VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

A needs analysis for the development of an internet-delivered cognitive-behavioural treatment (iCBT) program for trichotillomania

This is the Accepted version of the following publication

A needs analysis for the development of an internet-delivered cognitive-behavioural

treatment (iCBT) program for trichotillomania.

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Abstract

Trichotillomania (hair pulling disorder; HPD) is associated with high rates of comorbidity, functional impairment, shame, and isolation. Many people with HPD rarely discuss their condition with others, and in turn, can avoid seeking face-to-face treatment. Internet-delivered cognitive-behavioural therapy (iCBT) has significant potential to provide effective and accessible treatment. However, poor engagement with iCBT is a common limitation, leading to calls for collaboration between program developers and consumers to ensure a user-centered design. The current study explored the needs and preferences for an iCBT program for HPD using an online survey. Participants were 111 adults (M_{age} = 31.57, SD = 9.09; 97.3% female) with self-reported HPD symptoms. The majority of participants reported a preference for a 6-10 week therapist-assisted program that encourages active engagement, provides personalised feedback, and features the capacity for self-monitoring. Psychoeducation and strategies for coping with distressing emotions and hairpulling urges, support with identifying triggers, and changing negative self-talk were also desired. Relationships between iCBT uptake barriers and participant characteristics were also explored. Overall, the findings suggest that adults with HPD symptoms are accepting of iCBT programs and have specific preferences and expectations for such interventions. Recommendations for co-design and development of internet interventions for HPD are discussed.

Keywords: trichotillomania, hair pulling disorder, internet interventions, cognitive behavioral therapy, iCBT

Trichotillomania (hair pulling disorder; HPD) is classified an obsessive-compulsive related disorder (OCRD) that involves repeatedly pulling out one's hair for non-cosmetic purposes (American Psychiatric Association [APA], 2013**).** It is also increasingly referred to as a body-focussed repetitive behaviour (BFRB) with arguments that new classifications in diagnostic manuals should reflect this as a new category (Grant & Stein, 2014). HPD has been linked with high rates of comorbidity with anxiety and depression, functional impairment, low self-esteem, shame, and isolation (Grant et al., 2017; Stemberger, Thomas, Mansueto & Carter, 2000). A range of second- and third-wave cognitive-behavioural therapies (CBT) have been found to improve HPD symptoms (Rehm, Moulding & Nedeljkovic, 2015; Snorrason, Berlin & Lee, 2015), however, there are several barriers that impede access to these evidence-based treatments. Individuals with HPD are often hesitant to discuss their condition with others, and in turn, avoid seeking treatment (Mouton-Odum, Keuthen, Wagener, & Stanley, 2006). For those who do seek treatment, low satisfaction with their interactions with health professionals, and the treatment experience overall, is not uncommon (Woods et al., 2006). In part, this may be a result of many health professionals reporting limited knowledge of, and experience in, providing evidence-based treatment for HPD (Marcks, Wetterneck, & Woods, 2006). More recently, 59% of participants ($N = 22$) in a telepsychology treatment trial reported that they were unable to find treatment for HPD where they lived and 40% reported that they would not have sought treatment had it not been offered online (Lee, Haeger, Levin, Ong, & Twohig, 2018). Such issues of stigma and limited access to local, sensitive, and evidence-based mental health services are some of the frequently cited reasons for developing and disseminating internet-delivered psychological treatments for a range of conditions (e.g., Andersson & Titov, 2014; Fleming et al., 2016; Klein & Cook, 2010), including HPD (Mouton-Odum et al., 2006). In addition, since the coronavirus pandemic (COVID-19) started, internet-delivered mental health services have

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become more important than ever (Zhou et al., 2020). Lockdowns have led to reduced social support and increased loneliness, with long-term psychological and health effects expected, particularly if left untreated. Internet-delivered mental health services have been able to provide a platform in which individuals can experience a continuity of care of previously accessed services and deliver novel supports that are practically appropriate and physically safe, minimising the risk of infection transmission (Zhou et al., 2020).

The definitions and characteristics of internet interventions for psychological conditions are diverse and constantly influenced by the rapid nature of technological advancement. The model that has attracted the most research is internet-delivered cognitive-behavioural therapy (iCBT) (Andersson & Titov, 2014). iCBT typically involves clients accessing a secure online platform (i.e., a website or smartphone application requiring identity authentication) that features interactive, multi-media materials presented in a structured format to provide psychoeducation and cognitive-behavioural activities designed to promote behaviour change. iCBT programs can be self-guided or therapist-assisted; if therapist-assisted, the nature of client-therapist communication may be asynchronous (e.g., using text messages/SMS, e-mail) or synchronous (e.g., using telephone, video-conferencing, instant messaging). Both forms of iCBT have demonstrated efficacy for managing a wide range of mental health issues, including but not limited to anxiety, depression, obsessive-compulsive disorder, substance/alcohol use, gambling, and cigarette smoking (Hedman, Ljóstsson, & Lindefors, 2012; Firth et al., 2018; Rogers, Lemmen, Kramer, Mann & Chopra, 2017).

To date, two internet-delivered behavioural treatment programs for adults with HPD have been developed. The first program developed specifically for HPD, called StopPulling.com, was self-guided and has been trialed in two studies (Mouton-Odum et al., 2006; Rogers et al., 2014). It features three modules: (1) assessment and self-monitoring; (2)

goal-directed implementation of intervention strategies; and (3) a maintenance module in which clients are asked to continue self-monitoring and implementing their strategies. The program provided automated recommendations for what intervention strategies the client should adopt on the basis of their self-monitoring data, similar to the selection of relevant behavioural strategies on the basis of an idiosyncratic functional analysis (e.g., Falkenstein, Mouton-Odum, Mansueto, Goldfinger Golomb, & Haaga, 2015). Clients could only commence the maintenance module after their intervention goals had been met for four weeks. Both studies that trialed StopPulling.com found modest support for its efficacy. In their naturalistic evaluation of 12-months of public access, Mouton-Odum et al. (2006) reported that 31.7% of the 265 participants who entered self-assessment data for at least two weeks experienced a $\geq 25\%$ improvement to self-reported HPD symptoms, while 60.8% experienced no change. Reflecting issues with poor adherence to other open-access iCBT programs (e.g., Christensen, Griffiths, & Farrer, 2009), 20% of the 329 clients who enrolled into the program during the sampled 12-month period did not provide more than one data-point, thus indicating their disengagement during the first module. Further, 52% of the clients included in Mouton-Odum et al.'s analyses were classified as "inactive" by the time the sampling period had ended.

