**Cognitive Behavioural Therapy for Paruresis or “Shy Bladder Syndrome”: A Case Study**

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**SUPPLEMTARY MATERIAL**

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**Abstract**

**Background:** Paruresis, or ‘shy bladder syndrome’, is a relatively common anxiety disorder, yet little is known about the causes of, and effective treatments for this disabling condition.

**Aim:** This report describes a case study in which a man (‘Peter’) presenting with Paruresis was treated using formulation-driven CBT which aimed to address the idiosyncratic processes that were maintaining his anxiety and avoidance of urinating in public.

**Method**: Peter attended 12 sessions of CBT including one follow-up session a month after treatment had ended. Treatment involved collaboratively developing an idiosyncratic case conceptualisation (identifying longitudinal and cross-sectional factors involved in the development and maintenance of his difficulties), followed by a number of standard cognitive and behavioural interventions commonly used in evidence-based CBT protocols for other anxiety disorders. Peter completed sessional outcome measures of Paruresis symptomatology, anxiety, depression, social anxiety and functional impairment.

**Results:** Peter subjectively found the intervention helpful and his scores on all of the outcome measures reduced over the course of his therapy, and were maintained at one month follow-up.

**Conclusions:** This report adds to the scarce literature regarding effective treatments for individuals suffering with Paruresis. Limitations of the design are acknowledged and ideas for further research in this area are discussed.

**Introduction**

Paruresis, sometimes referred to as Shy Bladder Syndrome, refers to the inability to initiate or sustain effective urination in situations where there is a perception of scrutiny, or potential scrutiny, by others (Boschen, 2008). While Paruresis usually manifests in public toilet facilities, it is not uncommon for sufferers to be unable to urinate in their own homes when there are other people in the same building. Paruresis is a phobic-type anxiety disorder and was first described by Williams and Degenhardt (1954). It has previously been subsumed within the diagnostic boundaries of Social Phobia in DSM-IV-TR (American Psychiatric Association, 2000), although it has been argued that it represents a distinct clinical entity in its own right and putative diagnostic criteria have been proposed (Boschen, 2008). Like most phobic anxiety disorders, Paruresis is characterised by significant subjective anxiety and fear upon (actual or potential) exposure to specific stimuli (e.g., toileting situations where the person perceives that they may be under the potential scrutiny of others; public urinals, for example), avoidance of such stimuli, and resulting significant impairment in the individual’s routine, occupational/academic functioning, social activities and/or relationships. People with Paruresis often find it physiologically difficult or impossible to actually initiate or sustain urination when in feared situations. Available evidence suggests that Paruresis is not uncommon, affecting approximately 2.8% of men (Hammelstein, Pietrowsky, Merbach, & Brähler, 2005) and may be more common in males than females (Prunas, 2013). People with Paruresis often delay seeking help, often due to shame and embarrassment regarding their condition. There is a general lack of awareness of Paruresis amongst clinicians, and at present there is a rather limited evidence base regarding effective treatments (Boschen, 2008).

As alluded to above, Paruresis has been classified as a specific sub-type of Social Phobia within DSM-V. However, there is growing debate as to whether this is the most clinically helpful and scientifically valid way to classify this disorder (e.g., Hammelstein & Soifer, 2006; Vythilingum, Stein, & Soifer, 2002). Whilst there are many similarities in the epidemiology and phenomenology of Paruresis and Social Phobia, there are also important differences, and it has been argued that Paruresis should be reclassified as a distinct diagnosis in its own right (Boschen, 2008; Hammelstein & Soifer, 2006). See Table 1 for draft diagnostic criteria for Paruresis (Boschen, 2008). Regardless of its classification in the psychiatric nomenclature, no research to date has specifically investigated the efficacy of evidence-based Social Phobia interventions in people with a primary presentation of Paruresis (e.g., CBT based on Clark & Well’s [1995] cognitive model of Social Phobia). Boschen (2008) reviews the extant evidence base for both pharmacological and psychological therapies in Paruresis, and concludes that there is a small amount of positive evidence from case studies that in vivo behavioural exposure treatments may be effective in promoting urination. Of note is the paucity of research into cognitive interventions for Paruresis, a fact that has been highlighted by a number of authors (e.g., Boschen, 2008; Zgourides, 1987). Jaspers (1998) reported on a combined cognitive and behavioural intervention for Paruresis, which incorporated in vivo exposure procedures with cognitive restructuring used in the treatment of other anxiety disorders. Jaspers reported that her patient was free of clinically significant Paruresis symptoms at the end of treatment and at 6-month follow-up, which may provide evidence supporting the use of cognitive methods in the treatment of Paruresis, in combination with behavioural techniques. Such a conclusion is tentative, however, as the independent effects of cognitive restructuring and in vivo exposure are difficult to discriminate within this single case design.

