventilation was followed by breathing retraining (deep and calm breathing) it facilitated discussions about alternative explanations of physical sensations during panic. At follow-ups patients also reported breathing retraining as appealing because it reduced their panic symptoms outside sessions.

Negative automatic thoughts were verbally tested through work using the "double column technique". The following case illustrates this work: A patient with PD and comorbid depression was introduced to the double column technique. Negative automatic thoughts were triggered when she felt tiredness in her body, something she believed was due to an underlying medical illness. As a consequence, she went home and went straight to bed. It was hypothesized that this was maintaining her PD as well as her depression, which was related to feelings of being left alone. After exploring alternative thoughts for her physical sensations (tiredness in body), she thought they might be due to hot weather (they often happened midday) or bad sleep the previous night. She was encouraged to use the double column technique while carrying on her normal activities, together with relaxation training and breathing retraining. When she returned two months later she said, "I was not aware of what caused the symptoms, but now I am". However, clinical work involving negative thoughts and alternative thoughts were found difficult to use among the other patients.

Taken together, these data suggests applicability of brief CBT interventions in a hospital setting in rural Tanzania. However, the

presence of contextual realities such as limited financial and human resources at the hospital, poor infrastructure, low educational levels, and poverty limits the ability to detect and deliver a treatment for PD.

An adapted manual on CBT for PD in the current context should preferably be brief and include: 1) development of a case formulation, 2) psychoeducation and 3) hyperventilation followed by breathing retraining. The interventions should involve relatives and health personnel, and be delivered in a low intensity framework, preferably in the primary care context.

Conclusion

The present small-scale clinical study aimed to capture the presentation of CBT for an "old disorder" in a "new setting". However, the conclusions from present study can not be generalized, as the study was explorative and naturalistic in nature, and with only female participants. Finally, we do not know how the clinical data was affected by the presence of a European health worker or in the context of a church-owned hospital that followed Western medical traditions.

In view of the limitations of present study, our data supports the notion that the PD diagnosis has relevance to a rural Tanzanian setting, and that brief CBT interventions were applicable in this setting. This is line with previous findings suggesting the applicability of CBT across cultures, also in low-income country settings.^{20,21} The work also underline the importance of contextual factors, such as infrastructure and monetary resources, when an intervention is adapted to a new culture and setting.²² Hopefully, this work will stimulate the validation of psychiatric diagnosis and psychological interventions in low-income countries, where improved mental health services is of great importance to public health.

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