

Modified Broda Wheelchair as Positive Alternative in Care of Trauma Related Patients with Self-Injurious Behaviors in A Forensic Psychiatric Setting

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Abstract

Multiple investigations have been made regarding ways in which psychiatric patients with self-injurious behavior can be managed. The use of restraints appears to be one of the most adequate tools to ensure patient safety, despite the resultant, negative impacts on patients. In general, most forensic psychiatric policies advise the use of restraints to avoid a patient's harm to self if not cooperative with verbal interventions. To date, little to no research has examined and/or proposed an alternative tool to bed restraints to warrant patient safety during self-injurious behavior crisis. Using triangulation method including direct observation, retrospective method, and unstructured interviews of concerned psychiatric patients, the present paper suggested an alternative option. Twenty-six (26) cases of SIB crisis were randomly monitored and interviewed, and forty-nine (49) charts were reviewed for this study. To this effect, the paper put forth a modified Broda wheelchair, aimed at providing more calming effects, as well as an eye-level socialization and interaction process between involved patient and staff to diffuse the self-injurious behavior and deescalate the tension caused.

Keywords: wheelchair; suicidal behavior; self-injurious crisis; bed restraint; non-coercive technique

Introduction

Self-injurious behavior [SIB] encompasses two types of behaviors, suicidal behaviors that have an intent to end one's life, and non-suicidal self-injurious behaviors [NSSIB] that occur without intent to die (Shafti et al., 2021). People with psychosis and mental illness bear a variety of problems related to their mental status. Verbal and visual hallucinations, poor impulse control, depression, and borderline personality/bipolar are factors that lead patients to develop self-injurious behaviors. It is not uncommon for patients to have a combination of multiple psychiatric disorders or a single set of the above diseases in addition to other comorbidities that renders the management of these patients far challenging. Within this demanding healthcare environment, compounded by acute cognitive impairment, wheelchair mobility warrants focused rather than fleeting/passive inquiry (Kearns et al., 2022). This paper aims to provide psychiatric forensic settings with an alternative instrument to bed restraints in caring for a patient who exhibits self-injurious behavior when verbal intervention fails. Restraints should be used during a patient's SIB crisis to avoid further harm to the patient.

Background

This study was conducted at Napa State Hospital, a state-sponsored forensic psychiatric facility located in Napa Valley, CA, USA. The facility treats patients with criminal backgrounds under California penal code such as incompetence to stand trial, not guilty by reason of insanity, conserves, mental disorder offenders, etc. Patients' diagnosis encompasses a plethora of psychiatric diseases including schizophrenia, schizoaffective, bipolar disorder, depression, alcohol and drug-induced psychosis, personality disorders, poor impulse control disorders, etc. (Kabangu, 2021). Due to treacherous mental health conditions and other unknown triggers, some patients have self-injurious behavior that requires special care.

For the most part, methods of self-harm frequently seen in healthcare include: jumping from shelves, hanging, cutting wrists or other body parts with sharp objects, banging head to wall or bed frame, kicking or punching hard surfaces, drug overdose and strangulation. Napa hospital has been engaged in promoting ligature-resistant environments and many other many strategies are being implemented or in consideration for mitigating the risk of injury. The hospital protocol allows the use of

restraints to care for patients engaged in SIB crisis if other less restrictive interventions are unsuccessful and the safety of patients and staff members is at risk.

The wheelchair that is the object of this paper is called Broda wheelchair, named after the company, Broda Seating (<https://brodaseating.com>); headquartered in Chesterfield, MO, USA, which produces those kinds of wheelchairs. According to the company website, Broda was founded in 1981 to supply seating equipment for healthcare. Broda wheelchairs have come to be fairly common in North America healthcare facilities (Fritz et al., 2022; Quinn et al., 2020). This paper is not one of marketing (any kind of) wheelchairs. Rather, the paper is one of nursing research with the goal to delve into the life quality of selected patients interacting with their mobility devices, and propose an alternative tool to bed restraint.

