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Mental Defeat is associated with Suicide Intent in Patients with Chronic Pain

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Abstract

Objective: Mental defeat has been implicated in precipitating suicide with effects not explained by depression. It has also been found to be elevated in people who are most distressed and disabled by chronic pain. This study examined the role of mental defeat in predicting suicide intent among chronic pain patients and compared the predictive value of mental defeat with other established pain and psychological constructs.

Methods: Sixty-two chronic pain patients attended a semi-structured interview to assess pain characteristics and suicidality (present and worst-ever) and completed self-report measures of anxiety, depression, hopelessness, self-efficacy, pain catastrophising and mental defeat.

Results: A total of 22.6% of people reported a history of suicide attempt (1 attempt=12.9%; ≥ 2 attempts=9.7%). The wish to die was reportedly moderate to strong for 63.3% of those who attempted suicide. No significant correlations were found for hopelessness and self-efficacy with suicide intent in this sample.

Hierarchical regression analyses suggested that pain intensity was a significant predictor of worst-ever suicidal intent ($R^2=0.11$), and mental defeat significantly improved the prediction even when the effect of pain intensity was accounted for ($R^2\Delta=0.12$). Anxiety, depression and pain catastrophising were significant correlates of suicide intent, but they did not add to the prediction of worst-ever suicide intent after the effect of pain intensity was controlled for.

Discussion: Mental defeat may be a key indicator for heightened suicide risk. Therapeutic interventions targeting mental defeat offer a novel avenue for reducing suicide risk in chronic pain patients.

Keywords: Chronic pain, mental defeat, suicide, suicidality, predictor

Introduction

“I have many times thought of taking too much tablets and sort of doing yourself some harm, self harm in that way with respect of an overdose... You think enough is enough. I can't take this anymore” [1]

Chronic pain can be lethal; its unwelcome presence and debilitating impact can considerably increase the risk of suicidality among people living with chronic pain [2-4]. Several large-scale epidemiological surveys have now established that the presence of any pain condition doubles the risk of suicidal ideation (passive thoughts or active intent of committing suicide) and trebles that of suicide attempt in the general population [5-7]. Such association is robust even after adjusting for the effect of socio-demographics and the presence of any mood, anxiety and substance dependence disorders and other comorbidities [5-7].

Although many people can self-manage their pain conditions, a substantial proportion requires specialist help. It has been reported that as many as 25% of these individuals, who attend multidisciplinary pain centres for treatment, report at least one suicide attempt or self-harming incident in the past [8-12]. Drug overdose is the commonest means for suicide attempt and self-harm among chronic pain patients [11]. The distinction between a suicide attempt and a self-harming incident rests in the strength of one's intention/wish to end their life. It is not easy to distinguish whether a death by drug overdose was intentional or unintentional [2]. Clearly, not all self-harming incidents or suicide attempts end in fatality; the estimated rate of completed suicide in chronic pain is 23.3 per 100,000, which is again double compared to that recorded in the general population [3].

Despite the gravity of the problem, little progress has been made in terms of understanding the generic and pain-specific risk factors associated with the increased suicidality in chronic pain. The female gender [13], a family history of suicide [12], a personal history of suicide attempt [14], and the presence of depression and/or other psychiatric conditions [8, 10, 13-15] have been identified as generic risk factors of suicidality in chronic pain. Some evidence also suggests that patients of certain pain conditions [e.g., migraine, abdominal pain and fibromyalgia; 5, 6, 8, 10, 12, 16] have

higher rates of suicidality. Moreover, the risk of suicidality also appears to augment as the pain increases in chronicity [9, 15], spread [17] and intensity [12, 14, 18]. Though informative, most of these risk factors are not amenable to change (e.g., gender, history of suicide and psychiatric conditions). They offer limited value to the effort of prevention and intervention, compared to physiological [e.g., sleep-onset insomnia; 12] and psychological [e.g., depressed mood and pain-catastrophising; 18] markers of suicidality that could be turned into treatment targets.

