Stress Management Techniques in the Prison Setting

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**ABSTRACT**

**Background:** The percentage of incarcerated individuals in the United States is currently close to an all time high, and more stressful places than prisons are hard to find. Because registered nurses and advance practice nurses are often the only healthcare providers readily available to prison inmates, nurses need a repertoire of effective strategies to minimize prisoners’ stress-related symptoms and behaviors.

**Purpose:** The purpose of this critical literature review was to identify the state of knowledge about using stress management techniques (SMTs) in the prison setting for reducing psychological problems and/or behavioral problems in male and female adult prison populations.

**Methods:** A comprehensive, systematic integrated literature search was performed using multiple relevant databases to identify studies using various SMTs for incarcerated adults.

**Findings:** Although clinical practice recommendations for the use of SMTs in the prison setting cannot be made with strong certainty, nurses working in the prison setting should continue to incorporate muscle relaxation, Transcendental Meditation, and certain Eastern meditative practices in the care of their clients because of the safety and possible positive impacts and practicality these methods have in this setting.

**KEY WORDS:** Mindfulness; prisons; prisoners; stress management techniques

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**Introduction**

**Statement and Development of Problem**

The percentage of incarcerated individuals in the United States (U.S.) has been at an all time high for the last few years with about 0.7% of the adult population currently incarcerated (Glaze, 2011). This is higher than in any sovereign nation in the world, and possibly the highest percentage of incarcerated adults of any nation in the history of mankind (International Center for Prison Studies, 2011; Samuelson, Carmody, Kabat-Zinn, & Bratt, 2007). The latest data from the Bureau of Justice, indicates that 1,937,500 adults were incarcerated in the U.S. in 2010 representing a slight decrease from the previous year. It remains by far the highest rate in the world with 732 of 100,000 American adults incarcerated which is 0.732% of the entire adult population of the United States (Glaze, 2011). This is dramatically higher than any country in the world with the countries in the distant second and third place being Rwanda and Georgia (formerly of the USSR), respectively (International Center for Prison Studies, 2011). There is much evidence, mainly quantitative in nature, regarding the extreme stress to which inmates are often exposed, although some qualitative studies have also been completed on the stress-related experiences of prisoners in different contexts (Cohen, Kessler, & Gordon, 1995; Harner, Hentz, & Evangelista, 2011; Lutz, 1990). This indicates the need for specific interventions in the prison setting to reduce the stress levels of these prisoners. Because registered nurses (RNs) and advanced practice nurses (APNs) are often the only mental health providers readily available to prison inmates, nurses need a repertoire of effective strategies to minimize prisoners’...
psychological problems and/or behavioral problems (Bernier, 1986; Heines, 2005; Lutz, 1990; Sloan, 1988).

Studies have demonstrated that the less stress people experience the less behavioral and psychological problems they will experience; there are some strong indications that this is true for the prison population as well (Lehrer, Woolfolk, & Sime, 2007; Meichenbaum & Jaremko, 1983). Stress management techniques (SMTs) are often accessible and easy to apply in a group setting (Lehrer & Woolfolk, 1993; Monat, Lazarus, & Reevy, 2007). SMTs generally do not require extensive specialization or training to be implemented (Lehrer et al., 2007; Micozzi, 2006). Nurses working both in correctional facilities and in mental health settings where prisoners receive services could benefit from knowledge about evidence-based SMTs to use with the prisoners to whom they provide healthcare services.

The purpose of this critical literature review is to describe the evidence for using specific SMTs to reduce psychological and/or behavioral problems in an adult prison population. In this article, we identify the types of SMTs used with this population, research outcomes of using SMTs for incarcerated adults, and discuss the strength of the evidence for their application. It is important to note here that when discussing SMTs in the prison setting in the context of this paper what is being referred to are specific clinical interventions, not manipulation of environmental, policy, or systems variables, which could certainly affect stress levels of prisoners, but fall outside the scope of this paper.

