

A Survey of Burn Professionals Regarding the Mental Health Services Available to Burn
Survivors in the United States and United Kingdom

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Abstract

This investigation surveyed burn health professionals in the UK and US to investigate the psychosocial issues facing burn survivors and the psychological services available to them through their burns service.

Methods

One hundred and sixty six burn care professionals (132 from the United States and 34 from the United Kingdom) from 76 different hospitals (60 in the U.S. and 16 in the U.K.) completed an online survey. Mental health practitioners (MHPs) answered questions regarding their psychotherapy practice with burn survivors.

Results

Respondents reported that psychosocial issues are common among burn survivors. Burn teams in the UK were more likely than those in the US to include psychologists, but social workers were more common in the US. Participants reported that routine screening for psychosocial issues was more common in the UK than the US, and indicated it was easier for burn survivors to access mental health care after discharge in the UK. Burn services in both countries routinely referred burn survivors to support organizations such as the Phoenix Society or Changing Faces. The preferred mental health treatment modality in the UK was psychotherapy without medications. Reported psychotropic medications use was more common in the US. MHPs had two primary orientations - eclectic and cognitive behavioral therapy. Among MHPs there was a modest tendency to favor evidence-based interventions.

Discussion

The provision of mental health services varies between these two countries. Creating international standards for assessing and treating psychosocial complications of burns could facilitate the improvement of burn mental health services.

Keywords: Burns, psychotherapy, mental health, psychopharmacology, cognitive behavioral therapy

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Psychological and social difficulties following a burn injury are common [1]. In fact, some survivors find that emotional and social adjustment to burn scarring is one of the most challenging aspects of their recovery [2, 3]. Frequently experienced psychological and social problems include post-traumatic stress disorder (PTSD), major depression, substance abuse, sleep disturbance, low body image, social anxiety, stigmatization and discrimination [4-9].

Little is known about the variation in psychological services provided to burn survivors across hospitals. Only two studies have investigated the psychological services available to burn survivors during hospitalization or after discharge. Holaday & Yarbrough (1996) and Van Loey, Faber & Taal (2001) administered a 12-item survey to burn professionals in the United States and Europe, respectively [10, 11]. Approximately 80% of professionals in both studies estimated that less than 20% of burn patients “receive formal psychological testing.” Estimates of the percentage of acute burn patients and reconstructive burn cases that received psychological counseling varied widely in both studies, with approximately 40% of the US sample and 30% of the European sample reporting that 40% or more of the burn survivors in their service receive psychosocial interventions.

The goal of the current study is to investigate the nature and scope of psychological services for burn survivors in two countries, the United Kingdom (UK) and the United States (US). We surveyed health professionals, particularly those identifying themselves as mental health specialists, affiliated with burn services across the UK and the US to assess their perceptions of the psychosocial issues facing people affected by burns and the range of psychological services available to burn survivors. Both inpatient and post discharge psychological care were examined. We attempted to collect information which would help us

discern a holistic picture of the field. Specific questions investigated include the following: How often are specific postburn psychosocial issues observed by burn professionals? Which professionals (e.g., social workers, psychologists) are providing mental health care to burn survivors? How do burn centers assess burn survivors for mental health issues? Are there common obstacles for burn survivors to access mental health care? Are burn survivors and their families regularly referred to support and advocacy groups? What type of mental health treatment modalities are offered to burn survivors? At what point in the burn recovery process are specific psychosocial problems (e.g. social anxiety) most likely to manifest? How confident are burn professionals in their burn center's ability to provide treatments for specific psychosocial issues? What are the most common theoretical orientations of burn mental health providers? Are mental health providers using evidence-based interventions to treat specific psychological problems?

We chose to survey burn professional in both the UK and US for both logistic and exploratory reasons. First, English is the primary language for both countries which enabled us to give participants in both countries identical surveys (except for adjustments for regional vernacular) which enabled making direct comparisons. Second, both countries have active burn associations which facilitated the identification of possible participants. Third, both the UK and US have a large network of burn care facilities which gave us a large population of potential participants. In regard to exploratory reasons, the health systems in the UK and US are organized differently. The UK has socialized medicine (i.e. most citizens access the government-funded National Health Service that is free at the point of delivery) and the US has a hybrid government funded/privately funded system. This organizational difference affects the culture of

the two systems. Thus, we wanted to explore whether these system differences affected the psychosocial care of burn survivors.

