Music Therapy and the Families of NICU Infants : A Proposed Program for Development and Implementation

Angela Ferraiuolo-Thompson
Abstract

This thesis proposes a music therapy program for families whose infants are hospitalized in the neonatal intensive care unit (NICU). The goals of the program include the following: reduction of stress, anxiety and depression; working through trauma responses via the promotion of relaxation and the facilitation of coping skills. A review of the literature leads to the conclusion that families of NICU infants are under-served in terms of populations receiving music therapy as a supportive service. It is important to note that this population is often suffering from the same debilitating symptoms addressed in music therapy treatment of adults with mental health issues. Although the family may suffer from acute symptoms of trauma, anxiety, stress or depression which can both manifest and diffuse quickly, these symptoms occur during the same period when it is vital the family remain healthy for their infant. Music therapy clinical interventions including clinical improvisation, relaxation and songwriting, will systematically address the acute issues presented by the family, member(s) attempting to cope with their infant’s premature birth and subsequent hospitalization.
MONTCLAIR STATE UNIVERSITY

MUSIC THERAPY AND THE FAMILIES OF NICU INFANTS:
A PROPOSED PROGRAM FOR DEVELOPMENT AND IMPLEMENTATION

by

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# TABLE OF CONTENTS

**Introduction**

2

**Literature Review:**

Symptoms of Stress, trauma, grief, anxiety and depression in NICU families; The need for furthering support

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress and Trauma as Experienced by Families with Infants Hospitalized in the NICU</td>
<td>5</td>
</tr>
<tr>
<td>Grief as Experienced by Families with Infants hospitalized in the NICU</td>
<td>7</td>
</tr>
<tr>
<td>Anxiety as Experienced by Families with Infants hospitalized in the NICU</td>
<td>9</td>
</tr>
<tr>
<td>Depression as Experienced by Families with Infants hospitalized in the NICU</td>
<td>10</td>
</tr>
</tbody>
</table>

**Music Therapy for Stress, Trauma, Grief, Anxiety and Depression**

11

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Therapy and Clinical Improvisation</td>
<td>11</td>
</tr>
<tr>
<td>Music Therapy and Relaxation</td>
<td>12</td>
</tr>
<tr>
<td>Music Therapy and Songwriting</td>
<td>14</td>
</tr>
</tbody>
</table>

**NICU Families:**

14

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Support Services in the NICU</td>
<td>15</td>
</tr>
<tr>
<td>Social Work in the NICU</td>
<td>15</td>
</tr>
<tr>
<td>NICU Parent Education</td>
<td>15</td>
</tr>
<tr>
<td>Support for Bereavement</td>
<td>16</td>
</tr>
<tr>
<td>Creating a More Family-Friendly NICU</td>
<td>16</td>
</tr>
<tr>
<td>Family-based Interventions</td>
<td>17</td>
</tr>
</tbody>
</table>
Empowering Parents of NICU Infants 17
Parent-Generated Coping Strategies 19
Coping Strategies 20
Trends of Coping Strategies 20

Music Therapy in the NICU 21
Benefits for Mothers 22

“Music Therapy for Families of NICU Infants Program”: Theoretical Basis 22
Humanistic (Client-Centered) Therapy 22
Object Relations Therapy: The song as a transitional object 25
Catharsis: A principle of Psychodynamic Therapy 27

Music Therapy for Families of NICU Infants: A Proposed Program for Implementation and Development 29

Statement of Purpose 29

“Music Therapy for Families of NICU Infants Program”: Program Structure 31
Staff Education: Guidelines for Educating Staff 31

Program Referral Process 32
Aspects of Referral 32
Criterion for Referral 32
Means of Referral 33
Prioritizing Referrals 33
Referral Form 34

“Music Therapy for Families of NICU Infants Program”: Timeline 35
Frequency and Duration of Sessions 35

“Music Therapy for Families of NICU Infants Program”: Intake Interview 35

Additional Evaluation: PSS:NICU and STAI 36

“Music Therapy for Families of NICU Infants Program”: Clinical Assessment 38

Assessment Procedures 39

“Music Therapy for Families of NICU Infants Program”: Music Therapy Interventions 42

Clinical Improvisation 43

Rationale for Instruments Used 43

Relaxation Interventions 45

Relaxation Techniques 45

Recommended Music for Relaxation at Home 48

Songwriting Intervention 48

“Music Therapy for Families of NICU Infants Program”: Evaluation 51

“Music Therapy for Families of NICU Infants Program”: Examination of Financial Issues 53

Medical Cost Saving Issues 53

Budget 54

Equipment Budget 55

Contractual Agreement 56
<table>
<thead>
<tr>
<th>Recommendations for “Music Therapy for Families of NICU Infants Program”</th>
<th>viii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion</td>
<td>61</td>
</tr>
<tr>
<td>Appendix A- “Music Therapy for Families of NICU Infants Program” Referral Form</td>
<td>62</td>
</tr>
<tr>
<td>Appendix B- “Music Therapy for Families of NICU Infants Program” Assessment Form</td>
<td>63</td>
</tr>
<tr>
<td>Appendix C- “Music Therapy for Families of NICU Infants Program” Clinical Goals and Objectives</td>
<td>65</td>
</tr>
<tr>
<td>Appendix D- “Music Therapy for Families of NICU Infants Program” Session Documentation Form</td>
<td>66</td>
</tr>
<tr>
<td>Appendix E- PSS:NICU Survey</td>
<td>67</td>
</tr>
<tr>
<td>Appendix F- State Trait Anxiety Scale</td>
<td>72</td>
</tr>
<tr>
<td>Appendix G- “Music Therapy for Families of NICU Infants Program” Additional Evaluation Documentation Form</td>
<td>75</td>
</tr>
<tr>
<td>Appendix H- Permission to use PSS:NICU Survey</td>
<td>76</td>
</tr>
<tr>
<td>Appendix I- Permission to use STAI Scale</td>
<td>78</td>
</tr>
<tr>
<td>References</td>
<td>79</td>
</tr>
</tbody>
</table>
Introduction

The experience of working in the neonatal intensive care unit (NICU) as a music therapy intern was one which had a lasting impact both personally, and professionally. I observed many families suffer emotionally as a result of witnessing their infant struggling with medical issues and diagnoses. The internship experience provided me with a great deal of empathy for this population, not only for the infants but for the infants’ families and their pain.

The medical world involves many caring, wonderful people tirelessly working with these delicate infants. In addition to providing constant, twenty four hour medical care for the babies, they are also educating parents and families about their infants’ needs and care. It is well known that although the medical staff is caring and supportive, they are often stretched thin in an environment such as the NICU, which involves highly complex care of multiple infants. Therefore, it is not always possible for staff to take time to emotionally support and comfort the parents. I personally witnessed, (throughout my nine months in the NICU) the medical staff do their absolute best to be available for the infants’ families however, more support is clearly needed. The chaotic and busy environment of the NICU is not always a suitable environment for mourning and personal, emotional processing. This is where the immense need for services such as music therapy enters into the medical picture.

Throughout the proposed program the term “family” is used. In my NICU experience, family takes on many forms. The primary caregivers of the infants were: parents, the infants’ mother and maternal grandmother, grandparents, adoptive parents, aunts and uncles and, on occasion, a single parent and an adult-aged sibling, who would play a vital role in the
infant’s care. I observed that music therapy groups, consisting of several combined families, are contra-indicated with this population as the range of severity for infant diagnosis and prognosis is large. Families coping with a devastating diagnosis, which may be terminal in some cases, need a great deal of support in comparison to families dealing with the stress of a short-term hospitalization. There is limited privacy in the NICU, and therefore; it is difficult for families to feel comfortable as they experience emotions related to the infant’s hospitalization. Music therapy sessions with the family offer a safe, private place for the family to express and process their emotions.

The proposed program can be applied and carried out with any form of family presented; however, children are not included in the program. The design of the proposed program is ultimately to offer support for the primary caretakers of the infant. Parents or other caretakers experience the emotional burden of their infant’s hospitalization, and this program is designed to address emotions and promote processing of those emotions. The caretakers require a safe, therapeutic space wherein, they can be fully present in their emotions, process through them, and receive care. The treatment goals and objectives are more effectively carried out away from the presence of children who may feel overwhelmed or frightened upon seeing their parents’ expression of emotions.

It should also be noted that this program model does not include treatment interventions for the NICU infants themselves. The specific reasons for this are detailed later in the paper. The proposed program details a specific music therapy protocol for the treatment of families. For a literature review on infant intervention, refer to “Music therapy in the NICU” (pp. 21-23).
Symptoms of Stress, Trauma, Grief, Anxiety and Depression for Families with Infants Hospitalized in the NICU: The Need for Furthering NICU Family Support

In the United States, over 480,000 infants are born prematurely every year (Melnyk, et al. 2006). The length of hospital stay for an NICU infant varies; while some infants may only stay for a 24-48 hour monitoring period, others (depending upon medical need) may stay for several months. In addition to preterm infants, full-term infants can be admitted to the NICU under the following conditions: if complications occur during labor or delivery; if the infant is born with a medical condition; if the infant is being monitored for withdrawal from a chemical substance. The latter of these three conditions occurs when the infant was consistently exposed to substances including alcohol, drugs, and prescription medications while in the womb (Ostrea, Chavez, & Strauss, 1975).