It has been suggested that people most distressed and disabled by chronic pain are characterised by a sense of mental defeat, a state of mind marked by a loss of autonomy, agency and human integrity [19]. Mental defeat encapsulates the deeper impact of chronic pain on a person's sense of self and identity. Thoughts and images of mental defeat reported by chronic pain patients are not dissimilar to those reported by victims of torture or assault who subsequently develop chronic depression and posttraumatic stress disorder (PTSD) [1]. In fact, in the depression and PTSD literature, mental defeat has been highlighted as a key cognitive predictor of symptom severity and treatment response [20-23]. Using the Pain Self Perception Scale (PSPS) to measure mental defeat, it has been found that the level of mental defeat was much elevated in patients with chronic pain compared with patients with acute pain, community volunteers with chronic or acute pain, and pain-free controls [19]. A strong sense of mental defeat has also been linked to worse functioning [24] and breakdowns of self-management, with treatment-seeking chronic pain patients scoring significantly higher on the PSPS compared with non-treatment seeking counterparts of matching pain intensity [19]. Mental defeat has also been implicated in precipitating suicide with effects not immediately explained by comorbid depression [25-28]. However, no study as yet has tested the role of mental defeat in predicting suicidality among chronic pain patients. The current study aimed to fill this gap and to compare the relevance of mental defeat with other established pain and psychological constructs in predicting suicidality in chronic pain. It was hypothesised that mental defeat is associated with suicidality risk in chronic pain patients as it heightens the sense of loss and suffering. The desire to escape from both physical and psychological pain could precipitate suicidal behaviour [28-30].

Materials and Method

Participants

Participants were recruited from the Pain Self Management Service in Gloucestershire and were seen in person by a member of the research team (PB). All patients attending their first appointment at the service were approached by clinical staff and invited to participate. Participants who gave consent were then screened for eligibility. Inclusion criteria for recruitment were that participants should be aged between 18 and 70 years, had experienced chronic non-malignant pain for six months or longer, and had a good command of English. Participants were excluded if it was identified they had a terminal illness, pain of a malignant origin (e.g., cancer, HIV/AIDS), severe psychopathology (e.g., psychosis), neurological disorder (e.g., dementia), or learning disability that prevented them from giving full consent or completing the interview. Additionally, to minimise the impact of treatment on the findings, participants were excluded from the interview had they started their pain self-management intervention.

Of the 239 patients approached, 156 people returned a form expressing their interest. However, 44 of these potential participants did not proceed to the interview because they were not within the age limit ($n=11$), had already started treatment before a research interview could be arranged ($n=14$), had decided not to take part ($n=10$), or could not be contacted ($n=9$). Of the remaining 112 eligible patients, we were able to arrange a research interview with 62 patients within the time frame of the project. After each interview, the participant was invited to complete and return a questionnaire in a stamped addressed envelope within two weeks. Participants who returned questionnaires were given a £5 gift voucher as a small token of appreciation. A total of 57 interviewees returned a completed questionnaire (92% of those who attended the interview).

Design

The current study examined the predictors of suicide intent using interview and questionnaire data collected cross-sectionally. The study was part of a project that investigated negative life experiences in chronic pain and was granted ethical approval by the Gloucestershire NHS Research Ethics Committee. Permission to proceed was also granted by Gloucestershire Hospitals NHS Foundation Trust.

Measures

Research Interview

The purpose of the interview was to allow for assessment of pain and suicidality in a sensitive but thorough manner, overcoming the limitations of previous questionnaire-only studies where suicidality was typically measured with a single item embedded in an existing scale. The researcher was provided training and regular supervision by two senior clinical psychologists / researchers (PA & NT) on how to administer the interview and how to create a safe and confidential environment for the patients to discuss their history of pain and suicide. The interview was semi-structured. A demographic and pain questionnaire was first administered to gather relevant demographic information on gender, age, ethnicity, relationship status, education level, employment status, height and weight to calculate the body mass index (BMI). Then, the researcher asked about the location, cause, duration, management and impact of participants' pain condition. Presence of pain was assessed by administering the Short-Form McGill Pain Questionnaire [SF-MPQ; 31] immediately after. The visual analogue scale (VAS) in the SF-MPQ was used as a measure of present pain intensity. Finally, the Beck Scale for Suicidal Ideation [BSS; 32] was administered to assess the history of suicide attempt (1 item on frequency: "never", "once", "two or more times"; 1 item on strength of wish to die: "low", "moderate", "high") and the strength of suicide thoughts (19 items). Specifically, the participants were asked to complete two versions of the BSS to assess their suicide plans, suicide deterrents and openness to suicidal thoughts with reference to two different time frames. In the "present" version, the participants were asked to pick one statement in each group that "best describes how [they have] been feeling for the past week, including today". In the "worst-ever" version, the items were worded in the past tense and the participants were asked to refer to "how [they] felt at a previous time in [their lives], when [they] were the most down about life".