Methods

Participants

One hundred and sixty six burn care professionals (132 from the US; 34 from the UK) from 76 different hospitals (60 US; 16 UK) who had worked in burns for a mean of 13.4 years (SD= 9.7) participated in this survey. UK participants were asked whether they work in a burn centre (equivalent to intensive care unit in the US), burn unit (equivalent to a step-down unit) or burn facility (treats noncomplex burns). Eighteen respondents worked in burn units, 16 worked in burn centres, and none worked in a burn facility. US participants were not asked this question because burn care facilities are organized somewhat differently in the US. In the US “burn centers” are certified to provide specialized burn care by the American Burn Association. There might be different “wings” of a burn center providing different intensity of care but they are still part of the same “burn center.” In this paper we use the phrase ‘burn center’ to mean any level of burn service. Respondents were nurses (28.3%), surgeons (23.5%), psychologists (15.1%), occupational therapists (4.2%), physical therapists (physiotherapists) (4.8%), social workers (6%), nurse practitioners (4.8%) and ‘other’ (chaplain, child life specialist, psychiatrist, physician assistant, research coordinator, school teacher; 13.3%). Fifty-two percent worked in university hospitals. Participants’ estimates of annual burn admissions to their hospitals ranged from 14 to 1500 (median = 300). Fifty-seven percent of services admitted both adults and children, 22% adults only and 21% children only.

Thirty-nine participants identified themselves as being a mental health practitioner (also referred to as mental health specialists in this paper) (12 UK, 27 US). On average, they reported

seeing 13.7 ($SD = 10.7$) burn survivors per week, 7.1 ($SD = 5.8$) inpatients and 6.6 ($SD = 7.7$) outpatients.

Procedure

All necessary IRB (US) and University (UK) ethics approvals were obtained prior to recruitment and data collection. The survey was administered on www.surveymonkey.com in both the US and UK. There are a number of advantages to collecting the data online as opposed to mailing paper surveys to potential participants. First, it is easy for a link to an online survey to be circulated and promoted widely through known contacts and then snowballing, thereby increasing the potential reach to a broader sample. Second, an online survey requires less time and steps to complete than a paper questionnaire, thus likely increasing the participation rate - participants simply click a link imbedded in an email which brings them to the survey website from where they follow the survey directions. Third, an online survey is more cost effective and eliminates the necessity of manually inputting paper questionnaire data, thus avoiding possible human error. Participant recruitment procedures in our study varied in the US and UK, as described below, based on our previous experience with online survey recruitment in the respective countries.

US: Contacts for US burn centers were obtained utilizing the American Burn Association (ABA) website and emails about the survey were sent to ABA burn professionals. Burn center directors were also contacted by letters and mass automated pre-recorded phone calls asking them to encourage their staff to complete the survey.

UK: The survey used for US data collection was edited slightly to ensure the terminology suited a UK audience but was otherwise unchanged. The British Burn Association (BBA) sent an email about the survey to all BBA members and additional emails were sent to members of the

BBA Psychosocial Special Interest Group, encouraging them to complete the survey.

Respondents in the UK were given the option of being entered into a prize draw to win an online shopping voucher at the end of the survey.

Measure

The survey consisted of 37 questions for all burn professionals and 15 additional questions for those who identified themselves as being mental health specialists (e.g., psychologists, social workers, mental health counselors, psychiatrists). The survey collected quantitative data, with question formats including: imputing a specific response (e.g., ‘How many years have you worked in a burns service?’), making a rating on a Likert scale (e.g., ‘Rate the frequency of the use of a specific psychosocial intervention on a 5-point scale ranging from Never to Very Often’), clicking one or more categorical responses (e.g., ‘Please indicate what type of professional you are’) or making percentages estimates (e.g., ‘What percentage of your burn survivor clients are the following ages?’).