When an infant is born with complications and subsequently admitted to the NICU, the infant’s family is affected emotionally in a number of ways. The planning and anticipation of the birth transforms from a joyful event into one that is often frightening and stressful (Shaw, Deblois, & Ikata, et al., 2006). The parental roles shift and the parents are now learning from the medical staff about their infants’ condition, needs, as well as how to care for their infants. The medical staff are now the primary care providers for the infants and, subsequently, parents may feel powerless and inadequate (Frank, Cox, Allen, & Winter, 2004). The medical staff provides round-the-clock care for the infant, while the parents are often restricted to visiting hours, which may impact the bonding process (Burns & Cunningham, 1994; Leib, Benfield & Guidubaldi, 1980; White-Traut, Nelson &
Blackburn, 1983). When the infant is placed in an incubator or isollette, the family may feel even more, “cut off” from their baby and, thus, they may have difficulty interacting with him or her. Families may feel uncomfortable or scared when it comes to holding or handling their baby because of their medical fragility (Shaw, et al., 2006). In conducting research with NICU mothers, Hurst (2001) found that the most common emotions experienced included anger, anxiety, denial, grief, guilt, helplessness, hopelessness, isolation, loss, and self-blame.

*Stress and Trauma as Experienced by Families with Infants hospitalized in the NICU*

Research has shown that mothers of NICU infants have a higher risk of Post Natal Depression and Post Natal Post Traumatic Stress Disorder as compared with mothers who deliver a healthy infant (Miles, Funk & Carlson, 1993). Post Traumatic Stress Disorder (PTSD) occurs after an individual either experiences or witnesses events which are life-threatening in nature (DSM IV). Green, Wilson and Lindy (1985) point out that these types of events may occur during hospitalization. When a hospitalization includes life threat, death, displacement from the home or community, or exposure to bodily disfigurement, traumatic stressors will present in a more severe form (Green, Wilson & Lindy, 1985). The Birth Trauma Association in the United Kingdom (2009) has identified some of the factors which can attribute to Post Natal PTSD. These include the infant’s mode of delivery, the mother’s fear for her own safety or for that of her infant, lack of control over the situation, inadequate pain relief, lack of support and previous exposure to a traumatic event.

Holditch-Davis, Bartlett, Blickman and Shandor (2006) examined Post-traumatic Stress symptoms in mothers of premature infants. The researchers interviewed mothers of infants who were classified as high-risk. The interviews were then examined for symptoms
related to Post-traumatic Stress Disorder, including re-experiencing (the event), avoidance and increased arousal. Of the thirty mothers involved, each had experienced at least one symptom related to Post-traumatic Stress. It was also reported, via the interviews, that the mothers had experienced posttraumatic stress reactions as long as six months after their infants’ birth (Holditch-Davis, Bartlett, Blickman & Shandor, 2006).

The pre-cursor to Post Traumatic Stress Disorder is known as Acute Stress Disorder, which, occurs within the first weeks following a traumatic event (Shaw, et al., 2006). Shaw and colleagues (2006) examined the prevalence or Acute Stress Disorder in parents of NICU infants using the following scales: PSS:NICU (Miles, Funk & Carlson, 1993) in conjunction with The Stanford Acute Stress Reaction Questionnaire (Cardena, Classen & Spiegel, 1991), The Neonatal Index of Parental Satisfaction (Mitchell-DiCenso, et al., 1996), The Family Environment Scale (Moos, Insel & Humphrey, 1974), and The Weinberger Adjustment Inventory (Wienberger, 1989). Forty four percent of mothers (and 0% of fathers) involved in the study were classified as meeting the symptom criteria for Acute Stress Disorder. The stress factor with the greatest correlation of symptoms of ASD was that of parental role alteration. Parents specifically named not being able to hold or care for their infant as well as protect it from pain, as being the greatest stressor (Shaw, et al., 2006).

Eriksson and Pehrsson (2002) evaluated the psychosocial support offered to parents of NICU infants in relation to their experienced trauma. Psychosocial support included access to medical and social information, support in processing emotions, social support, and
encouraging the bonding process. Questionnaires derived from prior focus-group interviews were given to examine the parents’ needs in relation to support offered during their traumatic experience. Eriksson and Pehrsson (2002) concluded that an increase in emotional support to families is needed in order to facilitate management of crisis reactions throughout the traumatic experience.

Miles, Funk, and Carlson (1993) developed the Parental Stressor Scale: Neonatal Intensive Care Unit (PSS: NICU) based upon a scale designed originally for parents of children in the Pediatric Intensive Care Unit (Miles & Carter, 1982, 1984, 1989). The scale is designed to be administered in conjunction with the State-Trait Anxiety Inventory (Speilberger, Gorusch & Lushene, 1970) in order to measure parental stress levels. Using a likert scale, parents rate areas of stress pertaining to their infants’ hospitalization in the NICU. These areas of stress are broken down into the following categories: parental role alterations, sights and sounds (in the NICU), and infant behavior and appearance. The instrument was designed to be scored in three different ways depending on the research aim of the study. This enables the researcher(s) to implement the appropriate interventions with the families. The PSS: NICU can be scored to measure: parents’ overall stress level, the occurrence level (or frequency) of the parents’ stress, or the total number of stressful items the parents have experienced during their NICU experience (Miles, Funk & Carlson, 1993).

Grief as Experienced by Families with Infants Hospitalized in the NICU

It is not uncommon for families of NICU infants to experience feelings of loss as well as grief and mourning. These feelings manifest in a variety of ways depending upon the
individual. When encountering a loss, grief manifestations include feelings (sadness, anger, guilt, anxiety, panic), physiologic sensations (decreased energy, upset stomach), cognitive processing (disbelief, preoccupation, confusion), and behaviors (sleep disturbance, crying) (Kubler-Ross, 1982). Parents often report one or more manifestation of grief as an acute response to a traumatic situation (Franck, Cox, Allen, & Winter 2004). For many parents, grief manifestations occur sporadically; for others, they occur on a daily basis. Parents often experience guilt. Mothers often question themselves and the medical staff, about how they may have contributed to, or prevented their infant's conditions (Franck, Cox, Allen & Winter, 2004). Mothers in particular may suffer depression, and as previously cited-symptoms of post traumatic stress (Holditch-Davis, Bartlett, & Blickman, et.al. 2003). Fathers often feel powerless and unable to deal with their own feelings, as they focus on being strong for their partners and families (Doering, Dracup& Moser, 1999).

Boss (1999) coined the term “ambiguous loss” to refer to a loss which is assumed and felt without the sense of closure that comes with verification of the loss. Boss’ research specifically involved the wives of missing Vietnam pilots who had no definitive evidence that indicated their husbands had passed away, and were therefore filled with inconsistent feelings and thoughts (Boss, 1999). Golish and Powell (2003) applied the concept of ambiguous loss to families of prematurely born infants. In these cases, although the infant is alive, there is a disruption in the natural order of preparing physically and psychologically for the birth, and in carrying the infant to term (Golish & Powell, 2003). Golish and Powell (2003), interviewed parents of NICU infants and examined the interviews for conflicting themes which would indicate mourning and ambiguous loss. Common themes which arose
indicated the families were experiencing contradictory feelings which were difficult to process. The researchers found that they were “shocked, saddened and angered their child was suffering from a serious medical condition” (p. 312) yet they were unable to experience the full extent of grief emotions because their infant was alive (Golish & Powell, 2003).

Anxiety as Experienced by Families with Infants Hospitalized in the NICU

Miles, Funk and Kasper (1992) studied the stress and anxiety of twenty three couples whose infants were hospitalized in the neonatal intensive care unit. Mothers reported greater stress in relation to parental roles shifting (i.e., with nurses as the primary caregivers). Both mothers and fathers experienced the same level of overall anxiety as a result of their infants’ hospitalization. Anxiety was found to be directly correlated with the uncertainty surrounding the infant’s premature birth and subsequent NICU admission.

McCluskey-Fawcett, O’Brien, Robinson and Asay (1992) conducted in-depth interviews with mothers of premature infants one year after they had been discharged from the NICU. Although it was one year after their infant’s discharge the subject mothers were still experiencing the emotional effects of their NICU experience. According to McCluskey-Fawcett and colleagues (1992), the fragility of the subject mothers was indicated by the clear themes of “anxiety, powerlessness and disenfranchisement” (p. 154). It was concluded that further advances must be made to provide the parents of NICU infants with care to support their emotional well-being. Parent empowerment, via addressing parent’s emotional needs, is necessary in lessening the stress of the NICU experience (McClusky-Fawcett, O’Brien, Robinson & Asay, 1992).
Depression as Experienced by Families with Infants Hospitalized in the NICU

Research has indicated that the mothers of premature infants are at a higher risk for developing post partum depression (Siddiqi, 2006). Perinatal depression refers to both major and minor depressive incidents and can occur during pregnancy or up until one year after delivery (APA, 2000). Perinatal depression can occur on its own or in conjunction with other mood disorders. Persistent anxiety and feelings of hopelessness are the two main traits of perinatal depression. In some cases, feelings of anxiety are so strong mothers experience panic attacks (Siddiqi, 2006).

