

**Cost Savings of Treatment of Medically Unexplained Symptoms
Using Intensive Short-term Dynamic Psychotherapy (ISTDP)
by a Hospital Emergency Department**

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Abstract

Somatization of emotions accounts for excess use of Emergency Department (ED) physician services for patients with medically unexplained symptoms (MUS). Intensive Short-term Dynamic Psychotherapy (ISTDP) was introduced into the Emergency Department (ED) of a general hospital to diagnose and manage 50 sequential patients with MUS. In this study we analyzed the cost effects of that study. In the year following treatment, there was a 69% reduction in ED visits by these patients at an average cost reduction of \$910 per patient. ISTDP interventions averaged 3.8 sessions averaging \$406 per patient. A description of the ISTDP methods used is provided along with a case vignette. The Brief Symptom Inventory (BSI) was used to measure the effects of the ISTDP intervention with “pre and post” testing. Averaged pre-test scores on the Somatization subscale improved from 1.21 to 0.86 at post-test. The hospital judged this demonstration project a success and allocated funds for an ISTDP-trained psychologist to treat MUS patients in the ED. While further research is warranted, this service and hybrids of it should be implemented to assist in cost savings and service use reduction in Emergency Departments.

Background

Somatization, as used herein, is defined as the translation of emotions into the development or worsening of somatic problems or complaints. This process accounts for a large proportion of physician visits including emergency department (ED) visits ^(1,2). Patients frequently present to the ED with medically unexplained physical symptoms (MUS) ⁽¹⁾ many of which are driven by psychological factors. Anxiety and somatization may account for a significant portion of these cases, although Emergency Physicians (EPs) may be reluctant, for a variety of reasons, to make these diagnoses ⁽²⁾. Between 1998 and 2005, approximately 16% of visitors to our hospital ED received a diagnosis of Not Yet Diagnosed (NYD) such as chest pain NYD, abdominal pain NYD or headache (NYD). For example, 75.8% of 26,430 patients presenting to our own ED with chest pain were given a discharge diagnosis of ‘chest pain NYD’ ⁽³⁾. These are a few of the many diagnoses given for unexplained symptoms. Clearly MUS is the single major cause of ED visits.

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Abbass et al ⁽⁴⁾ described patterns of somatization and a method derived from Davanloo’s Intensive Short-term Dynamic Psychotherapy (ISTDP) to directly diagnose this process in most cases. Somatization was attributed to unconscious emotions that produce unconscious anxiety and various defenses against this anxiety. Patterns of somatization, based on 40 years of videotape-based research by Davanloo ⁽⁵⁾, were categorized in 4 main pathways: striated muscle tension, smooth muscle tension, cognitive perceptual disruption and conversion ^(4,6). Descriptions of these and common examples seen in the ED are presented in Table 1.

Table 1: Somatization Patterns and Examples ⁽⁷⁾

Anxiety Format	Observations during emotion-focused diagnostic assessment	Examples of Emergency Department presentations
Striated muscle	Progression from hand clenching, arm tension, sighing respirations to whole body tension	Headache, globus hystericus, chest pain, hyperventilation, shortness of breath, panic, back ache, abdominal wall pain
Smooth muscle	Acute or chronic spasm of smooth muscle	Irritable bowel symptoms, abdominal cramps/pain, reflux, nausea, bladder spasm, bronchospasm, coronary artery spasm, hypertension, migraine
Cognitive-perceptual disruption	Anxiety affecting the cognitive and perceptual fields	Visual blurring, blindness, mental confusion, dizziness, pseudoseizures, paresthesias, fainting
Conversion	Loss of tone in some or all voluntary muscles	Weakness, unilateral or bilateral paralysis, aphonia

