

Sensory Interventions for Psychiatric Crisis in Emergency Departments-A New Paradigm

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Abstract

Objective: This paper reviews the evidence of individuals presenting to emergency departments in psychiatric crisis and the use of sensory interventions in acute psychiatry.

Methods: This narrative review presents the current research related to the prevalence of psychiatric crisis in emergency departments and the role of mental health clinicians, the experience of consumers and the use of sensory interventions in acute psychiatry.

Conclusion: The prevalence of consumers presenting to emergency departments in psychiatric crisis is high and increasing. The demands on the mental health clinicians in the emergency departments are high. Consumers report that the wait time and the physical environment of the emergency department are the most difficult aspects of the experience. Evidence shows that utilizing sensory interventions in acute psychiatry facilitates a calm state, enhances interpersonal connection, supports self-management, promotes adaptive emotional regulation, de-escalates arousal, can reduce distress and the rates of restraint. The implementation of sensory strategies in emergency departments may improve the experience and recovery outcomes for consumers.

Keywords: Psychiatric crisis; Emergency department; Sensory interventions

Introduction

People experiencing mental health disorders have an increased risk of morbidity and mortality, and are associated with higher health-care costs, adverse health behaviours, significant functional impairment, lost work productivity, occupational disability and increased health-care utilization when compared to the general population [1-4]. Forty five percent of Australians have experienced at least one mental health disorder at some point in their life [5]. The annual cost of mental illness in Australia is \$28.3 billion a year due to lost productivity and disability and \$80 billion in the US [6,7]. There are increasing numbers of people presenting to general hospital emergency departments every year in psychiatric crisis [3]. In Australia the demand for emergency mental health care exceeds the current supply of available services, and the emergency department (ED) has increasingly become both the initial point of contact for mental health crisis assessment and the main portal into the mental health system [8-15].

In the United States, mental health disorders are the fastest growing component of emergency department practice [16] and there is Australian evidence to support this trend [17-18]. Australian emergency departments have tried to address this with the implementation of a 24-hour psychiatric triage service whereby one mental health clinician is embedded in the ED for an eight hour shift. The purpose of this clinician is to see every individual presenting to the ED in psychiatric crisis and assess their risk, mental state, provide provisional diagnosis, and facilitate referral to alternative mental health care or arrange admission to a psychiatric hospital. Individuals present to the ED for many reasons: covertly suicidal presenting with another problem; overtly suicidal self-presenting or brought by others for help; recent suicide attempt; acutely psychotic or delusional; brought by police or family in an agitated state;

substance affected; or in a highly distressed state [12,19,20]. Psychiatric triage clinicians can still lack access to psychiatric beds due to high demand and can have individuals in EDs for periods from 24-72 hours waiting for transfer [20,21].

International research has found that demand on ED mental health clinicians due to the increase in presentations has resulted in consumers finding waiting times to be traumatizing in a busy and difficult environment. During psychiatric crises high stress levels, significant cognitive and perceptual changes and emotional distress can result in hyper or hyposensitivity to sensory input [22]. Sensory modulation has emerged as a suite of sensory-based interventions that promote independent management of arousal and distress [23]. Sensory modulation is a client centred approach used by occupational therapists to help individuals who are distressed and agitated regain a sense of calm by using a range of tools to moderate sensory input [23,24]. These interventions have been found to promote self-management and reduce the risk of seclusion and restraint in acute psychiatry [25,26]. Providing opportunities for people experiencing psychiatric crisis to regulate their own emotional and behavioural responses through sensory input is proposed as a promising strategy for improving consumer satisfaction and reducing trauma in emergency departments.

A narrative review was conducted in order to bring together quantitative and qualitative evidence, population statistics, national and international reports to arrive at a more holistic understanding of this issue [27]. This review includes peer-reviewed journal articles, books and publicly available reports. Articles selected present an empirical investigation of individuals experiencing mental illness presenting to emergency departments of general hospitals. It then considers the use of sensory interventions in acute psychiatry and presents an argument for consideration of these interventions in the ED setting.