According to O’Hara and Swain (1996), one in five new mothers, experiences feelings of sadness or depression. These symptoms initially occur within days of post-delivery however in some cases the symptoms manifest up to a year and a half post-delivery. Symptoms which persist beyond two weeks are indicative of post-partum depression. In addition to depression, a new mother may suffer guilt because of an inability to connect with and attach to her newborn (O’Hara & Swain, 1996).

Nyström and Axelsson (2006) conducted a study with mothers of full-term infants who were admitted to the NICU for a brief period of treatment and monitoring. The study was conducted using a phenomenological-hermeneutic approach, and several common themes emerged surrounding the mothers’ feelings during separation. Nyström and Axelsson (2006) found that, regardless of an infant’s health (which, in this case, was relatively stable) mothers felt the emotional impact of separation. The emotional impact frequently manifested in the form of depression.
Music Therapy Interventions for Symptoms of Stress, Trauma, Grief, Anxiety and Depression

Music Therapy and Clinical Improvisation

Music therapist Kenneth Bruscia describes music therapy improvisation as:

“A form of music therapy that is by its very nature built upon here and now interactions of unique individuals who have their own perspectives, backgrounds, and values” (Bruscia, pg. 14 in Wigram, 2005).

In addition to the here and now experience being orienting and therapeutic, Austin (1996) describes musical improvisation as being the bridge between an individual’s conscious and their sub-conscious. This is possible because the music is created in the moment, and is often reflective of whatever the individual wishes to express, be it consciously or un-consciously.

Music therapy improvisation involves live and active extemporaneous music making by the music therapist and the client. Clinical musical improvisation is used for a variety of clinical purposes depending upon the client’s goals. In addition to addressing client goals, improvisation is used to build the foundation, through musical connection, for the interpersonal (therapeutic) relationship between the therapist and client (Pavlicevic, 2000). Orth (2005) cites three specific outcomes of using improvisation with clients who have experienced trauma:

1. Enables clients to get into contact with emotions not dominated by trauma.
2. Enables clients to begin the process of making existential choices.
3. Enables clients to regain control over their lives.

Orth (2005) cites the use of musical improvisation (and singing) with clients as an intervention which promotes reduction of stress and anxiety. Also allowing for the channeling of emotions through a healthy outlet, and enabling relaxation and diversion from the present crisis.
The literature illustrates the use of music therapy improvisation with a variety of patient populations (Austin, 1996; Burns et. al, 2001; Nolan, 1989; Nordoff & Robbins, 1977; Oldfield, 1993; Pavilecevic, 2000; Rainey Perry, 2003; Sloboda, 1995; Wigram, 2000). In relation to families of NICU infants, the music therapy literature which most closely relates pertains to musical improvisation for stress, anxiety, emotional processing and trauma.

Musical improvisation as a therapeutic intervention functions for both individual therapy as well as group therapy. Clinical improvisation can take on many forms and serves a multitude of purposes. In family therapy, improvisation is often used because music is communicative in and of itself without the presence of language. This feature of improvisation enables the family to interact, acknowledge one another, acknowledge their situation together, and express in a productive and healthy capacity (Miller, 1994). Of greater impact perhaps to NICU families, is music’s ability to “engage the family together in a profound experience, while enhancing the impact of the feelings experienced and facilitating recollection of the events which occurred during the session” (Miller, 1994, p. 45). Recalling those events, namely musical expression and interaction, can provide the family with an emotional anchor when feelings of stress and anxiety arise. Involvement in a profound, creative and healing experience is one which could benefit NICU families emotionally, and in turn could impact infant interaction.

*Music Therapy and Relaxation*

Music therapy literature addresses both the use of recorded music and relaxation techniques (Liebman, 1989; Smith & Joyce, 2004; Thaut & Davis, 1993; Winslow, 1986)
and live music and relaxation techniques (Cassileth, Vickers & Magill, 2003; Krout, 2001; Olson, 2006) for stress and anxiety reduction. The literature reveals that relaxation techniques in music therapy are frequently used with the mental health population, for the specific aims of reducing stress and anxiety. Much of the current literature discusses the use of relaxation training with recorded music. Houghton, Scovel and Smeltekop, (et al., 2002) discuss progressive muscle relaxation training with client-selected appropriate music. The authors state that appropriately selected music (by the client) serves to facilitate relaxation by obstructing negative associations and replacing them with ones which are positive (Houghton, et al., 2002).

Music which is soothing in nature can create a physical response characteristic of relaxation and modify autonomic (i.e., lowers hart rate, blood pressure, and respiratory rate), immune, endocrine and neuropeptide systems (Guzetta 1997, p.198). These autonomic changes influence the reduction of fear responses and symptoms of anxiety (Guzetta, 1997).

Kemper and Danhauer (2004), reviewed the use of music for relaxation from a medical perspective and detailed specific populations within a hospital setting who benefit from music for the purpose of relaxation. An emphasis was placed on recorded music; however, live music was cited as beneficial for populations such as persons at end of life (Kemper & Danhauer, 2004). Progressive muscle relaxation accompanied by the use of live music is an area of the music therapy literature which requires further exploration. Reducing negative associations, promoting relaxation, reducing stress, fear and anxiety are all aims of progressive muscle relaxation as a music therapy intervention. These same goals are shared
by the NICU family population and therefore, progressive muscle relaxation to music is an intervention which could be deemed as beneficial to this population.

Music Therapy and Songwriting

Current music therapy literature discusses the use of songwriting with various populations (Clementes-Cortes, 2004; Coulter, 2000; Dalton & Krout, 2005; Deurksen & Darrow, 1991; Hanser & Mandel, 2005; Howard, 1997; Krout, 2001; Robb & Ebberts, 2003; Silber & Hes, 1995). Baker and Wigram (2005) provide an extensive review of the literature regarding music therapy and songwriting. Krout (2005) cites the use of songwriting as therapist-directed whereby the therapist assists the clients in generating music and lyrics for songs related to grief and bereavement. Krout states that this intervention can be an individualized treatment for the clients’ “grief journey” (p.199). Songwriting, as a music therapy intervention, is often implemented with the psychiatric population (Bednarz & Nikkel, 1992; Cordobes, 1997 & Ficken, 1976; Jones, 2005). Literature and research regarding songwriting with families of NICU infants however, is lacking and yet symptoms between the two populations are similar.

NICU Families: Existing Familial Support in the Neonatal Intensive Care Unit

Research continues to be conducted in order to determine how best to support and assist NICU families. The most common forms of support, according to the literature, for NICU families includes: social work, parent education (Melnyk, Feinstein & Alpert-Gillis et al., 2006), parental support groups, adjusting policies and procedures within the NICU to
become more family-friendly (Carter, Mulder, Bartram & Darlow 2005) support for bereavement and interventions which center on parent empowerment.

Social work in the NICU

Neonatal intensive care units often offer services in order to provide parents with support, and to assist them in feeling competent. Neonatal intensive care units generally have a social worker on staff as part of the team. Their role is to facilitate family meetings with the parents, attending physician, and nurses in order to keep the parents updated on the infant’s medical condition. The social worker also provides referrals for services the infant may require upon discharge. These services range from early intervention, medical supplies, a primary care pediatrician and a home care nurse, to Medicaid, and WIC for those families needing assistance (Backman & Lind, 1997).

Parent education

Lawhon (1997) notes the importance of the interaction between the medical staff and the infant’s parents (or primary caregivers), particularly in the area of encouraging competence. Lawhon (1997) expresses that the goal of neonatal care should be the support of the parents through education regarding the infant’s developmental process. The medical staff on the unit frequently offers parent education in the form of hands on training. The medical staff instructs the parents in administering oxygen, taking temperatures, changing, washing and feeding the baby, as well as how to read the infant’s medical monitors and interpret the information (Pinelli, 2002). The medical staff also informs the caregivers about the benefits of kangaroo care, and (when applicable) breastfeeding. For first time mothers, or
for mothers who are breastfeeding for the first time, a lactation consultant is typically available in order to coach the mother through the breastfeeding process.

Support for bereavement

In the event that there is a loss on the unit, or when parents are in need of extra emotional support, many hospitals offer grief counselors, pastoral counseling and information regarding other related services. At Beth Israel Medical Center in New York City, a perinatal bereavement service is held every year in support of parents who have lost a pregnancy or an infant. The service combines speakers, prayer, and music to honor the families and their losses.

Creating a more family-friendly NICU

Cisneros Moore and colleagues (2003) reviewed the policies and procedures of several NICUs nation-wide which are working from a family-centered care philosophy. Ten areas of potentially better practice (PBP) were examined and it was determined that each hospital was at a different phase of re-constructing unit practices in order to make them more family-friendly. Each NICU was in the process of implementing changes which were deemed necessary through information gathered via interviews, questionnaires and surveys. One of the central themes found throughout each NICU was the area of family participation in care. Every participating unit had determined a major goal was in transforming the perception and role of parents from visitors to caretakers. Achieving this goal required increasing visiting hours and allowing parents on the unit during rounds and shift changes. One hospital eliminated visiting hours all together, allowing families to have access to their
infants twenty four hours per day (Cisneros Moore, Coker, Dubuisson, Swett & Edwards, 2003).