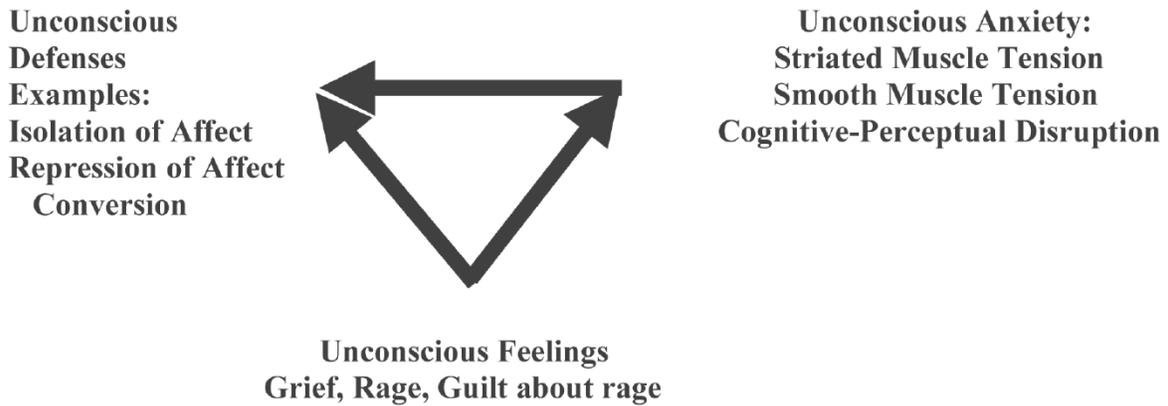
A 2009 review of 23 studies of short-term psychodynamic psychotherapy (STPP) for a range of somatic symptoms found generally significant and sustained benefits in psychiatric symptoms, somatic symptoms and healthcare utilization ⁽⁸⁾. Moreover STPP brought 46% improved treatment retention. Two other studies found STPP to be superior to controls, including relaxation training, in treating panic disorder ^(9,10), a frequent cause of unexplained chest pain in the ED ⁽¹¹⁾.

One of the methods of STPP, Davanloo’s ISTDP has demonstrated effectiveness in several conditions that predispose to excess ED usage. These include panic disorder ⁽¹⁰⁾, functional movement disorders ⁽¹²⁾, pelvic pain/urethral syndrome ⁽¹³⁾, chronic back pain ⁽¹⁴⁾ and recurrent headaches ⁽⁶⁾. In a naturalistic study, treated patients experienced a marked drop in both physician visits and hospital use which persisted in 1 and 3-year follow-ups ^(15, 16). ISTDP begins with an assessment called a “trial therapy” ^(17, 18) which evaluates the patient’s physical responses to emotion-focused interviewing, thus, allowing detection of somatization in many cases. These methods are thus an important adjunct to traditional clinical assessment methods, complementing history taking, physical examination and other investigations ⁽¹⁸⁾.

ISTDP Psychodiagnostic Evaluation of Somatic Symptoms

Blocked unconscious complex feelings about trauma to attachments (love, pain, rage and guilt about rage) sets the stage for somatization. When a current event activates these feelings, anxiety and defenses are mobilized (See Figure 1). If these feelings are unconscious to the patient, the subsequent anxiety and defenses may also be outside of awareness. This is the finding common in people who have been traumatized by someone close to them: feelings of rage toward a loved one are unacceptable, frightening, and avoided through somatization and other defenses.

Figure 1.



To detect the process of somatization we must recognize how emotions are viscerally experienced and how they may be avoided or somatized. Davanloo discovered through studying several hundred case videotapes that specific emotions manifest in specific ways. This “emotion physiology” constitutes a norm to compare with a patient who somatizes emotions. Rage, for example, is experienced as an internal energy sensation, heat or “volcano” which rises from the lower abdomen to the chest then neck, and finally to the hands with an urge to grab and do some form of violence. Guilt about rage is experienced with upper chest constriction, intense painful feeling with waves of tears and with thoughts of remorse as if one harmed another with the rage.

These unconscious emotions activate some combination of striated muscle tension, smooth muscle tension, cognitive perceptual disruption or motor conversion (See Table 1). The degree to which these feelings are experienced consciously, by definition, equals the degree to which they are not being somatized at that moment ⁽⁴⁾. This allows one to determine whether or not these emotions are contributing to current somatic symptoms.

See Abbass et al, in this edition of the Archives of Medical Psychology for further details in interpreting these responses.

Diverse research has shown that patients with a range of conditions like hypertension, migraine, irritable bowel syndrome and other conditions internalize anger and thus increase their somatic problems. Blocking and inhibiting of emotions, including anger, is a common finding in somatizing patients in the ED.

Procedures

The ISTDP trial therapy and follow-up treatment sessions as needed were used to evaluate and treat sequential MUS patients who frequently used the ED. The present study analyzes the cost savings of the improved care of MUS patients in the ED as a result of introducing ISTDP. Abbass, et al published the pilot study methods and results from implementing this service in our local emergency department in 2009 ⁽⁷⁾.

Results

In this pre-post design study 6 ISTDP-trained therapists saw 50 patients who had been, on average, high ED users. These patients averaged 3.8 treatment sessions and showed a

marked, 69% drop in repeat ED visits from 4.6 visits the year before to 1.4 visits the year after treatment. The average 3.2 visits per year reduction represents a US \$910 (SD 18.2) visit per patient reduction in ED visit direct costs the year afterward (95% CI).