Methods of Critical Review

Literature Search

The search words stress management/stress reduction/relaxation techniques/meditation AND/OR prisons/prisoners were applied to the searches in PsychInfo (1806 to 2011), CINAHL (1982 to 2011), Medline (1950 to 2011), Allied and Complementary Medicine (AMED), Google Scholar, and the Cochrane Systematic Reviews databases. Subject headings given in each database pertaining to stress management (either stress management or stress reduction), were used to further broaden the search and then matched with AND prison OR prisoners. To conduct the broadest search possible these databases were chosen as they appeared most likely to contain the subject matter under investigation. To further narrow the literature search, a well-respected textbook in the SMT field, *The Principles and Practice of Stress Management* (Lehrer et al., 2007), was used to guide a more detailed search. Each intervention identified as a SMT in this book was searched specifically along with the keywords AND prison OR prisoners in the previously noted databases to make sure no relevant studies were omitted. Searches were limited to English language abstracts, and literature with an English abstract but with the main text written in English, German, or any of the Scandinavian languages.

Thus, a detailed search encompassing the literature available on SMTs used with adults in the prison setting was conducted, concentrating on original studies which focused on the efficacy and the benefits of the interventions involved. References in the relevant published studies were carefully screened and the original articles retrieved if useful. This was repeated until no new material relevant to the topic of this paper was discovered through either database or hand searching. Articles published about the same study were eliminated from review if no new findings were provided in subsequent publications.

Exclusion/Inclusion Criteria

Any published original research directly pertaining to SMTs with incarcerated adults was included in the search. Only English language articles are described in this paper but articles in both the Scandinavian and German languages were evaluated but failed to meet inclusion criteria (e.g., case studies or did not utilize a SMT as their main intervention). The population examined was adult male and female prisoners. Six studies did include a few prisoners under the age of 18, three of which were conducted in prisons in the developing world (India and Curaco), and were included in this review as the facilities were not juvenile facilities and only a small number of the participants were under the age of 18 (Chandramani, Verma, & Dhar, 1998; Hawkins, 1998; Jain, 2003; Khurana & Dhar, 2000; Murphy, 1995; Shanmugan, 1992).

Criteria for Evaluating Research Studies

Using a descriptive matrix for organizing the relevant literature each study was described by the type of SMT used, study design, type of study subjects, outcome measurement tools, and major research findings. Strengths, limitations, validity, and reliability of each study were also examined and evaluated. A matrix column was reserved for any comments and observations about the study or findings that might contribute to understanding the use of SMTs.

We used a six-step hierarchy of evidence suggested by Stetler, Brunell, Giuliano, Morse, Prince and NewellStokes to assess the strength of research findings in this critical literature review (Stetler, 1998). In Appendix S1 (see Supplemental Digital Content 1, http://links.lww.com/JFN/A1) we have summarized in a table format the main results of each study, types of studies, number of subjects, and level of evidence.

Findings

Descriptions of SMTs

The findings of the 29 distinct original studies measuring the effects of SMTs with adults in the prison setting were
discovered in 32 different publications. These were selected from over 300 publications that were identified using the original search criteria, a majority of which were excluded based on this criteria. There was a great range in number of subjects participating in the studies ranging from 5 to over 1,500 participants, but most commonly the number of participants ranged from 50 to 250 participants (see Appendix S1 for details). Categories of SMTs in this search were categorized as: (1) muscle relaxation, (2) Transcendental Meditation (TM), (3) Eastern meditative practices, (4) cognitive methods, (5) autogenic training and biofeedback, (6) music therapy, and (7) eye movement desensitization and reprocessing (EMDR).