**Family based intervention in the NICU**

Meyer, Garcia, Lester and colleagues (et al., 1994) developed a program whereby individualized, family-based interventions were applied to families of NICU infants. Families were first surveyed via a variety of questionnaires which assessed their foremost areas of need. Areas of need varied from understanding infants’ medical status, to the effects of limited social support, and subsequent marital tension. Interventions were tailored to meet the various areas of need through education, counseling, and assisting families in the transition from hospital to home. The study found that family-based psychosocial interventions offered throughout the families’ NICU experience positively influenced parental adaptation and early parent-infant connections.

**Empowering parents in the NICU**

Melnyk-Mazurek and colleagues (2006) designed a pilot program which was implemented to 147 families over the course of several years. A comparison group was chosen at random and consisted of 113 families who participated in surveys measuring stress and anxiety. The Creating Opportunities for Parent Empowerment program (COPE) focused on introducing and implementing behavioral and educational strategies designed to empower parents of NICU infants. COPE consisted of four phases which all revolved around providing parents with information. The information included recognizing and understanding behaviors of premature infants, and means of participating in the care of their infant. Specific parenting activities were prescribed to enable parents to participate in their
infants’ care as well as to further infant development. The phases were timed to provide parents with education and instruction throughout the hospital stay, during the transition to home and then finally in the home one week after infant discharge (Melnyk-Mazurek, et al. 2006).

The COPE program measured family intervention and included data on the infant’s length of stay, parental anxiety (measured using the State-Trait Anxiety Inventory), parental depressive symptoms (measured using the Beck Depression Inventory) and the results of the Parental Stressor Scale-Neonatal Intensive Care (PSS-NICU). In addition, parents reported their beliefs regarding their role during hospitalization on the Parental Belief Scale- NICU (Melnyk-Mazurek, et al., 2006). Nurses were involved in the COPE program study as well and rated parents according to what they observed in relation to parent involvement (Melnyk-Mazurek et al., 2006).

Findings of the COPE program study compared data regarding the participant group and the non-participant group. Mothers of NICU infants involved in the COPE program reported less overall stress than mothers in the comparison group. There were no differences however, in the reported stress levels amongst fathers in the COPE program versus comparison group fathers. State anxiety and depressive symptoms decreased over time for both mothers and fathers; there were no differences for the comparison group. Participating in the COPE program ultimately empowered parents. They believed their role was significant with regards to their infants’ care, more so for these parents than for those in the comparison group. The infants whose parents were involved in the COPE program had an overall
hospital stay of approximately four days less than those whose parents were in the non-participant group. Melynck, and colleagues (2006) concluded that parent involvement and education during the COPE program allowed parents to understand their infants’ conditions, thus enabling positive infant-parent interaction. Positive infant-parent interaction, in turn, provided clarity of parental roles during hospitalization, and decreased the stress and anxiety of NICU parents (Melnyk, et.al. 2006).

Coping Strategies

Research studies. Researchers have examined the ways in which parents and families of NICU infants generate coping strategies in light of experiencing a lack of support on the unit. Hurst (2001) conducted an ethnographic study involving twelve mothers of NICU infants to discover the ways in which the mothers strategize to have their needs met while their infant was hospitalized. Throughout the hours of extensive interviews Hurst conducted, the participants revealed common emotions which they had all experienced and which Hurst cites as being consistent with the literature surrounding NICU parents. The mothers involved in the study expressed feeling tremendous emotional vulnerability while in the NICU environment. Participants cited that the emotional vulnerability was the result of being unable to act as the infants’ primary caregiver. More specifically, participants stated that when their motives and mothering were questioned by NICU staff (whenever they became involved in their infants’ care) this further exacerbated their emotional vulnerability. As a result, these mothers formed ties with one another, and relied on their family and friends to meet their emotional needs (Hurst, 2001).
Hughes, McCollum, Sheftel and Sanchez (1994), examined the coping strategies of parents of NICU infants. Fathers and mothers were interviewed separately and asked to identify the greatest stressors regarding their infants’ hospitalization and the subsequent impact it was having on the participants and their families. The parents were then asked to identify coping strategies which corresponded directly with their stressors. Mothers chose (a) communication with, and support from, their spouses; and (b) crying; as their primary coping strategies. For fathers, positive communication and social support from the medical staff was the most widely chosen primary coping strategy. Both mothers and fathers rated the coping strategy “Focus on self,” which included a sub-category labeled “Take care of self,” on the low end of the list of coping strategies.

Hughes, McCollum, Sheftel and Sanchez (1994) also surveyed parents’ perceived level of control over the situation they described as the most stressful. These data were gathered using a five-point Likert scale, with the first degree indicating no control and the fifth indicating a great deal of control. Examining this aspect of stressors for NICU parents further clarified the general lack of control parents feel during infant hospitalization (Hughes, et al., 1994). Hughes and colleagues (1994) summarized: parents’ stress levels and self-generated coping strategies, emphasize the need for staff to tailor assistance to meet families’ needs.

_Trends involving coping strategies._ Research points to the trend of NICU families generating their own coping strategies in order to endure their NICU experience. Research continues to be conducted in order to determine how best to assist parents and families in handling the stress and anxiety that accompanies this experience. The most common
methods currently used include parent education (Melnyk, Feinstein & Alpert-Gillis et al., 2006), parental support groups, facilitating communication with the medical team, adjusting policies and procedures within the NICU to become more family-friendly (Carter, Mulder, Bartram & Darlow 2005), and holding family meetings with the medical and social work teams in order to keep the families up to date on the infant’s medical status. Little is documented pertaining to offering emotional support, through exploration and processing, to these families.

Music Therapy and the NICU

There is a great deal of literature surrounding music therapy in the NICU in relation to infant intervention. In regards including the families of the infants in treatment, music therapy literature thus far discusses the use of music to facilitate bonding between infants and parents (Custodero & Britton, 2002; Lenz, 1996; Loewy, 2000; Loewy, 2004; Nocker-Ribaupierre, 1996; Shoemark, 2008; Trehub, Kametsky & Hill, et al., 1997; Trehub, Unyk, & Trainor, 1997). Music therapy for NICU families, specifically as a supportive service to facilitate coping, has only been touched upon within the current literature. Shoemark (2008) discusses the role of music therapy as a supportive service for families of NICU infants; however, emphasis is placed on infant interaction, bonding, and bedside music therapy, which includes the infant.

Research and other literature have revealed the benefits music therapy can provide for infants in the NICU. As a result, in hospitals worldwide, music therapists are becoming regular members of the treatment teams in the NICU. McGrath (2000) states the importance of offering a variety of services for infants, including music therapy. Kemper and Danhauer
NICU Families and Music Therapy

(2005) note the support music therapy can provide for infants, caregivers, and clinicians via recorded or live music played environmentally throughout the unit.

Benefits for mothers. Music therapy has been used in the NICU to aid in relaxation for mothers prior to breastfeeding. Procelli (2005) found that the use of music and relaxation techniques, prior to breastfeeding, decreased the mothers’ stress and anxiety, as well as improved their self-concepts. Lai, Chen & Peng (et al., 2006) conducted research evaluating the benefits of music therapy during kangaroo care. This combination of care positively affected both infants and mothers. Infants displayed lower heart rates and an increase in oxygen saturation, while mothers reported an overall decrease in anxiety (Lai & Chen, et al., 2006).

Theoretical Framework for “Music Therapy for Families of NICU Infants Program”

Humanistic (Client-Centered) Therapy

When working with a client on a short-term basis, therapists typically practice in a ‘here and now’, or in the moment, framework. A medical setting, such as the NICU, does not lend itself to long-term, in-depth work with a client. Because of the nature of a hospital setting, a therapist may see a client for one session. The Humanistic approach to therapy involves an emphasis on the here and now, as well as acceptance, caring and understanding the client in the moment. Therapists working from a humanistic perspective base treatment on a “way of being” as opposed to a set of techniques. Exhibiting both empathy and understanding of the client are paramount when practicing Humanistic Therapy (Sharf,
In working with NICU families, exhibiting both empathy and understanding can be a valuable therapeutic intervention. These families have been thrown into a terrifying situation as their infant’s health and well-being are at risk, compounded by being in an unfamiliar environment (the NICU) and often feel isolated and alone in their grief.

Carl Rogers, the founder of Person-Centered Therapy, established six conditions which must occur within the therapeutic context which facilitate client change (Sharf, 2000). Rogers felt that there must be a relationship between client and therapist; this is referred to as Psychological Contact. In a short-term setting such as the hospital, psychological contact can occur within the first meeting; the client is seeking out the therapist for treatment because he/she believes the therapist can help during their time of distress.