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| **Table 1. Draft diagnostic criteria for Paruresis (from Boschen, 2008)** |
| A. A marked and persistent fear that one may be unable to urinate in situations where the person perceives that they may be under the potential scrutiny of others (e.g. public urinals).  B. Exposure to the feared situation provokes either or both of the following:  i. A clinically significant increase in anxiety and arousal symptoms.  ii. Clinically significant impairment of normal urinary function, such as inability to urinate, extreme latency in urinating, or inability to sustain urination.  C. The person recognizes that the fear (of scrutiny, embarrassment, humiliation, etc.) is excessive or unreasonable. Note: In children this feature may be absent.  D. The use of toilet facilities where one’s actions (or their consequences) may be under scrutiny is avoided or endured with intense anxiety or distress.  E. The avoidance or distress interferes significantly with the individual’s routine, occupational/academic functioning, social activities or relationships, or there is marked distress about the condition itself.  F. The duration of symptoms is at least 6 months.  G. The fear, avoidance, or inability to micturate are not due to the direct physiological effect of a substance or general medical condition, and is not better accounted for by another psychological disorder (e.g. social phobia). |

**Method**

The case study presented here outlines a course of cognitive and behavioural therapy for a man presenting with primary Paruresis. Given the lack of empirically supported cognitive behavioural case conceptualisation models or treatment protocols for Paruresis, an idiosyncratic case conceptualisation (or formulation) was developed with our patient (who we will call ‘Peter’), through the use of detailed functional analysis and assessment. The formulation (see Figure 1) considers cognitive, behavioural, emotional, and physiological factors that may have contributed to the development and maintenance of his Paruresis. The formulation and the therapeutic interventions derived from it draw on established cognitive behavioural models and treatment of other anxiety disorders (e.g., Obsessive-Compulsive Disorder – Salkovskis, 1999; Social Phobia – Clark & Wells, 1995), as well as ideas from Boschen (2008), who outlines putative cognitive and behavioural factors that may be important in the maintenance of Paruresis.

**Assumptions/General Beliefs**

I’m different/not normal

Others are critical of me

Born a gay man, but not into a gay man’s body

It’s important to have privacy when going to the toilet

**Early Experiences**

Growing up Overseas – small community, a homophobic culture

Always picked last for sports at school

Always being a bit shy generally

When I came out, mum tells me “I always knew there was something *different* about you”

First gay experience aged 22 – felt “dirty”, “not right”, “unnatural”, “guilty”

Family rules about privacy around toileting

**MEANING**

*These thoughts are important, true, and they matter.*

*I’m not normal, I’m weak and less of a man. I should be able to pee straight away when I get to the urinal. If I cannot pee then there’s no point in even trying.*

**Intrusive Thoughts/Images**

*“Others might look at penis and be critical”*

*“I won’t be able to pee and I’ll wet myself”*

*“Others will see that I’m taking a long time to pee and think I’m weird.”*

Imagine others bursting in on me or standing outside cubicle getting very angry, waiting for me to finish

**Critical Incidents**

**(what kick-started the ‘problem’)**

Started going to gay clubs when I moved to UK. Very crowded toilets, felt scrutinised, rushed, couldn’t pee in urinals.