More recently, Rogers et al. (2014) conducted a randomised controlled trial (RCT) in which participants were given 10 weeks access to StopPulling.com (step 1) and could complete face-to-face habit reversal training (HRT) if further treatment was desired (step 2). Compared to a waiting list group, there were significant improvements to interviewer-rated HPD severity, but not to self-reported symptom severity, observable hair loss, disability, or quality of life. While satisfaction with the program was high, the majority of participants (78%) elected to proceed with HRT at step 2; these individuals had more severe HPD symptoms on average at the end of step 1 than did participants who ceased treatment at that

stage. While motivational factors such as readiness for change are considered to influence engagement with internet interventions (e.g., Alfonsson, Olsson, & Hursti, 2016; Ritterband et al., 2009), this was not found to be the case in Rogers et al.'s (2014) study of stepped-care for HPD.

The second internet-delivered treatment for HPD was arguably more akin to a digitised form of bibliotherapy than an interactive iCBT program hosted on a secure online platform. "Decoupling" is a behavioural intervention developed by Moritz and Rufer (2011) specifically for self-administration, which involves simulating the initial motor behaviours involved in hairpulling but shifting those behaviours away from the targeted hairpulling site (e.g., from the scalp to an earlobe). In their study, Weidt et al. (2015) randomly allocated participants to complete decoupling or an active control condition (progressive muscle relaxation; PMR) by following the instructions of an emailed booklet. Both interventions were of four weeks duration and participants received standardised weekly emails from the research team offering support and encouragement. Weidt et al. found no differences between PMR and decoupling, with HPD severity, quality of life, and other psychiatric symptoms improving similarly from pre- to post-treatment in both interventions. Secondary analysis of Weidt et al.'s data identified that participants' prior treatment history did not influence outcomes of the internet-delivered programs nor were there differences in dropout rates between the previously-untreated and previously-treated groups (Weidt et al., 2017). While various ratings of acceptability and satisfaction for both decoupling and PMR were high (Weidt et al., 2015), it is unclear if participants were referring to their acceptance of these specific behavioural strategies, the internet-based mode of treatment delivery, the supportive emails received, or a combination of these factors. It may be contended that therapist support in general is beneficial irrespective of the treatment approach, and research indicates that

therapist-assisted internet interventions produce better outcomes than those that are purely self-guided (Andersson & Titov, 2014; Richards & Richardson, 2012).

While the internet interventions reviewed here suggest strong potential to improve HPD outcomes, there is a need to understand the factors that may improve client engagement, adherence, and satisfaction; which may ultimately facilitate improved treatment outcomes for a greater number of consumers. In the wider iCBT literature, a range of factors believed to influence treatment outcomes have been investigated, such as: consumer attitudes towards and acceptance of internet interventions; adherence to and engagement with the intervention; the efficacy of various models of iCBT delivery (e.g., stepped care, therapist-assisted versus self-guided); and specific participant, clinical, and technological characteristics (Andersson, 2017; Andersson & Titov, 2014; Fleming et al., 2016; Ritterband et al., 2009). Studies typically find that the general public prefer face-to-face psychological treatments, but this is not to say that their openness to using internet interventions is low (Klein & Cook, 2010; March et al., 2018; Mohr et al., 2010). In community and student samples, approximately 25% of participants expressed an interest to use iCBT in future (Klein & Cook, 2010; March et al., 2018) and the rate was higher (48%) in a large primary care sample (Mohr et al., 2010). Among 116 adults with obsessive-compulsive disorder (OCD), 53% reported that they would "definitely" try iCBT for OCD and the majority had positive expectations for the effectiveness of such treatment (Wootton, Titov, Dear, Spence, & Kemp, 2011). Indeed, performance expectancy (i.e., perceived usefulness/helpfulness) and related attitudes, like confidence in iCBT as a form of treatment, are significant predictors of future use intentions (Apolinario-Hagen, Vehreschild & Alkoudmani, 2017; Klein & Cook, 2010; March et al., 2018). In addition to facilitating program uptake, positive attitudes towards, and expectations for, iCBT – including treatment motivation – have also been shown to predict program

adherence (e.g., Alfonsson et al.,2016; Geraghty, Woods, & Hyalnd, 2010) and improved treatment outcomes (e.g., Schroed et al., 2018).

Adherence to and engagement with iCBT is essential to ensuring that participants receive a therapeutic dose of the intervention (Yeager & Benight, 2018). Yeager and Benight (2018, p.4) defined engagement as "the extent (e.g., amount, frequency, duration, depth) of usage; and [...] a subjective experience characterized by relevant dimensions of attention, interest and affect." Inconsistent associations between program engagement, participant characteristics (e.g., age, gender, education, locus of control, readiness for change), and clinical characteristics (e.g., symptom severity) have been reported (Christensen et al., 2009; Yeager & Benight, 2018). In part, this is likely due to the inconsistent operationalisation and measurement of engagement, with most studies examining the extent of program usage (e.g., number of log-ins), but not participants' subjective experiences of using the program and applying its recommended interventions. In a study comparing two self-guided internet interventions for body dissatisfaction, Gergharty et al. (2010) suggested that attrition was greater in the self-monitoring and cognitive restructuring intervention (81%) compared to the gratitude diary intervention (70%) because of the unpleasant nature of identifying and reframing negative beliefs. While participants were not asked to provide feedback about their experience of completing either intervention, the researchers' post-hoc hypothesis is consistent with our clinical experience of providing iCBT for OCRDs (i.e., that exposure to the more emotionally unpleasant therapeutic tasks can pre-empt drop-out among clients who feel such tasks exceed their coping resources).

iCBT programs have significant potential to increase access to evidence-based, effective treatment. Establishing that there is demand, acceptance, and positive expectations for internet interventions among people with HPD is an important first step in the development and dissemination of effective iCBT for this group. Once clients do enter an

iCBT program, it then becomes important that the program is sufficiently engaging and well-supported, such that they persist during challenging tasks that ultimately produce behavior change (e.g., self-monitoring and awareness training, tolerating the discomfort of hairpulling urges, choosing valued action over hairpulling; Rehm et al., 2015). Indeed, poor engagement and high attrition rates are common limitations to many internet-based psychological treatments – not just for HPD – and experts are increasingly calling for program developers to actively collaborate with consumers during the stages of program development to ensure user-centered design (Fleming et al., 2016).

To the authors' knowledge, no research has been conducted to investigate the perceived needs, preferences, or expectations of people seeking treatment for HPD, neither for face-to-face nor internet interventions. Such research may allow for an increased understanding of the attitudes and beliefs about iCBT, the expectation for its effectiveness, and preferences for what features such programs should include (e.g., interactive materials, SMS reminders, etc.). Given the high rates of co-occurring depression and anxiety experienced among people with HPD, it may also be of importance to consider the inclusion of components that specifically target low mood, anhedonia and avoidance; symptoms that may also influence clients' perceptions that treatment tasks exceed their coping resources, thus potentially reinforcing reliance on hair pulling as a primary coping strategy. Indeed, the lack of attention placed on co-occurring depression has been noted as a significant limitation to the various face-to-face cognitive-behavioural treatments that have been trialed for HPD to date (Grant et al., 2017). Therefore, the aim of this study was to identify the needs and preferences of adults with problematic hair pulling in relation to developing an iCBT program for HPD that may also address co-occurring negative affect. A secondary aim was to explore the participant, clinical, attitudinal, and help-seeking factors that may be associated with intentions to use an iCBT program for HPD in future.