Participants were asked to indicate whether their burn center treated pediatric and/or adult burn patients and what type of hospital their burn center was located in (university, non-university). Respondents in the UK were asked to indicate whether they worked in a burns unit, center or facility which reflects the structure of burns care in the UK. We asked the participants to indicate their profession, number of years of experience, and the number of years they had worked in burns. They were asked to rate the level of participation of various mental health professionals (chaplains, child life professionals, counselors, psychiatrists, psychologists, social workers, teachers) in their burn center, to indicate the specific screening methods for common psychological complications that were used in their center during hospitalization and outpatient clinics, and questions about ease of access to psychotherapy and problems that may make it

difficult for burn survivors to receive therapy. We also asked participants to rate how often they observed common psychosocial complications of burns and their burn center's capacity to provide various psychosocial interventions. In a section of the survey for mental health providers only, respondents were asked to further describe the populations they treat, their theoretical orientation, the different modalities they use to treat specific psychological complications, the extent to which burn survivors partake in therapy, and the obstacles which may deter them from engaging in psychotherapy.

Data Analyses

This study was an exploratory study. Our goal was to develop an understanding of the most common psychosocial assessment and intervention practices across burn centers and possible differences in mental health practices between the UK and US. We screened the data for missing data, outliers and normality. One hundred and thirty-one people opened the survey website but did not complete it; these were not included in the data analyses. In the results section, we describe the aggregate data for each question on the survey. For some questions, we simply report the descriptive statistics. In particular, when we asked participants to make a series of percentile estimates, we report the distribution of these estimates but did not test for group differences for each estimate. For questions with a Likert scale answer format with relatively normal distribution, we compared the responses of UK and US participants using independent sample t-tests. For questions with categorical responses, we compared the responses of the two groups with Chi Squared tests. Because we made many comparisons, we used the conservative significance threshold of $p < .01$ on all statistical tests to minimize study-wide error. Because our sample of mental health providers (MHPs) was small, we did not perform statistical tests

comparing the UK and US mental health providers. We treated the MHPs as one group when reporting on their preferred psychotherapy technique to treat specific burn-related issues.

Results

Perceptions of the frequency of psychosocial complications among burn survivors

Participants rated how often they observed burn survivors experiencing 20 different social problems (e.g., family conflict, homelessness, unemployment) and 22 psychological problems (e.g., body image concerns, sleep disturbance, chronic pain, social anxiety) on a 5-point Likert scale ranging from never (1) to very often (5). Respondents from both the UK and US indicated that psychosocial complications following a burn were common (Table 1). There were no significant differences in the reported frequency of complications in the UK and US, the exception being financial problems due to medical bills; most UK participants skipped this question because UK National Health Service (NHS) patients are not billed for hospital services.

Participation rate of Mental Health Professional (MHP) on burn teams

More respondents from the UK than the US reported having a psychologist within the burns team, $\chi^2(3, N = 158) = 30.9, p < .01$. Ninety-one percent of UK respondents versus 39% from the US reported having a psychologist at least a quarter time appointment in the burn service. Moreover, 27% of participants in the US (as opposed to none in the UK) stated there was no psychologist available for consultation in their hospital. However, social workers were much more common on burn teams in the US than the UK, $\chi^2(3, N = 161) = 61.7, p < .01$. In the US, 72% of participants as opposed to 6% in the UK indicated they had one or more full time social workers affiliated with the burn team. Twenty-eight percent of respondents from the UK indicated there was not a social worker within their burn service. In both the US and UK,

chaplains and psychiatrists tended to consult at the request of the burn team. Twenty percent of participants reported that a counselor was affiliated with their burn center at least a quarter time.

Among burn services that admitted at least 50 pediatric patients each year, more than 50% of respondents from both the UK and US reported that one or more full time child specialists were affiliated with the burn team. Forty-two percent of participants in the US as opposed to 17% in the UK indicated they did not have a teacher available even for consultation.

There were no significant differences in the involvement of mental health professionals at university versus non-university hospitals.

Inpatient and outpatient mental health screening practices

Participants were asked to rate how often burn survivors are screened for psychosocial complications on a three point scale, “no routine screening; informal mental health screening; or structured mental health screening with a questionnaire, checklist or a structured interview.” Burn services in the UK were more likely to carry out mental health screening, both in hospital ($\chi^2(2, N = 160) = 24.3, p < .01$) and in the outpatient clinic ($\chi^2(2, N = 141) = 23.7, p < .01$) (Table 2). It is particularly noteworthy that two-thirds of participants in the US stated that their hospitals do not screen for mental health issues during outpatient clinics.