**Muscle Relaxation**

Two major SMTs belong to the muscle relaxation category, progressive relaxation originating from the works of Edmund Jacobson formulated early in the last century, and abbreviated progressive relaxation training, an abbreviated or slightly altered form of progressive relaxation (Lehrer et al., 2007; McGuigan & Lehrer, 2007; Monat et al., 2007). These muscle relaxation methods are designed to intervene in a vicious fear and anxiety cycle by supplying persons thus affected with the proper tools to reduce the body’s autonomic responses to fear and anxiety. A common practice is tensing and relaxing muscles, in a progressive systematic manner, starting at either the top and working ones way down the body or starting at the bottom and working ones way up, tensing but eventually relaxing each muscle group encountered. When individuals learn how to use these techniques, they can reduce the levels of stress-related discomfort to a considerable degree (Lehrer et al., 2007; McGuigan & Lehrer, 2007; Murphy, 1995). Seven studies used a muscle relaxation approach as a study intervention.

**Transcendental Meditation**

TM is sometimes referred to as mantra meditation along with other meditation methods that rely on repetition of a single phrase or sentence to focus the mind (Carrington, 2007). TM is a meditation practice that reached popularity in the west in the mid-1960s and became quite popular following the Beatles practice and praise of the method around that time (Micozzi, 2006). Its founder, Maharishi Mahesh Yogi, brought a modified version to the United States from India so that Westerners could more easily apply Eastern meditative practices unto their daily lives. The TM student is given a mantra, either a word or a sound, which is to be repeated silently in the mind while sitting comfortably, preferably in a place without external interruptions (Alexander, Robinson, Orme-Johnson, & Schneider, 1994; Micozzi, 2006). The method is usually practiced twice a day, in the morning and evening time, for 20 minutes at a time. This practice is meant to produce a state of restful alertness slowing down the physiological processes of the body which again is meant to improve neurological function and general state of well-being (Orme-Johnson & Moore, 2003).

**Eastern Meditative Practices**

This category encompasses many similar schools of thought from the Eastern meditative disciplines. One method reviewed in this paper relied on “mantra meditation” in a similar way as TM described previously (Bunk, 1979). Four studies used the process of Vipassana meditation, often conducted in a 10-day silent retreat that demands abstinence from killing, stealing, sexual activity, speaking falsely, and intoxicants. The participants take part in escalating sessions of silent meditation, focusing on breathing and the flows and currents of the body ( Bowen et al., 2006; Simpson et al., 2007; Vipassana Meditation, 2008, p. 1). Yet another intervention used in one of the studies was a 9-day Preksha meditation retreat. This technique is very similar to Vipassana Meditation, using the breath as an anchor to teach meditation, helping students to focus on processes in the body, becoming present in the moment, and eventually aware of their surroundings ( Jain, 2003; Micozzi, 2006). These practices, and many more, including mindfulness meditation, all are based on similar ideology and methods, focusing on body sensations and following certain Eastern philosophies such as nonviolence, nonjudgment, and cultivating a universal attitude of loving- kindness (Micozzi, 2006).

Other studies in this category relied on a more western adoption of mindfulness meditation but are still very similar in principle to the Preksha and Vipassana meditation approaches. Mindfulness is a term popularized by Jon Kabat-Zinn in the 1980s but its origins are probably over 2,500 years old (Micozzi, 2006). Reducing stress is merely intended as a byproduct of this practice but nurturing the balance of the mind is its true aim, which allows practitioners to face life’s calamities with clarity, stability, insight, and serenity (Micozzi, 2006). The specific technique that Kabat-Zinn and colleagues have developed over time is called Mindfulness-Based Stress Reduction (MBSR) delivered in an 8-week program, with weekly 2–4 hours sessions and one whole day retreat.

The methods used include yoga techniques, silent meditation focusing on breath, meditation focusing on loving and kind thoughts, and a “body scan,” a method quite similar to most progressive relaxation techniques (Kristeller, 2007; Lehrer et al., 2007; MacKenzie & Goodstein, 1986). Other studies employing mindfulness techniques use similar methods, but do not adhere strictly to Kabat-Zinn’s curriculum and thus refrain from using the MBSR.
label (Murphy, 1995; Perkins, 1999; Vannoy, 2006). One study implemented a meditation intervention based on Benson’s Relaxation Response (Sumter, 2009).