ISTDP patients showed significant improvements on the Brief Symptom Inventory Somatization subscale moving from an average of 1.21 pre-treatment to 0.86 at termination. Patient self-reports showed moderately high satisfaction with the service (mean 7.4 on a 0-10 likert scale). The service had a marked increase in referrals over the course of time. By the end of the study 12 different ED physicians were referring patients for ISTDP evaluations reflecting a change in the pattern of service delivery by EPs.

Revisit rates during the same time interval for 3 available comparison ED populations showed either smaller ED use reductions or an increase in services use. First, we examined revisit rates for all ED patients, which was weighted to match the ED visit distribution of the ISTDP treated group: we found mean revisit rates went down by 16% year over year. Secondly, we examined revisit rates for all ED patients with any of the same 4 main complaints (i.e., chest pain, abdominal pain, shortness of breath or headache), which were weighted to match the ED visit distribution of the ISTDP treated group: in this group the mean visit rate went down a mere 4.3%. Finally, we examined revisit rates for patients referred to the ISTDP service but not seen: this group had a 42% increase in ED use year over year. These represent the range of a \$199 reduction to a \$565/ patient/year increase in year over year ED visit costs.

Clinical Case Vignette Using ISTDP for Diagnosis and Treatment of MUS

The above noted theory and practical points will be highlighted through the use of a typical case vignette. The main points above will be highlighted with [Square Brackets].

The patient is a 24-year-old university educated single woman with a long history of anxiety and somatic complaints including irritable bowel syndrome (IBS), nausea and migraine headaches [functional disorders, likely somatization history]. She also reported historical problems with compulsive skin picking (i.e., neurotic excoriation) to the point that open sores have sometimes developed. She has seen a number of medical specialists including gastroenterology and dermatology in the past for the above-noted complaints [high medical service use]. Little resolution to her symptoms has been found to date [multiple MUS].

She is currently in a program of advanced professional study having already an undergraduate degree. She can be considered intelligent and articulate and extremely focused on her professional achievement. She is in a relationship of approximately 2 years. She recently became engaged to be married [recent interpersonal stressor]. She currently lived with her mother and sister and reported during intake interview that she had long-standing worries about her mother and often found herself in a parental role while growing up due to parental drug addiction. Both parents had frequent conflict with each other and she recalls worrying that she and her siblings would end up in child protective custody, due to her parents cultivating of marijuana involvement with drugs and neglect of the children. She reported clear evidence of a history of bi-parental neglect in her upbringing [traumatized attachment].

Diagnostically, she met DSM-IV criteria for generalized anxiety disorder and dysthymic disorder. Medically, she had symptoms of gastroesophageal reflux disease (GERD) and Irritable Bowel Syndrome. She reported at least one past panic attack. Most recently, she

describes chest pain and shortness of breath, in addition to her previously reported symptoms. On assessment she was taking no antidepressant medications and had not been prescribed such medications in the past.

Ambulance transport to the emergency department (ED) was precipitated because of chest pains and shortness of breath while attending university classes [one of the most common MUS presentations]. Medical evaluation of her symptoms revealed neither cardiac symptoms nor any other medical causes for her complaints.

She reported that prior to her hospital visit she had been experiencing chest pains for approximately one week. She reported that when she began to experience her symptoms, including heart palpitations, earlier in the week, she sought comfort from her mother and actually took her mother's hand and placed it over her heart. While in the ED, she did not appear to have any insight into emotional factors responsible for her physical symptoms. However, she did agree to a follow-up interview in the Medically Unexplained Symptoms (MUS) clinic, which occurred one day after her ED visit.

When greeted in the waiting room for her initial appointment, the patient was anxious, experiencing shortness of breath, and clutching her chest. She appeared flushed and quite stressed physically. In the early stages of the interview, unconscious anxiety (UA) was noted by the therapist and evidenced in the form of deep respirations and hand clenching, indicating striated muscle response as the discharge pathway of UA.

She reported experiencing chest pain and heart palpitations which brought her to the ED the previous day. These symptoms persisted throughout the early phase of the interview. When the therapist asked whether some of the external stressors that the patient was describing might be related to some of the observed anxiety, the patient did not make this connection. This indicates that the patient was unaware of the anxiety: it was primarily unconscious. Instead, she was focused on the somatic complaints she was suffering. There was thus evidence that she was alexithymic, showing difficulty recognizing, identifying or experiencing her own emotions.

