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Case Report

Conceptualization and Treatment Plan for Panic Disorder: A Case Report

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Abstract

Background: Panic disorder is characterized by the repeated occurrence of discrete panic attacks. Panic attacks are brief periods of overwhelming fear or anxiety. The intensity of a panic attack goes well beyond normal anxiety and can include a number of physical symptoms. During panic attacks, people often fear that they are having a heart attack, they cannot breathe, or they are dying. This case study illustrates a critical, reflective and analytic conceptualisation and treatment plan for Panic disorder (PD) for an individual who was assessed under Objective Structured Clinical Examination (OSCE). To maintain the client's confidentiality, the client is referred to by a pseudoname, Amina. Amina is a 30 years old lady of Asian origin who reports feeling anxious in public places as well as at work. She notices her heart racing, shaking and feeling dizzy of which she thinks that there is something wrong with her heart, she might lose control and pass out. She then grips onto something so that she does not fall or have a heart attack and removes herself from that situation.

Methods: This case study illustrates a critical, reflective and analytic conceptualisation and treatment plan for PD. The PD will be diagnosed using the Diagnostic and Statistical Manual (DSM-V) and International Classification of Diseases (ICD) with specific reference to this client. The diagnosis will be followed by the prevalence and incidence of PD and how PD responds to Cognitive Behavioural Therapy (CBT) interventions. A generic/cross section, longitudinal and an adapted idiosyncratical disorder specific conceptualisation of her Panic Attacks (PA) will be presented. This will be followed by a treatment and relapse prevention plan. A reflection on how the OSCE was performed mark the end of this assignment.

Results: From the diagnosis using the DSM-V and ICD-10, symptoms common to Amina, included trembling or shaking, sensations of shortness of breath, palpitations, accelerated heart rate, and feeling dizzy with a cognitive misinterpretation that she might lose control or have a heart attack and die. Amina, therefore, meets the diagnostic criteria of having PD. The DSM-V reports a 12 months prevalence rate of 2.7% to 3.3% Europeans. The general treatment plan for Anima PD will include psycho-education and physiology of anxiety, natures of phobias, anxiety management strategies and habituation. These will incorporate: Hyperventilation provocation Tests, Imaginal exposure, Stimulus exposure, Behavioural experiments and Cognitive restructuring.

Conclusion: A diagnosis, case conceptualisation and treatment plan for Amina was demonstrated in this case study. The diagnostic tools confirmed her diagnosis of panic disorder and her generic, longitudinal and idiosyncratic formulations were collaboratively completed with Amina. Prevalence and incidence of PD as well as outcomes of CBT for PD and research in support of CBT was done followed by her person-centered treatment plan. Finally, a personal reflection on OSCE showing areas that can be improved on marked the end of this study

Keywords: *Panic Disorder; Diagnosis; Case Conceptualization; Treatment Plan*

Introduction

This case study illustrates a critical, reflective and analytic conceptualisation and treatment plan for Panic disorder (PD) for an individual who was assessed under Objective Structured Clinical Examination (OSCE). The PD was diagnosed using the Diagnostic and

Statistical Manual (DSM-V) and International Classification of Diseases (ICD-10) with specific reference to this client. To maintain the client's confidentiality, the client is referred to by a pseudoname, Amina. The diagnosis was followed by the prevalence and incidence of PD and how PD responds to Cognitive Behavioural Therapy (CBT) interventions. A generic/cross section, longitudinal and an adapted idiosyncratical disorder specific conceptualisation of her Panic Attacks (PA) are presented below. This was followed by a treatment and concluded with a relapse prevention plan.

Case Report

Amina is a 30 years old lady of Asian origin. She reports feeling anxious in public places as well as at work when she must give presentations. She notices her heart racing, shaking and feeling dizzy of which she thinks that she might lose control and then she either sits down, or gets hold of or grips onto something so that she does not fall. She also misinterprets her physical symptoms as a catastrophic phenomenon that she is going to have a heart attack and removes herself from that situation. She has been avoiding such places as much as possible, especially when she is on her own (Appendix 1: Amina's complete case summary).

Ethics approval

The Human Research Ethics Committee does not consider the intervention in this case report as a Research (no investigation was undertaken to gain knowledge and or understanding), therefore no approval of and by the ethics committee was deemed necessary or prerequisite for publication [1].

Diagnosis: DSM-V AND ICD-10

According to [2,3], the nomothetic diagnostic characteristics of Panic disorder (PD) are spontaneous, recurrent and unexpected occurrence of PA. Both manuals define PA as periods of intense fear, in which 4 of 13 symptoms develop abruptly and peak rapidly less than 10 minutes from the onset of the symptoms. To meet the criteria of a PD, PA must be associated with longer that one month of subsequent persistent worry about having another attack.

Amina reports experiencing several attacks in a month. Her panic attacks are not unexpected but situational. McCabe RE and Gifford S [4] report that if the first attack is unexpected, then the individual has PD. According to [5] the panic attacks are symptomatically heterogeneous among individuals. Interestingly, the two diagnostic manuals share common criteria for the diagnosis of panic that there should be the presence of at least four symptoms subjectively experienced as a discrete period of intense fear or discomfort that may start suddenly and reaches peak within a few minutes up to 10 minutes [6]. However, according to [7], these panic attacks can last up to 30 minutes for some people.