When transitioning from the demographic and pain questionnaire to the BSS, the researcher gave the following rationale for asking these sensitive questions and for situating the administration of the BSS within the context of chronic pain (rather than any negative life experiences).

"Sometimes people with chronic pain can feel very low and sometimes people feel so low that they actually think they can't go on. Have you ever felt like you wanted to end it all in the past?"

Suicidality is a heavy topic to discuss. As a standard procedure, those who were upset during the interview and all those who scored “1” or “2” on any items of the BSS were offered the opportunity to discuss their concerns with the Lead Clinical Psychologist (PA) of the Pain Self Management Team. The patients were then referred on for further help and support where appropriate.

Questionnaire

A number of questionnaires were used to measure generic and pain-specific psychological variables that were hypothesised risk factors for suicidality in chronic pain. The generic psychological variables included anxiety, depression and hopelessness as measured with the Hospital Anxiety and Depression Scale [HADS; 33] and Beck Hopelessness Scale [BHS; 34]. The pain-specific psychological variables included self-efficacy, pain catastrophising and mental defeat as measured with the Pain Self-Efficacy Questionnaire [PSEQ; 35], Catastrophising in Pain Scale [CIPS; 36, 37], and Pain Self Perception Scale [PSPS; 19]. These psychological questionnaires are briefly described below:

Hospital Anxiety and Depression Scale

The HADS is a 14-item self-report questionnaire that assesses the levels of anxiety and depression (7 items each) in nonpsychiatric patients. Each item of the HADS is rated on a 4-point scale (0 to 3), giving an anxiety and a depression score that ranges from 0 to 21. It has good internal consistency (mean Cronbach α for the anxiety subscale = 0.83 and mean Cronbach α for the depression subscale = 0.82). Scores of >8 identify probable cases of anxiety/depression (as defined by ICD-9) with around 80% sensitivity and specificity.

Beck Hopelessness Scale

The BHS is designed to measure hopelessness. The response for each of the 20 true-false statements is assigned a score of 0 or 1, and the sum of all individual scores will give a total hopelessness score that ranges from 0 to 20. An example statement keyed true is “I can’t imagine what my life would be like in 10 years”. An example statement keyed false is “I look forward to the future with hope and enthusiasm”. The BHS demonstrated high internal consistency (Cronbach α = 0.93) and significant

item-total correlations ($r = 0.39-0.76$) when validated in a sample of 294 hospitalised suicide attempters [38].

Pain Self-Efficacy Questionnaire

The PSEQ assesses self-efficacy beliefs in relation to completing a range of activities in the presence of pain, including work, housework and leisure activities. The PSEQ comprises 10 items asking the respondents to rate their confidence in completing a variety of activities despite their pain, on a 7-point scale where 0 represents “Not at all confident” and 6 represents “Completely confident”. Example items include: “I can socialise with my friends or family members as often as I used to despite the pain”, and “I can still live a normal lifestyle, despite the pain”. A total score is calculated by summing the scores for each item. Total scores can range from 0-60 with higher scores indicating greater self-efficacy beliefs. The PSEQ demonstrates excellent internal consistency (Cronbach $\alpha = 0.92$) and adequate test-retest reliability over a three-month period ($r = 0.72$) [35].

Catastrophising in Pain Scale

The CIPS was used to provide a specific measure of catastrophising as an automatic appraisal of health-relevant information [36, 37]. It comprises 20 items that respondents may experience during a bad episode of pain, for example, “The pain will kill me” and “This pain is caused by cancer”. Respondents are required to indicate how frequently they experience each thought during pain, where 0 represents “Thought never occurs” and 4 represents “Thoughts always occurs”. A total pain catastrophising score can be calculated by summing all 21 items (range: 0-80). The CIPS has demonstrated excellent internal consistency and test-retest reliability and good concurrent validity with other measures of psychopathology [36, 37].

