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The effects of brief cognitive-behaviour therapy for pathological skin picking: A randomized comparison to wait-list control

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ABSTRACT

Thirty-four college students suffering from pathological skin picking were randomly assigned to a four-session cognitive-behavioural treatment ($n = 17$) or a waiting-list condition ($n = 17$). Severity of skin picking, psycho-social impact of skin picking, strength of skin-picking-related dysfunctional cognitions, and severity of skin injury were measured at pre-, post-, and two-months follow-up assessment. Participants in the treatment condition showed a significantly larger reduction on all measured variables in comparison to the waiting-list condition. The obtained effect sizes for the outcome measures were large, ranging from .90 to 1.89. Treatment effects were maintained at follow-up. In conclusion, cognitive-behavioural therapy, even in brief form, constitutes an adequate treatment option for pathological skin-picking behaviour.

A growing body of research is devoted to dysfunctional, repetitive body-focused behaviours. Pathological skin picking (PSP), also called neurotic skin excoriation or dermatillomania, is characterized by recurrent and excessive picking or scratching of skin, skin lesions, and minor surface irregularities up to the point of causing severe tissue damage (Odlaug & Grant, 2008). Grave manipulation and deep penetration of skin occur frequently and, habitually, tools as needles, cannulae, or pincers are employed. Negative consequences can be profound and include lesions, infections, pigmentations, and scarring, as well as substantial emotional distress and functional impairment.

Up to this point, there is no clear uniformity in defining PSP. Criteria are manifold and their employment in previous research has been diverse (Grant & Odlaug, 2007; Keuthen et al., 2007; Snorrason, Smari, & Olafsson, 2010). Current research suggests that skin picking is a common behaviour which can range widely in frequency and severity (Bohne, Wilhelm, Keuthen, Baer, & Jenike, 2002; Hayes, Storch, & Berlanga, 2009). According to Hayes et al. (2009), a total of 62.7% of an American community sample engaged in some form of skin picking, defined as any picking, rubbing, or scratching of skin. Of their sample, 11.2% reported to engage in severe self-injurious skin picking, defined as a total score of seven or above on the Skin Picking Scale (SPS; Keuthen, Wilhelm, et al., 2001). Comparable results were obtained by Bohne et al. (2002) in a sample of German college students. In their study, 77.6% of the sample engaged in one or more daily skin-picking episodes. Of the sample, 4.6% reported to feel significantly distressed or functionally impaired as a consequence of skin-picking behaviour. Using the conservative criterion of substantial emotional or functional disturbance, as required by the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994), Keuthen et al. (2007) reported point prevalence rates of 2–4% of the general population for psychopathological skin picking.

Despite the common prevalence of skin picking in the general population, research on PSP is scarce. Particularly surprising is the small number of treatment studies that have addressed PSP in terms of psychotherapeutic treatments, as opposed to pharmacological treatments, which have been applied rather frequently. Indeed, only one study has utilized an experimental, waiting-list controlled design to assess the behavioural treatment of PSP (Teng, Woods, & Twohig, 2006). In this study, a total of 19 female college students completed assessments after random assignment to either a waiting-list or a treatment condition. In the treatment condition, participants received a 1-h treatment session, which included enhancement of awareness of skin picking, application of an incompatible response, and encouragement to find a social support person. The treatment session was followed by two 30-min booster sessions within two weeks after the treatment session. The treatment condition was superior to the waiting-list condition in reducing self-reported daily occurrences of skin-picking behaviour

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at post- and 3-months follow-up measurement, with a 77% decrease from pre-treatment to post-treatment for the treatment condition compared to a 16% decrease for the waiting-list condition. There were no significant differences in self-reported skin picking between the post-measurement and the follow-up measurement, indicating that treatment results were maintained. Additionally, these results were confirmed by severity ratings of photographs of skin injuries, as rated by independent assessors.

The results of Teng et al. (2006) provide preliminary evidence for the effectiveness of behavioural treatments in PSP. These findings are bolstered by earlier, uncontrolled studies (Rosenbaum & Ayllon, 1981; Twohig & Woods, 2001). However, clear conclusions are still compromised by the relatively small number of treatment studies and the small number of participants in these studies. Furthermore, all studies conducted so far have solitarily put emphasize on a behavioural standpoint in the treatment of skin-picking behaviour. However, PSP is likely to encompass dysfunctional and irrational cognitions, which are observed in many forms of psychopathology and impulse-control disorders such as trichotillomania (pathological hair pulling). These cognitions may be insufficiently addressed by behavioural interventions alone. Indeed, in the treatment of trichotillomania, cognitive interventions have been found effective in reducing hair pulling severity, providing preliminary support for the role of cognitions in the maintenance of hair pulling pathology (Keijsers, Maas, van Opdorp, & van Minnen, submitted for publication). The adjunct of cognitive interventions to traditionally administered behavioural interventions may offer an incremental value to treatment effects in PSP. Finally, the promising findings of Teng et al. (2006) ask for additional exploration. For example, up to this point, treatment effects, as reported by the participants, are limited to the frequency of skin-picking occurrences. A broader elaboration of treatment effects on symptoms associated with PSP, for example psycho-social impact of skin picking or dysfunctional skin-picking-related cognitions, is still waiting to be addressed.