A systematic search was conducted and evidence retrieved from CINAHL, MEDLINE, Psych LIT and Psych INFO. Published papers were limited to English language and year of publication parameter was set from 1995 to 2016. The abstracts, titles and index term of studies were searched using the following keywords: 'mental health', 'mental illness', 'schizophrenia', 'psychosis', 'mental disorders', 'psychiatric emergency', 'emergency psychiatry', 'psychiatric triage.' A separate search was conducted for sensory interventions using keywords such as 'sensory modulation', 'sensory rooms', and 'sensory intervention.' The population age range of interest was defined as 13-17 years for adolescence and 18 years and older for adulthood. Additional papers were found by hand-searching the references of all retrieved articles. No research in Australia or internationally was found investigating sensory interventions in emergency departments. No research was found investigating statistics or demographic profiles of individuals presenting to EDs in psychiatric crisis. No intervention studies improving the experience in ED for people with mental illness were found. Seventy-seven relevant qualitative and quantitative articles investigating mental illness in emergency departments were retrieved. Thirty-five relevant articles investigating sensory interventions in acute psychiatry were found.

This study aims to answer the following research questions:

1. What is the prevalence of individuals in psychiatric crisis presenting to emergency departments at general hospitals?
2. What is the consumer experience of presenting to an emergency department in psychiatric crisis?
3. Can the recovery approach be implemented in the emergency department?
4. Could sensory interventions be a successful intervention in emergency departments?

The Prevalence of Psychiatric Crisis in Emergency Departments

Eastern Health is an example of a major health network that services Melbourne, Australia. Eastern Health Psychiatric Triage in Melbourne, Australia provides a 24-hour, 7 day a week telephone and hospital emergency department service (EDs). Eastern Health serves a population of 800,000 people and has three hospital EDs [19,28]. These EDs see over 140,000 consumers each year and are a key point of contact for people experiencing mental health problems who require urgent medical and/or psychiatric assessment and treatment [28]. In 2013, this psychiatric triage service assisted approximately 4035 individuals in psychiatric crisis in their EDS [19]. In 2015 this service assisted approximately 8500 [28]. This is an increase of more than 4000 presentations in two years. Figures show approximately 10% of individuals are in the 0-17 age bracket, 20% are 18-24, 65% are 18-65, and approximately 5% are aged 65 and over [28].

Deinstitutionalization undertaken in Australia in the 1980s, was intended to facilitate the integration of mental health care into the general health sector as outlined in the Fourth National Mental Health Plan 2009-2014 [2]. An increase in community care was considered the optimum way to promote holistic care for consumers, facilitating the prevention of illness as well as reducing the stigma associated with psychiatric hospitals [29]. Core elements of the strategy consisted of a reduction in psychiatric hospitals, the expansion of mental health services provided in the community, and mainstreaming into general hospitals [30,31]. Between 1993 and 2005 the expansion of community mental health services together with the reduction in psychiatric hospitals resulted in a 66% reduction in the number of beds that were available to mental health consumers [32]. Although the mainstreaming of mental health services was an important principle of the Mental Health Strategy in Australia, it

has significantly contributed to an increase in mental health presentations to the ED [9,29,33]. In addition, as community mental health clinics are only accessible to consumers between the hours of 9 am to 5 pm, five days a week, those who seek urgent assistance outside these hours have little choice but to go to a hospital ED which is open on a 24 hour basis, seven days a week [32,34,35]. The increase in mental health presentations places new demands on EDs to provide optimal and safe care [36]. Due to the increasing prevalence to EDs, effective and therapeutic interventions are required in order to reduce the trauma of the experience for the individual.

Mental Health Clinicians in Emergency Departments

Psychiatric Triage Clinicians are mental health experts from a variety of professions including psychiatric nurses, occupational therapists, social workers, consultant psychiatrists, psychiatric registrars [9,20,21,29,37,38]. They are the sole mental health clinician in the emergency department at a time each shift and they experience an urgent and high caseload [13,20]. They utilize advanced counselling skills, cognitive behavioural therapy, psychoeducation, crisis management, defusing strategies and debriefing, problem solving, family support and interventions and motivational interviewing in order to develop a therapeutic relationship and gain the best outcome for the individual and family [37]. Mental health clinicians in the ED are reported by consumers in qualitative studies to improve the ED experience [38-43].