Pain Self Perception Scale

The PSPS assesses the sense of mental defeat associated with the experience of pain. It comprises 24 items that describe negative thoughts and feelings people may have about themselves due to pain. All items start with the referent “Because of the pain ,” followed by statements such as “...I felt destroyed as a person,” “...I felt that there was no fight left in me,” “...I felt humiliated and that I was losing my sense of

inner dignity.” Respondents are asked to recall a recent episode of intense pain before rating the extent to which each of these items applied to their experience on a 5-point scale (0 to 4), where 0 means “not at all/never” and 4 means “very strongly.”

Summing all ratings provides a total score that ranges from 0 to 96, with higher scores indicating higher levels of mental defeat. The PSPS had a one-factor solution and demonstrated excellent internal consistency (Cronbach $\alpha = 0.98$) and test-retest reliability ($r = 0.92$) when used with patients with chronic pain [19].

Data Analysis

Descriptive statistics were used to describe the demographic, pain and psychological characteristics of the participants and to report the lifetime frequency of suicide attempt in this sample.

Two sets of Pearson’s correlation analyses were conducted to provide a preliminary examination of the relationship of suicide intent with the pain (duration, intensity) and psychological variables (anxiety, depression, hopelessness, self-efficacy, catastrophising and mental defeat); one for present suicide intent and one for worst-ever suicide intent. Only those that demonstrated significant correlations were included in subsequent regression models as predictors of suicide intent.

Findings from previous studies have highlighted the association of suicidality in chronic pain with pain duration [9, 15] and intensity [14, 18, 39], depression [14, 40], and pain catastrophising [18]. Accordingly, two parallel hierarchical multiple regression models were built to test the role of mental defeat in predicting suicidality (i) controlling for the effect of pain characteristics, and (ii) in comparison with the role of other established psychological predictors. In the first model, relevant pain characteristic variable(s) constituted the first block of predictors, mental defeat was then entered second, followed by the established psychological predictors as the third block of predictors. In the second model, relevant pain characteristic variables(s) again constituted the first block of predictors, followed by established psychological predictors and then mental defeat. This way, we could make direct comparisons between mental defeat and other recognised psychological predictors regarding their ability to predict suicide intent in this sample of chronic pain patients.

All data were checked for missing data and continuous variables were checked for normality of distribution before subjecting to correlation and regression analysis. Cases with missing data on any of the predicting and predicted variables were

removed listwise. All data analyses were performed using IBM SPSS Statistics, version 22.

Results

Participant Characteristics

Demographics and Pain

Table 1 summarises the demographic and pain information reported by the 62 patients who completed the interview. The sample was ethnically homogenous as all participants were Caucasian. The mean age of the sample was 52.3 years, with a mean body mass index of 28.2. The majority of the participants were female (67.7%); did not receive degree-level education (77.4%); were married or living as married (66.1%); were unemployed, on sick leave, or medically retired at the time of the study (66.1%). As a group, the participants reported an average pain duration of 12.3 years (median = 8 years). The most common location of pain was lower back (72.6%) followed by legs (40.3%) and neck (35.5%). The mean scores on the sensory (14.2) and affective (4.7) subscales of the SF-MPQ as well as the pain intensity rating (4.8) measured with the SF-MPQ VAS were comparable to the level reported by patients with musculoskeletal pain in the questionnaire's validation study [sensory = 11.1, affective = 4.6, VAS = 4.1; 31]. The majority of participants reported constant rather than intermittent pain, and that they used pain medications. Of note, 40% of the participants reported using opioids analgesics at the time of the study, 48% have had an injection and 18% have had a surgery for pain relief. Psychologically, the group had a mean score of 9.1 and 8.3 on the HADS anxiety and depression subscales. Using the suggested HADS cut-off of 8 [33], 61% and 48% of the sample could be considered as probable cases of anxiety and depression. Mean scores and standard deviations of BHS (hopelessness), PSEQ (pain self efficacy), CIPS (pain catastrophising) and PSPS (mental defeat) of the current sample were comparable to values previously published for chronic pain patients [19, 35, 36, 41].