The common symptoms which are shared between the DSM-V and the ICD-10 common to Amina, include trembling or shaking, sensations of shortness of breath, palpitations, accelerated heart rate, feeling dizzy with a cognitive misinterpretation that she might lose control or have a heart attack and die. Amina, therefore, meets the diagnostic criteria of having PD.

Clark DM [8] describe panic attack as consisting of intense feelings of apprehension or impending doom which is sudden onset and associated with a wide range of distressing physical sensations of unreality. On the other hand, Barlow DH., *et al.* [9] summarised PD as an acquired fear of bodily sensations, particularly sensations associated with automic arousal.

Rationale for diagnostic tools

Diagnostic tools are helpful in identifying and classifying features of people's aggregate subjective symptoms of specific problems into categories which is helpful in guiding treatment options [10]. In addition to that, diagnosis is essential for offering treatment options

and outcome predictions [10,11]. However, diagnostic classification has also been criticised for diluting information and for not taking individual differences into account [11]. Furthermore, it is possible that different people may have the same diagnosis but without having similar clinical symptoms in common [10]. It is therefore important to have an idiosyncratic understanding of a person's problems to formulate their individualised treatment plan [10,11].

Prevalence and incidence of panic disorder

The DSM-V reports a 12 months prevalence rate of 2.7% to 3.3% Europeans where females are twice as likely as men to have PD. These figures have been endorsed by Kessler RC., *et al*. [12] who also reported a prevalence of 2.8% for 12 months PD and 2.7% [7].

According to the DSM-V, PD is more prevalent in the white Americans than the ethnic group with a proportion of 2-1 of female to men [12]. The rates of panic are less than 0.4% before the age of 14 from which it gradually increases to adolescence mostly in females following puberty into adulthood [12]. However, these rates decline in the older adults over the age of 64 to about 0.7% (DSM-V) due to their ability to cope at that age. Grant BF., *et al*. [13] reported that those of earlier age onset are more likely to seek treatment than those of late onset.

The incidence of PD is more likely in people who consume considerable caffeine and carbon dioxide than those who do not [12]. Furthermore, the prevalent rates of panic are more in individuals with other anxiety disorders particularly agoraphobia as well as major depression (with a co-morbidity of about 10% - 65%) or those dependent on alcohol [2].

According to Kessler RC., *et al*. [12], PD without agoraphobia has a lifetime prevalence of 22.7% and 0.8% for PD with agoraphobia. On the contrary, McCabe RE and Gifford S [4] had a prevalence of 3.5% for PD without agoraphobia and 1.5% for PD with agoraphobia. This variation in prevalent rates is inexplicable.

Conceptualization

An understanding of significant etiological factors that have and still influence Amina's panics is essential in guiding her therapeutic intervention [14]. A formulation therefore is a psychological understanding of the interaction of an individual's presenting thoughts, emotions, behavior and physical sensations in the context of their whereabouts [11,15]. Therefore, the formulations below are discussed from a general to disorder specific and more importantly, idiosyncratic to Amina [11].

Whilst formulations have been found to be instilling understanding and hope in some clients [15], they have also been reported to cause sadness, upsetting and worry in others [10]. Nevertheless, collaborative conceptualization in a non-judgemental therapeutic relationship in which Amina's problems are normalized [16] and acknowledging her strengths and protective factors is pivotal in this assignment.

This will help Amina understand her problem and assist her to make an informed decision on what aspect of the vicious cycle of her difficulties she wants to effect change and collaboratively assist the therapist and Amina to monitor her progress [11].

Generic formulation

To encourage Amina's understanding of her problem, it is important to highlight the basic interaction of her thoughts, feelings, behaviour, physical sensations [17]. As shown on figure 1, Amina's thought, when she is shopping, is that people are commenting on what she is buying or wearing. Amina's response in this environment is consistent with the cognitive model that if the environmental triggers, be they internal or external, mean something to the her, they (the triggers), will stimulate an emotional and behavioral response [13].

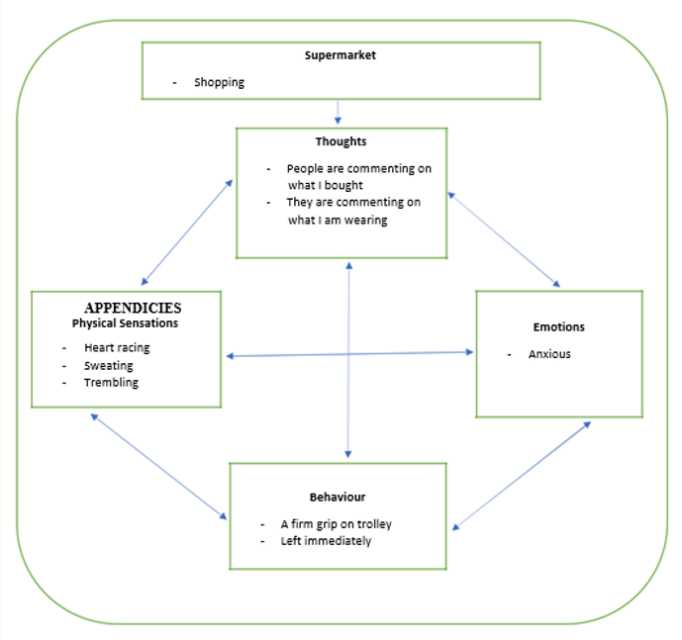

Figure 1: *Amina's thought, when she is shopping.*

The focus of concern to Amina is that if she was to have panic attack, she would have a heart attack. According to Clark GI and Egan SJ [6] people with panic phobia are worried not about the anxiety themselves but their feared consequences. Amina's fear of being judged negatively makes her feel anxious and leaves the supermarket as quickly as she can.

