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CASE SERIES

The clinical psychologist and the management of inpatient pain: a small case series

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Abstract: Recent research has confirmed that between 25% and 33% of all hospitalized patients experience unacceptable levels of pain. Studies further indicate that this reduces patient satisfaction levels, lengthens hospital stays, and increases cost. Hospitals are aiming to discharge patients earlier, and this can interfere with adequate pain management. Therefore, the pain service at Chelsea and Westminster Hospital has adapted to this changing model of care. An increasing body of evidence demonstrates that psychological factors are key components of patients' pain experiences in both acute and chronic pain. Therefore, it is reasonable to suggest a clinical psychologist should be involved in inpatient pain management. This small study discusses three cases that highlight how patient care could be improved by including a clinical psychologist as part of the inpatient pain team. Two cases particularly highlight the active role of the psychologist in the diagnosis and management of common conditions such as fear and anxiety, along with other psychiatric comorbidities. The management therefore employed an eclectic approach adapted from chronic pain and comprising of behavioral, cognitive behavioral, and dialectical behavioral therapeutic techniques blended with brief counseling. The third case exemplifies the importance of nurse-patient interactions and the quality of nurse-patient relationships on patient outcomes. Here, the psychologist helped to optimize communication and to resolve a difficult and potentially risk-laden situation. This small case series discusses the benefits derived from the involvement of a clinical psychologist in the management of inpatient pain, and therefore illustrates the need for novel initiatives for inpatient pain services. However, future research is warranted to validate this approach.

Keywords: acute pain, aggression, anxiety, borderline personality disorder, psychology

Introduction

Pain is frequently associated with psychological conditions and comorbidities. A recent analysis of an American database including more than 100,000 patients with chronic low back pain for instance revealed a prevalence of depression in 13%, anxiety in 8%, and sleep disorders in 10% of patients, respectively.[1] Further, a recent European study in neuropathic pain described a prevalence of 42% for anxiety and 35% for depression in these patients.[2] Anger (with a prevalence of 37%) is also common in chronic pain patients, as is borderline personality disorder (BPD), which occurs in 30% of cases.[3,4] For acute perioperative pain anxiety, low mood, catastrophizing, and depression have been identified as predictors of pain intensity and analgesic consumption.[5,6] They also constitute risk factors for developing persistent post-surgical pain.[7,8]

In the current economic climate, with its constraints on health care budgets, services are faced with increasing demands and declining resources.[9] Consequently, many patients are being navigated to "fast track" or "enhanced recovery" pathways, which were developed to assist early discharge after routine procedures.[10] However, to be able to facilitate mobilization, rehabilitation, and prompt discharge, all

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patients require efficient pain management.[10] Conversely, epidemiological studies indicate that at any time between 25% and 35% of hospitalized patients report moderate to severe pain,[11,12] and in many cases patients are leaving the hospital with unacceptably high levels of pain after having been discharged early.[13]

Currently, standard regimens for inpatient pain management comprise of multimodal drug treatments and the use of physical therapies.[14] Presently, clinical psychologists are only commonly involved in managing psychological conditions that predominantly arise from burns or intensive care treatment.[15–17] They are, however, not routinely part of pain management strategies for hospitalized patients. This is a surprising observation since recent research indicates that certain psychological conditions are associated with higher risks of developing severe, immediate, and persistent postoperative pain, which is not only unpleasant for patients, but also has major financial implications.[5,18–20] Catastrophizing, anxiety, low mood, and depression have been identified as such risk factors.[6] Similarly, poorly controlled pain can lead to emotional and psychological disturbance that manifests as feelings of frustration, anger, anxiety, low mood, depression, or withdrawal.[21]

Each patient's individual biopsychosocial model of disease and suffering, combined with their pre-existing risk factors, such as those described above, gives rise to distinct behavioral phenotypes.[22] In cases where these phenotypes are allowed to be externally expressed, and are perceived empathically by nursing staff, improved patient well-being is promoted.[23] Conversely, in situations where phenotypes do not correspond with the biopsychosocial models of health care professionals, conflict arises, creating distress and disharmony in both patients and health care professionals.[24] The consequences of such dynamics usually involve unfavorable clinical outcomes for patients and the propagation of negative emotions like anger, frustration, and labeling by health care professionals. Therefore, the employment of a clinical psychologist in a consulting role in the management of pain in inpatients could address these challenging situations for both the patient and health care professionals. The aim of early psychological intervention is to directly reduce the impact of adverse psychological comorbidities in patients, whilst also helping staff to create an environment that predisposes to positive outcomes.