Lifetime Frequency of Suicide Attempt

Nearly a quarter (22.6%) of the patients in this sample reported a history of suicide attempt; 12.9% attempted suicide once and 9.7% attempted suicide two or

more times. Among those who had attempted suicide, 28.6% reported their wish to die was low, 28.6% moderate, and 35.7% strong.

Correlations of Present and Worst-Ever Suicide Intent with Pain and Psychological Variables.

As presented in Table 2, no significant correlations were detected for present suicide intent with any of the pain and psychological variables, but there were moderate, positive correlations between worst-ever suicide intent and pain intensity ($r = 0.35, p < 0.05$), anxiety ($r = 0.33, p < 0.05$), depression ($r = 0.32, p < 0.05$), pain catastrophising ($r = 0.30, p < 0.05$), and mental defeat ($r = 0.45, p < 0.01$). No significant correlations were found for pain duration, pain-self-efficacy and hopelessness. These variables were therefore not selected as predictors for the subsequent regression analyses, and regression models were only built for predicting worst-ever suicide intent. Inter-correlations between present and past suicide intent was positive and significant ($r = 0.33, p < 0.01$), indicating that those who reported higher levels of suicide intent in the worst-ever version of the BSS also reported higher levels of suicide intent in the present version.

Hierarchical Multiple Regression Predicting Worst-Ever Suicide Intent

Based on the findings of the correlation analyses reported above, pain intensity was entered in the first model as a predictor of worst-ever suicide intent first and then followed by mental defeat, and then anxiety, depression and pain catastrophising as the second and third blocks of predictors. In the second model, pain intensity again was included in the model first, followed by anxiety, depression and pain catastrophising as the second block of predictors, and then finally mental defeat. Table 3 presented a summary of these hierarchical models.

In Model 1, pain intensity alone was a significant predictor of worst-ever suicide intent [Step 1: $R^2 \Delta = 0.11, F\Delta (1, 48) = 6.11, p < 0.05$]. The inclusion of mental defeat as an additional predictor significantly improved the model [Step 2: $R^2 \Delta = 0.12, F\Delta (1, 47) = 7.19, p < 0.05$], increasing the total amount of variance explained from 11% to 23%. Adding anxiety, depression and pain catastrophising in the model did not improve the prediction [Step 3: $R^2 \Delta = 0.01, F\Delta (3, 44) = 0.18, p = 0.91$]. Individual t-tests verified that anxiety, depression and pain catastrophising were

non-significant predictors of worst-ever suicide intent in this sample. Whilst the additional predictors boosted the amount of variance explained by 1% (to 24%), they appeared to have diluted the prediction of pain intensity and mental defeat as indicated by the reduced Tolerance values.

In Model 2, the result of Step 1 of the model was exactly the same. The inclusion of anxiety, depression and pain catastrophising in Step 2 of the model, again, did not appear to improve the prediction [Step 2: $R^2 \Delta = 0.08$, $F(3, 45) = 1.39$, $p = 0.26$]. Neither did the subsequent inclusion of mental defeat improve the overall prediction [Step 3: $R^2 \Delta = 0.05$, $F(1, 44) = 3.00$, $p = 0.09$]. Direct comparisons between Step 2 of Models 1 and 2 suggested that mental defeat was a better predictor of worst-ever suicidality in this sample than anxiety, depression, and pain catastrophising, both individually and as a combined set of predictors.

Discussion

The premise of the current study was a heightened risk of suicidality among patients with chronic pain [2, 4, 14]. Consistent with this, we found an elevated rate of suicide attempt in the current sample. This finding was comparable with the figure reported in a previous study reviewing psychology evaluation reports of patients seeking treatment from a multidisciplinary pain centre [25% in 11], but surpassed the rates reported in two research studies evaluating suicide attempt among research participants using structured clinical interviews [5% in 12, 6% in 42]. We noted a higher score in suicidal intent when participants were asked to rate their worst-ever intent ($M=6.95$, $SD = 9.43$; 95% CI = 4.56, 9.35) than their present intent ($M=1.08$, $SD = 3.41$, 95% CI = 0.21, 1.95). This was not entirely surprising because (a) patients who were at the time contemplating suicide probably had declined to take part in the study and (b) the BSS required the respondents to think of their worst moment, which should by definition elicit stronger reactions. In fact, the relative absence of current suicide intent helped explain the curious finding that mental defeat was significantly predictive of worst-ever but not present suicide intent. We examined the role of mental defeat in predicting suicidality in chronic pain patients. Consistent with our predictions, the findings demonstrated that pain intensity predicted worst-ever suicide intent with greater pain intensity associated with increased suicide intent. Of particular relevance, mental defeat was a significant predictor of worst-ever suicide