According to Padesky CA and Greenberger D [17], the simplicity of a generic formulation can help patients learn, through engagement and taught skills, that thinking and behaving differently will make them feel differently.

Amina's ability to identify her negative automatic thoughts and emotions in her feared situations, her willingness to engage in CBT and motivation to do self-help exercises makes her suitable for CBT [11,18].

Whilst CBT emphasizes on the here-and-now as has been shown in the cross-section model, it remains vital for Amina and the therapist to have a broader understanding of the contributory and maintaining factors of her panics from a developmental perspective, as well as categorizing her core beliefs so that she can learn how the interaction of various factors in her life develop her core belief and rules for living [7,19].

These historical contexts are depicted in the next longitudinal formulation (Figure 3) below.

Longitudinal formulation

To explore the impact of Amina's panic attacks on the family including how they are managing, it would be helpful to invite them to the second session after consulting with and seeking Amina's consent [11].

As shown in figure 2, Amina had to perform her best so that she would not be bullied in college. She used to push herself to perform better. Her first experienced of panic attacks was when she was a teenager during exams.

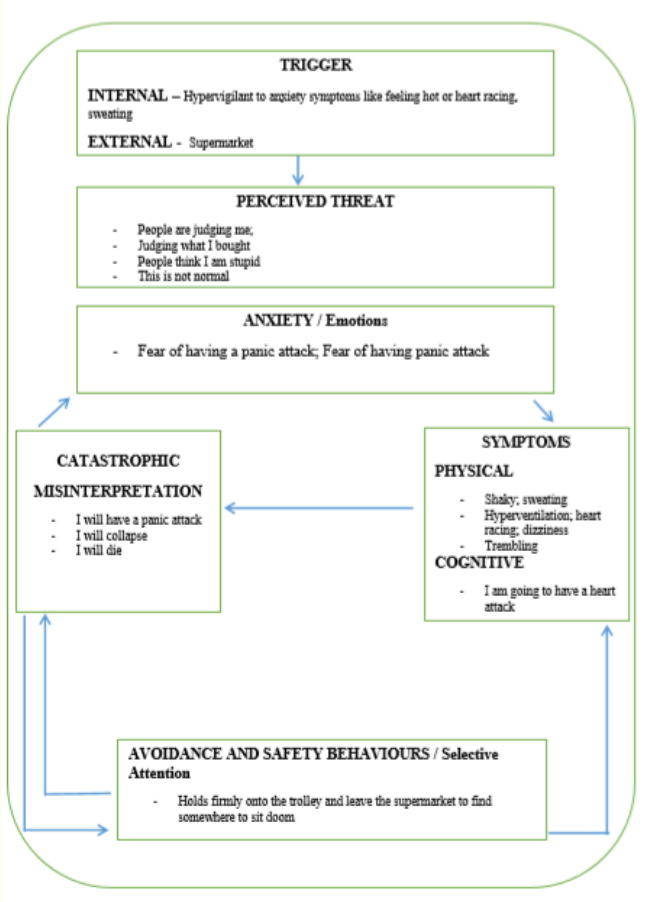

Figure 2: *Amina's Idiosyncratic Conceptualization of her Disorder Specific Formulation for Panic with maintenance cycle added (Adapted from [6,8]).*

Socratic dialogue with Amina [11] will extend her understanding or her negative core beliefs so that she can be able to challenge them and develop positive ones [6]. Amina's willingness to do better at school was born out of the conditional assumption 'I must perform at my best' to fit in, so that she doesn't get bullied. These dysfunctional assumptions are activated from her core belief 'I am not good enough, I am inadequate. The core beliefs originated from how she was treated by others at college including being bullied as well as expectations from family that she had to better herself. This insight into the cognitive model will empower Amina to recognize challenge and modify her negative automatic thoughts [17,20].

The weakness of the longitudinal formulation is that it does not take cognizance of Amina's strengths. Her motivation to engage in therapy is a strength that is essential during treatment.