Method

Participants

   Of 113 participants who consented to take the online survey, two provided no responses to any items resulting in a sample of 111 individuals with self-reported hair pulling difficulties. Participants included 108 women aged between 20 and 67 ($M = 31.63$, $SD = 9.14$), one male aged in his late thirties, and two participants in their mid-twenties who identified as transgender or non-binary. The majority of participants (40.1%) were in full-time work, with most having completed an undergraduate degree as their highest level of education (32.3%). Participants' self-reported nationalities were predominantly North American (43.2%), with the remainder identifying as Australian (28.8%) and other (e.g., British, Greek, Portuguese; 23.4%). Most participants (56.7%) identified as being in a relationship (including married and de facto relationships) while 38.6% identified as being single. A small proportion were divorced (3.6%).

   Fifty-five percent of participants reported having been diagnosed with HPD by a health professional in their lifetime and 62.2% endorsed all *DSM-5* (APA, 2013) diagnostic criteria for HPD based on the previous six months. Average total scores on the *Massachusetts General Hospital Hairpulling Scale* (Keuthen et al., 1995) indicated moderate symptom severity ($M = 16.77$, $SD = 5.52$, $n = 101$). A diagnosed co-occurring psychological disorder was reported by 48.2% of participants ($n = 53$); most commonly, anxiety disorders (42.3%), depressive disorders (35.0%), OCD (12.6%), and attention-deficit hyperactivity disorder (11.7%). Average total scores on the *Depression Anxiety and Stress Scales-21* (Lovibond & Lovibond, 1995) indicated 'extremely severe' depression symptoms ($M = 15.5$, $SD = 6.21$, $n = 74$) and 'extremely severe' anxiety symptoms ($M = 13.15$, $SD = 5.26$, $n = 74$).

Materials

Massachusetts General Hospital Hairpulling Scale (MGHHPS). The MGHHPS (Keuthen et al., 1995) contains seven items assessing urges to pull hair, actual hair pulling, perceived control over hairpulling urges and behaviour. Items are self-rated on a six-point Likert scale and a summed total score can range from 0-28. Higher total scores indicate greater HPD symptom severity as experienced during the past week.

Depression, Anxiety and Stress Scale-21 (DASS-21). The DASS-21 (Lovibond & Lovibond, 1995) is a 21-item self-report questionnaire designed to measure the negative emotional states of depression (e.g. "I couldn't seem to experience any positive feeling at all"), anxiety (e.g. "I felt I was close to panic") and stress (e.g. "I found it difficult to relax"). Items were measured on a four-point Likert scale (0 = 'did not apply to me at all' to 3 = 'applied to me very much, or most of the time'), where individuals indicated how much the statements applied to them over the past week. Higher total scores indicate greater symptom severity as experienced during the past week.

General Help-Seeking Questionnaire (GHSQ). The GHSQ (Wilson, Deane, Ciarrochi & Rickwood, 2005) is a measure of future help-seeking intentions where individuals are asked how likely they would be to seek help for personal/emotional problems and suicidal ideation, from specific sources (e.g., family, friends, health professionals). In this study, the term "suicidal ideation" was replaced with "distressing hair pulling" to generate a HPD-specific help-seeking intentions subscale (GHSQ-HPD), in addition to the standard general help-seeking intentions subscale (GHSQ-GEN). Items are measured on a seven-point Likert scale (1 = 'extremely unlikely' to 7 = 'extremely likely'), with higher total scores indicating a greater inclination to seek help. Subscale scores were calculated as means.

General Self Efficacy Scale (GSES). The GSES (Schwarzer & Jerusalem, 1995) is a 10-item self-report questionnaire measuring one's perceived sense of their ability to cope with challenging life events (e.g., "I am confident that I could deal efficiently with unexpected

events") and perform difficult tasks (e.g., "I can always manage to solve difficult problems if I try hard enough"). These items are measured on a four-point Likert scale (1 = 'not at all true' to 4 = 'exactly true'), with higher total scores indicating an increased sense of self-efficacy.

Experience of Shame Scale (ESS). The ESS (Andrews, Qian & Valentine, 2002) is a 25-item self-report questionnaire measuring chronic experiences of shame in relation to the body (e.g., "Have you felt ashamed of your body or any part of it?"), behaviours (e.g., "Have you felt ashamed of your manner with others?"), and character-based shame (e.g., "Have you felt ashamed of the person you are?"). These items were responded to on a four-point Likert scale (1 = 'not at all' to 4 = 'very much') in relation to how much the individual felt this over the past year, with higher total scores indicating a greater experience of shame.

University of Rhode Island Change Assessment Scale (URICA). The URICA (DiClemente & Hughes, 1990) is a 32-item self-report questionnaire measuring four stages of change in relation to starting therapy or approaching problems in life: (1) pre-contemplation (e.g., "As far as I'm concerned, I don't have any problems that need changing"); (2) contemplation/ambivalence (e.g., "I think I might be ready for some self-improvement"); (3) taking action (e.g., "I am finally doing some work on my problem"), and (4) struggling to maintain change (e.g., "I thought once I had resolved the problem, I would be free of it but sometimes I still find myself struggling with it"). Items were responded to on a five-point Likert scale (1 = 'strongly disagree' to 5 = 'strongly agree'). Subscale scores were calculated as means. A total score, the 'readiness to change score', was calculated by summing the means of the contemplation, action and maintenance subscales, then subtracting the pre-contemplation mean. Cut-off scores can be applied to the 'readiness score' to indicate participants' likely stage of change, where higher scores indicate greater readiness to change.

Online Needs Analysis Questionnaire. The authors developed a bespoke 28-item needs analysis questionnaire to explore three key aspects of participants' experiences and preferences for treatment: (1) Previous treatment experiences; this section featured seven items designed to identify what types of face-to-face and online treatments participants had ever used for HPD, including ratings of the three most helpful services and treatments participants had accessed. (2) Treatment preferences; this section included three items designed to identify participants' three most preferred options for face-to-face and online treatments for HPD. (3) Preferences for an iCBT program; this section included 18 items designed to explore participants' openness towards using an iCBT program for HPD, attitudes regarding anticipated effectiveness, enjoyment, and barriers to using iCBT, preferences for a self-guided versus therapist-assisted program, preferences for features and strategies that should be included in such a program, and preferred options for its duration and accessibility. The questionnaire can be made available upon request.