Significance

With the rise of upgraded, modern technologies coupled with increasing disability and aging population (Ferrucci et al., 2020; Iezzoni, 2012), wheelchairs are becoming commonplace in everyday life. At the same time, however, unlike devices such as iPhones, smartphones, laptops, tablets, TV sets, Bluetooth, etc., that enjoy massive attention of researchers, manufacturers, and policy makers, wheelchairs tend to be the least concern of industry and academia, left at the discretion of dying people. The reason for this neglect might very well be that "Identifying the appropriate wheelchair for a person who needs one has implications for both disabled persons and society... However, policymakers are concerned about the increasing demand for unnecessarily elaborate chairs" (Greer, Brasure, & Wilt, 2012, p. 141). Cost and technological sophistication of wheelchairs can derail research and industry attention, but among medical equipment, to give just one example, wheelchair devices are not the only ones to somewhat imply sophistication and cost. Moreover, when wheelchairs are mentioned in healthcare literature (De Silva et al., 2019; Khalili et al., 2022; Kearns et al., 2022; Wołoszyn et al., 2022), they are regarded as part of the insured-medication package made available and distributable to older adults in nursing homes, with little to no attention given to the functionality of wheelchairs and their impact on the lives of wheeled-mobility individuals. The same holds true for manufacturing engineering, more precisely, ergonomics also called human engineering, an applied science that investigates the interactions of humans with equipment to enable greater efficacy and safety. Ergonomic/manufacturing research on wheelchairs is research that primarily tests the abilities of and responses from able-bodied persons, much less cognitively ill patients (Gawande et al., 2022; Hers, Sawatzky, & Sheel, 2016; Silva, Paschoarelli, & Medola, 2019; Weston, Khan, & Marras, 2017). This paper assesses the functionality of Broda wheelchair among mentally impaired patients in a psychiatric state-sponsored hospital of California. The paper does so by probing the predominant method of bed restraint in a forensic, psychiatric hospital. The paper focuses on the phenomena of NSSIB and SIB encountered with selected psychiatric patients, all of which tend to escape the attention of healthcare literature alluding to wheelchairs.

Question of interest

The explorative purpose of this study was to analyze the outcomes of different treatment plans applied in care of forensic psychiatric patients in self-injurious/self-harm crisis to avoid further trauma thereof, with the following strategies:

1. Bed restraints
2. Chemical restraints,
3. Modified Broda wheelchair.

Literature review

Self-injurious behavior can be understood as a dimensional spectrum of urgent clinical concerns (Oldham, 2015). It includes on the one hand, non-suicidal self-injury which is the deliberate damage or destruction of body tissues without intent to die. On the other hand, there is suicidal self-

injury that is an attempt to die. SIB is a crisis that requires prompt response from nursing staff members to ensure the safety of patient or staff involved.

Most of patients in NSSIB and suicidal self-injurious behavior crisis are agitated. They may present aggressive behavior to themselves and to others; this is termed "dual-harm" (Slade, 2019, p. 75). While self-harm and aggression may basically appear distinct, research has consistently shown that these behaviors co-occur across various populations (Shafti et al., 2021). Patients who harm themselves are said to be eight times more likely to harm treatment staff, compared to non-self-injurious patients (Young, Justice, & Erdberg, 2006). Patients in NSSIB/SIB crisis are often not cooperative with verbal directions from nursing staff members trying to stop the resulting harmful behavior. Even though many factors are causes of NSSIB/SIB, emotional deregulation has been pointed out as the principal factor. "Emotional deregulation has gained great support as core component of self-harm" (Shafti et al., 2021, p. 2). However, some authors stipulated that SIB is a coping response to stress (Brown, Comtois, & Lineham, 2000; Deiter, Nicholls, & Pearlman, 2000; Whitlock, Powers, & Eckenrobe, 2006). Management of emotional deregulation necessitates time to learn skills and strategies to be used when patients are in crisis. Therefore, patients in NSSIB/SIB present an imminent danger to selves. Stopping these patients from inflicting further injuries to themselves and others is a responsibility of any healthcare provider who witnesses the behavior at hand.

As noted earlier, while population rate is growing across cities around the world due to the rapid advancement of technologies in matters of communication, transportation, agriculture, healthcare, etc. aging and disability are rising to the forefront (Ferrucci et al., 2020; Iezzoni, 2012; Kanasi, Ayilavarapu, & Jones, 2016). Consequently, advanced medication and customized healthcare equipment such as wheelchairs, crutches, dentures, eyeglasses, etc. are entering the daily routine of modern societies. This is quite different half a century or so ago. Still, the fact that wheelchairs are not as researched as new technologies is rather far more questionable. Indeed, mentions of wheelchairs appear to be limited to nursing homes or assisted-living homes of seniors (De Silva et al., 2019; Khalili et al., 2022; Kearns et al., 2022; Wołoszyn et al., 2022). Wheelchairs are thus medical products made available to older adults, to be disposed of when these individuals pass away. To add to this shortcoming, manufacturing or human engineering tend to refer to able-bodied individuals to test the maneuverability of wheelchairs (Gawande et al., 2022; Hers, Sawatzky, & Sheel, 2016; Silva, Paschoarelli, & Medola, 2019; Weston, Khan, & Marras, 2017). Understandably, convenience (i.e., versatility of movements and positions) and liability (i.e., the disabled/sick being a highly legally protected class) might account for this option of experiment. In order to avert the damage caused by bed restraints prevalent in psychiatric settings, research on wheelchairs and related techniques to foster de-escalation and ensure the safety of all involved goes without saying.