Disorder specific formulation

It is imperative to adapt the disorder specific formulation into an idiosyncratic formulation because the former is a generic formulation whereas the latter is more person centred specific to Amina [16]. Amina's idiosyncratic model is shown in figure 3. She is hypersensitive to feeling warm when she is anxious. Hypersensitivity to and misinterpretation of bodily sensations and avoidance of feared situations is in consistence with the cognitive model of panic [6]. When Amina is shopping and starts thinking that people are judging what she is buying or what she is wearing, she becomes anxious and starts feeling warm, sweaty and her heart racing. She catastrophically misinterprets these normal physical symptoms of anxiety as meaning that there is something wrong with her heart. When she thinks that there is something wrong with her heart, this makes her more anxious and her physical symptoms gets worse; she gets more sweaty, shaky, hyperventilates and gets dizzy. At this point she thinks she is going to have a heart attack, pass out and die. She then she gets a firm grip on the trolley so that she does not collapse and quickly walks away from the supermarket lest, she gets a heart attack.

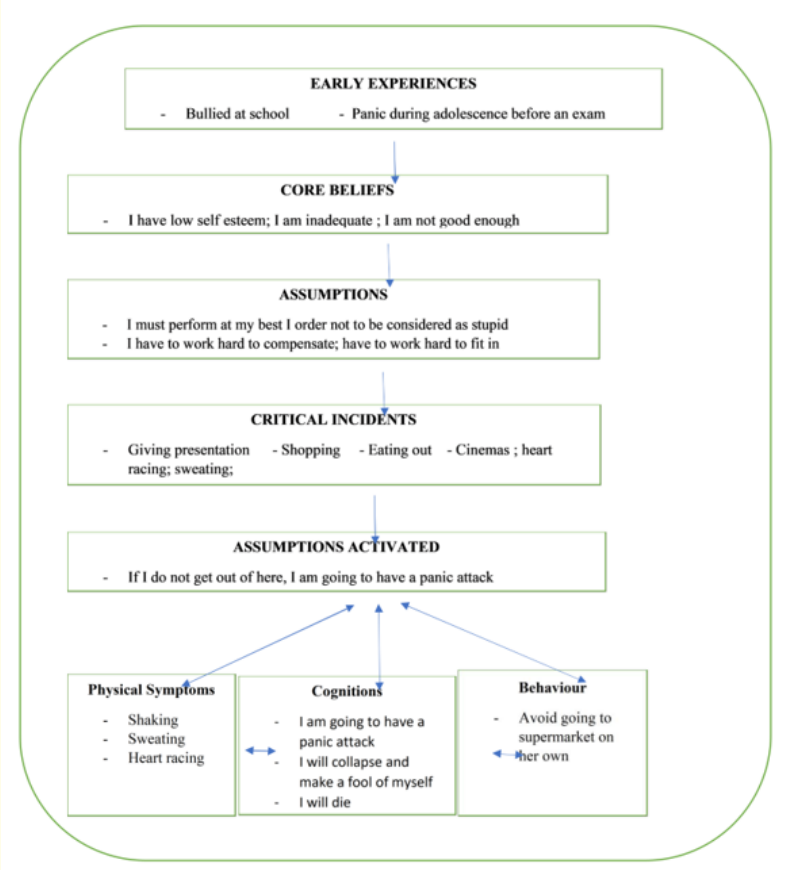

Figure 3: *Amina's idiosyncratic model.*

When she has removed herself away from the supermarket, she sits down and repeatedly check her pulse. She calls her mother to come and take her. The mother reassures her that she will be fine. Amina also takes St Jones Watts or smokes cannabis to feel better.

Rationale for formulation

The rationale for case formulation is that it enables the therapist and Amina understand Amina's difficulties and what is maintaining them so that Amina and the therapist can collaboratively [22] decide on what areas of Amina's difficulties she would like to effect change [11].

Treatment plan

PA that are unexpected are considered to be due to neurochemical imbalance [9,22] or heightened somatic arousal [9,22] and for that reason, a combination of the cognitive model of PD [6], CBT and pharmacology is the only well-established evidence based treatment intervention for PD [2].

Measure of progress will incorporate nomothetic and idiographic tools.

Treatment outcomes for panic disorder with CBT

Outcome studies for CBT treatment for PD and agoraphobia show an effective percentage rate of 75% to 90% [23] of which 50% to 70% followed-up post treatment patients with mild agoraphobia showed to be functioning as normal control [24].

Clients who have CBT are less likely to relapse and tend to rely less on psychotropic medication [23] compared to those treated with antipanic medication [2].

Other predictors of or for non-response are, the level of motivation of the patient [25] and level of willingness to change [26]. Furthermore, longer duration of illness, greater severity e.g. higher panic frequency and severe agoraphobic avoidance is associated with poor outcomes [27].

Use of substances like benzodiazepines during treatment and emotionally over involvement by family members is also associated with poor outcomes [23].

Finally, compliance with completion of exposure homework was found to predict better outcomes [28].

Roth and pilling competences

Collaborative decision making, empathy, therapeutic alliance including use of supervision, self-monitoring, Socratic dialogue, as well as idiosyncratic formulation and modification of core belief, dysfunctional assumptions and negative functional thoughts and behaviors in a therapeutic milieu was pivotal throughout this case study.