Incongruence is the second necessary condition to occur in Person-Centered (humanistic) Therapy (Sharf, 2000). When a client is psychologically vulnerable (fearful, anxious, or distressed) incongruence exists between the individual’s actual experience and their perception of the experience. The experience of having an infant hospitalized in the NICU, will undoubtedly promote fear, anxiety and stress in the family. Upon encountering the client in this state the therapist must respond in a genuine manner. Exhibiting a presence, which is perceived as genuine by the client, constitutes the third condition necessary for client change (Sharf, 2000).

In order for the client-therapist relationship to be successful and thus promote change within the client, the therapist must exhibit unconditional positive regard. The therapist should not exhibit judgment of the client and must therefore accept them regardless of their
perceived negative qualities (Sharf, 2000). An example of the way in which a therapist working with NICU families would institute this principle follows:

An infant has been admitted to the NICU for monitoring because the mother’s blood pressure was abnormally high throughout labor and delivery. The medical staff has deemed that the infant is healthy and shows no signs of distress however, must be monitored for routine purposes. The staff has informed the family of the infant’s stability as well as all members of the NICU treatment team. The mother however is having difficulty seeing her infant in an incubator and feels she is not being fully-informed about her infant’s condition. The mother shows signs of distress and anxiety as she is seen crying throughout the NICU and at her infant’s bedside. Staff or family members may wave away this mother’s reaction as one being produced by the stress of labor and delivery. The music therapist however, when encountering this mother must unconditionally accept the mother’s feelings of anxiety of stress despite the staff stating that they are unfounded. By doing this, the therapist is showing empathy, the fifth condition Rogers’s stated is necessary for client change.

Entering another’s world without being influenced by one’s own views and values is considered empathy. In the above-mentioned case, the therapist has been informed of the infant’s stability and the fact that there is no threat to the infant’s health. Despite the facts of which the therapist is aware (as part of serving on the professional team), he/she must still place him/herself in the mother’s position and display empathy (Sharf, 2000).

For empathy to be effective, the therapist must communicate to the client that he/she is both understood and accepted. The act of relaying this understanding and acceptance constitutes the sixth and last condition in Rogers’ theory. Rogers believed that when the therapist conveys empathy and acceptance in a genuine manner, therapeutic change is able to take place (Sharf, 2000).

The goal of Person-Centered Therapy is to promote client change. In a short-term setting, such as the hospital, the therapist is focused on the client in the here and now. The music therapy interventions included in the treatment interventions of the “Music Therapy
for Families of NICU Infants Program” were designed in order to promote client change. This client change, as aforementioned, includes reducing stress and anxiety, processing feelings related to grief and trauma and experiencing empowerment and elements of self-care.

Object Relations Therapy; Song as a Metaphorical Transitional Object

A families’ NICU journey will be full of transitions: the initial transition into the NICU environment, as opposed to the nursery, the transition of spending days at the hospital as opposed to being at home, and finally the transition home. The transition home can be daunting for the family as their infant may require continued medical care as well as therapies and special services.

Psychoanalyst Donald Winnicott studied and developed the concept of the transitional object and its role particularly in an infant or child’s life as vital for the intact development of fundamental development (Modell, 1985). Winnicott describes the transitional object as a fantasy for the infant or child in that it represents the mother, her breast and thus comfort and security (Modell, 1985).

Winnicott (1966) often refers to transitional objects as tangible (blanket, doll) however, Winnicott also acknowledged that the initial phases of an infant’s musical development may take on the properties of a transitional object. Infants frequently vocalize in the early speech stages when mouthing an object. These vocalizations are often accompanied by a sound which can contain musical properties (Winnicott, 1953). Winnicott (1953) deduces that in some cases, the infant’s vocalizations could be more important than
the act of mouthing the object itself. The infant then begins to associate the object and its accompanying sounds/actions with an internal sense of calm. As the infant’s vocalizations progress, it advances into tunes and songs. These tunes and songs function to join the internal state with the external world during times of anxiety of stress (Winnicott, 1953). “Because musical experiences frequently promote associations and imagery, music as a transitional object can support the integration of positive associations and imagery for controlling anxiety and discomfort” (Nolan, 1989, p. 178).

McDonald (1990) expands the idea of musical idioms as transitional objects and specifically names lullabies as transitional tunes. McDonald cites Winnicott’s (1953) acknowledgement of the auditory sense as a transitional object. Because an infant may need a song or tune to transition to sleep, McDonald draws the conclusion that music is essentially functioning as a transitional object (1990). The song, word or tune, in addition to functioning transitionally, also acts as anxiety prevention for the infant or child (McDonald, 1990). Most often, the song or tune takes on the principles of a lullaby as it acts to lull and comfort an infant to sleep, which the infant can experience as a form of separation (“bye”).

Families of NICU infants often have transitional objects which accompany them throughout their hospital journey. The fundamental purpose of the transitional object seems applicable for NICU families as a transitional object is defined as:

“an inanimate object adopted and utilized by an individual to aid in maintaining a psychophysical balance under conditions of more or less strain” (Greenacre, 1978, p.68).

Goodsitt (1985) explains more simply that transitional objects allow an individual to develop the ability to control inner states of tension. With regards to music therapy services for
families of NICU infants, the lullaby could act as a transitional object for the family. The family song or lullaby holds the fantasy of a normalized interaction between family and baby (home and healthy) and sustains the family as it transitions between two phases. According to Winnicott (1953), infants or children clinging to a transitional object are wavering between two phases: finding a balance between his/her own needs and accommodation to others. This is not unlike NICU families vacillating between the dream of a healthy baby and typical transition home to that of a hospital setting with medical staff as the infants’ primary caregivers.

The transitional experience, as described by Winnicott (1953), is the phase whereby the infant can develop his or her creative self while still feeling protected. This would be precisely the role of the Music Therapy for Families of NICU Infants Program. Music therapy sessions would provide the families with a safe container in which they can express, process, and create.

Songwriting would enable the family to create a lullaby as the infant is confined to the NICU and would ultimately assist in moving the family through the stages of treatment and discharge taking on a developmental life of its own.

Catharsis: A Psychodynamic Principle

Catharsis is a principle of psychoanalytic therapy which was introduced in the theories and practice of Freud (1924). The medical field originally coined the term catharsis to refer to purging. Freud expanded this idea and adopted it to mean a purging of emotions or an emotional release of repressed feelings relating to a traumatic event (Freud, 1924). Aristotle compared the beneficial effects of music to an emotional catharsis (Podolsky,
2006). Bunt (1994) further explains the potential for emotional catharsis while engaging in musical improvisation:

Cathartic moments are a clear feature of making music and are very likely to occur in moments of free improvisation. The purging of the emotions has played an important part in music’s functions since time immemorial. A whole range of both negative and positive feelings can be freely articulated in music. Clients can learn how to channel and express such feelings in constructive ways, supported by the therapist and the group in a safe and consistent place. Post improvisation, members referred to feeling an emotional release, catharsis, loss or overcoming of inhibitions and breaking down of barriers. (Bunt, 1994, p. 29)

Chang and Chen (2005) summarize the ability of music to provide relaxation and healing in hospitalized patients. They also highlight music’s ability to induce deep feelings and emotional catharsis. O’Kelly and Koffman (2007), using a qualitative interpretive approach, interviewed multidisciplinary colleagues of music therapists to gain perspectives into their view of music therapy’s contributions in palliative care. The participants named the ability of music therapy to address the emotional needs of patients as being the most positive. More specifically, participants named emotional expression, emotional awareness and catharsis as important domains addressed by music therapy and of vital importance to hospitalized patients (O’Kelly & Koffman, 2007). These elements could also be considered to be of vital importance to families of NICU infants, when addressing their emotional needs in the music therapy session.

Cathartic moments are not always experienced during a music therapy improvisation however the potential for catharsis always exists. With regard to families of NICU infants, the range of emotions they may experience in relation to their infants’ hospitalization are vast: anger, disappointment, guilt, dread, fear, isolation, depression and despair. The music
therapy session provides a safe container for these emotions to be expressed through the
music and without judgment. For some clients reaching a moment of emotional purging may
occur after several sessions, for others within one session.

Music Therapy for Families of NICU Infants Program
Statement of Purpose

There are currently measures in place to support parents and families of infants
admitted to the neonatal intensive care unit however, it is clear more support is needed. An
infant’s hospitalization often results in emotionally and financially devastating consequences
for the family of the infant (Ladden, 1990). Parents, and caregivers, often take little to no
time for themselves, resulting in continued stress, anxiety and exhaustion. Infants’
physiologic systems regulate off of their caregivers, while interacting, therefore, when
parents are in an acute state of stress or anxiety, it ultimately impacts the infant. This is
illustrated in the literature regarding mothers with depression and their well babies (Field,
1994). The infants are dis-regular due to the exposure to the mother’s biochemical
imbalance.