Method

To take a deeper look into the unpredictable phenomena of NSSIB/SIB, this paper was based on triangulation method. The point being that two main distinct methods of qualitative study were used including direct observation and retrospective method. In addition to these two methods, unstructured interviews were conducted with some patients during the evaluation of release criteria and patients' teaching/training. As Noble and Heale (2019) stated, triangulation is a technique used to increase the credibility and validity of research findings despite one of its potential limitations consisting in requiring much time. The method entails the use of two to more techniques/perspectives.

Direct field observation

Direct field observation or direct observation method allows a researcher to examine a phenomenon in its natural context. Direct observation avoids

a researcher's dependence on the perceptions, understanding and accounts of respondents, by causing the researcher to discover aspects of study that participants may be unaware of, or which for some reason participants may find difficult to articulate (Dean, 2019). Direct observation of participants offers an understanding of participants choices and reactions to situations in their natural setting, as opposed to settings predetermined/manipulated by the researcher. As described earlier, this study attempted to analyze patients' responses to de-escalation treatment provided through modified Broda wheelchair, bed-restraints, and chemical restraints during NSSIB or SIB crisis. Observation method is an empirical research method that helps to generate accounts of first-hand, real-world naturalistic events to gain insights into the defining characteristics, and contextual and time-sensitive qualities/properties of these events (Katz-Buonincontro & Anderson, 2018).

Retrospective method

To further understand participants' responses to used caring methods, retrospective method or retrospective review enhanced this paper's understanding/knowledge by analyzing data collected from participants' charts. Retrospective review of participant charts helped to audit data to discover participant's outcome/practice. Data from participants' charts consisted of reports of other nursing staff members who monitored participants during different NSSIB crisis. These reports include observation sheets, interdisciplinary notes, debriefing notes and physician's progress notes. Retrospective method fits this paper because it is an efficient and quick method of clinical research and is particularly useful when studying a rare outcome for which a prospective study is not feasible (Hendrix & Griessenauer, 2019). NSSIB and SIB are rare events that occur sporadically, and their management is immediate implementation of a treatment plan, which makes a prospective study less feasible. Participants' chart review helped to compare the researcher's own observation reports on other observers to yield similarities and differences in participant's responses to treatment method used during NSSIB crisis.

Unstructured interviews

Unstructured Interviews can be defined as an interview process in which questions asked are not systematized across interviewees, and the interviewer focuses on open discussion to evaluate interviewees' responses (Jason, Dawes, & Peterson, 2013). In other words, unstructured interview is sometimes referred to as in-depth interview due to the tendency of engaging with the units of analysis to generate crucial/detailed information about participants' personal experiences and perspectives (Bihu, 2020). During the evaluation of patients' readiness to be released from restraints and patient's response to de-escalation interventions, unstructured interviews were conducted with some patients. Data were collected to analyze patients' in-depth feelings regarding the treatment plan implemented to manage the patient during NSSIB/SIB acute crisis.

Unstructured interviews were conducted during patient's teaching and reevaluation of release criteria. It was observed that patients participated actively in conversation when staying at patient-staff eye level. In addition, staff were able to respond to patients' change of position and milieu while Broda wheelchair alleviated patients' fear of being punished when trapped in bed restraints. Most of patients interviewed concluded that their self-injurious behavior was not an appropriate response to their concerns. Patients were willing to engage in behavior change and agreed to a no-violation contract.