Critical analysis, exploration and description of CBT theories of panic and evaluation of practices

Biological, Cognitive, and behavioral theories are constituents of the Cognitive Model of PD. Hypersensitivity to bodily sensations if caused by a biological internal trigger [8] is explained as due to chemical imbalance [9,25]. The catastrophic misinterpretations, perceived threat and apprehensions are the cognitive components of the theory [7,8,29] leading to the behaviors. The underpinning principles of this model is that maladaptive cognition have a negative effect on the maintenance of emotional distress and behavioral problems [14]. The effectiveness of this model is in identification and modification of these negative cognition and behavior [8,29]. [30], in contrary to [8], propose that the individual with high self efficacy to cope with perceived danger panic will cope better.

On the other hand, further in the Biological Theory are based on hereditary and neurochemical abnormalities [9,25] posits that the

spontaneity of panic attacks is due to some chemical imbalance and fear network in the brain that leads to and maintained through conditioned learning [25,31]. Hofmann SG., *et al.* [14] found that panic without agoraphobia responded well to a combination of CBT.

Different types of treatment options for panic - Compare

NICE guidelines enlist CBT as the first-line treatment of choice for PD. These approaches include a combination of:

a. Clark DA and Beck AT [7] CBT focus on cognitive restructuring and behavioral experiments that challenges catastrophic beliefs about somatic symptoms and phobic situations through

- Psycho education
- Cognitive restructuring
- Interoceptive exposure: Exposure to feared symptoms; exercise,
- Exteroceptive exposure: *In vivo* - exposure to feared situations
- Relaxation based strategies: Breathing retraining

b. Panic control treatment (PCT), [9] uses a combination of [7] with an addition of

- Breathing retraining.

c. Pharmacology

- Antidepressants both Selective serotonin re-uptake inhibitors (SSRIs) and Tricyclic Antidepressants (TCA) and anxiolytics most commonly combined with CBT.

Critical analysis of treatment options and rationale for choice

The cognitive models have shown to be superior to all other models, either used on their own or in combination with others for PD [14].

Treatment outline-idiosyncratic cognitive model

Baldwin D., *et al.* [32] NICE guidelines for PD indicate sessions to be between 7 - 14 of weekly one-hour sessions or 1-hour weekly sessions to a maximum of 4 months. Therefore, Amina's sessions are set at weekly attendance of one-hour session for up to a maximum of 16 sessions as detailed in table 1.

Sessions	Interventions
1 and 2	1. Assessments - Introduction to CBT 2. Socialisation to treatment - Goals - Self monitoring Home work
2 and 4	3. Psychoeducation - Psychoeducation 4. Cognitive Interventions - Cognitive of PD - Develop Hypothesis to be tested

5 and 6	5. Behavioural Interventions - Panic induction/Imaginal exposure - Hierarchy of fears
7 and 8	6. Cognitive Interventions - Automatic thoughts – Maladaptive Assumptions - Monitor/Modify 7. Behavioural Interventions - Graded exposure
9and 10	9. Cognitive Intervention - Identify Schema 10. Behavioural Interventions - Graded exposure
11 and 12	11. Cognitive Interventions 12. Behavioural Experiments
13 and 14	13. Relapse prevention 14. Phasing out treatment
15 and 16	15. Relapse prevention 16. Discharge meeting

Table 1: *Amina's idiosyncratic treatment outline adapted from [6,7,23].*

The general treatment plan for PD will include psycho-education on the nature and physiology of anxiety, natures of phobias, hierarchy of fears; anxiety management strategies including relaxation; graded exposure (interoceptive - internal and *in vivo* - therapist aided or self-directed) and habituation. These will incorporate

- Hyperventilation provocation Tests
- Imaginal exposure
- Stimulus exposure
- Behavioral experiments
- Cognitive restructuring.

Session 1 introduced Amina to the components of CBT. This included how CBT works, including collaborative nature of agenda setting, goal setting, rationale for and completion of monitoring tools as well as the role of homework. These tools monitored and informed therapy of progress. Her emotions were rated, generally, on a scale of 0 - 10 in terms of their severity, level of distress including intensity and duration and her behavior were rated in terms of frequency and number of times.

Consent was sought from Amina for the therapist to liaise with her GP to rule out any cardiovascular problems. According to Clark GI and Egan SJ [6], it is imperative that heart related problems are ruled out before carrying out any behavioral exercises that includes panic induction exercises.

In session 2, Amina was socialized to treatment and specific, measurable, achievable, realistic and timed goals were formulated. Variable goals were set at different stages of therapy to allow flexibility and accommodation of expected or unexpected events. She was introduced to a weekly thought record sheet so that we could both monitor the pattern of her thoughts. Amina's subjective treatment goals were intended to identify and modify her negative automatic thoughts and catastrophic misinterpretation of her physical symptoms; identify alternative or non-catastrophic interpretation and reduce her hypersensitivity to physical symptoms through cognitive restructuring and behavioral experiments [6,23].

Her anxieties were normalized as a natural safety mechanism which, when hypersensitive, became a clinical problem, which fortunately is treatable with CBT [4-7,33], she was informed.

Medication, antidepressant, was discussed and Amina was advised to refrain from taking her diazepam as well as smoking cannabis as these interfere with CBT efficacy and results in poor outcomes [4-6]. According to [34], therapeutic alliance has the potential of predicting positive outcomes in therapy of which socialization to the treatment and treatment model is one of the components of building alliance [23,34].