Ease of access to mental health services during hospitalization and after discharge

Participants were asked to rate “how easy is it for burn survivors from your burn center to access psychological support” during hospitalization and after discharge on a 5-point scale ranging from very easy (1) to very difficult (5). Respondents in both the US and UK indicated it was relatively easy for burns patients to access mental healthcare during hospitalization (UK $M = 1.5$ $SD = .79$; US $M = 2.0$ $SD = 1.2, t(160) = 2.4 p < .02$). This difference between the two groups approached significance but did not meet the $p < .01$ threshold. However, access to

mental healthcare was considered to be more difficult after discharge, particularly in the US.

This difference was statistically significant (UK $M = 2.0$ $SD = .75$, US $M = 2.8$ $SD = 1.0$, $t(142) = 4.1$ $p < .01$). In addition, participants were asked to rate on a 5-point scale ranging from never (1) to very often (5) how likely burn survivors were “to return to the burn center for psychological support.” UK participants indicated that burn survivors were significantly more likely to receive post-discharge mental healthcare through the burn center than did respondents from the US (UK $M = 4.0$ $SD = .90$, US $M = 2.3$ $SD = 1.2$, $t(148) = 6.7$ $p < .01$).

Participants were asked to rate how often specific problems (lack of financial resources or health insurance to pay for psychological services, lack of qualified mental health care professionals in the area, inadequate transportation, lack of child care, too many stressful things going on in the patient’s life, patient chooses not to go to therapy, language barriers) interfere with patients accessing mental health services after discharge on a 5-point scale ranging from never (1) to very often (5). The only significant difference between the UK and US participants related to financial barriers to accessing support; in the UK financial barriers or a lack of health insurance was considered to rarely limit access to psychotherapy among burn survivors, whereas they were often thought to limit access in the US (UK $M = 1.7$ $SD = 1.2$, US $M = 4.0$ $SD = 1.0$, $t(145) = 10.2$, $p < .01$).

Access to burn camp, support groups and advocacy groups

Of those working in burn centers that treat at least 50 adult burn survivors a year, approximately 80% of participants in both the UK and US reported that their burn center hosted a burn survivor group. Amongst those working in services treating at least 50 pediatric burn survivors each year, children’s burn groups were more common in the UK (74%) than in the US (45%; $\chi^2(1, N = 86) = 5.0$, $p < .05$). Most groups met once a month. A third of the groups were coordinated by social

workers; however, many different professionals led groups including nurses, occupational therapist, and child specialists. Twelve percent of respondents indicated that groups were organized by burn survivors.

More US than UK respondents reported their service to have support groups for family members of burn survivors (67% vs 46%) and UK participants were more likely to indicate that family therapy was available for survivor families (70% vs 48% in US). However, these differences were not statistically significant.

In regard to referrals to burn camp or to support organizations, there were no differences between the UK and US groups. Almost all (99%) of participants who worked in services treating children indicated that their hospital refers pediatric burn survivors to burn camp. Eighty-nine percent indicated that their burn survivors were given information about support organizations such as the Phoenix Society, Changing Faces and the Katie Piper Foundation.

Treatment modality: psychotherapy vs medication

Next, participants were asked “Among burn survivors who receive treatment for psychological issues, how common are the following treatment modalities - psychiatric medications only, psychotherapy only, or both” on a 5-point scale ranging from never (1) to very often (5). The use of solely psychiatric medications was more common in the US than the UK (UK $M = 2.2$ $SD = 1.1$, US $M = 3.4$ $SD = 1.1$, $t(131) = 5.3$ $p < .01$). Psychotherapy alone was more common in the UK, where it appeared to be the preferred treatment modality (UK $M = 4.3$ $SD = 1.0$, US $M = 3.1$ $SD = 1.0$, $t(125) = -5.7$ $p < .01$). Two-thirds of UK participants indicated psychotherapy alone was administered “very often.”

Perceived onset of psychosocial complications

Healthcare providers were asked to rate at what point in the healing process specific psychosocial complications were most likely to start to bother the burn survivors (before hospitalization, during hospitalization, 0 to 1 month after discharge, 1 to 6 months after discharge, 6 to 12 months after discharge, or 12 to 24 months after discharge). In regard to these estimates, there were no significant differences across groups. Respondents reported that problems such as family conflict and substance abuse were often present prior to the burn injury. Emotional distress including depression, post-traumatic stress, grief, guilt, and body image concerns were thought most likely to manifest during hospitalization or immediately after discharge, and difficulty with pain management was also most likely to start during hospitalization. Problems around social interaction, including experiencing staring, bullying or rude comments, social anxiety and avoiding social activities were thought most likely to start within the first 6 months following the injury. Thus, burn professionals did not observe delayed onset of emotional problems very often. Burn professionals indicated they most often observe the onset of emotional distress in-hospital and social concerns starting early after discharge.