intent independent of the effect of pain intensity. Mental defeat was also a better predictor of worst-ever suicidal intent in this sample of chronic pain patients compared with established psychological variables including anxiety, depression and pain catastrophising, pain self-efficacy and hopelessness.

In the Cry of Pain (CoP) model of suicide, Williams [28] argues that suicide is a consequence of both defeat and entrapment. Drawing on animal research and depression literature, feelings of defeat are proposed to result from: (a) a failure to gain or a loss of resources - be it social or financial; (b) attacks from others and (c) internal sources of attack such as self-criticism. Naturally, this experience of defeat is aversive and the resultant urge when defeat is perceived is to escape or try to resolve. The blocking of these defences or escape avenues is termed entrapment and is proposed to be closely associated with on-going stressful events and linked to the perception of those events as uncontrollable or inescapable. Crucially, this applies to external and internal stressors [25].

The perception of defeat may be triggered by the experience of chronic pain. This is supported by previous work that examined the phenomenological experience of living with chronic pain. For example, Osborn and Smith [43] concluded that chronic pain had powerful consequences because it was regarded as “an assault” on a person’s sense of self. Tang et al. [19] also identified that people could feel dominated by pain, which was characterised as an “enemy” causing a loss of personal identity. These findings suggest that chronic pain might be a sufficiently distressing event to engender defeat in its sufferers. A strong sense of mental defeat negatively affects a person’s ability to engage in effective coping with distress and physical pain. From the perspective of the CoP model, perceptions of defeat can be prompted by a loss of resources and in the wider literature on chronic diseases, there is evidence that when people appraised their condition as causing harm or loss, they were more likely to engage in avoidance coping, thus making it harder for people to ask for help and use social support effectively [44]. We are not aware of any study investigating entrapment in chronic pain, but it is easy to understand how people could feel trapped in a stuck situation when the pain is constant and not relieved by treatments received despite repeated efforts to eliminate pain.

Whilst the CoP model provides some insight into the possible theoretical reason for the link between mental defeat and suicide intent in our sample, it does not fully explain why mental defeat should be a better predictor than hopelessness. This is

an interesting finding, not least because it is contrary to studies that cited hopelessness as a key risk factor for suicidality in chronic pain [45]. According to Gilbert and Allan [23], mental defeat is distinct from hopelessness because it encompasses a desire to escape that is not associated with hopelessness. Given the central role of escape in theoretical conceptualisations of suicide, it is plausible that mental defeat might have superior predictive value over hopelessness. From the perspective of the interpersonal-psychological theory, the desire or thought to die is quite separate from the capability to do something towards death, and therefore hopelessness may be necessary but not sufficient for suicidality [46]. In addition, Tang et al. [19] distinguished mental defeat as related fundamentally to a person's sense of self whereas hopelessness pertains to a person's negative projection of the future. Therefore, if suicide is assumed to be an escape from the self [29] then perception of mental defeat should provide a greater motivation to die than hopelessness.