Population and data collection

The population sample of this paper is a group of 26 patients randomly monitored by the researcher during their NSSIB crisis. These patients were taken from different units and had different mental disease diagnoses. Patients were directly observed, and data regarding their attitudes, interactions with observers, and responses to intervention from

other healthcare providers including psychologists, social workers, therapists, and psychiatrists were collected. In addition to naturalistic observation of participants, a review of 49 charts of patients who were in NSSIB crisis was conducted. Summary report from nursing staff members and participants behavior collected every 15 minutes on observation sheets helped to find how participants reacted to different treatment plans. It is important to note that participants were monitored during different working shift including, daytime, evening, and night. Worth-noting also is that some patients had 4 to 5 episodes of self-injurious crisis during the investigation period.

Findings

Following are some observations made during the monitoring of patients managed with modified Broda wheelchair.

1. Patient A: This patient had many episodes of self-injurious behaviors. He was not cooperative with staff direction to stop hitting his head on the floor after throwing himself down on the floor. He was placed on modified Broda wheelchair to prevent further damage. After being placed in modified Broda wheelchair for 40 minutes, the patient asked to go watch one of his preferred TV-shows in the TV room. His behavior deescalated faster than anticipated, and he signed the not hurting agreement after roughly an hour and half. He was reevaluated by unit psychiatrists and psychologists and the plan of care was switched from Modified Broda wheelchair to constant continued observation.

2. Patient B: This patient has a history of severe SIB. He was in SIB crisis after discussing his legal case with his treatment team. He was observed bleeding from his right hand. He was managed with Modified Broda chair [MBC] to avoid further trauma to his body. He requested to take his courtyard break with peers after being in MBC for 50 minutes. Even though he was still upset and frustrated by his discussion with his treatment team and had suicidal thoughts, he was involved in moving around in the courtyard helping peers who played basketball by giving them the ball back when it fell near him. Before the end of the courtyard his demeanor improved. He was able to discuss with staff and express his feelings friendly. After patients' teaching on coping skills by staff, he deescalated and was released from modified Broda wheelchair and placed on other observation protocol for safety reasons.

3. Patient (C) was in SIB crisis and had expressed suicidal ideation after talking with relatives on payphone. She started hurting herself by hitting her head on the bed frame because her parents told her that they could not come to visit her as promised due to a family emergency. She was managed with modified Broda wheelchair protocol for protection of self. After hours of agitation, she started moving in the unit's hallways and requested to attend a group meeting held in the unit. She attended the group meeting with passionate participation. She had an opportunity to talk with the unit psychologist and psychiatrist who after evaluation decided to change her observation status from modified Broda wheelchair to close constant observation [CCO].

4. Patient (D) has history of SIB combined with some aggressive behavior to others as well. He started kicking the bed frame and bleeding abundantly until a peer informed staff about the incident. He could not stop when redirected. He threw a piece of a paper cup at staff who approached to stop him. He was managed with Modified Broda wheelchair. After 30 minutes he asked for medical treatment that he refused earlier. He was treated and discussed with nursing staff about the incident. It was noted that he was hearing voices and he could not stop them from telling him to kill himself because he was a devil.

5. Patient (E) has a history of suicide attempts. He expressed suicidal thoughts with plan to jump either from the window or the room locker. After being managed on CCO for safety of self, he managed to smash his left hand between his room door and the door frame. After evaluation by the unit psychologist his monitoring plan was changed from CCO to MBC. After discussing with monitoring staff about his frustration and

behavior, coping skills became standards of his behavior management. During SIB crisis, he deescalated faster than thought by interacting with peers while apologizing to them. Staff had the opportunity to discuss with him and provided patients' teaching at patients' place of choice, which was the unit's conference room.

Patients' records show that patients in SIB crisis started to deescalate after 30 minutes to two hours after being placed in modified Broda wheelchair. It was found that this timing of de-escalation is related either to patients' opportunity to have control of themselves by moving in the unit and participate in unit scheduled activities; or patients' teaching provided by staff who can be closer to patients and talk at eye level.

In sum, the management of patients wrestling with SSI/NSSIB was the center of this study. Bed restraints has been the main tool used to protect these patients from further trauma despite the negative physical, moral, and psychological impacts of this tool. Broda wheelchair can be a better alternative to bed restraints to protect patient in SSI/NSSI crisis. It helps patient to gain control of self and help regulate their emotion ((Shafti, et al., 2021). Broda wheelchair offers patient in crisis the opportunity to socialize with peers and explore the milieu and participate in activities as other peers. Moreover, Broda wheelchair presents less physical, pulmonary, and cardiovascular consequences compared to bed restraints (McCall et al., 1995; Sukov, 1972).