In this article, for the first time, cases are presented that support the above notion in demonstrating the beneficial effect of a clinical psychologist on the pain experience of patients in a major hospital.

Patients and methods

The inpatient pain service at Chelsea and Westminster Hospital, London, UK, is involved with the management of 800 patients of all ages each year. Cases comprise postoperative, medical (sickle cell, inflammatory), and acute-on-chronic (back, persistent post-surgical) pain conditions. Traditionally the service included anesthetists, pharmacists, specialist pain nurses, and consultant pain physicians. Starting in July 2012, a clinical psychologist joined the team for one afternoon session and has since been involved with the management of an average of two patients per session. The patients chosen for psychological interventions are characterized by high pain intensities that are not or only minimally responsive to standard analgesic therapies.

As the involvement of a clinical psychologist is a novel approach for inpatient pain management, outcome data or clinical trials that support or refute this strategy are lacking. With this multiple-case study, we aim to report our initial experience and to provide the first evidence for the hypothesis that the involvement of a clinical psychologist can help to improve patient outcomes in the context of inpatient pain management.[25]

Three patients were randomly chosen who represented the psychological issues frequently encountered during inpatient pain treatment and who illustrate the eclectic therapeutic approach adapted from chronic pain management. Patients were aged 34–44 years (two female, one male) and admitted to Chelsea and Westminster Hospital between October and December 2012. All patients gave their written informed consent prior to preparation of the manuscript.

Results

Case 1

This patient experienced severe pain after excision of a chronic pilonidal abscess and the insertion of a vacuum-assisted closure dressing. Past medical history included type 2 diabetes mellitus, human immunodeficiency virus (HIV), obesity, bilateral hearing impairment, and chronic back pain. The patient described severe sharp pain around the sacrum. Movements and mechanical irritation of the dressing also aggravated the pain. The patient was treated with regular paracetamol and tramadol as well as on demand morphine or oxycodone. Because of opioid-induced nausea and vomiting with morphine, opioids were switched to sublingual buprenorphine tablets and a buprenorphine patch. Gabapentin for back pain was continued from preadmission.

Despite these efforts, the patient was increasingly frustrated and angry about the care. During bouts of anger and distress, the pain became excruciating, thus requiring

escalating doses of opioids. The clinical psychologist was asked to formulate possible maps of the presenting issue, and significant communication impairment was identified as the main cause of the problem.

The patient was deeply distressed by the prospect of going home with a vacuum-assisted closure dressing in place. He stated that he had received insufficient information about how to use the pump, felt helpless, and was afraid of social stigmatization. Consequently, he refused to take responsibility for the vacuum pump on discharge. This attitude was poorly received by the clinical team who expressed annoyance and frustration in return. The subsequent discord led to a significant communication breakdown between the patient and health care professionals.

The psychologist conducted an antecedent-behavior-consequence analysis, examining the communication difficulties and associated cognitions of the individuals involved. This helped both the staff and patient to identify their own negative cognitions and communication styles. Anger and frustration were common themes, and the psychologist promoted simple coping mechanisms based on a cognitive behavioral therapy-style approach of challenging negative cognitions and maladaptive responses, replacing them with a more balanced thinking style and useful behavioral modifications such as rehearsal of assertive but nonaggressive communication types.

The patient was taught to manage his anxiety using behavioral techniques, such as breathing and relaxation exercises. These relatively simple measures resulted in a marked and rapid improvement of pain as well as staff-patient interactions and facilitated timely discharge from hospital.

The success of the psychological interventions was further highlighted when the patient was seen in the outpatient pain management clinic 6 weeks following discharge. Despite still having the dressing in situ, all analgesics except gabapentin had been discontinued and the patient expressed his gratitude and satisfaction with his progress.