***Patient Profile***

Peter was a gay man in his 40s and was referred to his local primary care psychological therapy service by his General Practitioner (GP) after reporting symptoms of generalised anxiety (e.g., excessive worry about a range of different topics, somatic symptoms including palpitations and difficulties sleeping), but after further assessment he reported that his main presenting concern was difficulty in initiating and sustaining urination in situations where he might be seen and/or heard urinating by others. He reported significant subjective anxiety and difficulty urinating in a range of social/public situations (e.g., airplanes, nightclubs, public toilets, urinals at work) and at home when there was the possibility that someone might hear him. Peter avoided using public toilets at all times, unless he could be absolutely certain that no one would hear/see him urinating. His difficulty urinating, and the anxiety and avoidance associated with this, had negatively impacted significantly on his quality of life, leading to difficulties in his recent relationship, making traveling difficult, and was limiting his ability to engage in previously enjoyed social activities (e.g., clubbing). Organic causes for his difficulty urinating had been excluded by his GP, and our assessment indicated he fulfilled all the draft diagnostic criteria for Paruresis proposed by Boschen (2008). Peter reported he had been ‘shy’ about urinating in public since his childhood, but it only really became a noticeable and distressing issue for him around 10 years previously, when he moved to the UK from his home in a British Overseas Territory, and started attending gay clubs socially. Peter described coming out in his 20s, which he reported as a difficult experience given the overtly homophobic and intolerant local culture in which he grew up. Although liberating, he reported that his move to mainland UK was a ‘shock’, and that being faced with abundant and relentless mass media imagery marketing the ‘male body ideal’ within UK gay culture had resulted in him feeling dissatisfied with, and self-conscious about his appearance (“I was born a gay man, but not into a gay man’s body”). Peter was presenting for treatment now as the Paruresis was impacting on his relationship with his partner and he wanted to do some long distance traveling soon, but felt unable to commit to this due to fear that he would not able to use the toilet on the long haul flight involved.

***Measures***

Peter completed validated self-report outcome measures at every therapy session and at 4 week follow-up. The Shy Bladder Scale (SBS; Deacon et al., 2012) is a 17-item scale where respondents rate their agreement with items such as “I avoid going to crowded places because of my fear of urinating in public” on a 5 point scale (0 = agree very little, 4 = agree very much). A total score for the scale is calculated by adding the sum of the 17 items. The SBS measures subjective difficulty urinating in public, impairment and distress, and paruresis-related fear of negative evaluation. The SBS has demonstrated sound psychometric properties (Deacon et al., 2012) in non-clinical and clinical populations. On the SBS, Peter scored 59 in his first session, which is close to the mean score for a clinical group of individuals meeting criteria for paruresis (*M* = 57.8; *SD* = 8.4). Peter also completed the Social Phobia Inventory (SPIN; Connor et al., 2000) and reported a score of 20, which is just above the clinical cut-off of 19 for this measure. In addition, Peter completed the PHQ-9 (Spitzer, Kroenke, & Williams, 1999; a brief measure of symptoms of depression), the GAD-7 (Spitzer at al., 2006; a brief measure of generalised anxiety symptoms), and the Work and Social Adjustment Scale (WSAS; Mundt et al., 2002) to measure functional impairment.

***Procedure and Intervention***

Peter provided informed consent to undergo treatment for his condition and for this case study to be submitted for publication, on the condition that the description of his case was anonymised. After an initial 90 minute diagnostic assessment, Peter then attended 12 sessions of individualised CBT, over 15.5 hours, including one double-length session involving in vivo exposure. He also attended a follow-up session one month after session 10. Sessions were conducted by a clinical psychologist (DH) with post-graduate training in CBT, under the supervision of the second and third authors at a specialist centre for the treatment of anxiety disorders and trauma in South London. Peter’s sessions followed a collaborative CBT structure (i.e., setting agenda, reviewing homework, in-session tasks, summary, homework setting). The first few sessions involved goal setting and developing a shared developmental and maintenance case conceptualisation with Peter (see Figure 1). The basis for this formulation draws on Clark & Well’s (1995) cognitive model of Social Phobia (e.g., incorporating the important maintaining role played by self-focussed attention) and elements of Salkovskis’ (1999) developmental-maintenance model of Obsessive Compulsive Disorder (OCD), which emphasises the role of the appraisals that individuals make of their intrusive thoughts and images in leading to distress and safety-seeking behaviours. In addition, the formulation (and interventions derived from it) also drew on Boschen’s (2008) maintenance model for Paruresis specifically, which draws on established cognitive and behavioural theory to describe a model of how Paruresis is maintained. Interventions suggested by Boschen, based on the hypothesised maintaining factors in his model, include psychoeducation (e.g., about the functioning of the bladder when in an anxious state; the ubiquity of paruretic symptoms), cognitive restructuring (e.g., to help the client reappraise beliefs about others as critical evaluators), in-vivo exposure and behavioural experiments (e.g., to drop safety behaviours and empirically gather evidence to test beliefs) and attention training (e.g., to help the client redeploy attention away from the self). Whilst Boschen’s model and the treatment interventions suggested by it are intuitively appealing, it has yet to be subjected to empirical evaluation.