Variables relating to iCBT use intentions and preferences were created from several items featured within the *Online Needs Analysis Questionnaire* to explore their correlations with clinical, participant and treatment-seeking factors. iCBT use intentions (iCBT-INT) was a single-item variable ("I would not hesitate to use an iCBT program for treating my trichotillomania symptoms") that was rated on a 5-point Likert scale (1 = 'strongly agree' to 5 = 'strongly disagree'). iCBT preferences related to two single-item variables; preference for a self-guided program (iCBT-SELF) ("I would prefer to use an iCBT program for treating my trichotillomania symptoms on my own, i.e., for self-help") and preference for a therapist-assisted program (iCBT-TA) ("I would prefer to use an iCBT program for treating my trichotillomania symptoms with the support of a qualified therapist"). Both variables were rated on a 5-point Likert scale (1 = 'strongly agree' to 5 = 'strongly disagree').

Procedure

Participants were recruited between May and October, 2017 via online advertising to national and international HPD-specific websites, and online HPD support groups hosted on Facebook. To be eligible participants needed to be aged 18 years and older, believed they had an appropriate level of English language comprehension, and self-identified as engaging in distressing, non-cosmetic hair pulling behaviours. There were no exclusion criteria. The participant information and consent form outlined the scope of the study, eligibility criteria and participant's rights. Upon agreeing to participate, participants were asked to complete the online self-report measures via the Qualtrics survey platform (www.qualtrics.com). The estimated time to complete the surveys was 45-60 minutes. Presentation of the order of questionnaires was not randomised. This study was approved by the human research ethics committee of the host institution.

Statistical Analysis Procedure

Data were analysed using the Statistical Package for Social Sciences (SPSS v25.0). Descriptive statistics were calculated to investigate responses to the *Online Needs Analysis Questionnaire*, specifically: (1) the perceived helpfulness of past services and treatments accessed for HPD; (2) preferences for face-to-face versus internet-delivered treatments, generally; and (3) participant preferences how an iCBT program should be delivered and what it should include, specifically. Missing data from this questionnaire were not imputed; for items with missing responses, sample sizes (*n*) corresponding to each have been reported. Of the validated measures, there were no missing responses to any items; however, not all participants completed all of the measures due to study drop-out. iCBT-INT and GHSQ-GEN subscale scores were significantly and positively skewed in favour of low values. As such, Spearman's rank order correlations were conducted to assess the relationships between iCBT use intentions and preferences variables, and HPD symptom severity (MGHHPS), depressive

symptoms (DASS-21-D), readiness for change (URICA), help-seeking intentions (GHSQ), shame (ESS), and self-efficacy (GSES).

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Results

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Past treatment for HPD

Of 111 participants, 13 (11.7%) reported they had never accessed specific mental health services for HPD in their lifetime. These participants were not required to respond to further items regarding their experiences of past treatment. The remaining 98 participants were asked to first identify the types of mental health services they had ever accessed for help with their HPD symptoms, then invited to select the top three mental health services and specific treatments they had found most helpful, where 1 = 'most helpful'.

Shown in Table 1, the five most frequently accessed services for HPD were information websites, psychologists, general practitioners, online peer-support, and psychiatrists. No participants had ever accessed telephone or video-based counselling for HPD treatment. The three services that had received the greatest number of votes for being 'most helpful' were psychologists, psychiatrists, and information websites.

Shown in Table 2, the five most frequently used treatment approaches for HPD were self-monitoring, medication, supportive counselling, and CBT. The three interventions that had received the greatest number of votes for being 'most helpful' were supportive counselling, self-monitoring, and CBT.

Table 1. Types of mental health services ever accessed for HPD symptoms and services rated as most helpful.

Services	Ever accessed[a]	Rated #1[b]
	n (%)	*n* (%)
Information website	69 (62.2)	13 (15.6)
Psychologist	50 (45.0)	18 (22.0)
General practitioner	46 (41.4)	5 (6.1)

	Ever accessed	Rated #1
Online peer-support forum	42 (37.8)	4 (4.9)
Psychiatrist	38 (34.2)	15 (18.3)
Counsellor	25 (22.5)	6 (7.3)
Self-help book	24 (21.6)	2 (2.4)
Smartphone application	17 (15.3)	3 (3.7)
Peer-support group	15 (13.5)	7 (8.5)
Other	14 (12.6)	7 (8.5)
Social worker	7 (6.3)	0 (0.0)
Dermatologist	4 (3.6)	0 (0.0)
Internet-based treatment program	3 (2.7)	2 (2.4)
Online counselling	2 (1.8)	0 (0.0)
Telephone counselling	0 (0.0)	0 (0.0)
Video-based counselling	0 (0.0)	0 (0.0)

Note. Percentages for services 'ever accessed' exceed 100% as participants could select more than one option.

[a] $n = 98$ participants indicated which services they had ever accessed.

[b] $n = 82$ participants indicated which of the services they had ever accessed was 1 = 'most helpful' to them (% was therefore calculated as a proportion of $n = 82$).

Table 2. Types of treatment ever accessed for HPD symptoms and treatments rated as most helpful.

Past treatment	Ever accessed[a]	Rated #1[b]
	n (%)	*n* (%)
Self-monitoring	49 (44.1)	10 (18.5)
Medication	37 (33.3)	8 (14.8)
Supportive counselling	28 (25.2)	16 (29.6)
Cognitive behavioural therapy	27 (24.3)	9 (16.7)
Habit reversal training	21 (18.9)	2 (3.7)
Relaxation training	21 (18.9)	1 (1.9)
Skin or hair-care advice	18 (16.2)	2 (3.7)
Hypnotherapy	15 (7.2)	3 (5.6)
Dietary advice	8 (7.2)	1 (1.9)
Acceptance and commitment therapy	6 (5.4)	1 (1.9)
Dialectical behaviour therapy	6 (5.4)	1 (1.9)

Note. Percentages for treatments 'ever accessed' exceed 100% as participants could select more than one option.

Among the 82 participants who had accessed mental health services for help with HPD symptoms, 43.9% noted that their treatment produced a 'minimal' improvement in their symptom severity; 31.7% reported 'no change'; and 17.1% reported 'much improved' or higher (rated on a scale from 1= 'very much improved' to 7 = 'very much worse'; Guy, 1976). Thirty-four percent of participants (*n* = 28) reported that it took between 1 and 5 sessions of their most helpful treatment/s to experience any improvement, while 28.0% did not notice any improvement until 6-to-10 sessions had been completed. Just over 20% of participants (*n* = 17) noticed an improvement after completing 26+ sessions. Close to 27% of participants (*n* = 22) reported that they had been actively participating in treatment for HPD for over five years.

Treatment Preferences

Participants were next asked about their preferences for treatments delivered through face-to-face services versus those delivered online. This section of the survey was completed by 89 participants (i.e., 22 had dropped out of the study). Assuming that all treatment options were available and readily accessible, face-to-face, 58.4% of participants reported that they would rather receive treatment for HPD using traditional face-to-face mental health services, while 41.6% indicated that would actually prefer to access HPD treatment via internet-delivered services. The three face-to-face services that received the greatest number of votes for being 'most preferred' (i.e., rated 1) were psychologists (29.7%), psychiatrists (13.5%), and counsellors (9.9%) (as opposed to general practitioners, dermatologists, social workers or peer-support groups).