Case 2

This inpatient was suffering from chronic right-sided hip and knee pain. The pain started in 2007 after development of avascular necrosis of the head of the right femur requiring arthroplasty. Rehabilitation was slow and complicated by the development of contractures, stiffness, and ongoing knee pain. Subsequent admissions were necessary for tendon release operations and mobilization. Due to ongoing pain at home, an external pain service commenced regular pregabalin and modified release oxycodone.

On initial assessment by the inpatient pain service after a surgical release, the patient reported mild to moderate pain in the right hip as well as severe pain in the right knee. Pain was worse on movement and only moderately responsive to intravenous oxycodone. The patient described the pain as "sharp" and "excruciating", with areas of allodynia and hyperalgesia around the knee joint. The working diagnosis was therefore acute-on-chronic pain with a neuropathic element.

Preadmission medications were continued as well immediate release oxycodone prescribed for breakthrough pain. Clonidine was also added. Sublingual fentanyl was commenced to help alleviate pain during exercise. Despite these efforts, the patient continued to be reluctant to mobilize and engage with physiotherapists and nurses. The patient was tearful, spoke with low voice, made little eye contact, and appeared withdrawn during conversations.

After initial consultation with the clinical psychologist, significant anxiety as well as fear and avoidance of mobilization were formulated in addition to a persistently low mood. An antidepressant was started and clear daily goals formulated, such as mobilizing to the chair or walking to the nurses' station. The psychologist saw the patient a second time to help plan discharge and discuss further management strategies.

After a week, the patient's psychological state had improved considerably and with the pain controlled, the patient felt able to cope at home.

Following on from the inpatient psychological intervention the patient was reviewed in the outpatient pain management clinic. Here further one-to-one counseling was given, which led to cognitive behavioral therapy and inclusion in a mindfulness program. Subsequently, the patient was able to stop all analgesic and antidepressant medications, highlighting how continuity across services (inpatient to outpatient) facilitated motivation to change.

Case 3

The final case describes a patient suffering from an inherited peripheral vascular disease that had previously required extensive grafting to the aorta and femoral arteries. Over the previous 2 years, the patient had required several hospital admissions because of recurrent severe pain in the left foot, which lead to a revision of the aorto-bifemoral bypass. Postoperatively, persistent bouts of severe pain prompted the patient to seek frequent hospital admissions. Following surgery, the pain was confined to the right calf, and was "burning" in quality. On physical examination, there was also demonstrable hyperalgesia to this area. With new vascular compromise

excluded, the diagnosis of neuropathic pain was confirmed. Treatment initially consisted of pregabalin and duloxetine, but was escalated to include lignocaine patches, tapentadol, and transcutaneous electrical nerve stimulation. Each escalation resulted in only temporary relief and the patient was finding the prospect of discharge from hospital increasingly more difficult to manage. It was at this stage that the clinical psychologist became involved. One-to-one counseling uncovered severe anxiety about the prospect of being discharged home, unrealistic expectations regarding the underlying disease, and significant affective disorder. The patient was emotionally labile, with regular mood swings that manifested as displays of anger and distress, in keeping with a BPD personality style. Additionally, it was revealed the patient had a history of previous mental health issues, including self-harm.

Treatment plans and goals were formulated, and communicated to all involved parties to ensure a structured, cohesive approach. One-to-one counseling and relaxation strategies were introduced to combat negative cognitions and to help manage the emotional lability. Through these solution-focused sessions, it was possible to control the patient's anxiety levels so that discharge was possible. Subsequent cognitive behavioral therapy was continued in the outpatient pain management clinic.

Discussion

Inpatient pain services are increasingly involved in the management of complex patients.[26] These evolving demands require substantial service reorganization as well as development of new resources to achieve the best quality of care for patients. Despite growing evidence establishing psychological factors as cornerstones for patients' pain experiences, clinical psychologists are not yet routinely involved in the care of inpatients.[5,27] The outcomes of this small case series provide initial evidence that challenges the current practice and suggests psychological interventions should be available for all inpatients in a similar style to that which is already standard in outpatient pain management.[28]

Aims of involvement of a clinical psychologist in inpatient pain management

The aims of the involvement of a clinical psychologist in the management of pain in hospitalized patients are: to improve quality of care and patient satisfaction scores; to improve motivation for and compliance with treatments; to help facilitate timely discharge and reduce length of hospital stay; and to help streamline patients to appropriate care after discharge, preventing avoidable readmissions.