Individuals seeking mental health care do not fit into the treatment norm of the ED that primarily has been set up to assist individuals in physical health crises and consequently tend to disrupt the normal flow. They may present with vague, non-specific symptoms and take much longer to assess [20,21]. Collateral information may be necessary but difficult to obtain. Psychiatric consultation may be difficult to access in a timely manner due to the number of mental health presentations and community resources may not be available especially on weekends or evenings to provide the necessary support for discharge from the ED [21,44-46]. Further complications are encountered with acute psychosis, aggression, self-harm, or individuals with personality disorders [47,48]. In light of these complexities, individuals in psychiatric crisis can add to further stress to the ED environment [9,43].

The clinical skills of the mental health clinician have a significant impact on the experience the consumer [49]. In ED there are factors that can hinder the therapeutic relationship. ED is a busy and often loud atmosphere with long waiting times, frequent interruptions and limited time [33,34,43,50]. Interventions are required for the psychiatric triage clinician to utilize with those who are distressed, agitated and frightened whilst they wait for assessments to be completed or psychiatric beds allocated.

The Consumer Experience of Emergency Departments

There are few studies that present the perspectives of mental health consumers regarding their experience in ED [19,43,51-53]. Two major complaints by consumers are consistently evident in the existing literature. These are the amount of time they have to wait to be seen by the mental health clinician and the environment of the ED.

The wait time: In an Australian mixed methods study of 65 participants by Morphet et al. [20] the majority of mental health consumers arrived in the ED *via* ambulance. This finding is in keeping with other Australian studies which report that the majority of people presenting in psychiatric crisis arrive by ambulance [50]. Upon arrival in the ED, consumers then waited a long time for assessment and treatment. This finding is not unique with other studies also reporting that people with mental illness wait too long for initial treatment in ED [41,43]. Many consumers reported they were in ED more than 4 hours before they were seen [20]. Delays to treatment result in frustration and dissatisfaction with ED psychiatric

triage processes [53]. Delays in treatment can result in increased agitation and aggression from consumers, or people leaving without waiting for assistance which can result in negative and high risk outcomes [17,41,43,50,53]. Studies of Australian EDs conducted over five years ago found that the median length of stay for people in psychiatric crisis were 4 hours and 23 minutes. Many (20.5%) stayed longer than 12 hours, and 6% stayed more than 24 hours [17,50]. More recent data is required. In a Canadian qualitative study using focus groups, individuals and their families who received care in an ED were interviewed in order to establish their experience of seeking help and receiving help in an emergency department [43]. Participants reported that they thought mental health presentations were triaged 'at the bottom of the list.' Participants whose presentation involved self-harm felt that put them even further at the 'end of the line.' All participants found waiting in ED to be very difficult and traumatizing [43].

Strategies have been implemented in an effort to improve the waiting time in ED for people experiencing psychiatric crisis including the development of a mental health triage tool and the introduction of mental health clinicians to the ED in the form of psychiatric triage [14,29,38,53,54]. While National Emergency Access Targets (NEAT) are attempting to minimize wait time (for example, EDs are required to treat, discharge or transfer individuals in psychiatric crisis within 4 hours) it is widely recognized that Australian EDs lack the capacity to meet this demand [55-58]. As the prevalence of individuals presenting to ED increases, interventions provided to consumers as soon as they arrive are required. This can then immediately assist the individual in coping with the crisis and reduce the trauma of the experience.

The Physical Environment: A private and quiet area to talk can be difficult within the ED environment. They are busy, loud, with bright lighting and often only thin curtains are the barriers between patients. This type of sensory input does not assist with de-escalation of individuals in psychiatric crisis. This lack of privacy can have a negative impact on the therapeutic relationship and can discourage consumers from talking at length with the mental health clinician [41,43]. These factors obstruct a comprehensive psychiatric and risk assessment [59].