Table 3 outlines participant preferences for types of internet-delivered mental health services, assuming that face-to-face options were also available to participants compared with

when participants were instructed to assume that face-to-face options were *not* available. Participants were asked to select their top three most preferred options for internet-based service delivery under both scenarios, where 1 = 'most preferred'. As shown, preferences for any type of internet-based service were lower if participants had a choice to access face-to-face supports. However, when assuming that face-to-face services were *not* readily available, the three types of internet-based services that received the greatest number of votes for being 'most preferred' were information websites, online counselling using instant messaging, and video-based counselling. When participants' top three selections were accounted for, smartphone applications also emerged as a desirable option for accessing HPD treatment online.

Table 3. Preferences for types of internet-based services assuming face-to-face services are assumed available compared with when they are assumed unavailable (*n* = 89).

	Assuming face-to-face options are available		Assuming face-to-face options are not available	
	Rated #1 *n* (%)	Within top 3 *n* (%)	Rated #1 *n* (%)	Within top 3 *n* (%)
Telephone counselling	1 (1.1)	3 (3.4)	7 (7.9)	18 (20.2)
Online counselling	3 (3.4)	14 (15.7)	14 (15.7)	33 (37.1)
Video-based counselling	0 (0.0)	4 (4.5)	10 (11.2)	28 (31.5)
Smartphone application	1 (1.1)	12 (13.5)	9 (10.1)	28 (31.5)
Online peer-support forum	1 (1.1)	10 (11.2)	4 (4.5)	14 (15.7)
Information website	2 (2.2)	15 (16.9)	17 (19.1)	31 (34.8)

Note. Percentages do not add to 100% as ratings for face-to-face services are not shown.

Preferences for an iCBT program

This section of the survey was completed by 78 remaining participants. When asked specifically about iCBT, 84.6% 'agreed' or 'strongly agreed' that they would not hesitate to use an iCBT program for HPD if given the opportunity, and 12.8% were 'unsure'. Ninety-

seven percent of participants ($n = 76$) 'agreed' or 'strongly agreed' that they would be open to using an iCBT program, with one participant responding 'unsure' and one indicating strong disagreement. Similarly, only four participants (3.6%) 'agreed' or 'strongly agreed' that they would never use an iCBT program.

Fifty percent of participants 'agreed' or 'strongly agreed' that they thought iCBT would be effective for treating HPD, with a similar proportion (46.2%) responding that they were 'unsure' about how effective iCBT could be. Results as to whether participants believed that completing an iCBT program would be enjoyable were also mixed. Fifty percent responded 'agree' or 'strongly agree', 37.2% responded that they were 'unsure', and 12.8% responded that they 'disagreed' or 'strongly disagreed' that completing an iCBT program or HPD would be enjoyable.

Therapist assistance

Most participants (74.4%) 'agreed' or 'strongly agreed' that they would prefer a therapist-assisted iCBT program (23.1% were 'unsure') while 48.7% 'agreed' or 'strongly agreed' that they would prefer a self-guided version (30.8% were 'unsure'). When asked to select their top three most important reasons for why they would want therapist assistance, the following reasons received the highest number of votes for being 'most important' (i.e., rated 1): for supportive encouragement and motivation (44.9%); to modify program information or instructions in a way that would be more relevant to participants' personal experiences or situations (20.5%); to assist with problem-solving around barriers to using the program (12.8%); and to set deadlines for when program tasks or modules should be completed (8.9%). The remaining four options were rated as 'most important' by fewer than five participants each.

Participants were next asked to select their top three preferences for how they would like to receive therapist assistance during the course of completing an iCBT program, where

1 = 'most preferred'. In the order of therapist assistance options that received the highest number of votes for 'most preferred', the results were: online counselling sessions via instant messaging (30.8%); video-based counselling sessions (21.8%); emails (17.9%); telephone calls (15.4%); and SMS/text messages (14.1%).

Participants were also asked about how often and for how long instances of therapist assistance should be made available to them. Thirty-six participants (46.2%) requested that therapist assistance be made available to them 'each week for the duration of the program', and a near-equal number of participants ($n = 35$) responded that therapist assistance should be available to them 'as often as I think I need it'. In terms of session duration, most participants (59.0%) indicated a preference of between 10 and 30 minutes, while 28.2% requested that therapist support sessions should last between 30 and 60 minutes. Remaining participants indicated 'other' preferences or a desire for less than 10 minutes per session of therapist assistance.

Program access and length

Irrespective of whether the iCBT program included options for therapist assistance, most participants (71.8%) requested that the program be made available to them indefinitely so they can work through it at their own pace. Twenty-two participants (28.2%) selected that the program be made available for a fixed period of time (e.g., 10 weeks availability to complete a 10-module program). When considering overall program length, 50.0% of participants indicated that the iCBT program should run for 6-to-10 weeks, while 33.3% preferred it to run for 3-to-6 weeks. Only 11 participants (14.1%) requested that the program run for 10 or more weeks and two participants (2.6%) requested a very brief program of no more than three weeks. In terms of the number of program modules, a similar number of participants requested between 3-to-6 modules (42.3%) or 6-to-10 (39.7%) modules. Fourteen participants indicated a preference for either 10 or more, or three or fewer, modules.

Program features

Table 5 shows the features that participants would like to see in an iCBT program for HPD. Participants were asked to select their top three most preferred features, where 1 = 'most preferred'. As shown, the four features that received the greatest number of votes for being 'most preferred' were online symptom assessments, completing surveys on a regular basis to help visually chart their progress, videos that demonstrate how to apply strategies from the program, and videos in which people with lived experience of HPD share what they have found helpful. When participants' top three selections were accounted for, downloadable information and worksheets also emerged as a desirable feature to include in an iCBT program for HPD. Participants were least interested to interact with online diagrams and received automated text messages.

Table 5. Preferred features of an iCBT program for HPD (*n* = 78).

Feature	Rated #1 *n* (%)	Within top 3 *n* (%)
Online assessments for HPD symptoms	19 (24.4)	38 (48.7)
Regular completion of surveys to help chart progress on a graph	16 (20.5)	27 (34.6)
Videos that demonstrate how to apply strategies taught in program	10 (12.8)	30 (38.5)
Videos of people talking about their experience of HPD and what helped them	10 (12.8)	18 (23.1)
Downloadable information and worksheets	7 (8.9)	28 (35.9)
An online diary for reflections about experience and progress in program	5 (6.4)	21 (26.9)
Instant messaging groups to connect with others completing the program	4 (5.1)	16 (20.5)
Message board to connect with others completing the program	2 (2.6)	20 (25.6)
Quizzes to test knowledge of information learnt in program	2 (2.6)	12 (15.4)
Interactive diagrams	2 (2.6)	10 (12.8)
Automated text messages (e.g., reminders, tips, motivational quotes)	1 (1.3)	14 (17.9)

Note. Participants could select more than one option so frequencies for preferred features 'within top 3' exceed 100%.