Music therapy is used to regulate the NICU infant, facilitate bonding between infant
and mother, and provide a mood alternating experience for the mother as she takes part in the
infant’s music therapy session (Field, 2000). Providing a mood alternating experience for
families of NICU infants, through music therapy interventions tailored to meet their needs,
has yet to be documented. Peebles-Kleiger (2000), addressing family stressors related to
infant hospitalization states:
Because families that acknowledge the emotional severity of a stressor fare better than families that deny it, clearly labeling the infant’s hospitalization as emotionally traumatic can be therapeutic. Without predicting dire consequences or forcing families to face feelings they are uncomfortable dealing with, physicians and nurses can convey a wish to help the family better master the challenge by freeing up energy drained by efforts at denial. This energy can be channeled into ACTIVE problem solving around the crisis and mobilizing supportive resources (p. 260).

Music therapy for families of NICU infants can provide the opportunity for families to address their feelings, for their feelings to be heard, and to re-channel stress and anxiety through the use of music and songwriting (support and problem solving). The proposed program is designed to offer music therapy interventions apart from the infant with the rationale that when families have processed through their grief, depression, anxiety, stress and symptoms of trauma they will be able to be fully present and available for their infant.

Music therapy interventions offer the potential for support, empowerment, creative expression, and a tangible way in which families feel connected to their infant through composing and recording a family song. Families who are able to achieve a healthy resolution to their traumatic experience will be better-equipped to support the healing and recovery process of their infant from medical complications (Peebles-Kleiger, 2000).

“Music Therapy for Families of NICU Infants Program” Treatment Interventions and Implementation

Educating Staff

The first step in implementing a music therapy program often involves informing and educating staff. This helps to ensure that the staff is well-informed as to the intent of the
NICU Families and Music Therapy

program as well as clear on protocol for referral, as they will be submitting the referrals for music therapy service.

Guidelines for educating staff. Conducting an in-service in the NICU for the staff prior to beginning the Music Therapy with Families of NICU Infants Program is recommended. This will help offer a clear picture as to the role of music therapy on the unit as both supportive and therapeutic versus recreational. During the music therapy in-service the therapist may wish to explain music therapy as a therapeutic practice as well as detail the program interventions. The music therapist conducting the in-service may choose to schedule it at a time when the maximum amount of staff members is able to attend. Because the medical staff’s time is valuable it may be best to format the in-service so that it is concise in nature. The in-service is designed to briefly explain the following: the role of music therapy (for the families and staff) and the general music therapy goals for the families. It is at this time that the music therapist may choose to present and explain the referral form.

The in-service may also be a good time to note the location of blank referral forms as well as where the forms will be placed upon completion for the music therapist to receive and review. The music therapist may choose to place the forms in a visible place in the nursing station or wherever he/she deems convenient for the staff. The music therapist may wish to include their on-site contact information in order to be accessible to the staff in the event of questions or concerns.

During the in-service, the music therapist may wish to explain the program and the music therapy treatment interventions. If possible, it is recommended time be allotted for questions. The music therapist may wish to convey to the staff that their input and
partnership in the implementation of the program is important. Literature further explaining
music therapy can be made available to those staff who are unable to attend the in-service as
well as for those who wish to learn more about music therapy. Recommendations for
literature include:


*Referral Process*

*Aspects of referral.* Hospital units are transient in nature; the patient composition of
each unit may change upon a weekly or daily basis. The same holds true for the Neonatal
Intensive Care Unit. As was previously stated, infants born with complications are admitted
to the NICU for monitoring. The majority of the admitted cases are highly complex, while
others are admitted for routine monitoring as a precaution for a twenty four hour period.
Depending upon the influx of infants into the unit, the music therapist conducting sessions
will most likely need to prioritize cases according to need.

The families’ level of need is determined by a variety of factors. It is recommended
the music therapist be responsible for visiting the NICU often to follow up on new infant
admissions and subsequent family referrals. Families may be referred for music therapy
services under a variety of circumstances. The universal goal area for families being referred
to the program would most likely pertain to emotional need. The specific emotional needs of
the family can be determined during the music therapy clinical assessment.
Examples of circumstances which are justification for family referral are detailed below in Table 1-A. The “Music Therapy for Families of NICU Infants Program” referral form can be found in Appendix A of this paper.

<table>
<thead>
<tr>
<th>Infant is medically compromised</th>
<th>Mother is visibly distressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant is pre-mature</td>
<td>Father is visibly distressed</td>
</tr>
<tr>
<td>Infant is suffering from withdrawal</td>
<td>Family member is visibly distressed</td>
</tr>
<tr>
<td>Infant has been given a specific diagnosis (other than pre-maturity)</td>
<td>Mother is suffering from medical complications in relation to labor/delivery</td>
</tr>
<tr>
<td>Infant has been given a specific prognosis</td>
<td>Mother/father/family member self-refers</td>
</tr>
<tr>
<td>Mother or father request additional support upon infant admission</td>
<td>Social worker refers due to ACS involvement, prior history, social work case</td>
</tr>
</tbody>
</table>

Table 1-A

Means of referral. Developing a system of daily communication (verbal or written) with the NICU staff may be beneficial, for the music therapist conducting the program, in order to efficiently gain referrals, schedule assessments and move forward with case loads. Depending upon hospital policy, the music therapist might want to attend medical rounds whereby he/she can gather detailed medical information regarding infants whose families are involved in music therapy treatment. This in turn will help the music therapist to gain a more broad picture of the what the family themselves are facing, as well as alert the music therapist to possible new referrals which have not yet been made. The music therapist could note any pertinent information mentioned in the medical rounds on the referral or assessment form.

Prioritizing referrals. Physicians, nurses and social workers who have been briefed in the music therapy program and its purpose, may refer families according to priority (time and need). The “Music Therapy for Families of NICU Infants Program” is administered based on
levels of need in order for the music therapist to prioritize case load. As previously mentioned, the amount of time an infant may spend in the NICU from time of admission to discharge widely varies. Families of infants whose cases are more medically complex, and thus are expected a lengthier stay in the NICU, may be more of a priority when organizing case loads. These families typically have the greatest need for support and emotional processing. The staff member referring such a case would write number 1 (on a scale of one to three) to indicate “acute/immediate need” on the referral form. A scale of two represents moderate need, and three represents least need. Scale ratings may change over time. An infant may require emergency surgery or receive a new and more complex diagnosis. In this instance, the families’ stress or anxiety may surface significantly later, as opposed to during the initial stages of the infant’s hospitalization. On the contrary, the family of a medically stable infant who is facing a short hospitalization could nonetheless struggle emotionally and exhibit needs which are acute/immediate. These variables will most likely be left to the music therapists’ discretion in order for music therapy interventions to be offered to families requiring the most support.

Referral forms. Referral forms which highlight the needs of the family, as perceived by the staff or expressed by the family, as well as infant medical information (for referencing purposes) will be made available for use to the NICU staff. When the unit is particularly hectic and the staff is unable to fill out referral forms, verbal referrals may be made. In this instance, it would be helpful for as much information as possible, regarding the families’ situation and needs, be relayed to the music therapist. For accurate documentation, the music
therapist may wish to retain said information on the referral form and acquire the signature of the staff member making the referral.

"Music Therapy with Families of NICU Infants Program": Timeline

*Session frequency and duration.* The music therapist implementing the program would schedule separate sessions for each family referred. As aforementioned groups (of families) are less-than ideal as each family presents a high level of need and therefore should have adequate clinical time to address said needs. The session duration will most likely run from thirty to forty-five minutes in length. It is recommended that music therapist implementing the program, will schedule no more than four sessions in one day to allow adequate time for clinical documentation as well as NICU intervention (see recommendations section, p. 58).

**Intake Interview for “Music Therapy for Families of NICU Infants Program”**

*Interview.* The intake interview is generally the first step when connecting with families of NICU infants and establishing the foundation of the therapeutic relationship. Providing a safe space whereby families feel accepted and heard in the moment are universal therapeutic practices. The intake interview should ideally take place in the music therapy room; in the event that time and the situation permits, the family can engage in music making during the initial meeting, and thereby complete the assessment phase of the program.

Understanding that families of NICU infants may feel sensitive about the time they spend away from their infant, it may be necessary to conduct the intake at the infant’s bedside; for some families this will eliminate added stress or anxiety regarding infant separation.
If a family is in a state of crisis upon the first meeting, the therapist may wish to offer immediate musical intervention, which can serve as the assessment, followed by additional support or interventions; this will be decided on a case by case basis. The parameters of the intake interview include the therapist-client meeting as well as administration of the pre-test surveys.

During the intake interview the therapist may wish to provide explanations of the uses of music therapy as well as the specific interventions which will be applied. It is important to encourage questions regarding music therapy treatment, being mindful of the fact that the family has been living in the unknown from the beginning of their NICU ordeal. It is possible the family may feel uncomfortable or threatened in this new experience is. During the intake interview, the music therapist may wish to explain that musical talent, aptitude, and skill are unimportant when entering the music therapy session.

The intake interview could be used also as time to gather information regarding the family’s musical background, as well as any prior experience with music therapy. This information could be entered into the “Music Therapy for Families of NICU Infants Assessment Form” in the designated areas, refer to Appendix B.