Confidence in providing interventions

Respondents rated their burn center's capacity to provide interventions or advice to help burn survivors with 27 common burn-related issues such as procedural pain, dealing with others staring, managing the symptoms of PTSD, and preparing to return to work and school on a four point scale ranging from "need more training" (1) to "very good" (4). Burn professionals rated their burn service as either good or very good at helping burn survivors with most issues, giving the highest rating for their ability to help patients manage and use pressure garments ($M = 3.7$ $SD = .57$) and least confident in their service's ability to provide support around body-language skills ($M = 2.6$ $SD = 1.2$), managing sexual and intimate relationships ($M = 2.2$ $SD = 1.1$), and

strategies for eating in public ($M = 2.6$ $SD = 1.1$). There were no significant differences between UK and US burn professionals in their rating of the capacity of their service to provide various psychosocial interventions.

The psychotherapy practice of mental health providers

MHPs varied greatly in their estimation of the percentage of burn survivors from their center that receive psychotherapy (Table 3). In regard to caseload composition, 49% of MHPs only saw adults, 27% saw a majority of adults and some children and 24% worked almost exclusively with children. Forty-nine percent of the mental health professionals reported only seeing clients in the hospital or outpatient clinics, the others also provided services in at least one “in vivo” setting (the clients’ school, workplace, or community). MHPs in the US tended to provide psychotherapy during hospitalization while professionals in the UK were more likely to see survivors in the months following discharge (Table 4).

MHPs were asked to describe their theoretical orientation in psychotherapy. They were given a list of 21 different orientations and asked to indicate the percentage that a particular theoretical model (e.g. acceptance, mindful based, behavioral, cognitive behavioral, emotion focused, hypnotherapy, psychodynamic, etc.) influences their therapeutic practice. Most therapists reported taking an eclectic approach, indicating the use of three or more theoretical orientations ($M = 3.9$ $SD = 2.3$). In rank order, the most commonly endorsed orientations were cognitive behavioral therapy (CBT) (82%), acceptance or mindfulness therapy (69%), and family systems therapy (41%). Forty-eight percent of US mental health providers had an eclectic theoretical orientation endorsing multiple theoretical influences with no primary influence rated more than 40%. Thirty-seven percent of US MHPs had a primary CBT orientation, indicating

that this accounted for more than 40% of their theoretical orientation. In the UK, 66% of the MHP had a primary CBT orientation. The other third had an eclectic approach.

The practice of evidence-based interventions

In order to assess whether mental health professionals were using evidence-based interventions we asked them to rate the top three psychosocial techniques they use to treat common psychosocial complications of burns including procedural pain, chronic pain, PTSD, depression, body image concerns and social anxiety (Table 5). Techniques aiming to modify maladaptive thoughts were the most commonly used to treat depression, PTSD, body image issues and social anxiety. Procedural pain was most commonly treated with distraction techniques, whilst goal setting and pacing were most frequently used to support patients with chronic pain after discharge.

Discussion

Our online survey of health professionals working in burns services across the US and UK explored perceptions of the psychosocial issues faced by burns survivors and the provision of psychological support and interventions for them and their families. As in previous surveys, burn professionals reported that psychological and social complications following a burn were common [10, 11]. There was a difference in the professional composition of burn services in the UK and US. Psychologists were more likely to be part of the burn service in the UK than the US. Full time social workers were much more common in the US.

Previous surveys [10,11] concluded that a majority of burn survivors were not formally psychologically screened and that psychological assessment was less likely in Europe than the US. Those studies also found that in both the US and Europe, most patients did not receive psychological therapy or counseling during their hospital stay and burns services in Europe

provided fewer psychological services than those in US. However, previous surveys were conducted more than a decade prior to the current study. Since then, national guidelines have been instigated for the provision of care for burns patients in the UK. This may explain why our survey identified greater use of psychosocial screening in the UK than was reported in the previous surveys, and by the US respondents to our survey. However, the debate continues in the UK about how best to screen burns patients, and there is still no consensus on what and when is an appropriate, feasible and acceptable way of doing so with the resources available and without overburdening patients.