Preferred strategies and techniques

Table 6 shows the treatment strategies and techniques that participants would like to learn by completing an iCBT program for HPD. Participants were asked to select their top

three most preferred strategies to learn, where 1 = 'most preferred'. As shown, the four strategies and techniques that received the greatest number of votes for being 'most preferred' were learning how to reduce or better cope with one's hairpulling urges, identifying one's triggers for hair pulling episodes, learning how to cope with distress and negative emotions, and self-monitoring one's hairpulling behaviours. When participants' top three selections were accounted for, strategies for reducing depression and/or anxiety also emerged as something participants would like to learn from an iCBT program for HPD. No participants indicated a desire for such a program to include education around telling friends and family about their hairpulling experiences.

Table 6. Most preferred strategies and techniques to learn by completing an iCBT program (*n* = 78).

Feature	Rated #1 *n* (%)	Within top 3 *n* (%)
How to reduce or better cope with intense hairpulling urges	16 (20.5)	31 (39.7)
Identifying triggers of my hairpulling urges	13 (16.7)	41 (52.6)
How to cope with distressing and negative emotions (e.g., sadness, frustration)	12 (15.4)	33 (42.3)
Self-monitoring my hairpulling behaviours	12 (15.4)	27 (34.6)
Reduce my depression and/or anxiety	6 (7.7)	24 (30.8)
Mindfulness exercises	5 (6.4)	14 (17.9)
How to change negative self-talk that contributes to my hairpulling	4 (5.1)	16 (20.5)
How to change environments/situations that contribute to my hairpulling	3 (3.8)	15 (19.2)
Relaxation strategies (e.g., deep breathing, visualisation)	3 (3.8)	9 (11.5)
Learn strategies for having my sensory needs met (e.g., use fiddle toys, massage)	2 (2.6)	12 (15.4)
Improve my self-esteem	2 (2.6)	7 (20.5)
How to help my friends and family better support me to reduce my hairpulling	0 (0.0)	3 (3.8)
How to tell my friends and family about my hairpulling	0 (0.0)	0 (0.0)

Note. Participants could select more than one option so frequencies for preferred strategies/techniques 'within top 3' exceed 100%.

Barriers to participating in iCBT

When considering aspects that may make it problematic for participants to access an iCBT program, barriers that received the highest number of votes out of three for 1 = 'most problematic' were: the lack of face-to-face interaction involved in such programs (28.2%); a lack of privacy to complete an iCBT program (26.9%); worries about the confidentiality and security of online information (18.0%); 'other' barriers not featured in the list (12.8%); and lack of access to a computer, tablet or mobile device (10.3%). The remaining two barriers (internet access and computer literacy) were each rated as 'most problematic' by three or fewer participants. Participant comments regarding 'other' barriers included being busy or having other commitments, and difficulties staying motivated if they did not notice positive changes early-on in their engagement with the program.

Correlations

To explore the participant, clinical, attitudinal, and help-seeking factors that may relate to iCBT use intentions, Spearman's rank order correlations were calculated (Table 7). As shown, anticipated effectiveness (iCBT-EFF) and enjoyment (iCBT-ENJ) were both significantly and positively correlated with iCBT use intentions (iCBT-INT) with moderate-to-large effect sizes. iCBT use intentions and anticipated effectiveness were both significantly and negatively correlated with readiness to change to a moderate degree; the more ready an individual was for change, the less interest they had in using an iCBT program for HPD and the less effective they believed such a program would be for improving their symptoms. iCBT use intentions were also significantly and negatively correlated with future intentions to seek help for HPD (GHSQ-HPD) to a small degree. That is, individuals with greater intentions to seek help for HPD were less interested in using an iCBT program for this mental health issue. No other significant relationships with iCBT use intentions were identified. Preference for a self-guided iCBT program (iCBT-SELF), specifically, was significantly and positively correlated with HPD symptom severity (MGHHPS), self-efficacy

(GSES), and anticipated enjoyment; all to a small degree. That is, stronger preferences to engage in self-guided iCBT were associated with greater HPD severity, a greater sense of self-efficacy, and expectations that using such a program would be enjoyable. No other significant relationships with preferences for a self-guided program were identified. There were no significant correlations identified in relation to preferences for a therapist-assisted iCBT program for HPD (iCBT-TA).

Of interest, HPD symptom severity and self-reported treatment barriers (TBQ) were significantly and positively correlated to a small degree, where greater symptom severity was associated with increased barriers to treatment. A significant and positive correlation was also found between the severity of depressive and HPD severity to a small degree. Further significant correlations were evident between self-efficacy and treatment barriers, as well as with depression severity, with moderate-to-large effect sizes. HPD help-seeking intentions were also significantly and negatively correlated with self-efficacy to a small degree; as self-efficacy increased, intentions to seek help for HPD specifically decreased. Increased experiences of shame (ESS) were significantly correlated with greater endorsement of treatment barriers, greater severity of HPD and depressive symptoms, as well as lower self-efficacy, with moderate-to-large effect sizes.

Table 7. Spearman's rank order correlations between iCBT use intentions and preferences, and participant, clinical, attitudinal, and treatment-seeking factors.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. iCBT-INT	1												
2. iCBT-SELF	.06	1											
3. iCBT-TA	.19	-.23*	1										
4. iCBT-EFF	.45**	.16	.08	1									
5. iCBT-ENJ	.54**	.28*	.04	.42**	1								
6. MGHHPS	-.13	.30*	-.09	-.11	-.08	1							
7. DASS-21-D	.04	-.02	-.04	-.13	-.11	.28*	1						
8. URICA	-.35**	.13	-.08	-.32**	-.21	.12	.11	1					
9. GSES	-.08	.26*	.03	-.02	.09	-.18	-.58**	.02	1				
10. ESS	-.13	-.07	.07	-.09	-.07	.35**	.52**	.31**	-.32**	1			
11. TBQ	.04	-.04	.08	.03	-.01	.28*	.19	.07	-.35**	.34**	1		
12. GHSQ-GEN	-.17	-.05	0.13	-.13	-.34**	0.03	-.09	-.11	0.01	-.28*	-.06	1	
13. GHSQ-HPD	-.23*	-.00	-.09	-.23	-.35**	.02	.08	.04	-.23*	-.17	-.11	.54**	1
M	1.67	2.60	1.90	2.36	2.46	16.77	15.50	9.92	27.41	74.32	42.81	3.56	3.08
SD	0.85	1.13	0.85	0.87	0.96	5.52	6.21	1.68	5.77	15.32	7.69	0.73	0.92
n	78	78	78	78	78	101	74	76	74	77	75	74	74

Note. iCBT-INT= Intention to Use iCBT; iCBT-SELF = Preference for Self-guided iCBT; iCBT-TA = Preference for Therapist-assisted iCBT; iCBT-EFF = Belief in iCBT Effectiveness; iCBT-ENJ = Belief in iCBT Enjoyment; MGHHPS= Massachusetts General Hospital Hair Pulling Scale – Hair Pulling Severity; TBQ= Treatment Barriers Questionnaire; DASS-21-D= Depression, Anxiety and Stress Scale – Depression; URICA= University of Rhode Island Change Assessment Scale – Readiness for Change score; GHSQ-GEN= General Help-Seeking Questionnaire – General; GHSQ-HPD= General Help-Seeking Questionnaire – Trichotillomania; GSES= General Self Efficacy Scale; ESS= Experience of Shame Scale.