The therapist proceeded with inquiry into the patient's current symptoms.

Therapist: So, I notice that coming in here you're very tense and anxious and you are experiencing that mostly in your chest?

Patient: Yes, but also my arms and hands are numb, like they're asleep. (patient becomes more anxious and squirms when reporting symptoms).

Therapist: Now, in terms of the symptoms you describe here today, is anxiety usually a problem for you?

Patient: No. This has never happened (a reference to the chest pains).

Therapist: So in terms of emotions, what kind of emotions, feelings do you have inside yourself?

Patient: (no verbal response). The patient sighs, breaks eye contact with the therapist, and reaches underneath her sweatshirt and massages the left side of her chest. The therapist continues with a focus on her underlying feelings in the moment.

Therapist: You know what I mean by emotions?

Patient: (no initial response: patient sighs, looks away from the therapist).

With this emotional focus the patient begins to bring more and more defenses in to the room. Her defenses included rumination, intellectualization, and repression. The therapist continues with a focus on underlying feelings in the moment and the patient continues to defend. This allows the therapist to see the manifestations of both defense and anxiety, and to acquaint the patient with both.

Therapist: What feelings do you have beneath the anxiety and tension?

Patient: ahh, (another deep respiration is observed but then the patient becomes more flattened in her physical response). [This flattening out, or loss of muscle tone is a marker that anxiety may be channeling into the smooth muscle of the GI tract or elsewhere. This suggests a tendency to repress and somatize emotions.]

The patient is also now quite slumped over and is becoming more disengaged from the therapist. Continued focus on underlying emotions is utilized by the therapist, with the addition of clarification. It is evident to the therapist that the patient is curious about the therapist's line of questioning. The patient once again begins to become more engaged with the therapist and makes brief, but important eye contact. [It is noteworthy at this portion of the interview that the patient is beginning to experience a rise in complex feelings with the therapist: experiencing positive feeling at his efforts, but also irritation at the not so subtle challenge to her habitual avoidant behaviors (defenses).]

One noteworthy observation is when the patient takes her own hand during this part of the interview and places it over the left side of her chest, in much the same way that she wanted her mother to comfort her approximately one week earlier. She is now experiencing chest pain during the interview. At this juncture it is apparent that the patient gives evidence of a psychosomatic process where avoided feelings are translated to somatic anxiety in the form of deep respirations and tightness in her chest. The patient also notes heart palpitations.

At this point in the interview, the role of the therapist is to continue to focus on underlying feelings and to help mobilize them to the point of consciousness of possible. At this point, the impact of this effort is mobilization of unconscious anxiety and accompanying defenses.

Therapist: What kind of feelings do you have?

Patient: (still no immediate response, and the patient continues to look away). Then the patient looks at the therapist and eventually responds "lots, probably"? Here she acknowledges some underlying feelings. (Another deep respiration is noted). The patient also has a brief smile.

She adds to her response:

Patient: I try not to focus on these things! I go to school full-time.

The patient goes on to describe that she is engaged in full-time professional studies and begins to tell the therapist that it is her belief that if she allows herself to experience many of the feelings that come up in her life that she fears she would not be able to cope. She reports a habitual pattern of avoidance.

Therapist: Okay, so one of the things that happens is when you get a whole lot of emotions stirred up in your life, part of you that tries to move away from these? (Patient nods). You feel you could not hold things together? All right, hmmm.

Patient: There are lots of other things, that if I concentrated on, I would go crazy.

Therapist: So what you're telling me is there is a lot going on in your life, not just school things?

Patient: (Nods agreement)

Therapist: but you worry that if you allowed a lot of this stuff [i.e., feelings] to enter into your consciousness (patient nods) it wouldn't be good for you?

The patient now becomes much more attentive to the therapist and re-adjusts her posture, sitting up straighter and not being as slumped as she was in the initial stages of the interview. Eye contact also improves considerably. At this point in the interview the patient has been acquainted with the link between unconscious feelings, anxiety and defenses. The therapist continually reminds the patient, directly and indirectly as to the self-destructive nature of this process. This is intended to turn the patient against her own defenses.