The survey results suggest it may be challenging for burn survivors in the US to access mental health care after discharge. Sixty-four percent of US participants indicated their burn service does not screen for psychosocial issues after discharge. US MHPs indicated their caseload was made up primarily of hospitalized burn survivors and they were unlikely to provide psychotherapy after 6-months post-discharge. Participants reported burn survivors were less likely to receive mental health care through the burn center after discharge in the US than UK. Moreover, US participants indicated that financial barriers were more likely to prevent burn survivors from accessing mental health services after discharge.

The results of our survey have identified a number of important differences in the provision of psychosocial services and interventions for burn patients in the UK and US, and health professionals' views on the nature and incidence of psychological and social issues amongst this patient group. Our survey suggests that burns patients in the UK may have greater access to mental health specialists and psychological interventions than those in the US, but variations are also evident within each country. Access to support in both countries was easier during hospitalization than after discharge. However, we do not know *why* these differences

occur. Whilst we could speculate that variations may be due to reasons including the availability of financial resources, policy, staff mix, staff experience and their confidence in meeting psychosocial needs, the differences could also reflect the difference in the health systems of the two countries. The UK has a publicly funded national health service (NHS) that provides universal health care. The US has a mixed private/publicly funded health system in which many people are uninsured or underinsured [12]. In a recent study comparing the health systems of 11 industrial countries on quality of care, access to care, efficiency, equity and health outcomes [13], the UK system was ranked first and the US system was ranked last. The US was the only country which did not provide universal healthcare. At any rate, explaining the cause of the difference in mental health services available for burn survivors in the UK and US remains an issue for consideration in future research.

Burn services appeared to be doing an excellent job of referring burn survivors to support organizations. Ninety-nine percent of participants that work for burn services treating children indicated that their service refers pediatric burn survivors to burn camp. Eighty-nine percent of participants stated their service refers survivors to support organizations such as the Phoenix Society, Changing Faces and the Katie Piper Foundation. Eighty percent of participants who work for burn services that treat adults indicated their services have a survivor support group although child and family support groups are less common, particularly in the US.

Respondents were confident in their center's ability to provide treatment for most psychosocial issues facing burn survivors. However, participants indicated the least confidence in assisting burn survivors with sexual intimacy issues. There has been little research on the sexuality of burn survivors, though it is predictable that changes in body image after a burn

would affect a burn survivor's sex life [14]. Our survey points to a possible need to develop better training for burn MHPs in ways of supporting patients in relation to sexuality issues.

In regard to their therapeutic orientation, MHPs tended to fall into two categories – eclectic (multiple theoretical influences with no psychotherapy school accounting for more than 40% influence on their practice) and primarily cognitive behavioral orientation. The eclectic orientation was more common in the US and the primary CBT orientation was more common in the UK. Historically, CBT has differed from other psychotherapy schools in that it emphasizes the importance of developing disorder-specific evidence-based therapies. However, other therapy traditions such as mindfulness, interpersonal therapy, hypnosis and EMDR are now developing disorder-specific evidence-based interventions [15].

MHPs appeared to have a modest preference for evidence-based interventions for specific disorders (Table 5). However, whilst some of the interventions most frequently used by the mental health specialists in our survey (e.g. modifying maladaptive thoughts, social skills interventions training) have a relatively strong evidence-base, others that also have an evidence base for specific disorders (e.g. hypnosis and virtual reality for procedural pain, EMDR for PTSD) were rarely used. There also appears to be reticence to use behavioral interventions. For example, both exposures for the treatment of PTSD [16] and behavioral activation for the treatment of depression [17] have proven to be very effective interventions, yet only 41% and 49% of the sample used these interventions, possibly because they are more difficult to implement. For example in-vivo exposures for PTSD and social anxiety likely require the MHP to leave the office, but, only half the MHPs indicate they provide services away from the hospital. The reasons why MHPs working in other fields do not routinely practice evidence-based psychotherapies include lack of training, viewing psychotherapy as an art, lack of

experience in the use of various techniques, limits on insurance reimbursements and the patient's unwillingness to take part in the specific treatment [18].