Positive correlations were found for anxiety, depression, and pain catastrophising with worst-ever suicide intent. Contrary to findings of previous studies [e.g., 42], none of these psychological correlates was significant predictor of worst-ever suicide intent in this sample once pain intensity was accounted for. Three methodological details may in part explain this unexpected finding; (a) as per the standard instruction in the HADS, the participants were asked to complete the HADS based on the anxiety and depression symptoms they had experienced "in the past week". The lack of predictive power makes sense when the worst-ever suicide intent took temporal precedence over the reported symptoms of anxiety and depression; (b) intercorrelations between anxiety, depression and pain catastrophising were moderate to strong (see Table 2). Given that these predictors were entered into the predictive model as a bundle, multicollinearity might have affected the estimation of individual predictors' significance. However, examination of the Tolerance and VIF values of the regression analyses did not suggest issues of multicollinearity. Additional post-hoc regression analyses indicated that when these psychological predictors were considered separately, each in combination with pain intensity, anxiety significantly added to the prediction of worst-ever suicide intent but depression and pain catastrophising did not; (c) different instruments were employed to measure anxiety, depression and pain catastrophising. In a recent study in which all of these three variables were found to be significant predictors of suicidal ideation [18], trait anxiety was measured with the State-Trait Anxiety Inventory [47], depression with the Beck

Depression Inventory [48], and pain catastrophising with a subscale of the Coping Strategy Questionnaire [49]. These instruments have different interpretations of the constructs measured and hence achieved differential results in predicting suicide intent.

Limitations and Future Directions

This study had some methodological limitations. The cross-sectional design is not without value for detecting relationships between mental defeat and suicidality, however, it precludes firm conclusions about the direction of relationships or causality. More robust longitudinal methodologies might be employed in future to examine the development of mental defeat over time, how this is influenced by chronic pain and other factors such as perceptions of failure, loss and self-criticism. It is plausible that mental defeat might impact on a person's coping resources and isolate them from other people, thus creating a greater chance of distress and future study might aim to identify the mechanisms with which it can predict suicidal ideation. An interesting avenue of exploration would be to assess the impact of mental defeat on coping, pain tolerance and fear of death to test the tenets of the theoretical accounts of suicide. Further empirical study into the basis of the distinction between mental defeat and hopelessness would provide valuable insight and a potentially significant change to clinicians' perceptions of suicide risk factors. Whilst psychological therapy for chronic pain is well established, it is not clear how these approaches could be used to identify and resolve mental defeat. Tang et al. [24] argued that both acceptance and cognitive-behavioural approaches might lend themselves to helping people rebuild a sense of identity despite pain and further investigation in this area would provide useful clinical information.

The sample size of the current study was relatively small and the sample was self-selected. Although the mean BHS, PSEQ, CIPS and PSPTS scores were comparable to the values published in previous studies using chronic pain patient samples [19, 33, 35, 36, 41], it is possible that those who chose to take part were less distressed, more motivated or less avoidant than those who declined. In addition, there was little demographic diversity in the sample.

There exist numerous debates in the literature about the best ways to assess suicidality and there is currently no gold standard. There are well-documented discrepancies between clinician-rated and self-rated suicidal ideation with clinicians

more likely to rate suicidal ideation higher than patients themselves [50]. Consequently, researchers call for a cautious approach combining clinician assessment and standardised self-report measures [51]. Amongst chronic pain studies, the tendency has been to use only one item from a standardised measure such as the Beck Depression Inventory [34] or combine items from a variety of general distress tools [16, 52]. In addition, we were also aware that evidence suggests people are more likely to disclose honestly using self-report tools [53]. The BSS, as used in the current study, has been well validated for this purpose and it was hoped that the presence of the researcher when completing this measure may have enabled the person to feel better supported to disclose difficult thoughts, although this approach is not immune to recall errors and biases. Whilst we made an effort to situate the BSS interview within the context of chronic pain, in future it would be beneficial to explicitly clarify if suicide attempts and intent were since the onset of chronic pain as a way of making the findings more pain-specific.

Clinical Implications

The study findings highlighted the potential importance of detecting and reducing mental defeat as a way of reducing suicidal ideation in people with chronic pain. This has implications for the types of psychological services and treatments that are offered to people with chronic pain in both primary and secondary care. Stenager and Jensen [54] found that people suffering from pain and depression were more likely than other patients to have been in contact with their GP prior to making a suicide attempt. Therefore, GPs are already well placed to provide early detection of key suicide risk factors and should be more aware of the possible role of mental defeat as another indication of increased suicide risk.