It is widely recommended in the literature that EDs provide a quiet, non-stimulating environment for people in psychiatric crisis [21,59]. Yet the busy nature of ED makes limiting such stimuli a constant challenge. This noisy environment, combined with frustration over wait times, can often spark distress, agitation, aggression and sometimes violence [21,60]. Innovative interventions that promote self-management should be implemented as soon as an individual in psychiatric crisis arrives in ED. This would reduce the focus on the wait time for assessment as the individual would be engaged in treatment. Further, individuals should be provided with a suitable low stimulus environment within ED.

The Challenge of a Recovery Approach in Psychiatric Emergencies

A recovery-focused approach is embedded within contemporary mental health practice and is forefront of consumer expectations [61-64]. The recovery approach encourages individuals to focus on strengths, choice and what they can do rather than what they cannot do [65]. The ED service as a whole utilizes a medical model in which clinical practice is embedded. This is a problem-oriented model that can be disempowering for individuals experiencing a mental illness. In comparison the recovery model facilitates consideration of the lived experience of mental illness rather than just a focus on the presence of symptoms. The medical model defines recovery differently. As a result there is an inherent incongruity between the treatment norms that occur within the ED and the needs of individuals who seek care when they are experiencing a psychiatric crisis.

Individuals who present to the ED range from those with no prior contact with mental health services to those who seek help from the ED regularly and are well known to the mental health service [65,66]. Given that ED clinicians focus on emergency episodic care in a fast paced highly technological environment, there can be a lack of understanding for this client group who can be seen as impeding the normal flow within the ED [13,32]. Individuals who present to the ED in an acute crisis can exhibit challenging behaviours such as agitation, paranoia, overt psychosis or aggression. Immediate management focuses on the prevention of harm to the consumer and others within the ED environment including staff, and often requires interventions that include the placement of the consumer in a restraint [17]. The expected standard of care is to use an approach that is the least restrictive [67]. This raises challenges for the recovery focus within the ED physical environment and the problem-oriented medical model of care.

Restraint

Despite significant debate regarding its use in psychiatric care, including media scrutiny, restraint is still used in Australian health care settings to manage risk of harm and disturbed behaviour [67,68]. There is potential for asphyxiation and suffocation, aspiration, thrombosis and other harmful physiological reactions as a result of restraint [67-70]. Consumers describe restraint as a form of punishment and report it to be traumatic and to involve significant distress [67,68]. Restraint is used with individuals in psychiatric crisis presenting to the ED to prevent harm to self, others and/or destruction to property [67,68]. A survey of 116 Australian EDs was conducted and found that restraint was used for a range of consumer conditions, in particular, violent or aggressive behaviour (52%) and psychosis (32%) [71]. A study in 2007 of five Australian EDs found that physical restraint was used with 5% of mental health presentations [72]. There has been an increase in mental health presentations since this time and no research has been implemented to report current rates of restraint.

Evidence recommends that EDs aim to decrease duration, repeated restraint incidents and eliminate the use of hard shackles [47]. In order to better integrate the recovery oriented approach within ED further consideration is required as to what mental health interventions and environmental adoptions can be implemented to decrease the requirement and frequency of restraint procedures in ED. A recent review of practice found that nurses engaged in restraint because they were not aware of alternatives to taking an aggressive person to a horizontal position [2,73]. There is a need to develop a suite of strategies to assist the consumer to self-regulate emotion and reduce the incidents of restraint in EDs. Sensory interventions have been found in international research studies to have the ability to do this.

Violence

The experience of violence at work is a universal experience for ED staff, with almost 90% experiencing physical intimidation or assault at some point in their career, and all experiencing verbal abuse. EDs are among the highest risk settings for violence in the health workplace [74,75]. In some EDs, violence is a daily occurrence, with staff reporting several episodes of exposure to violence each week [76,77]. Violent episodes raise concern about the level of risk experienced by staff. Innovative interventions that can prevent de-escalate and assist an agitated individual in the ED should be urgently considered for the reduction and prevention of violence in the ED.