Psychological interventions for inpatients

In each of the three cases presented here, the patients suffered from acute pain on the background of a long-term pain condition (acute-on-chronic pain). Each patient also displayed psychological comorbidities that impacted considerably on their pain experience and subsequent recovery. Anger was present in case 1, fear of mobilization and low mood in case 2, and anxiety as well as BPD in case 3. Whilst anger, anxiety, and fear were most likely reactive to the patients' inhospital experience, the cases of low mood and especially BPD were probably pre-existing. The psychological interventions employed here may have positively impacted on each individual clinical condition. This notion is supported by the rapid improvement of the patients' pain and the rapid discharge from hospital after treatment initiation. The positive feedback we received on follow-up further suggests this approach to be successful and well perceived by patients.

The involvement of a clinical psychologist in inpatient pain management is a novel approach, and as such there are currently no psychological interventions available specifically designed for this patient cohort. Strategies so far are eclectic and borrow from approaches currently applied in chronic pain clinics. Here especially, cognitive behavioral therapy methods might be promising.[6] However, because of the specific circumstances of acute hospital wards, such as limited patient mobility, restricted privacy, time constraints, and a stressful environment, techniques have to be adapted and refined in the future.

As reviewed recently by Jamison and Edwards,[29] pain-related comorbid psychopathological conditions are often characterized by emotional distress, negative beliefs about the disease progress ("catastrophizing"), and maladaptive thoughts, resulting in pain-promoting behavior. Cognitive behavioral therapy was designed to address these issues in chronic pain patients. It aims to replace maladaptive and unrealistic expectations with more balanced and positive thoughts to develop more realistic mind-sets and to prevent future catastrophizing. Its goal further is to make the patient realize that the trialed treatments are relevant and that an active involvement is needed to help success.[29] In addition, Jamison and Edwards as well as Lin highlight that pain and its associated stress often lead to unfavorable muscle tension in other body regions, resulting in an aggravation of the patient's pain experience. Relaxation techniques can be used in an attempt to alleviate the impact of this pain-promoting muscular response.[29,30] Negative cognitions and distress were observed in all cases presented in this study. Therefore, the clinical psychologist introduced positive thinking styles as

well as breathing and relaxation exercises for the patient of case 1, whilst for case 3 a thought improvement approach together with one-to-one counseling was employed. As a result of the observed persistent low mood in the patient of case 2, an antidepressant was prescribed. This therapeutic strategy was subsequently supported by the introduction of self-reflection and mindfulness techniques to allow the patient to realize that the acutely painful condition was manageable, to stop the anxiety about future developments, and to promote a focus on external (physiotherapy and mobilization) rather than internal (pain, anxiety) events.[29]

Finally, psychological conditions such as depression and personality disorder might require specific pharmacological considerations.[31,32] The involvement of a clinical psychologist in cases 2 and 3 helped to formulate depression and BPD, respectively. This resulted in the initiation of treatment such as antidepressant medication and cognitive behavioral therapy, which was subsequently continued in outpatient pain clinics. The approach further highlights a key advantage of involving a clinical psychologist in the management of pain in hospitals along with the ability to feed patients into appropriate follow-up pathways. In addition, the ability to commence psychological treatments alongside "classical" inpatient therapies and to ensure appropriate follow-up was seen as a major advantage by health care providers and patients alike.

Pain psychology and hospital staff

The diverse nature of staff and patients in UK hospitals creates a complex biopsychosocial environment.[33] Each individual team member can exert considerable effects on patient outcome.[24] However, not all these influences might be beneficial, and occasionally staff behaviors and attitudes can negatively impact on patients' pain experiences. Pre-existing attitudes and behaviors of patients might also have a major influence on outcomes. The inclusion of a clinical psychologist into a multidisciplinary pain management service provides a unique opportunity to address psychosocial issues that could impair recovery and discharge.