The primary finding of this study is that there is a good deal of variability in the psychosocial services available for burn survivors both in hospital and post-discharge. Whilst both the US and UK have national standards for the provision of burn care [19, 20], the standards for the psychosocial treatment of survivors are general and do not give guidance regarding specific treatments for specific psychosocial disorders. Given the high prevalence of psychiatric complications among burn survivors [21-23] and the existence of effective evidence-based psychotherapy for common complications of burns such as PTSD and depression, the ABA and BBA could usefully develop national standards for both assessing and treating common psychosocial problems of burn survivors. The ABA and BBA could then consider overseeing the provision of training and certification in evidence-based treatments. Training will need to include not only an educational component but also supervised treatment.

In addition, further research is needed to develop a standardized assessment instrument for screening for concerns about sexual intimacy and providing interventions to help patients cope with associated issues such as self-consciousness about scarring, relationship difficulties and poor body image [14]. The importance of clinical screening is currently being addressed by the UK British Burn Association Psychosocial Special Interest Group as part of a project to standardize all stages of burn care across the lifespan, including ways of measuring the effectiveness of interventions. Providing outpatient psychosocial support across a large geographical area is challenging, both financially and in terms of staffing. A way forward would be to use digital media such as on Skype or Face Time to deliver real-time e-therapy, and web-based self-help programs such as *Face It* [24] (<http://www.faceitonline.org.uk>) and *YP Face IT*

(www.ypfaceit.co.uk) which are multi-session interventions based on CBT and social interaction skills training to help adults and young people, respectively, manage the challenges commonly reported by people whose appearance has been affected by injuries such as burns, or health conditions.

Limitations

This study was an exploratory survey with a number of limitations. First, the data reflects subjective opinions based on the participants' work experience. Second, we used a convenience sample and did not receive responses from every burns service in each country. Third, we surveyed burn professionals not burn survivors. Thus, this survey captured the providers' experience which is only one perspective of the mental health care of burn survivors. Fourth, this was a quantitative study and the survey format limits the richness of possible data collected. For example, we cannot determine from this study how MHPs weave together various psychotherapy techniques into an integrated treatment plan. Future qualitative studies could compliment the current study. Fifth, a high percentage of burn survivors have substance abuse disorders. This study did not investigate the scope of treatments provided to treat substance abuse among burn survivors, but this is an important area for further research. Finally, by focusing on the provision of psychosocial support provided through burns services, we have not included the support provided through charities and support organizations in either country or through online peer support such as discussion forums. Such information would help to give a fuller picture of the psychological support available to patients and families after a burn injury.

Whilst our survey focused on the US and UK, future research could usefully explore the provision of psychosocial services for burns patients and their families elsewhere in the world. Most burns occur in low and middle income countries and the psychosocial challenges of burn

recovery will differ in varying social and cultural contexts [25, 26]. Furthermore, our survey focused on the provision of support for adult and pediatric patients. We asked few questions about the support provided for burn survivors' families. This could be the focus of further studies. The burn recovery process is long and caregiving for a loved one with a chronic problem can be stressful. One study found that 18% of mothers and 6% of fathers of pediatric burn survivors evidence significant traumatic stress symptoms 18 months after the injury [27]. Future studies could usefully investigate the range of interventions for psychosocial issues not covered in this paper such as the support provided when patients see their burns scars for the first time [28], the mode of delivery of psychosocial interventions and the support provided for young people transitioning into adulthood.

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Table 1.

Participants’ ratings of the frequency of social and psychological problems associated with burns on 5-point scales

	UK	US
Family conflict	3.6 (SD = .88)	3.8 (SD = .80)
Homelessness	2.8 (SD = 1.0)	3.1 (SD = .80)
Unemployment	3.7 (SD = .88)	3.8 (SD = .87)
Financial problems due to medical bills	0**	3.7 (SD = 1.0)
Food insecurity	2.6 (SD = .97)	2.7 (SD = .98)
Itching	4.3 (SD = .87)	4.6 (SD = .65)
Grief	3.4 (SD = .87)	3.8 (SD = .87)
Teasing or bullying	3.5 (SD = .90)	3.1 (SD = .87)
Anxiety about pain	3.6 (SD = .84)	3.9 (SD = .85)
Post Traumatic Stress Disorder	3.3 (SD = .92)	3.4 (SD = .77)
Body image concerns	3.9 (SD = .75)	4.0 (SD = .70)

Note. On the survey participants rated 42 possible complications. We only list a sample here for the sake of brevity. Ratings were made on a 5-point scale ranging from never (1) to very often (5). All UK participants skipped the item “financial problems due to medical bills” presumably because UK has a public health system in which citizens are not billed for hospital expenses.