Sensory Intervention in Acute Psychiatry

People with mental illness have been found to be hyper or hyposensitive to sensory input and have associated problems moderating autonomic arousal [23,78-84]. Sensory interventions promote containment of

emotional experiences so that adaptive behaviours can be engaged [84]. Sensory interventions are regularly used in acute psychiatric hospitals [22,85-87].

During a psychiatric crisis, regulation through higher cortical functions such as problem solving, validation, or verbal negotiation is limited as a de-escalation tool [84]. Prolonged stress, acute perceptual and cognitive changes associated with psychiatric symptoms may compromise a person's ability to think and process verbal information clearly [88]. A further contributor to this is the physiological impact of the arousal itself. In states of stress, alarm, or rage, the muscles in the middle ear constrict, decreasing the flexibility of the ossicles, with the result that the human voice is not discriminated from background sounds [22,85-87,89]. The reflex that makes humans scan the environment for threats when feeling unsafe, rather than listen to each other, can contribute to the unreliability of verbal de-escalation techniques [73,90]. Consequently an appeal to the cognitive script or the decision process may go unheard or be misconstrued. Sensory calming may therefore be an important precursor to other therapeutic approaches.

A safe environment consists of two types of sensory input [22,84-87]. External sensory input comes from the organs that communicate with the external world (visual, gustatory, olfactory, auditory, and tactile) and provide information about the safety of our environment. Somatic senses communicate a sense of internal safety, including awareness of firm pressure on the skin (deep touch), the sense of where one's limbs are in space (proprioception), and balance and spatial awareness (vestibular) [22,84,85]. These somatic senses are referred to in the literature as the 'powerhouses of calming', as they provide a grounding orientation for the individual [84,91]. Together these internal and external environmental cues signal safety through activating the parasympathetic neural circuitry. Deliberate use of sensory inputs have been found to regulate arousal and promote adaptive behaviours [22,92].

Australian, New Zealand and American qualitative studies demonstrate that deliberate sensory inputs can shift attention away from negative thoughts or distressing symptoms towards the individual's immediate environment [84,93,94]. Distraction or re-focusing of attention reduces arousal more effectively than venting pent-up feelings. The most helpful forms of distraction reported by consumers' are activities that induced a calm physical state [26,84,93,94]. Examples include listening to soothing music, watching coloured lights, blowing bubbles, sucking sour sweets and doing heavy maze puzzles. The massage chair and weighted modalities (e.g. heavy blanket) are frequently reported as being useful, supporting the notion that sustained stimulation of deep pressure receptors appears to be one of the most effective ways of inducing calm, through 'grounding' the person in their body [84, 94]. Inducing positive experiences and the associated shift in affective state can open up thinking and behavioural repertoires, which can be beneficial during a psychiatric crisis [95].

Research shows that sensory modulation intervention supports de-escalation of arousal or regulation of emotion and could be a valuable intervention to implement with a consumer when they arrive in ED. For example, Sutton and colleagues [84] implemented a sensory modulation intervention into four mental health inpatient units in New Zealand (three adult units, one youth unit), in the form of a designated space (a 'sensory room') equipped with a range of items for various sensory inputs. This range of objects included a massage chair, rocking chair, beanbag, faux-fur blankets, weighted blankets, weighted soft toys, 'stress' balls, and portable audio players with relaxing sounds, aromatic oils and diffusers, scented hand creams, and adjustable coloured ambient lighting. Findings indicated that the sensory intervention facilitated a calm state, enhanced interpersonal connection and supported self-management in consumers who were acutely unwell [84].

Emergency departments consist of aversive conditions such as loud noise, unpleasant odours, and bright lights that increase the risk of agitation and aggressive behaviour by escalating negative affect and physiological arousal [14, 41,43,96]. Sensory aspects of the physical environment could be targeted to reduce agitation and distress and would be a useful tool to trial in ED [23].