In Peter’s case conceptualisation we hypothesised how a number of specific earlier experiences in Peter’s life may have led to the development of a range of unhelpful underlying beliefs about himself, others, and the world, as well as some unhelpful conditional assumptions and ‘rules for living’. Through discussing recent typical examples of when he had felt anxious in ‘trigger’ situations, we then identified the types of intrusive and distressing thoughts and images he would experience at these times. Through further Socratic dialogue we established the underlying meaning that he attributed to these initial intrusive cognitions (i.e., “These thoughts are important, true, and they matter”, “I’m not normal, I’m weak and less of a man because I can’t pee”, “What’s the point in trying?”). We then moved on to establish the range of cognitive, emotional, behavioural and physiological factors that we hypothesised might be maintaining his unhelpful beliefs and distress. These included safety-seeking behaviours, avoidance of public toilets and situations/activities in which he might need the toilet in public, extreme self-focussed attention and hypervigilance for others when in toilet situations, pre-event worry and rumination, and the physiological effects of anxiety on bladder functioning and micturition, to name a few.

After developing a shared formulation of his problem, subsequent sessions proceeded in a joint attempt to try and help Peter break or interrupt the ‘vicious cycles’ that we hypothesised to be maintaining his difficulty urinating and the associated distress. Key interventions included goal setting, introducing the ‘Theory A/Theory B’ idea to help him see his problem as one of worry and anxiety rather than him being ‘weak’ or ‘abnormal’, psychoeducation regarding the physiological effects of anxiety on urination, survey methods (e.g., to normalise ‘stage fright’ when urinating in public, to gage what others really think when they hear someone urinating in public), attention training (i.e., to reduce self-focussed attention in toilet situations), interrupting rumination cycles and re-focussing on the present moment, and behavioural experiments to test the validity of Peter’s threat appraisals whilst dropping key safety-seeking behaviours. This involved collaboratively engaging in both in-session interventions and agreed ‘homework’ tasks after each session to consolidate his learning. This often required creativity and spontaneity on the part of both the therapist and patient in designing specific experiments, but always with the aim of testing specific predictions and building evidence for ‘Theory A’ or ‘Theory B’. For example, in one session Peter drank a significant amount of liquid and then, accompanied by the therapist, visited a local Pub with the specific aim of urinating in the bathroom whilst there. This in vivo experiment helped to build Peter’s confidence and evidence for Theory B.

A thorough relapse prevention plan and ‘therapy blueprint’ was also developed towards the end of Peter’s sessions and he was offered a follow-up session 4 weeks after his final treatment session.

**Results**

Peter’s scores on each of the measures reduced over the course of his therapy (see Table 2). By session 10 his SBS scores were markedly lower than population norms for individuals suffering from paruresis (*M* = 57.84, *SD* = 8.91), but still higher than norms reported for healthy controls without paruresis (*M* = 9.20, *SD* = 13.62) (Deacon et al., 2012). This suggests that by the end of therapy Peter was experiencing less difficulty urinating in public, less impairment and distress, and less paruresis-related fear of negative evaluation. Importantly, Peter’s scores on the SBS had continued to reduce even further by his follow-up session, suggesting the progress he made in therapy was continued after his weekly CBT sessions had ended. Peter’s score on the SPIN had also reduced significantly over the course of his therapy, and his score at session 10 was just below the clinical cut-off of 19. Peter’s scores on the WSAS also indicated that the degree to which his problems impacted on his work and social functioning had significantly reduced. Subjectively, Peter reported that he felt he had made significant progress in his course of therapy, and was able to achieve one of the biggest and most daunting goals that he set himself; a long-haul aeroplane journey involving a very long flight and using the on-board toilet. He was also regularly using public toilet facilities in his daily life (e.g., at work, when out socially).