In session 3, psychoeducation about PD equipped Amina with more knowledge about the theoretic causation of her PD. This included vulnerability factors including predisposing factors like psychological vulnerability and adverse early childhood experiences.

Furthermore, psychoeducation taught her the distinction between symptoms, thoughts (as subjective perceptions or opinions not facts) including examining the consequences of their catastrophic thinking; explore the role of escape and avoidance in maintaining fear. This helped Amina adopt a more informed and active role in her treatment.

The sessions were interactive drawing on Amina's personal subjective experiences [22]. She learnt about the impact of stress and childhood factors relevant to her within her cognitive model and was given a handout with information about PD. Amina was introduced to maintaining a 'Tool Kit' in which she would document what she had learnt as therapy progresses and this was consolidated at the end of therapy as her relapse prevention package.

Session 4 commenced Cognitive intervention targeting her catastrophic thinking, Amina learnt to distinguish between symptoms, thoughts and behavior, she also learnt about 'thought-action fusion'; that just because she thinks she will collapse when she is dizzy, does not mean that she would; that thoughts are not facts but opinions. We formulated exposure experiment targeting the core fears that maintain her panic cycle; for example 'I will collapse' [6].

Fundamental to this is that Amina was taught to look at her thoughts from more than one perspective, learnt alternative ways of thinking and how to challenge her negative thought and not catastrophise. We increased awareness of her overestimation of what might happen as well as increasing awareness of her coping in that situation. Following construction of cost and benefit analysis with pros and cons of safety behaviors or change, we collaboratively constructed a cognitive hypothesis that we would test to find out which one is correct. Questions like, 'what makes you think that you will have a heart attack and die when your heart is racing? [6], helped us formulate two hypothesizes to test out either it is true that she would have a heart attack or not true she would not have heart attack and die. We constructed a hierarchy of fears or her least to most feared catastrophic thoughts that we could challenge from the least feared one in her graded behavioral experiments. For example, 'people are talking about me' would be not as much anxiety provoking as 'I will collapse if I

do not sit down when I feel dizzy when I am anxious or I will have a heart attack and die'. Idiosyncratic measuring tools for the strength of belief of thought and levels of distress formed part of the home work for these experiments. We constructed alternative and more reasonable explanations or appraisals from these experiments.

In week 6 we formulated behavioral strategies that would involve helping Amina through guided discovery [22,35] to test unhelpful thoughts or behavior when she was anxious. To find out what happened if she did not do any of those behavior, we also constructed a hierarchy of her feared situation, rated them and agreed on what behaviour to drop when sitting down or checking pulse [6,23]. Before conducting these behavioral exposures, it would be explained to Amina that anxiety, though unpleasant, was not dangerous, that it is impossible to pass out during a panic attack (except for blood phobia) and that she would eventually habituate to her panic sensations throughout continuous practice. We also engaged imagery where she would imagine coping in her feared situations prior to *in vivo* exposure:

- Images that come to mind
- What she can visualise
- How effective or useful it is
- What would be a more helpful image and how she could adopt that.

We did in-session panic induction exercises explaining their rationale and normalizing her anxiety symptoms that these are normal fight or flight symptoms that she experiences when she is anxious. These exercises helped Amina experience symptoms that she experiences during her panic attack and included hyperventilation for a minute to produce dizziness, or full body tension for a minute to produce trembling. She hyperventilated for a minute with poses in-between to allow her breathing to normalize [33]. She rated her fear or level of distress before, during and after on a behavioral experiment form. This was also part of her homework to tolerate her anxieties [23]. We did some image work where Amina tried and imagined coping or behaving differently in those feared situation [36].

In session 7, the therapist helped Amina identify her thinking errors [7] and dysfunctional assumptions, e.g. 'if I do not sit down I will fall' when she was feeling dizzy in an attack of panic.

Session 8 carried out behavioral experiments identified in session 5. It was explained to Amina that anxiety sensations eventually reduces to a comfortable level if and when tolerated. It was helpful for her to know that it commonly took around 40 minutes for these sensations to get to a comfortable level. Some socratic questions like, 'how can we test this out?', constructive questioning like, 'what could be a more helpful way of finding out what might happen?' can be employed to encourage behavioral experiments to guide discovery of new perspectives. Amina was encouraged to focus her attention externally, for example, on something specific around her when she starts having her panic sensations; behaviorally, she focused on what she is doing not her sensations, e.g. shopping. It was crucial at this moment for Amina to reflect on and learn from the outcome of these experiments. These experiments were graded, prolonged, repeated and focused.

Session 9 looked at modifying her assumptions and identifying origins of her schemas, 'I am not good enough', 'I am inadequate'. She learnt further on treating thoughts as hypothesis whose view could be changed by generating contradictory evidence. Amina was also encouraged to come up with an alternative perspective, for example, 'No one is perfect, I am also good at other things'.

Session 10 had more behavioral consolidating on what she is learning.

Sessions 11 was cognitive work following testing hypothesis and modifying assumptions and schemas.

Session 12 was more repeated graded exposures establishing what had been learnt.

Session 13 consolidated her relapse prevention package. Amina had a tool kit in which she had been writing her learning experience including from psycho education.

Session 14 were phased out to allow Amina accustomed to being independent.