*Questionnaires administered during intake.* In order for the music therapist to be able to gather as much information regarding the families’ needs, the music therapist may wish to use an additional means of evaluation. Reducing stress, anxiety, symptoms of trauma and promoting relaxation are the over-arching goals of the program. A tool which measures each of these goal areas does not exists, therefore because the PSS:NICU (Miles, Funk & Carlson, 1993) was designed specifically for NICU parents. As aforementioned (p. 7) the PSS: NICU
was designed to be administered in conjunction with the State Trait Anxiety Scale
(Speilberger, Gorusch, & Lushene, 1970). Both scales can be found in Appendix D and E
respectively. When conducting the “Music Therapy for Families of NCU Infants Program”
the music therapist may wish to score the PSS:NICU using “option one” which measures the
parents’ (families) overall stress levels. This offers the option of the music therapist
comparing the families’ stress levels pre and post music therapy treatment. Scoring
information for each survey is clearly detailed within the tools themselves.

In addition to ongoing music therapy session evaluation (Appendix D) the pre- and
post tests would provide the music therapist with an evaluation tool for determining the
effectiveness of the proposed program in meeting program goals and objectives.
The surveys are not a requirement for clients to receive music therapy treatment, and
treatment should not differ for those families who do not wish to fill out the surveys. During
the intake interview the music therapist has, most likely, explained the goals of the program
which include reduction of stress, and anxiety. The music therapist could introduce the
surveys as tools to measure current stress levels and then give each family member a copy of
both surveys to fill out, if they so wish.

Both the PSS:NICU and the STAI are available in several languages and can be
ordered in not only English but Spanish, French and Chinese as well. Ordering information
is available in the “Permission to Use Forms” found in Appendix H and I. Completed surveys
can be kept with the referral, assessment and session documentation forms.

It is recommended that both the PSS:NICU and the State Trait Anxiety Scale should
be clearly marked by the music therapist, PRE-TEST or POST-TEST depending upon time
of administration. When treatment begins, the therapist may also wish to begin the “Additional Evaluation Documentation Form” as an organizational tool, found in Appendix G. The surveys can be administered during the intake interview and then again at the conclusion of treatment. Because the number of sessions will vary with each family, the music therapist may wish to administer the post-test during the families’ last session regardless of the number of sessions which have occurred between the pre and post tests. Session documentation, which the music therapist may wish to maintain throughout the families’ treatment, will provide details on the number of sessions and the scope of treatment for each family.

The Music Therapy for Families of NICU Infants Program centers on supporting the families and assisting them in coping with their traumatic experience. It is up to the music therapist to use discretion when asking families to fill out the surveys. If the family appears to be in crisis or trauma mode, filling out paperwork could be perceived as an additional stressor. There is also the issue of time, if the family seems anxious about getting back to the NICU to see their infant, the therapist may decide to have the family take the surveys with them to fill out at their leisure.

“Music Therapy for Families of NICU Infants Program” Clinical Assessment

Chase (2002) defines client centered music therapy assessment as ideal for settings which are short term in nature. Client centered assessment works one of two ways: (a) the therapist determines, via interaction (intake interview) and observation, needs which are most important to the client, or (b) the client expresses the area(s) of importance themselves. The area(s) of importance is/are related to the clients’ need(s), and subsequently will determine
goals and objectives of music therapy treatment. During the assessment, the client may express (musically or verbally) feelings of extreme anxiety; therefore, decreasing anxiety would be the significant area of importance. Music therapy goals, objectives, and interventions would be designed to address this area of need. For families of NICU infants, the focus area of need generally falls within the emotional domain (Chase, 2002).

In addition to prioritizing client need, the music therapist may wish to determine the types of goals and objectives which would be applied to a longer treatment time line. There are exceptions in short term settings when families receive music therapy services for an extended period of time (because of a lengthy infant hospitalization) in those instances, goals and objectives will expand and the focus of treatment will be more long term. Goal areas outside of emotional need are not presented within the “Music Therapy for Families of NICU Infants Program”, as the number of possible goal areas is too great for full consideration here. Music therapy goals which extend beyond the immediate emotional needs can be determined and applied according to assessment by the therapist implementing the program and may be tailored to meet the family’s needs.

Assessment procedure. The clinical assessment for the “Music Therapy for Families of NICU Infants Program” involves improvisational, interactive music making with the therapist and family with a focus on emotion (mood) and affect. At the start of the assessment, the therapist can briefly explain the instruments in the music therapy space and offer choices for family members. The music therapist may wish to gather any and all pertinent information regarding the family’s musical background, as well as any previous experience they may have had with music therapy at this time. In contrast to the pre-test
surveys, this will offer a more clear picture of the families’ musical history and direction for
the therapist in moving forward with the assessment.

The assessment is designed to offer the family freedom, control, creativity and
expression. The family chooses a mood they wish to convey and then creates music to
portray, or match, the mood. The assessment would be here and now in nature, as well as
family-led. The mood should ideally be generated and identified by the family; however, the
therapist can offer suggestions if the family so chooses. The therapist could potentially
engage in the improvisation by following the family’s lead and offering musical support. If
the family is feeling tentative, the therapist can offer a musical framework around which the
family can improvise. Drum(s) offer the potential for a base or framework for the
improvisation.

Upon conducting the assessment, it is possible for the music therapist to gather a
wealth of information by observing both non-musical and musical factors pre and post
improvisation. Loewy and Stewart (2004) cite the significant information which can be
gleaned from a music therapy assessment which is improvisational in nature, specifically
when working with traumatized individuals. The size of an instrument and approach to
playing, taking into account tempo and dynamics, often represents the individual’s feelings
(lack of control, anger, fear) in the moment (Loewy & Stewart, 2004).

The therapist can use the assessment to observe and take note of familial interactions,
both musical and non-musical. Depending upon length of treatment, areas of interaction and
communication may become additional areas to address within music therapy treatment. In
terms of musical interactions, the specific nature of each member’s playing can be noted as
the quality of the musical improvisation as overall can be noted as well. These factors could indicate specific goal areas pertaining to affect, range of emotions and identification of thoughts and feelings (Loewy & Stewart, 2004). What was the mood the family wished to convey and was it conveyed? Did the therapist observe a disconnect between the desired mood and the music which was created? Did one player dominate the music? What was the quality of the music: slow and tentative or fast and compulsive? All of the information gathered from the assessment will most likely be recorded on the assessment form, found in Appendix B.

At the conclusion of the initial improvisation, the therapist may wish to allow space for the family to react to the music. Keeping in mind that the music therapy session must feel safe and comfortable, the therapist may chose to initiate a discussion if the family appears tentative or uncomfortable. The therapist can ask open ended questions and gently guide the discussion if needed:

- How did it feel to play the chosen mood?
- What was the experience like for you?
- How do you feel now?

The second part of the assessment is designed to be guided by the therapist for the purpose of further assessing range of affect. The therapist can ask the family to identify the mood opposite of the mood portrayed in the first improvisation. The therapist may choose to encourage the family to explore using different instruments for the second improvisation. As the therapist leads the improvisation he/she can vary the tempo and dynamics in an effort to assess the family’s awareness, ability to modulate and follow. When an individual is experiencing symptoms of trauma, anxiety, stress, depression or grief, being fully present and
in the moment is difficult. It may be of value to the therapist, to note these types of presentations in the music.

Another free-form discussion may take place at the end of the second improvisation whereby the therapist may ask similar open-ended questions. The assessment may conclude with the family choosing a familiar song to play and/or sing. The familiar song can provide the therapist with more insight into the family and their musical taste, preferences, and culture. The familiar song is frequently “associated with significant information, reflective of an experience, thought or emotion which may be worth further exploring in sessions” (Loewy & Stewart, 2004, p.196). Closing the assessment with a familiar song provides the family with an anchor of memories or familiar experiences which can aid in the transition from the session and potentially back to the NICU, home or elsewhere.

“Music Therapy for Families of NICU Infants Program” Treatment Interventions

The three music therapy interventions used in the “Music Therapy for NICU Families Program” are designed to address a variety of needs within the session. The session begins with a clinical improvisation which serves to address goal areas including expression, tension release, and offers the potential for validation, empowerment and catharsis. The session then moves to the relaxation intervention where the family engages in time tailored to offer them respite and further release tension. The third treatment intervention of the session is songwriting. The family engages in constructing a theme for their infant or a family song designed to aid in transition throughout their NICU experience.

Clinical improvisation, relaxation and songwriting were specifically chosen because
each offers the potential to extend and expand within the session and throughout the course of treatment. Improvisation and songwriting in particular offer infinite possibilities for expression and musical interaction within a session. The interventions were also chosen because each has been used in the treatment of adults with mental disorders, and as previously stated; NICU families can suffer from similar symptomology.

**Clinical Improvisation Intervention**

Following the intake interview, administration of the PSS:NICU and the music therapy assessment, the family will most likely participate in their first music therapy session. In order to allow for space, breath and expression, the first music therapy intervention is active music making through improvisation. Within a humanistic framework, the nature of the improvisation is organic and in the moment, designed to meet the immediate needs of the client.