This study also suggests that reductions in suicidal ideation should be an important outcome of structured pain self-management interventions offered to people as routine practice. In one recent study, Kowal et al. [52] identified that providing a routine multidisciplinary pain management programme was successful in reducing suicidal ideation. Therefore, it appears more important for referrers to view such programmes as valuable not only for providing ways to manage pain, but also as an effective tool for reduction of suicidal ideation. One change that might be of benefit would be to include additional individual therapy sessions in parallel to group

programmes for vulnerable individuals because dealing with mental defeat might be more successful in the context of a safe, strong and personal therapeutic alliance [24].

More recently, Tarrier et al. [55] conducted a clinical trial of a manualised cognitive-behavioural intervention specifically based upon a modified version of the CoP model of suicide for people with psychosis. The programme included sessions designed to target specific cognitions relating to defeat, entrapment, emotional dysregulation and interpersonal problem solving. After 24 individual sessions, participants showed significant improvements in suicidal ideation compared to treatment as usual. Although developed for use in psychosis, the researchers suggest it has the potential to be applied to other health populations. Certainly, this is a promising area and would merit investigations in the chronic pain population given the results of the current study.

Conclusion

This is the first study to investigate the predictive value of mental defeat on suicidal ideation in people with chronic pain. The findings provide support for the idea that pain-related feelings of defeat might increase a person's sense of loss and motivate sufferers to escape. Results highlighted the importance for clinicians of viewing mental defeat as a key indicator for heightened suicide risk in the same way as other demographic and psychological variables. Rather than becoming a source of concern for clinicians working with chronic pain patients, it is hoped that clinicians will view mental defeat as a potentially modifiable construct with appropriate interventions.

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TABLE 1. Participants' Characteristics

	M (SD)
Demographics	
Age (yr)	52.3 (11.1)
Body Mass Index	28.2 (6.3)
Gender (% female)	67.7
Ethnicity (% Caucasian)	100
Education (% did not receive degree-level education)	77.4
Relationship status (% married or living as married)	66.1
Employment status (% unemployed, on sick leave or medically retired)	66.1
Pain	
§ Duration (yr)	12.3 (11.4)
SF-MPQ sensory subscale	14.2 (7.0)
SF-MPQ affective subscale	4.7 (2.9)
SF-MPQ VAS (0-10)	4.8 (2.4)
Constant or intermittent pain? (% constant pain)	88.7
Had surgery for pain? (% yes)	17.7
Had injection for pain? (% yes)	48.4
Currently on pain medications? (% yes)	95.2
Currently on opioid analgesics? (% yes)	40.3
Location of pain	
Head (%)	9.7
Face (%)	4.8
Neck (%)	35.5
Shoulders (%)	24.2
Upperback (%)	17.7
Lowerback (%)	72.6
Arms (%)	19.4
Legs (%)	40.3
Knees (%)	16.1
Abdomen (%)	8.1
Joints (%)	9.7
All over the body (%)	14.5
# Others (%)	46.8
Lifetime frequency of suicide attempt	
Never (%)	77.4
One (%)	12.9
Two or more (%)	9.7
Wish to die during the last suicide attempt¶	
My wish to die was low (%)	28.6
My wish to die was moderate (%)	28.6
My wish to die was high (%)	35.7
Beck Scale of Suicidal Ideation	
Worst-ever (0-38)	7.0 (9.4)
Present (0-38)	1.1 (3.4)

Psychological characteristics	
Anxiety (HADS-A; 0-21)	9.1 (4.3)
Depression (HADS-D; 0-21)	8.3 (4.3)
Hopelessness (BHS; 0-20)	9.5 (2.4)
Pain self-efficacy (PSEQ; 0-60)	30.3 (13.9)
Pain catastrophising (CIPS; 0-80)	23.5 (13.8)
Mental defeat (PSPS; 0-96)	33.4 (24.9)

Notes. § Median duration = 8yr. # Values of means and standard deviations were presented unless otherwise stated. Examples of other locations of pain included hip, groin, buttock, hand, wrist, ankle and foot. ¶ Only applicable to those who had attempted suicide; one attempter did not respond to this question. HADS = Hospital Anxiety and Depression Scale (anxiety and depression subscale). BHS = Beck Hopelessness Scale. PSEQ = Pain Self-Efficacy Scale. CIPS = Catastrophising in Pain Scale. PSPS = Pain Self Perception Scale.