Cognitive Methods
The cognitive methods used in these reviewed studies were a cognitive behavioral therapy psychoeducational program and Stress Inoculation Training. Cognitive behavioral therapy focuses on affecting the individuals’ conceptualization of the stressful event and the effect on the individual (Prezter & Beck, 2007). It is one of the best known and researched approaches in modern psychiatry and has been used successfully, sometimes in lieu with other methods, to treat depression, anxiety, eating disorders, and a plethora of other psychological disorders (Monat et al., 2007; Vannoy, 2006). Its main aim is to identify dysfunctional thoughts and cognitive distortions individuals are faced with, related to the stressful events or circumstances and then to rectify/modify these thoughts and distortions through various methods (Lehrer et al., 2007; Meichenbaum & Jaremko, 1983; Prezter & Beck, 2007).

Stress Inoculation Training emphasizes the important role of the “cognitive-affective appraisal processes and coping activities” (Meichenbaum, 2007, p. 500). It is based on the transactional view of stress and coping as described by Lazarus and Folkman who suggested that stress is present when the perceived burden of a given circumstance exceeds the perceived assets of the system, be it individual, prison inmate, a family, or a community of some sort (Meichenbaum, 2007, p. 499). The promoters of this technique describe it as a flexible and individualized form of cognitive behavioral therapy (Forde, 2005). The specific application of this technique will vary and depend on the type of stressors faced by clients, and the extent and nature of their coping mechanisms (Forde, 2005; Lehrer et al., 2007; Meichenbaum, 2007).

Autogenic Training and Biofeedback
Two studies from this category were included in this paper, representing two main methods: autogenic training and biofeedback. Biofeedback is a popular and widely used method for teaching voluntary control of different physiological processes by providing the patient with in-stantaneous feedback for any changes in his/her physiological status, which is being monitored (Lehrer, 2007). Physiological devices are most often used to indicate to the patient feedback in a visual and/or auditory manner on what is the state of the physiological phenomenon being monitored (Thomson, 1988). Common physiological markers include heart rate, heart rate variability, breathing rate, muscle tension, finger temperature, and blood pressure levels. The patient is instructed in various ways to focus on the marker to affect it, thus both creating a focus for diverting attention from stressors and learning to directly affect the physiological markers involved. This practice influences levels of psychological stress in a positive way, like other practices that teach patients to reduce the physiological responses of the body to stress (Lehrer et al., 2007; Lehrer, 2007; Thomson, 1988).

Autogenic training is one of the oldest biobehavioral approaches still widely used in the Western Hemisphere (Norris, Fahrion, & Oikawa, 2007). Based on the works of German neurologist, J. H. Schulz (1884–1970), it is a form of self-hypnotic procedure or self-exercise. Although there are different schools of thought, the “classical” method requires that the patient concentrate in a passive manner on his/her own body sensations without trying to affect them at all, contrary to the method often used in biofeedback (Vasilos & Hughes, 1979). Six standard formulas are used to direct the patients’ attention in a passive way to a certain part of the body, resulting in decreased stress and increased physical well-being (Lehrer, Carr, Sargunaraj, & Woolfolk, 1994; Lehrer et al., 2007; Norris et al., 2007; Vasilos & Hughes, 1979).

Music Therapy
Three studies included music therapy as an intervention, but music therapy has been defined as “... a systematic process of intervention wherein the therapist helps the client to promote health, using music experiences and the relationships that develop through them as dynamic forces of change” (Dileo & Bradt, 2007, p. 442). Studies dating back as far as the 18th century have explored the effects of music therapy on various human disorders such as Alzheimer disease, anxiety, terminal illness, and various other physical and mental disorders (Dileo & Bradt, 2007).