M = mean; *SD* = standard deviation.

*p < .05.

**p < .001.

Discussion

This exploratory study aimed to identify the perceived needs and preferences for an iCBT program for adults with HPD symptoms that may also address co-occurring negative affect. A secondary aim was to explore the participant, clinical, attitudinal, and help-seeking factors that may be associated with intentions to use an iCBT program for HPD in future. To the authors' knowledge, this study represents the first to explore what people with problematic hairpulling want and expect of any form of psychological treatment for HPD. People with HPD find it difficult to access psychological treatments for their condition and have reported low satisfaction with treatment when they do access such support (Lee et al., 2018; Woods et al., 2006). Given that expectations for iCBT are a predictor of both uptake and program engagement (e.g., March et al., 2018; Geraghty, Woods, & Hyland, 2010), the need for consumer involvement in iCBT program development is becoming increasingly clear (Fleming et al., 2016) – and assuming that earlier reports of low treatment satisfaction still hold true today – is especially important among people with HPD.

A majority of the current sample reported they would "not hesitate*"* (84.6%) to use an iCBT program targeted at their hair pulling problems, which is much higher than the proportion of participants with OCD (53%) who reported that they would "definitely" try iCBT for OCD in a study by Wootton et al. (2011). Furthermore, and consistent with research in general public samples (Apolinario-Hagen et al., 2017; Klein & Cook, 2010; March et al., 2018), intentions to use an iCBT program for HPD were associated with expectations that such a program would be effective for reducing symptoms and enjoyable to use. The latter finding resonates with calls to use gamification principles in the design of internet interventions to improve user experience and engagement (Fleming et al., 2016). Participants nonetheless held a stronger preference for traditional face-to-face services and supports when given the option to choose those over internet interventions (58.4% vs. 41.6%), also

consistent with past research (Klein & Cook, 2010; March et al., 2018; Mohr et al., 2010).

This may partially help to explain the finding that greater readiness for change and intentions

to seek help for HPD (as measured by a modified version of the GHSQ) were associated with

reduced intentions to use an iCBT program for this mental health issue. Often, internet

interventions are adopted within the context of a stepped-care model whereby the initial

course of treatment comprises a relatively brief online program that is less demanding of time

and resources, with progression to higher-intensity models of care warranted when the 'first

step' has not resulted in a service user's desired outcomes (Green & Iverson, 2009; Rogers et

al., 2014). Individuals who are contemplating or ambivalent about change may therefore find

the prospect of completing an iCBT program more appealing, whereas those who are ready to

engage in the process of behaviour change could be more invested in seeking traditional,

face-to-face treatments that are perceived as more intensive, and perhaps, as more effective.

These findings highlight the importance of ensuring a range of treatment options are available

to cater to individuals' treatment readiness, as well as their specific clinical needs and

preferences for care.

A therapist-assisted iCBT program was most commonly preferred (74%) as opposed

to a program where participants would complete the program on their own (31%). Past

literature has shown that therapist-assisted online interventions are superior to those that are

purely self-guided (e.g., Andersson et al., 2005; Richards & Richardson, 2012; Baumeister,

Reichler, Munziger & Lin, 2014). Further, brief therapist support – for as little as one hour –

in an internet-delivered program can work as well as face-to-face CBT (Andrews et al.,

2010). A majority of participants in the current study suggested that the duration of the

therapist support should last between 10-to-30 minutes per contact (59%), with no clear

preference for whether the program should be available to them indefinitely or for a fixed

period of time. Interestingly, most participants suggested that therapist support in an iCBT

program for HPD should be offered via instant messaging (31%) as opposed to video-conferencing (22%) or e-mail (18%), which are currently the more common methods of providing therapist assistance in iCBT programs (Topooco et al., 2019). The perceived benefits and disadvantages of receiving therapist assistance via each of these options ought to be explored in future studies so program developers better understand why some modes of online communication are preferred over others.

It is also of interest to note that, while participants in the current study held a stronger preference for therapist-assisted iCBT, there were no participant, clinical, attitudinal or help-seeking factors found to be significantly associated with this preference. There were, however, several factors associated with a preference to engage in self-guided iCBT. Higher HPD severity, greater self-efficacy, and expectations that completing an iCBT program would be enjoyable were all correlated with stronger preferences to use a self-guided program for problematic hair pulling. It may be that self-guided iCBT is an attractive option to individuals who feel more capable and confident to engage in a program with little or no therapist assistance. It is less clear why higher HPD severity correlated with a preference for self-guided iCBT; while this could be interpreted as indicating a greater need – and therefore motivation – for treatment, HPD severity was not correlated with readiness for change scores or help-seeking intentions. HPD severity was, however, associated with increased depressive symptoms, shame, and encountering greater barriers to accessing treatment in the community. Perhaps individuals with severe HPD symptoms perceive self-guided iCBT as a less intensive and less confronting form of treatment compared with a therapist-assisted program, which may also relate to perceptions that a self-guided form of treatment would be a more enjoyable experience for them.

The most common preferences for iCBT program duration were 6-to-10 weeks (50%) and 3-to-6 weeks (33%). Relatedly, most participants reported that they required 1-to-5

sessions (34%) or 6-to-10 sessions (28%) of traditional face-to-face interventions before they experienced any symptom improvement. Indeed, face-to-face treatments for HPD that have received empirical support typically range from 8-to-12 weekly sessions (Farhat et al., 2020) with some providing additional 'booster' sessions in the several months following the initial treatment course (e.g., Keuthen et al., 2012). Participants' preferences for a relatively brief iCBT program are largely consistent with their experiences of symptom improvement using face-to-face treatments; and are consistent with findings that participants are unlikely to engage with internet interventions for lengthy periods of time anyway (Firth et al., 2018).