The therapist also asked the patient if a similar phenomenon of avoiding feelings and the creation of anxiety occurred in the past. This invites the patient to begin to make linkages with current and past events and clarify the chronicity of this process. In the subsequent 15 to 20 minutes the therapist and the patient collaboratively explore recent and past relational events in which the patient is able to see that she avoided emotions at her own expense and the expense of the relationship itself. The patient described a long-standing history of somatic complaints including GI problems, dermatological problems, migraine headaches, and most recently chest pain. She then described that these issues go back far into her childhood. This provides an opportunity for the therapist to make a dynamic inquiry into the patient's past attachment patterns. The patient goes on to describe early attachment trauma, including chronic parental neglect, and circumstances where she was often responsible for adult decisions in the household. Then she is able to acknowledge, at least intellectually, that this created anger toward her parents. However, given the guilt associated with experiencing this anger, the anger becomes internalized resulting in guilt laden unconscious feelings. Her history of experiencing anger has primarily been directed inward resulting in somatic complaints.

It becomes clearer during this phase that the patient has long-standing patterns of anxiety managed by avoidance, repression of emotions and externalizing of problems. While this has created as a defensive structure, over many years it has resulted in a detrimental im-

pact on the patient, predisposing her to negative responses to external stressors, including her most recent legal difficulties. She identified anger and rage toward the perpetrator of the assault, yet has internalized these feelings, resulting in UA and somatic complaints.

Later in the session the patient goes on, in some detail, to describe emotions which were recently activated in her regarding her sister's boyfriend's decision to end his relationship with the patient's twin sister. The end of her sister's relationship mobilized the patient's own past feelings of being abandoned by her parents. Here the unconscious anxiety was once again observed and the therapist helped the patient continue to identify and experience her avoided emotions.

Therapist: So... you have some anger with this guy? So, let's just see how you experience this anger in terms of the emotion of anger in your body...if you don't turn it back on yourself...and if it does not turn into anxiety. How angry were you in terms of a feeling?

As the patient focuses on the specific event involving her sister's boyfriend, she begins to experience the neurobiological pathways of rage in relation to the therapist. The therapist facilitates this process.

Therapist: That aggressive force? if you could not protect someone from it... if it got really big in you.... just as a force, how would it go?

Patient: (patient hesitates and makes several deep respirations)

Therapist: How would it go if you don't get anxious?

Patient: It would want to lash out (patient is gesturing freely with signs of a drop in anxiety with rage replacing anxiety).

Therapist: How would it go? If you don't get crippled with anxiety, how would it go?

Patient: It wants to be aggressive.

Therapist: It wants to be aggressive?

Patient: Yes, to be aggressive.

Therapist: If we look at this together, just you and I... if this aggressive force was felt and you couldn't protect someone from it...If it got really big as a force? How would it go... physically, just in terms of thoughts, fantasy.

Patient: It wants to lash out.

Therapist: It would want to lash out, how would it lash out? What would it do? Just the force. The anger.

Patient: Probably like this (the patient reaches out and grabs the lapels of her jacket with both hands and pulls).

What then follows is a sequence of 15 minutes of focus on the somatic experience of the

rage related to a current event where the feeling is gradually activated and physically experienced. When the rage is experienced, it replaces the unconscious anxiety about this rage. During this sequence, a portrait is developed of an angry and aggressive impulse, which the patient likens to a boxer, being destructive and inflicting harm to her sister's boyfriend. Following this, is the immediate passage of guilt laden feelings related to the experience of this rage. This brings about an immediate reduction in anxiety for the patient.

From there, the patient and therapist went on to link these feelings with some parallel traumatizing events in her childhood. The latter part of the session focuses on recapping of the links between feeling-anxiety-defense and past-current-therapeutic relationships. These linkages have been reviewed with the patient indirectly and directly, and repeatedly, throughout the session. By the end of the session the patient is able to consolidate how feelings from the past are reactivated by current events and reminiscent of her way of dealing with the feelings in the past. Because the patient was able to experience feelings related to past and current events during the initial session, she was able to acquaint herself with the experience of these emotions, with a resulting reduction in anxiety in this one session.

Following the initial psychodiagnostic interview, the patient participated in four (4) additional sessions and continued to report symptom reduction and improvement. She did not require any emergency department visits since the initiation of treatment. Furthermore, a decrease in somatization was also reported. She also reported being much more observant of the interpersonal relationship patterns and making changes in dealing with her mother, fiancée, and others.

Over this 4 session period her Brief Symptom Inventory global rating went from abnormally high 1.17 to 0.74 which is in the normal range. This typified results of the recently published sample ⁽⁷⁾.

Conclusion

We have herein described an emotion-focused approach with broad applicability to ED users with MUS. The ISTDP method was demonstrated to be feasible, practical, fiscally relevant and cost effective. While further research is warranted, the lack of effective alternatives and converging supportive evidence suggest this evaluative method can be considered a viable adjunct to day to day Emergency Services.

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