Food insecurity is defined as a lack of access to sufficient, safe and nutritious food.

Table 2.

Participants' ratings of the use of mental health screenings in their burn center

	No Screen	Informal Screen	Structured Screen
Inpatient			
US	47 (37.3%)	48 (38.1%)	31 (24.6%)
UK	2 (5.9%)	9 (26.5%)	23 (67.6%)
Outpatient			
US	71 (64.0%)	28 (25.2%)	12 (10.8%)
UK	7 (23.3%)	9 (30%)	14 (46.7%)

Note. The question asked about inpatient and outpatient psychosocial assessment, respectively. “What type of screening assessment is conducted in your burn service to assess for common psychological complications of burns?” The *N* for the inpatient question was 160 and *N* for the outpatient question was 141. The difference is due to more people answering “I don’t know” to the outpatient question.

Table 3

Estimate of the percentage of burn survivors who receive psychotherapy.

Estimated percentage of burn survivors who receive psychotherapy	Respondents' report of the percentage of burn survivors who receive psychotherapy in their burn service
0%	0%
10%	12.8%
20%	25.6%
30%	20.5%
40%	7.7%
50%	10.3%
60%	2.6%
70%	10.3%
80%	7.7%
90%	2.6%
100%	0%

Note. Participants were asked to estimate the percentage of burn survivors who receive psychotherapy at their burn center ranging from 0% to 100%. This range is represented in column 1. The percentiles in column 2 represent the proportion of burn professions who indicated the specific percentile in column 1. For example, 25.6% of burn professions estimated that 20% of burn survivors at their burn center receive psychotherapy.

Table 4.

Stage of recovery of burn survivors in the current psychotherapy caseload of MHPs in UK and US

	Hospitalization	0-6 Months Post Discharge	6-12 Months Post Discharge	12-24 Months Post Discharge	>24 Months Post Discharge
UK	29%	31%	15%	10%	15%
US	59%	26%	7%	5%	3%

Table 5.

Frequency of use of therapeutic techniques for psychosocial problems associated with burns

	Procedural Pain	Chronic Pain after Discharge	PTSD	Depression	Body Image Concerns	Social Anxiety
Behavioral activation	13%	25%	18%	49%	21%	8%
Classic/operant conditioning	5%	3%	0%	0%	0%	0%
Modify maladaptive thoughts	31%	44%	64%	80%	70%	67%
Distraction strategies	74%	18%	8%	0%	0%	0%
Encourage patients to talk about their emotions	15%	23%	18%	44%	18%	13%
Goal setting and pacing	21%	49%	10%	39%	16%	15%
Exposures	**	0%	41%	0%	41%	49%
Group therapy	**	**	13%	8%	13%	13%
Hypnosis	10%	3%	0%	0%	0%	3%
Identify defense mechanisms	**	**	5%	0%	3%	3%
Interpersonal therapy	**	**	5%	5%	5%	3%
Imagery	23%	5%	**	**	**	**
Mindfulness	10%	23%	18%	20%	15%	13%
Relaxation	69%	31%	28%	5%	0%	20%
Supportive therapy	23%	23%	18%	18%	18%	8%

Virtual reality	3%	0%	0%	**	**	**
Medication	**	41%	15%	20%	0%	13%
EMDR	**	**	10%	**	**	**
Body language awareness	**	**	**	**	25%	5%
Social skills Training	**	**	**	**	54%	44%

Note. Participants were asked to choose up to 3 psychosocial techniques they use most often to treat each of six common psychological problems associated with burns. The percentages indicated the percentage of providers who endorsed the use of particular technique to treat a particular disorder. The top three most endorsed techniques for each disorder is in bolded.

** Indicates that the particular psychotherapeutic technique was not an option on the question about that specific disorder. For example we did not include medication as an option for treating acute pain because it was assumed that a vast majority of burn survivors receive pain medication during procedures such as dressing changes.