Eye Movement Desensitization Reprocessing
Eye movement desensitization reprocessing generally referred to as EMDR was developed by Francine Shapiro in the late 1980s (Hyer & Kushner, 2007). EMDR assumes that most problems arise from flawed learning, maintaining a holistic and inclusive concept of how a person learns (Hyer & Kushner, 2007, p. 564). A structured multiphased process is used to introduce the patient to the full method. The patient is asked to experience the relevant moment, i.e., trauma, and then discuss the emotions and sensations that come out of that experience. These sensations are experienced in the context of a safe and highly structured environment using a specific recollection method for triggering incorrectly stored memory and resolving it through certain eye movement techniques. Although mainly intended for the treatment of past trauma, some of the outcome measurements used to measure the efficacy of this intervention make it relevant to the topic of this paper (Colosetti & Thyer, 2000; Hyer & Kushner, 2007; Lehrer et al., 2007).
Hierarchy of Evidence
Each of the 29 studies included in this review were graded on the strength of the evidence presented by the research findings (Salmond, 2007). We used an evidence-based hierarchy developed by Stetler et al. (1998). This six-step hierarchy is depicted in Table 1 with meta-analyses of controlled studies at the top representing the most reliable evidence (Level I).

No meta-analyses on the use of SMTs in the prison setting were found in this review. Eight studies were identified as individual experimental studies using a rather generous definition of the term. These eight experimental studies all randomized subjects to an experimental group and a control group. The majority of the studies (17 of 29) reviewed in this paper were quasi-experimental studies while three were nonexperimental, and one a program evaluation (Level V).

Critical Review of Findings
After a comprehensive review of the literature on the efficacy of various SMTs in the prison setting, it can be stated that the categories of muscle relaxation, TM, and Eastern meditative practices appear to be feasible interventions to specifically reduce stress in the prison population.

Muscle Relaxation
In the muscle relaxation category, several studies showed promise for prisoners. Anxiety was significantly reduced in three of the studies, Bassett, Blanchard, and Estes’ (1977), Tolers’ (1978), and Vasilos & Hughes (1979). Creativity was significantly improved in Shanmugan’s study (1992) with significantly lowered levels of cortisol (a measure of stress) found in Murphy’s study comparing muscle relaxation with a meditative-based intervention (Murphy, 1992). Creativity was significantly improved in Shanmugan’s study (1992) with significantly lowered levels of cortisol (a measure of stress) found in Murphy’s study comparing muscle relaxation with a meditative-based intervention (Murphy, 1992). Colosetti and Thyer’s (2000) and Lutz’s (1990) studies generated no statistically significant changes in pre/post-measures of stress-related variables. Low numbers of research subjects proved a particular flaw in the muscle relaxation intervention studies as well as lack of randomization, inadequate presentation of study designs for replication and critique purposes, and the absence of repeated studies.

Transcendental Meditation
There were six different studies featured in nine publications retrieved using TM with prisoners. Although repeated positive results are found in these pretest–posttest studies, they rarely used the same measurement instruments. For example, six different tools were used to measure general psychiatric symptoms in six different studies. It cannot be overlooked though that some of the results should give cause for optimism on their applicability and usefulness in the prison setting. Research based on Alexander’s dissertation project (1982), reported in four separate publications, revealed statistically significant benefits of this technique compared to comparison groups receiving no treatment. These included significant advancement in ego development, decrease in aggression, reduced recidivism rates, and significantly lower levels of psychopathology posttest versus pretest. Other studies also suggested significant benefits such as reduced recidivism rates (Rainforth, Alexander, & Cavanaugh, 2003), significantly reduced anxiety (Ballou, 1977; Cunningham & Koch, 1977), and increased intelligence-related measures (Hawkins, 1998). However, some studies did not show positive results for TM (Orme-Johnson & Moore, 2003; Shanmugan, 1992). The most prominent validity flaw with TM studies is the obscure way results were sometimes reported. This is especially true for the studies published inside the TM movement literature which appeared in a book published by entities run and operated by the TM movement (Ballou, 1977; Cunningham & Koch, 1977). The oldest TM study reviewed was from 1971, and most of the studies, although perhaps published later, took place in the 1980s and 1970s indicating a marked decrease of enthusiasm for helping prisoners reduce stress with this technique in recent years (Ballou, 1977).