Therefore, the present study investigated the effectiveness of a brief cognitive-behavioural intervention in PSP in comparison to a waiting-list condition. Assessments were conducted immediately before treatment, directly after treatment termination, and at two-months follow-up. Treatment effects were evaluated on several levels of measurement: skin-picking severity, psycho-social impact of skin picking, dysfunctional skin-picking-related cognitions, and severity of skin injury as rated by independent assessors. We expected the cognitive-behavioural intervention to be superior to the waiting-list condition for all outcome variables immediately after treatment as well as at follow-up.

Method

Participants

The sample consisted of 34 participants, 30 of them female. Participants satisfied the following inclusion criteria: Repetitive skin picking resulting in visible tissue damage and motivation to undergo a short cognitive-behavioural treatment aimed at reducing skin-picking behaviour. No exclusion criteria were employed. All participants were students or employees of the Radboud University Nijmegen or the HAN University of Applied Science, aged between 18 and 28 years (mean = 21.8, $SD = 2.5$). Participants were recruited during lectures using a screening questionnaire and by advertisements using the university study participation system. Participants were randomly assigned to either a treatment condition ($n = 17$) or a waiting-list condition ($n = 17$). After study completion, participants in the waiting-list condition were also offered treatment.

Procedure

Participants, who met inclusion criteria, were sent a comprehensive information brochure, which included information on the aim, procedure, and timetable of the study. All assessments took place in the university research laboratory. Each participant was tested individually. After giving informed consent, participants completed three questionnaires, namely the Skin Picking Scale, the Skin Picking Impact Scale, and the Self-Control Cognition Questionnaire (see Measures section for further information). Thereupon, participants were asked to indicate the most severely manipulated skin area. A photograph of this area was taken. Finally, participants were informed in which condition they were placed, were paid, and thanked.

Within a week, participants in the treatment condition were called by their assigned therapist for the first treatment session. The assignment of participants to therapists depended on the schedules of participants and therapists. Treatment consisted of four sessions of cognitive-behaviour therapy, administered according to the treatment manual described below. Participants in the waiting-list condition received no attendance. After five weeks, the second assessment took place. The third assessment followed eight weeks after the second assessment. Procedures and place were identical across conditions and across assessments.

For randomisation, a computer program was used which allowed for equal chance on a dichotomous event. The present data is part of a larger study in which implicit measures have also been assessed among participants. The results on implicit measures will be reported elsewhere.

Measures

Severity of skin picking

A measure of severity of skin picking was obtained using a Dutch adaptation of the Skin Picking Scale (SPS; Keuthen, Wilhelm, et al., 2001). The SPS is a self-report instrument consisting of six items which measure the frequency of urges to pick the skin, the intensity of urges, the time spent skin picking, interference due to skin picking, distress associated with skin picking, and avoidance behaviour due to skin picking over the last week. Each item is rated on a 5-point severity scale ranging from 0 (none) to 4 (extreme), resulting in a total score between 0 and 24. The SPS correlated moderately ($r = .49$) with self-reported duration of daily skin picking (Keuthen, Wilhelm, et al., 2001). Sensitivity and specificity analyses yielded a total score of seven or above to differentiate self-injurious skin picking from non-self-injurious forms of skin picking (Keuthen, Wilhelm, et al., 2001). Internal consistency of the SPS (Cronbach's $\alpha = .85$) was good.

Psycho-social impact of skin picking

A measure of psycho-social impact of skin picking was obtained using a Dutch adaptation of the Skin Picking Impact Scale (SPIS; Keuthen, Deckersbach, et al., 2001). The SPIS is a self-report instrument consisting of ten items which measure the social, behavioural, and emotional consequences of skin picking over the last week. Each item is rated on a 6-point severity scale ranging from none (0) to severe (5), resulting in a total score between 0 and 50. Moderate correlations ($r = .42$) with self-reported duration of daily skin-picking episodes have been reported (Keuthen, Deckersbach, et al., 2001). Sensitivity and specificity analyses yielded, again, a total score of seven or above to differentiate self-injurious skin picking from non-self-injurious forms of skin picking (Keuthen, Deckersbach, et al., 2001). Internal consistency of the SPIS (Cronbach's $\alpha = .91$) was excellent.