Discussion

Napa hospital champions the use of non-coercive techniques to handle patients with NSSIB/SIB. In general, individual and groups therapy such as dialectic behavioral therapy, cognitive-behavioral therapy, interpersonal psychotherapy, psychodynamic therapy, etc. are among techniques used to train patients on coping skills and strategies to manage their NSSIB/SIB behaviors. In these group therapies, patients are taught skills and strategies for managing emotions, handling conflict, and building tolerance for uncomfortable feelings (Glenn, Franklin, & Nock, 2015). The hospital focuses more on dialectic behavioral therapy because the therapy prioritizes reducing life-threatening behaviors and leads to greater reduction in NSSIB and SSI (Turner et al., 2014). In addition to skills and strategies taught in groups therapy, some authors advised the use of tension-releasing activities such as taking a bath, working in the garden, or hitting golf ball (Deither, Nicholls, & Pearlman, 2000).

Bed-restraints

Like in correctional settings, forensic psychiatric facilities, the application of "standard" clinical approaches to manage self-injurious behavior cannot be feasible (DeHart, Smith, & Kaminski, 2009). When a patient engages in NSSIB with aggression or without aggression to others, and does not cooperate with less restrictive intervention, nursing staff members have the responsibility to protect the patient from further injury. A common intervention to stop the patient from further injury is the use bed restraints (see Table 1), because NSSIB/SIB is an aggressive act toward self.



Table 1: Bed restraint

Patients' history of deliberate self-harm and violent behavior are interrelated, and it is difficult to analyze one without discussing the other (Silmi et al., 2017). Bed restraints are the most common techniques used in clinical management of patients in NSSIB/SIB acute crisis. Bed restraint technique refers to physically restricting a patient's movement. In other words, the technique consists in confining the upper and lower extremities of the body on a specially designed bed. There exists "4 point" or "5 point" restraints.

The number of application points and the placement of restraints are important in ensuring the balance between minimizing complications and satisfactory result (Eskandari et al., 2016; Gastmans & Milissen, 2006; Smith et al., 2003). Bed restraints helps to prevent further damage to patients, or other clinicians. However, the Joint Commission on Accreditation of Healthcare Organizations [JCAHO] and the Crisis Prevention Institute ascertained in their psychiatric guidelines about restraint and seclusion that all patients have the right to be free from restraint or seclusion, except to ensure the immediate physical safety of patients, staff, or others (JCAHO, 2010).

Chemical restraints

Chemical restraints have been issued in management of patient in NSSBI/SIB crisis (see Table 2). It consists of the use of some medications such as benzodiazepines and antipsychotic in conjunction with or in place of physical restraints (Cobum & Mycyk, 2009; Guerrero & Mycyk, 2020). Chemical restraints have been advised in management of patients in acute crisis of self-injurious behavior due to the ethical considerations of physical restraints (Silmi et al., 2017). In fact, the prevalence of chemical restraints in management of NSSIB in certain settings exceeds 30% (Jacob et al., 2016). The aim of chemical restraint is to achieve sedation that will minimize the risk of harm to patients and other clinicians (Horsburgh, 2004). Self-injurious behavior may have multiple causes or triggers; therefore, some antipsychotic medications are also used to deal with patients' mental disease which may be a cause of this behavior. For instance, some patients' self-injurious behavior can be caused by auditory command hallucination that entices a patient to harm himself. Benzodiazepines and antipsychotic medications combined are therapy of choice in dealing with patients in self-injurious crisis.

**Table 2:** Injection procedure**Modified Broda wheelchair**

Broda wheelchair is a wheelchair that traditionally offers tilt-in-space positioning chairs with the comfort tension seating system which prevents skin breakdown through reducing heat and moisture for people (see Table 3). It is commonly used in long-term care/skilled nursing facilities or home care to prevent falls. Modified Broda wheelchair is a wheelchair

with added restraints on arm rest, footrest and on waist level. Restraints on arm rest are used to restrain a patient's wrists, while those on footrest are used to restrain lower extremities, especially the ankles areas. It also has additional restraints that hold waist area via a patient's thighs. Modified Broda wheelchair can be set at certain inclination degree to offer different positions such as semi-fowlers, fowlers, that accommodate the patient.

**Table 3:** Broda wheelchair

There exists a great consensus among healthcare practitioners about the efficiency of bed restraints in clinical management of patient in acute NSSIB crisis to avoid further injuries.