Session 15 was finalized and produced her relapse prevention package.

Amina was discharged on the 15th session.

Relapse prevention

Strategies to minimize the likelihood or impact of relapse [11] instead of avoiding [7,11] prevention strategies was constructed as therapy went along. This was in the form of a tool kit for Amina in which she recorded what she found helpful and unhelpful thinking and or behaviors. Like [7,11] endorsed that relapse prevention is enhanced when clients expect that there will be occasions when they will experience PA and that it is normal to have anxiety. Amina was equipped with this knowledge and booster sessions and gradual ending of therapy was done with Amina [7,23].

Topics in her tool kit were, what is relapse, what causes relapse, identification of changes (self-monitor) in her daily activities (early warning signs) including thoughts and feeling, her high-risk situations and preventative factors and what tool she could pull out into action to prevent or manage relapse. The detailed information was completed prior to discharge [11]. In case of a relapse, she was advised to approach her GP for support or another referral.

Conclusion

A diagnosis, case conceptualization and treatment plan for Amina was demonstrated in this case study. The diagnostic tools confirmed her diagnosis of panic disorder and her generic, longitudinal and idiosyncratic formulations were collaboratively completed with Amina. Prevalence and incidence of PD as well as outcomes of CBT for PD and research in support of CBT was done followed by her person-centred treatment plan. Her relapse prevention tool kit was also completed at the end of therapy.

Previous studies have been on:

- Cognitive-behavioral therapy, imipramine, or their combination for panic disorder: A randomized controlled trial.
- Anxiety and its disorders: The nature and treatment of anxiety and panic.
- A Modern Learning Theory Perspective on Aetiology of Panic Disorder.

Contribution of this study to existing knowledge:

- PD sufferers have a high rate of secondary problems, e.g. alcohol and drug abuse as well as depression. These further limits their quality of life and lowers their self-efficacy.
- Research has been challenged by the biological theories (that PD is caused by chemical imbalance) of origins and treatment of PD, especially PA subjectively reported to occur spontaneously.

- Prior to the cognitive therapy, behavioral approaches does not reduce panic in most patients.

Amina is a woman. She is single with occasional short to medium term relationships throughout their life. She has recently presented at her GP surgery complaining of feeling anxious. She is employed in middle management in social care. She works long hours and find the job very stressful.

Amina describes herself as always being 'a little nervous' with a strong fear of failure and working very hard at school and 6th form and in her subsequent career to compensate. She has a memory of a first panic during adolescence before an examination. She has a lifelong problem with self-esteem (believing that she is not good enough) and stress. However, the main problems she is seeking help with is panic fearing having a heart attack and collapsing and making a fool of herself. This has followed some changes at work with a threat of redundancy. This has now been resolved and her immediate situation is secure.

Amina s anxiety is triggered by activities that raise her heart rate, public places, situation where escape is difficult such as giving presentations to others, sitting in the row in the cinema or when out with friends or family. She tries to avoid such situations whenever possible. Some of these avoidances are quite subtle such as sitting at the end of rows in the cinema or near the door in restaurants. Amina is hypervigilant to anxiety symptoms and repeatedly checks her pulse to check her heart rate. There is also an increase in heart rate, dizziness, respiration rate (hyperventilation) and sweating and activates fears of having the heart attack, lowering both the sense of control over the anxiety and creating a "fear of fear". Avoidance and escape from anxiety symptoms, as does holding on to chairs or learning against something or sitting down if she feels dizziness. These behaviors all give a momentary reduction (relief from the anxiety). Close family members are aware of the problem and her mother rings her daily to reassure her that she is safe.

Medication is Paroxetine 20 mg, Amina also takes St Johns Wort (the GP is not aware of this). She smokes ¼ oz of cannabis per week (GP is not aware of this) to try and relieve the panic and prevent it from occurring and Amina is prescribed diazepam 5 mg which is taken on average once per week when very anxious particularly if a presentation at work has to be given.