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| **Table 2. Session-by-session scores on outcome measures** | | | | | |
| Session | Measures |  |  |  |  |
|  | PHQ-9 | GAD-7 | WSAS | SBS | SPIN |
| Assessment | 5 | 8 | 8 | 59 | 20 |
| 1 | 7 | 10 | 22 | 55 | 30 |
| 2 | 6 | 5 | 18 | 57 | 28 |
| 3 | 4 | 4 | 20 | 57 | 30 |
| 4 | 3 | 6 | 23 | 56 | 30 |
| 5 | 4 | 3 | 23 | 59 | 26 |
| 6 | 3 | 4 | 24 | 57 | 28 |
| 7 | 3 | 4 | 22 | 57 | 28 |
| 8 | 3 | 3 | 18 | 53 | 21 |
| 9 | 5 | 4 | 8 | 39 | 24 |
| 10 | 4 | 5 | 9 | 33 | 18 |
| 1 month follow-up | 6 | 3 | 4 | 25 | 17 |

**Discussion**

This case study illustrates the application of individualised, formulation-driven CBT for a man experiencing distress and reduced quality of life due to Paruresis. Paruresis is a relatively common, yet under-researched anxiety disorder where there is a lack of available evidence to guide clinicians when attempting to help sufferers of this condition. In this particular case, the therapy was well received by Peter, and his outcomes demonstrate a marked reduction in symptomatology (including symptoms of general and social anxiety, depression, and Paruresis-specific avoidance and distress), supported by his subjective report that the found the therapy helpful in achieving the goals he had identified at the start of treatment. Importantly, Peter’s progress was maintained at follow-up, hopefully indicating that the helpfulness of the intervention was more than just a ‘sticking plaster’. It would have been helpful to have also had follow-up outcome measure data spanning a longer period to allow us to detect how long-lasting the effects of this intervention were. The findings presented here suggest that an idiosyncratic case-conceptualisation, drawing on a recent theoretical maintenance model for Paruresis (Boschen, 2008), as well as established and empirically supported models for other anxiety disorders (namely social anxiety disorder and OCD), was helpful in guiding effective cognitive and behavioural interventions, in the absence of a solid evidence base to drawn on.

Whilst in this case it was useful and effective to draw on Boschen’s (2008) putative maintenance model of Paruresis and empirically supported cognitive behavioural conceptualisations for Social Anxiety and OCD, it is important to acknowledge that the current report is of a single case study. Further research is required using larger samples of individuals with Paruresis to empirically establish the range of cognitive, behavioural, emotional and physiological factors that maintain Paruresis across individuals. Experimental and clinical research in the last 20 years has led to huge advances in our understanding of the processes that confer vulnerability to the development of specific anxiety disorders, and the cognitive, behavioural, affective and physiological mechanisms that act to maintain these difficulties (Clark, 2013). Such research has been translated into the development of empirically derived treatment protocols which have shown demonstrable efficacy in large scale randomised controlled trials. We would call for further similar coordinated effort to be directed at better understanding Paruresis specifically, which remains under-researched and poorly understood. Such research could lead to the development and evaluation of putative theoretical models to help us as clinicians better understand the development and maintenance of this highly distressing and life-limiting condition, and suggest potentially effective interventions that can then be evaluated empirically.

On a personal level, the first author would also like to highlight a key learning point from the case presented here. Prior to working with Peter the first author had never worked clinically with clients experiencing Paruresis. This fact, coupled with the relative paucity of available evidence to guide specific intervention choice, meant that it was incredibly important to make use of creativity and spontaneity within sessions, whilst drawing heavily on broader evidence-based cognitive and behavioural theory and therapy skills that we know work well for people experiencing anxiety disorders. Reading and assimilating the available clinical literature relating to Paruresis, and using clinical supervision effectively to reflect on and plan treatment with Peter was also essential given the absence of evidence-based treatment recommendations for this condition.

**Conclusions**

This case study adds to the limited therapy literature regarding Paruresis, and demonstrates that formulation-driven CBT incorporating cognitive and behavioural interventions used widely in the treatment of other anxiety disorders can be effective in the treatment of people suffering with ‘shy balder syndrome’. We would like to praise Peter for his considerable hard work, determination and bravery in overcoming his difficulties, and for allowing us to publish this description of his therapy in order to help others suffering with Paruresis. We hope that this report will raise awareness of Paruresis amongst clinicians, and that it might stimulate further debate and research to enhance our understanding of this condition and how we can best help individuals who are struggling with it.

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