The need for active engaging hospital staff was exemplified in case scenario 1 where staff attitudes and communication breakdown had significantly contributed to the patient's pain and distress.

Nurses perceive effective nurse-patient interactions and good nurse-patient relationships as one of the key pillars of their role.[34] However, even for patients who are normally regarded as "unproblematic", nurse-patient interactions are often reduced to a minimum.[35] The reasons for this are manifold and comprehensively discussed elsewhere.[24,34] Conversely, patients in pain are often negatively regarded as challenging, and interactions with them as difficult.[24] Nurses might consequently avoid contact, thus potentially exposing them to suboptimal management.

Whilst caring for patients in pain, staff members are commonly confronted with behaviors and emotions from patients or relatives, which they regard as inappropriate and distressing. Anger and aggression can be pain-associated conditions and yet they have been shown to frequently evoke avoidant behavioral responses, which further confounds these difficulties.[3,4,24,36] Subsequently, staff members may find themselves in a state where anger and frustration predominates and where nurse-patient communication and relationships deteriorate considerably.[24] The clinical psychologist can play a unique and important role in improving this potentially precarious situation.[29]

A key part of a psychologist's involvement with staff will be the teaching of strategies that empower them to cope with stress and emotional challenges, something that is lacking from current medical and nursing education. A recent study found the application of mindfulness training to improve the relationship between patient and health care provider promising.[37] Additionally, the implementation of more sophisticated methods such as functional-behavioral analysis, and especially antecedent-behavior-consequence analysis, might be considered.[38,39] However, more work is needed to show a clear impact of these techniques on inpatient pain management.

Shortcomings and future directions

Clinical psychologists are already involved with outpatient pain services and as such, it seems logical to include them in a multidisciplinary pain service for inpatients too. This advancement is a response to the increasing number of inpatients with complex pain problems and mirrors similar developments in outpatient pain clinics.[40]

Although this study provides initial evidence in support of this approach, it was nevertheless hampered by some shortcomings. For instance, the small number of cases presented might be criticized, as well as the seemingly arbitrary inclusion of patients and the descriptive nature of the outcome measures employed. However, the inclusion of a clinical psychologist constitutes an important modification of current practice and therefore a small multiple-case study design was chosen to "inform professional practice".[25]

Nevertheless, as the involvement of a clinical psychologist in inpatient pain management has not yet been reported

elsewhere, critical data are lacking that would allow judgment as to whether this is an effective model for other hospitals as well. For example, it is currently unclear what type of patients and what type of pain conditions might respond to treatment; also psychological interventions for the inpatient in pain need yet to be formally adapted from existing therapies or even newly developed. Finally, clear and quantifiable outcome parameters need to be defined and strictly evaluated to ensure the clinical efficacy and cost-effectiveness of interventions. For patients, this may include early mobilization, analgesic consumption, length of hospital stay, functional status, return to work, satisfaction with care, quality of life, and depression and anxiety scores, as well as number of pain-related hospital readmissions.[33,41] For nurses and doctors, it may include job satisfaction, stress levels, or sick leave taken.

Conclusion

It is well established that psychological comorbidities have a significant impact on pain and its management.[5] However, for hospitalized patients, there is currently no standard access to psychological services to help them manage their conditions. This means patients may require increasing amounts of pharmacological treatments and lengthy hospital stays, when these may have otherwise been ameliorated by psychological interventions.

Given the current economic climate of increasing demand for services and decreasing budgets, it may seem an insurmountable challenge to invest money in restructuring inpatient pain services to develop truly integrated multidisciplinary pain management services. However, this small case series provides evidence that the routine involvement of a clinical psychologist for the treatment of pain in hospitalized patients might be beneficial to clinical outcomes. The treatment of pain-related psychological comorbidities most likely facilitates reduced analgesic consumption, early mobilization, and timely discharge from hospital.[19,33] Hence, through reduced length of stay and avoidance of unnecessary readmission, psychologists may prove both cost-effective as well as able to improve both quality of life and overall clinical outcomes for inpatients.

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