However, using restraints to care for a patient presenting imminent danger to self or to others comes with medical and psychological consequences such as anxiety, loss of self-esteem and dignity, respiratory problems for patients with asthma, cardiac rest for obese patients and patients with cardiovascular diseases. According to W.K. Mohr, Petti, and B.D. Mohr (2003), bed restraints have been causing injuries, even death of a patient due to (1) positional asphyxia. It was demonstrated that keeping a patient in bed restraints restricts thoracic respiratory movements which induces airway compromise, and (2) aspiration, in addition to compromised airway, patients in bed restraints are kept in supine position that may predispose to aspiration. Immobility of patients in bed restraints interferes with patients' ability to protect their airway. In short, injury or death of a patient in bed restraints can occur as a result of asphyxia, acute pulmonary edema, or pneumonitis. Fatal pulmonary embolism and thrombophlebitis have been mentioned as complications of severe catatonic states during which patients are immobile for a long period of time (McCall et al., 1995; Sukov, 1972). "The 1998 Hartford Courant investigation noted that between 1988 and 1998, 142 reported deaths in mental health settings were connected to the use of physical restraint" (Weiss, 1998). Moreover, abrasions and bruising are the most common injuries sustained by patients in bed restraints. It is also documented that protracted struggling against restraints can lead to hyperthermia, increased sympathetic tone with vasoconstriction, and lactic acid release from prolonged isotonic muscle contractions causing metabolic acidosis with cardiovascular collapse as a consequence of metabolic acidosis (Corburn & Mycyk, 2009).

In addition to patients' physiological and physical injuries due to bed restraints, literature reports psychological trauma that occurs during restraints such as feelings of loss of dignity and respect, degradation, demoralization, decreased self-esteem and self-confidence, dismissal, humiliation, fear, distress, anxiety, disempowerment, hopelessness, helplessness, loneliness, despair, frustration, grief, anger, struggle, destructiveness, distrust, rejection, and resistance (WHO, 2019). This psychological trauma brings a cascade of emotional feelings that affect patient well-being and increase patients feeling of being punished.

Chemical restraint has been an alternative less used in the management of patients in self-injurious behaviors. It helps patient to deal with anxiety and other psychosis, but it is most used in dual-harm (Slade, 2019). Therefore, chemical alternation will not be analyzed in depth in this paper because it impacts more the psychotic aspect of a patient than a patient's main cause of SIB behavior which is emotional deregulation.

During the observation of patients managed with modified Broda wheelchair, it became apparent that these patients deescalate faster than those managed on bed restraints. Patients seemed less stressed out despite their deregulated emotion. Despite the fact that some patients became agitated as they were released from restraints on modified Broda wheelchair, they settled down faster than expected because they had the opportunity to move around in the unit's hallways, and even stay in the recreational hall to watch TV or participate in group sessions held in the unit by ancillary staff.

Limitations

The present paper suffers from two key limitations. On the one hand, the impaired cognition typical of the investigated patients undermines the

participants' perceptions of wheeled mobility and the understandings thereof. This can lead to skewed outcomes of research. On the other hand, the random selection of interviewees is less likely to generate the needed critical information of inquiry. Nonetheless, obtained results of targeted wheeled patients outweigh the aforesaid limitations and present researchers with newer insights into how to improve the efficacy of wheelchairs (in lieu of bed restraint) as well as the life quality of concerned patients and healthcare givers in a forensic, psychiatric setting.

Conclusion

The severity of forensic, psychiatric conditions along with dangerous SIB and NSSIB of patients call into question the various restraint techniques and tools encountered in healthcare practice, and thus warrant deeper psychiatric, nursing inquiry. In this paper, modified Broda wheelchair proved to be a better alternative tool to the techniques of bed restraint to ensure a patient's safety during SSI/NSSI crisis. Modified Broda wheelchair motivates patients in SSI/NSSI crisis to socialize/bond with peers, reintegrate the milieu, and immerse themselves in activities as fully as others. One of the greatest benefits of modified Broda wheelchair is that it releases patients from the physical, pulmonary, and cardiovascular pressures inflicted by bed restraints. Examining the efficacy of wheeled mobility and the life quality of patients and healthcare givers living in and dealing with unpredictable, acute conditions can reduce unnecessary damage and treatment while enabling adequate equipment. Along these lines, Modified Broda wheelchair is suggested to be a modest contribution to move forward with existing healthcare research.

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