Eastern Meditative Practices
The third category of SMTs, Eastern meditative practices, is probably the fastest growing category of SMTs to date, as is evident by the recent publication dates of many of the 12 studies belonging to this category. This growth can partly be contributed to the growth and increased popular and professional interest in Kabat-Zinn’s approach to mindfulness meditation (Carrington, 2007; Lehrer et al., 2007; Samuelson et al., 2007). Significant positive outcomes using mindfulness practice include decreased substance abuse (Bowen et al., 2006), reduced anxiety (Bunk, 1979), significant increase in coping skills, and significant anger reductions (Perkins, 1999; Vannoy, 2006). Other benefits include increased quality of sleep, reduced desire to throw

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<th>TABLE 1. Six-step Evidence Hierarchy From Stetler et al. (1998)</th>
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<td>Level I: Meta-analyses of controlled studies</td>
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<td>Level II: Individual experimental studies</td>
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<td>Level III: Quasi-experimental studies</td>
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<td>Level IV: Nonexperimental studies</td>
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things or hit people, and decreased anxious nail biting compared to control group (Sumter, Monk-Turner, & Turner, 2009). Three of the studies in this category were conducted by a related research group at the Tihar jail in India and focused on the effects of Vipassana Meditation practice on various outcomes for both male and female prisoners. Results are encouraging relating to subjective well being and decreased criminal propensity along with reductions in symptoms of depression, hostility, and anxiety to name the most prominent results (Chandiramani et al., 1998; Khurana & Dhar, 2000; Ranganathan, Bohet, & Wadhwa, 2008). Studies in this category do have many of the same methodological flaws previously addressed in this review, with the lack of randomization, and intense attrition and dropout rates most prominent. Two of the Tihar jail studies were not published in a peer reviewed journal and the lack of description and unclear presentation of results cast a shadow on their positive findings. However, significant results in this category do give cause for optimism for helping prisoners reduce their stress. Studies in this category of SMTs often used larger subject pools than many of the other SMT studies, and results were typically, clearly presented with an adequate discussion on the shortcomings of the studies (Bunk, 1979; Perkins, 1999). Three studies in this category also employed quite rigorous experimental designs (Bunk, 1979; Perkins, 1999; Sumter, 2009).

Cognitive Methods
Cognitive stress reduction methods were only utilized in two original studies and only one significant positive change was reported as a result of these methods (Forde, 2005; Vannoy, 2006). High attrition and dropout rates were prominent in both studies, along with lack of complete randomization. Strengths included ambitious and well-described research designs and excellent descriptions of shortcomings and methods (Forde, 2005; Vannoy, 2006). Interventions based on cognitive methods like cognitive behavioral therapy are well researched and have a strong evidence base so it is curious that the only study applying this technique in the prison setting showed no significant benefits for the prisoners (Vannoy, 2006).

Autogenic Training and Biofeedback
The fifth category, autogenic training and biofeed-back, also included two original studies. The results were promising, especially in Thomson’s study, which used recognized and commonly used measurement tools, and had a rigorous research design that validated the positive results of his study (1988). The study presented some positive results for the biofeedback intervention including pretest versus posttest reduction in anxiety according to both subscales of the State Trait Anxiety Inventory (STAI) and reductions in physical health symptoms on both posttest 1 and 2. This study has not been repeated, and information on dropout rates and attrition was hard to discern. Vasilos’s study did render significant reductions in anxiety on a subjective anxiety scale for the autogenic training group and increased skin temperature control also (Vasilos & Hughes, 1979). Underreporting of data, significance levels, and lack of reliable and valid measurement tools do however limit the application of the findings to a broader population.

Music Therapy
The sixth category of SMTs discussed here is the music therapy category. Bassett, Blanchard and Estes’ study from 1977 did not provide any significant results in favor of using music therapy interventions to reduce prisoners’ stress levels. Interventions used in Thaut’s (1989) study were music group therapy, instrumental group improvisations, and music and progressive muscle relaxation. Inmates participating in the study reported significant positive change pre and postmusic intervention in relaxation, mood/emotion, and thoughts about self (Thaut, 1989). The lack of reported or documented validity of instruments to measure the study outcomes must be considered a major flaw of the study though. The third study addressing music therapy intervention in prisoners also showed limited results. An explorative study in nature, it lacked greatly in factors contributing to its external validity with only five participants and evaluation tools largely consisting of qualitative self-report measures (Daveson Edwards, 2001). Currently, there is little evidence for the usefulness of music therapy relaxation methods to reduce stress in adult prisoners of both genders.