DSM-V	ICD-10
Diagnostic criteria: 300.01 (F41.0) **Recurrent unexpected panic** attacks (expected or unexpected). A panic attack is an abrupt surge of intense fear or intense discomfort that reaches a peak within minutes during which time: A. Defined by any 4 or more of the 13 symptoms below **1. Somatic Symptoms** 1. Palpitations, pounding heart, accelerated heart rate 2. Sweating 3. Trembling or shaking 4. Sensations of shortness of breath or smothering 5. Feeling of choking 6. Chest pain or discomfort 7. Nausea or abdominal discomfort 8. Feeling dizzy, light-headed or faint 9. Chills or heat sensations 10. Paresthesia's (Numbness or tingling sensations) 11. Derealisation (feeling of unreality) or depersonalization (being detached from oneself) **2. Cognitive Symptoms** - Fear of loosing control or going crazy - Fear of dying NB: culture specific symptoms like tinnitus, neck soreness, headache or uncontrollable screaming may be seen and should not be counted as one of the four above. B. At least one of the attacks has been followed by 1 month or more of one or both of: 1. Persistent concern or worry about future attacks or of the consequences of the attack e.g. having a heart attack or going crazy 2. Substantial maladaptive behavioural changes after the attack e.g. avoidance of feared situations or exercises. C. The disturbance is not attributable to psychological effects of a substance (e.g. drug use or medication) or another medical condition (e.g. hyperthyroidism or cardio-pulmonary disease). D. The disturbance is not better explained by another mental disorder e.g. social anxiety, specific phobia, OCD, PTSD or separation anxiety disorder Diagnostic Features: - Frequency: moderately frequent like one per week for a month at a time or short bursts of more frequent attacks (e.g. daily) separated by weeks or months with no attacks. - Or less frequent attacks like 2 per month over many years - More than one unexpected full symptom attack is required for a diagnosis of panic disorder i. Maladaptive changes represent to minimize or avoid panic attacks for example avoiding physical exertion, restricting usual daily activities ii. Or agoraphobia type situations in which case a diagnosis of agoraphobia should be given	**F41.0 Panic disorder [episodic paroxysmal anxiety]** The essential feature is recurrent attacks of severe anxiety (panic), which are not restricted to any particular situation or set of circumstances and are therefore unpredictable. As with other anxiety disorders, the dominant symptoms include sudden onset of - Palpitations, - Chest pain - Choking sensations - Dizziness, - Feelings of unreality (depersonalization or derealization). There is often also a secondary: Cognitively - Fear of dying, losing control, or going mad. Individual attacks lasts for minutes or longer. Course and Frequency of attacks is variable. An individual in a panic attack experiences a crescendo of fear and automatic symptoms which makes them leave the situation in a hurry. If this occurs in a specific situation, e.g. bus or crowd, the individual may subsequently avoid that situation. Similarly, frequent and unpredictable attacks may produce - Fear of being alone or going into public places A panic attack is followed by a persistent fear of having another attack. Several attacks of automatic anxiety must have occurred with a period of about a month in a. Circumstances where there is no objective danger b. Without being confined to known or predictable situations c. With comparative freedom from anxiety symptoms between attacks (although anticipatory anxiety is common) **Differential diagnosis** Panic disorder should not be given as the main diagnosis if the patient has a depressive disorder (may be secondary to depressive disorder especially in men) at the time the attacks start; in these circumstances the panic attacks are probably secondary to depression. Panic disorder should be the main diagnosis only in the absence of any of the phobias in F40.
Differential diagnosis **Diagnostic Comorbidity**	
Agoraphobia 300.22 A. Marked fear of about 2 or more of 1. Using public transport, e.g. buses or trains, ships, planes 2. Being in open spaces e.g. parking lots, market place, bridges	**With Agoraphobia F40.00** Fear and avoidance of not only open spaces but also crowds and the difficulty of immediate easy escape to a safe place, usually home.

3. Being in enclosed spaces e.g. shops, theatre, cinema 4. Standing in line or being in crowds 5. Being away from home alone B. Situations feared because of thoughts that escape might be difficult or help might not be available in the event of having a panic attack; C. Situation always provokes fear/anxiety; D. actively avoided situation unless with someone; E. Fear is out of proportion to actual danger F. Persistently lasingt for 6 months or more G. To l,like Social Phobia below **Social Anxiety (Social Phobia)** A. A marked fear of about one or more social situations where one is exposed to possible scrutiny by others, for example, having a conversation, meeting new people, being observed, e.g. eating or drinking or performing infront of others, e.g. giving a speech B. Fear of showing anxiety symptoms that will be lead to negative evaluation by others; will be humiliating or embarrassing, will lead to rejection or offending others C. Social situations almost always provokes fear or anxiety D. Social situations are avoided or endured with intense fear or anxiety E. The fear or Anxiety is out of proportion to the actual threat posed by the social situations F. The fear or anxiety is persistent, typically lasting for 6 months or more G. The fear, anxiety or avoidance causes clinically significant distress or impairment in social, occupational or other important functioning H. The fear, anxiety or avoidance is not attributable to the physiological affects of substance misuse or another medical condition I. To specify if Performance only: if fear is restricted to speaking or performing in public	- Fear of entering shops, crowds, public places or travelling alone in trains, buses or planes - Some suffers may become completely house bound - Terrified by the thought of collapsing and being helpless in public - Lack of immediate escape - More common in women **F40.10 Social phobias** Often start in adolescence and are centered around fear of scrutiny by other people, in comparatively small groups as opposed to crowds; usually leading to avoidance of social situations. Maybe discrete (restricted to eating in public, public speaking or encounters with opposite sex); direct eye to eye contact may be stressful in some cultures More pervasive social phobias are usually associated with low self-esteem and fear of criticism. They may present a complaint of blushing, hand tremor, nausea, or urgency of micturition, the patient sometimes being convinced that one of these secondary manifestations of their anxiety is the primary problem. Symptoms may progress to panic attacks complete social isolation **Guidelines** a. Psychological or automatic symptoms must be [primary manifestations of anxiety and not secondary to other symptoms such as delusions or obsessional thoughts b. The anxiety must be restricted to the presence of the particular phobic object or situation c. The phobic situation is avoided whenever possible **Differential diagnosis** Agoraphobia and depressive disorders are also prominent

Appendix 1: *The OSCE Client.*

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