Sensory Modulation and Restraint

National and international studies have found that sensory interventions, early assessment of triggers and preferred sensory approaches have been found to reduce restraint and seclusion use in acute psychiatry [22,24-26,86,87,97]. The use of sensory rooms to reduce seclusion and restraint has generated a great deal of interest in Australia in recent years. This is further supported by evidence for self-soothing techniques from dialectical behaviour therapy in the management of distress for consumers with borderline personality disorder, eating disorders and addictions [22,25,26,98]. Studies have formally evaluated the effectiveness of sensory rooms and demonstrated significant reductions in distress associated with sensory room use and in one, seclusion rates were decreased by 54% [24-93].

Trauma Informed Care and Sensory Modulation

Sensory approaches are closely related to trauma informed care and are recovery oriented [22]. Trauma informed care acknowledges the centrality of trauma and its profound impact on a person's perception of emotional and physical safety, sensory sensitivity, behaviours, and relationships [99]. The goal of trauma-sensitive care is to help the individual restore a sense of personal control, safety, and stability through implementation of individualized strategies so that emotional distress is minimized and a more calm, safe, and adaptive state attained [24,93]. Sensory approaches have been found to be helpful for individuals with trauma histories as they foster feelings of safety [23,24,100]. It is estimated that approximately 75% of mental health service users have been significantly traumatised in the past [92,101,102]. Knowing what stimuli triggers stress responses is part of trauma informed care.

The development and use of clinical tools such as mental health care plans, which include sensory profiles that outline an individual's sensory preferences when distressed, can help consumers identify what triggers stress responses and what strategies assist in regaining control [84,22,85-87]. It has been shown that learning about sensory preferences and reactions to certain situations is empowering because useful strategies can be implemented in dealing with perceivably stressful situations [22,84-85]. Sensory profiles already part of the mental health care plan could be utilized in ED.

Sensory Modulation Intervention in Emergency Departments

As the value of sensory approaches gathers momentum in mental health services around the world, we are still far from reaching the full potential of this emerging field in Australia. During the past decade mental health clinicians have begun to understand the relevance of using sensory intervention principles with individuals in acute psychiatric hospitals [22-26,78-87,91-98,100]. The recognition of the value and need for a sensory processing focus has become increasingly evident both in research and in practice. It is suggested that emergency departments too must become more 'sensory-friendly'. In order to achieve this, the need to move away from the stringent medical model focus to one that incorporates trauma informed care should be considered.

There is evidence to suggest that EDs consider the following: (i) modification of the physical environment for mental health consumers both for where they wait and where they are reviewed by the psychiatric

triage or the mental health clinician; (ii) mental health care plans which include sensory profiles be implemented for each individual who presents to ED in crisis. These plans should be routinely completed for individuals case managed in community mental health teams so they can be accessed and implemented immediately by the mental health clinician in ED; (iii) a sensory box, which is a mobile box containing regular sensory self-soothing items; (iv) a sensory room to consist of various items for self-soothing; (v) and ongoing staff education/training. Further, individuals who present to the ED should be reviewed as soon as they arrive in ED and provided with sensory strategies whilst waiting for psychiatric assessment in order to decrease distress, agitation and promote self-soothing and adaptation.

Conclusion

This evidence suggests the ED mental health experience needs urgent research input. The prevalence of individuals presenting to ED in psychiatric crisis is high and increasing. The demands on the psychiatric triage clinician in the emergency departments are high. Consumers report that the wait time and the physical environment of the emergency department are the most difficult aspects of the experience. Evidence shows that utilizing sensory interventions in acute psychiatry facilitates a calm state, enhances interpersonal connection, supports self-management, promotes adaptive emotional regulation, de-escalates arousal, can reduce distress and the rates of restraint. The implementation of sensory strategies in emergency departments may prove to reduce behavioural disturbance and enhance the overall recovery experience for consumers. Further research about the experience of consumers in ED, and the experience of psychiatric triage clinicians is required. Research should be conducted to determine if using sensory interventions with individuals in psychiatric crisis in ED is an effective tool at reducing trauma, improving consumer satisfaction and can reduce time spent in ED's.

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