Eye Movement Desensitization Reprocessing
The last category of SMTs used to help prisoners reduce stress was EMDR. The now prominent field of EMDR was designed to address posttraumatic stress disorder directly and thus stress only indirectly. In the only EMDR study retrieved for the purposes of this review no significant data surfaced in favor of the method being used to reduce stress in the prison setting (Colosetti & Thyer, 2000).

Implications for Clinical Practice
In a recent review of the literature on the use of three of the meditation programs discussed, Himelstein (2011) finds that there are indications to use TM, Vipassana Meditation, and mindfulness-based interventions in the prison setting. Although much narrower in focus when compared to this review, it nonetheless indicates that meditation-based programs are a feasible choice in the prison setting (Himelstein, 2011). Especially when it comes to the “enhancement of psychological well being, a decrease in substance use, and
a decrease in recidivism” (Himelstein, 2011, p. 646). It is important to note that doing research in the prison setting is extremely challenging as it is adequately implementing specific SMTs or other well known and proven psychological or psychosocial interventions such as CBT. The very nature of the environment and the necessary restrictions and security measures required by prison authorities often make the best laid plans go awry. Dropouts are often extremely high and follow-up can be challenging, especially long term, because of transfers and releases. This should be kept in mind while reviewing the results of this review. But this makes it especially important to examine studies in this often neglected setting and any research effort should be encouraged and applauded. It is important to note that although it may be tempting to conclude that similar SMTs that work for other populations might work for the prison population, the unique circumstances of prisons and prisoners warrants special attention.

In the 29 studies presented here, using collectively more than 80 dependent variables, only three studies failed to demonstrate any positive effects of the intervention they were researching (Colosetti & Thyer, 2000; Forde, 2005; Lutz, 1990). Twenty-six studies reported at least some positive effects of the SMTs for reducing prisoner stress; however none of them have been replicated. It would be extremely useful to repeat some of the studies which used well controlled and designed research, especially Alexander’s study from 1982 on TM, Bowen’s work on mindfulness meditation from 2006, and Thomson’s study from 1988 on biofeedback and autogenic training. It is evident that significant gaps of knowledge are still prominent in this field. The quality of research evidence is not strong enough for the acceptance of widespread use of all of the SMTs reviewed here. Only eight experimental research studies were identified. A majority of the studies, 17 in all, were quasi-experimental, one was a case control study, and three were nonexperimental studies. These findings are rather disappointing given the almost 40 years researchers have been seriously engaged in creating evidence on the usefulness of these techniques in prison. Although there is much room for improvement in the field of SMTs research in the prison setting, some positive study results from the three most researched SMTs (muscle relaxation, TM, and Eastern meditative practices) do demonstrate that these interventions can make a difference in a prisoners life and the use of these can be recommended, albeit with some reservations, in clinical practice in this setting.

Based on the evidence from these studies it can be said that using certain SMTs in the prison setting might be a safe and inexpensive method to improve various psychosocial outcomes for diverse prison populations. But further studies are needed to verify some of the most impactful findings presented in this paper. As an outcome of this review, nurses working in correctional settings could study the applicability of these recommended interventions in their clinical setting. Logistical factors play an important role in the implementation of any intervention including educational background and training of the nurse and the nature of the prison population they work with. Nurses working in correctional facilities could attend continuing education sessions on different SMTs such as progressive relaxation, mindful breathing, and body scans. Such approaches could perhaps have a significant impact on their own stress levels and of the prisoners they are caring for, through direct nurse/client coaching, and indirectly through the possible increased well being of the nurses and the impact this might have on the therapeutic relationship with their clients.

References