In their systematic review of 268 studies, Rogers at al. (2017) identified several factors common to successful internet-delivered interventions (i.e., those that exhibited evidence-based health benefits for users). Elements common to successful programs were those that required active engagement, provided personalised feedback, featured the capacity for self-monitoring of symptoms and progress, and included activities that encouraged participants to take action in their everyday lives. Consistent with such findings, participants in the current study indicated that they would find an iCBT program most helpful if it included online assessments for HPD symptoms, involved regularly completing surveys to chart their progress, video demonstrations of how to apply strategies taught in the program, and videos of people with lived experience sharing strategies they have personally found helpful. Rogers et al. found that, in most internet interventions they reviewed, psychoeducational material was used as an adjunct to the main therapeutic material rather than as the primary intervention. Notably, information websites were among the three most commonly accessed services for HPD in the current study, and downloadable information and worksheets emerged as another highly preferred feature of an iCBT program. These findings may reinforce the importance of clear, evidence-based, and non-stigmatising psychoeducation as an integral part of internet interventions for HPD. Indeed, research has

found that members of online peer-support groups for HPD are primarily there to learn more information about the disorder and its treatments (Bruwer & Stein, 2005; Tan, Rehm, Stevenson, & De Foe, 2021). A risk with online peer-support forums, however, is that information and advice shared among users may not be evidence-based (Tan et al., 2021), whereas iCBT programs can be co-designed by clinicians and consumers to ensure information is both accurate and accessible.

Furthermore, when asked about particular strategies and techniques that participants would like to learn from an iCBT program, learning how to cope with distressing and negative emotions, identifying one's triggers for hairpulling, and self-monitoring were most commonly endorsed. Learning strategies to reduce co-occurring depression and anxiety were also highly rated by participants in the current study. These findings support others' recommendations that interventions for HPD ought to target co-occurring depression given this a highly common comorbidity (Grant et al., 2017). Unfortunately, this study did not explore these comorbidities in great detail, however, we suggest that future research may include a greater scope for this investigation. Overall, the preferences of participants in the current study, if adopted in future development of iCBT for HPD, would reflect a program that encourages active engagement in practical strategies that target hair pulling specifically, as well as the co-occurring negative affect that can impede treatment gains and motivation. Behavioural activation has been suggested as one such approach that may effectively augment evidence-based treatments for HPD (Slikboer et al., 2019).

Surprisingly, few participants thought it would be helpful to learn how to discuss their hair pulling experiences with friends and family or how to help friends and family better support them to reduce their hair pulling. While participants did not highly rate learning such strategies, the recruitment of social supports is a key component of HRT (particularly for helping the affected individual gain awareness of their hair pulling behaviour), and clinicians

are encouraged to support clients to re-engage in social relationships and activities that were withdrawn from as part of hiding the consequences of their repetitive hair pulling (Farhat et al., 2020; Morris, Zickgraf, Dingfelder & Martin, 2011). It has been suggested that many HPD sufferers rarely discuss their experiences with others, and in turn, avoid seeking treatment (Mouton-Odum, Keuthen, Wagener & Stanley, 2006). The significant relationship between treatment barriers and shame found in the current study may indicate that participants feel more stigmatised and less understood by health professionals as opposed to those with whom they feel closest; hence the limited interest in learning skills to support discussing their condition with friends and family. Alternatively, there may have been limited interest in these strategies because participants prefer to keep their hair pulling hidden from family and friends and/or were not aware of the therapeutic rationale behind seeking support from loved ones. As such, encouraging the disclosure of this information to friends and family should be handled on an individual basis, based on the specific needs and wants of the client. Additionally, while social and activity re-engagement do comprise an important part of psychosocial recovery (Leamy et al., 2011), a personalised delivery of interventions may also be useful out of respect of individual preferences and priorities.

iCBT programs are typically espoused to increase access to treatment, however, a number of potential barriers for accessing such a program were identified. Participants noted that concerns about privacy, confidentiality, and security of online information would be their main barrier to accessing an iCBT program for HPD. This may be potentially overcome by explaining what kinds of information will be stored on the online platform, by whom and for how long, and by describing any confidentiality procedures and protocols. A study completed by Gulliver et al. (2015) explored the perceptions surrounding confidentiality and privacy for an online counselling service and found that participants would no longer consider confidentiality and privacy a barrier if a clear set of guidelines were provided that outlined

these processes, and reassurance offered that these would be maintained. Furthermore, participants of the current study noted potential technical issues that may act as barriers including lack of access to a reliable internet connection and device, as well as difficulties staying motivated if they did not notice a change early-on in their engagement with the program. Indeed, maintaining participant motivation and engagement in internet interventions poses a major challenge for program developers (Firth et al., 2018; Fleming et al., 2016).

Limitations and directions for future research

The current study does not come without its limitations. The self-report, online format of the survey may have attracted participants with higher computer literacy and greater openness to using the internet for help-seeking. While participants were asked to respond to online questions reflecting *DSM-5* diagnostic criteria for HPD, it was not possible to verify that participants' symptoms met diagnostic criteria. Additionally, reliance on quantitative methodologies meant that researchers had to impose a set of ideas on what treatment *could* include, rather than leading a truly user-centred design in which participants offered their opinions of what *should* be included in an iCBT program for HPD from the ground up. A qualitative approach in future studies could add valuable information about needs and preferences that may have been missed as a result of the current study design. Future research may also benefit from collating more in-depth demographic information such as socioeconomic status and ethnicity to determine if preferences for iCBT programs differ across groups. Moreover, had this survey been completed in 2020 during the onset of the COVID-19 pandemic, the findings reported here may have revealed stronger intentions to engage in an iCBT program for HPD. Although the current study has not kept up with the increased use and implementation of telehealth due to COVID-19, much treatment development is done in the absence of data around the preferences of those actively using mental health services, both face-to-face and telehealth. As such, researchers could repeat this

study to identify if and how intentions and preferences for iCBT have changed in this cohort, using the current data to assist their exploration. Finally, the current study yielded a relatively small sample size despite a wide recruitment strategy over a six-month period. Researchers advertised the study to approximately 15 Facebook peer-support groups targeted to people living with HPD or BFRBs, three community-based mental health organisations that provide information and peer-support for OCRDs and anxiety, and a number of other online forums including Gumtree, Reddit, and Twitter.

Conclusion

While face-to-face treatments ultimately remained many participants' preferred option for help-seeking, the majority expressed an openness to using an iCBT program for HPD. This reassuring given their potential to enhance treatment accessibility while efforts to improve clinician understanding of HPD and provide training in traditional evidence-based treatments are ongoing (e.g., Rehm et al., 2018; Keuthen et al., 2015). Participants identified a preference for a therapist-assisted iCBT program of at least three but no more than 10 weeks duration. Most participants preferred that therapist support be accessible through instant messaging for the purposes of supporting their motivation to engage in the program. Participants wanted to use an iCBT program that would help them learn to cope better with their hair pulling urges, identify their hair pulling triggers, and cope better with negative emotions by engaging in regular self-assessments and self-monitoring, receiving personalised feedback, and watching videos that incorporated lived experience perspectives about helpful strategies they could apply to their everyday lives. Collaboration and co-design between consumers and program developers will likely lead to creating more relevant, appropriate, meaningful, and engaging internet interventions for people living with HPD. iCBT programs have the potential to increase access to treatment for this under-serviced group and fill the gap that is evident between consumer preferences and practitioner knowledge.

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