Clinical rationale for instruments used. If the aim of the improvisation includes goals of decreasing stress and anxiety and increasing relaxation, instruments which "evoke pleasant feelings or relaxed associations should be used" (Orth, 2005 retrieved January, 9, 2009, p.7). Instruments such as the ocean drum, which is designed to replicate the sound of waves, or the rain stick which may present reverberation for clients' feelings of sadness and melancholy. The ocean drum can easily be manipulated by the player to produce a tempo in harmony with the clients' state of being. The ocean drum offers the possibility of creating a sound similar to loud and crashing waves or those which are gentle and rolling in character. The ocean drum is used with infants in the NICU to entrain breathing to a slower and more consistent rate (Loewy, 2000). This same application can be used for family members in the music therapy
session particularly when in a heightened state by matching the tempo to the player’s breathing rate and then gradually slowing down the tempo.

The Gato drum, or tongue drum, contains four separate tones which vary depending upon size. The warmth of the wooden sound offers the ability for clients to explore creating melodies within a small framework which can create a feeling of safety for those improvising for the first time. The Gato drum is frequently used in the NICU to replicate heartbeat patterns for the infant when re-creating a womb-like environment (Loewy, 2000). This type of soothing, rhythmic sound generates a subtle grounding for those needing a musical anchor.

Small, hand held percussion instruments are familiar to most cultures. Maracas, shakers, cabasas, tambourines, and bells require little skill to hold and play. For the unexperienced musician these instruments provide a non-threatening level of involvement in the musical improvisation. The act of shaking an instrument (maracas, shakers, bells) can provide the player with the feeling of tension release, as well as offering the presence of sound with only a small amount of movement. These instruments require minimal involvement physically and are therefore often chosen when a client is feeling overwhelmed. Improvisation offers the ability to control the instrument choice, tempo, dynamic, and level of involvement. These factors are often reassuring for those in a life situation which typically feels out of control.

Drums such as bongos, congas and djembes frequently provide the musical grounding in an improvisation. An individual may select the drum in order to provide him/herself with a feeling of being grounded while playing. In addition to grounding, drums can also be used for powerful and effective means of expression. Drumming provides the opportunity to
unleash pent-up emotions such as anger, frustration, hostility and disappointment. It is important for the therapist to offer musical resolution in a session where families are unleashing said emotions. The natural tendency of an improvisation involves a musical peak which can occur in the form of a dynamic or rhythmic change of intensity. This often occurs in the middle of the improvisation and is followed by a gradual resolution. This action of expression through musical means often elicits a catharsis. The player is able to non-verbally express feelings which may be impossible to put into words.

Melodic instruments should also be included as options for those who wish to express via a melodic medium. Piano, guitar, metallaphone and xylophones all offer the potential for melodic exploration and for potentially giving a "voice" to the improvisation. Clients who appear wary of melodic instruments, due to the perception that they require skill, should be orientated to xylophones and metallaphones which tend to be more player-friendly for non-musicians. The therapist may choose to alter the xylophone or metallaphone into a pentatonic scale therefore making the instrument more approachable as it contains fewer tones. In the families' current state of overwhelm; the prospect of musical improvisation should feel safe, easy and controllable.

*Relaxation Intervention*

There are a variety of methods for approaching relaxation within the context of a music therapy session. When working with families of NICU infants, demonstrating and teaching techniques which can be used outside of the therapy session can ensure continued stress and anxiety reduction when applied.
There are several potential clinical purposes for offering relaxation to music as a treatment intervention for families of NICU infants. There is first the obvious benefit of achieving a more calm and relaxed state versus a state of stress or heightened anxiety. This in turn, as previously mentioned, will benefit the families’ interaction with their infant who requires an organized physiologic state off which to regulate. A decrease in stress and anxiety, for the families, will allow them to be more fully present for their infant as well as focus on health and healing as they will exist in a more relaxed and calm state.

Another aim of the intervention is to offer the families an experience to receive care for themselves. When a client is experiencing symptoms of trauma, stress, or anxiety they often exist in a state of hyper-vigilance. Taking a moment, or the space, to care for themselves, is often the least-important priority for NICU families. Receiving care can replenish and rejuvenate clients. Offering the ability for clients to resonate with health, strength, and healing provides the opportunity to be cared for.

The relaxation intervention for the “Music Therapy with Families of NICU Infants Program” is designed to be conducted using live music. Live music offers the opportunity for a personal and intimate music therapy experience for the families. The relaxation protocol can be tailored to suit the family according to their preference and need. The family may wish to choose a familiar song or piece of music for their relaxation experience or the experience may occur organically with improvised music in the moment. The goal is to equip the family with techniques which they can use outside of music therapy treatment to
minimize stress and anxiety as well as achieve a relaxed state. This will in turn benefit the family not only throughout their NICU journey but as they make the transition home with their infant.

When conducting the “Music Therapy for Families of NICU Infants Program” the specific technique used is referred to as progressive muscle relaxation. Engaging cognitive function by introducing instruction can be helpful for clients experiencing trauma reactions. Listening to and following instruction may feel organizing for some and possibly clinically more appropriate than relaxation using imagery and music. The techniques used in progressive muscle relaxation to music, can be easily taught and thus transferred outside of the session for use when clients are experiencing symptoms related to stress, anxiety, or trauma.

Progressive muscle relaxation begins with the client closing their eyes, listening to the music, and breathing along with the therapist who models deep and slow breathing. Principles of entrainment, as aforementioned, can be employed using the ocean drum, or an instrument of the client’s choosing. The chosen instrument should be associated with relaxation in some way and should be played accordingly. When the client’s breath has become entrained to the tempo of the music, the therapist can instruct the client to tense a specific body part, hold the tension and then release which forces an automatic exhalation of breath bringing about an immediate feeling of relaxation. Tension and release typically begins with tension in the face and head and then moves through the body to the feet. This can offer the feeling of pushing the tension down and out through the body which can be perceived as symbolically cleansing.
When the client has moved through the tension and release of each body part, the therapist may wish to continue playing music therefore, extending the client(s) relaxation and respite. The therapist may choose to quietly play or sing a familiar song, which has been used in prior sessions with the family. At the beginning of the intervention, the therapist may encourage the family to take as much time for relaxation as they feel is possible. Experiencing a relaxed state of being, as well regulated breathing can positively impact the family’s physiologic state, offer a feeling of control (of body and mind) as well as well-needed respite.

Recommendations for relaxation at home. Families can be encouraged to use the techniques in the music therapy session at home (or elsewhere) whenever they need a moment of respite to both breathe and experience relaxation. Families will most likely be using the techniques with recorded music, unless in some cases, the family engages in music-making at home. The music therapist can explain that calm, soothing, quiet music provides the best potential for relaxation. The music therapist may wish to record a family’s relaxation intervention and give them a copy to take home and use.

Songwriting intervention

In the “Music Therapy for Families of NICU Infants Program” songwriting is one the three treatment interventions implemented to support the parents of NICU infants. The song can essentially be a lullaby whereby the parents are able to construct a personal theme for their infant. Music therapy sessions for the family can include interventions of creating and recording the song. The role of the music therapist is to facilitate the songwriting by
providing support, instrumental accompaniment, encouragement and guidance for the parents.

Songwriting with families of NICU infants provides the opportunity for parent empowerment, as well as a way for families to connect to, and care for their infant. It may allow them the opportunity to create something tangible, a transitional object to use throughout their NICU journey. It also can provide the parents with the opportunity to care for themselves by taking time to create, imagine, and express themselves through a creative medium.

Scovel and Gardstrom (2002) explain the function of songwriting to “dispute irrational thinking and encourage rational thinking” (p. 124). Songwriting as a clinical intervention can be used as a reconstructive intervention whereby the family is “learning new responses as emotional reactions are reinforced by repetition of lyrics” (Scovel & Gardstrom, 2002, p. 124). The families’ song becomes associated with positive aspects of their NICU journey: overcoming trauma, experiencing control, mastering coping skills, creating and expressing as well as learning self-care.

Songwriting within the music therapy session will occur over several sessions and be approached in a variety of ways. The therapist can act as a guide throughout the experience which may be new for many families. The approach can be determined by a variety of factors including the families’ readiness to take part in a uniquely creative experience. If the family seems to be in a state of overwhelm, the simpler the approach the better. Lyric substitution is a more simplistic version of songwriting. Lyric substitution would consist of the family selecting a song which is of personal significance, and with the therapists’ help, change the
lyrics to make the song more personal. It is recommended that the music therapist honor whichever music the family chooses. Through the use of tempo changes and dynamic adjustment, even the most upbeat of songs can take on the qualities of a lullaby.

For those families receiving music therapy sessions over an extended period of time, the process of creating their family song can be approached in small, well-thought out increments. The vocal range of the song can be established within a comfortable range for the family. The process of developing the song can be as organic as possible as the family will use this song as their personal anthem, as well as a love song to their infant. It is recommended that the music therapist support and guide the family through the process. The music therapist may wish to reassure the family that both simple melodies and lyrics are components of the most beautiful and popular lullabies. This reassurance can be necessary as the experience will often be new for the family, and should be approached with care.

Families who wish to create an entirely new song for their infant (as opposed to using lyric substitution) can also be carefully guided by the music therapist. Part of the therapeutic process is the ability for the family to have control over elements of the music therapy session. The family may chose whether they wish to compose the lyrics first or the music. The music therapist can offer a series of simple chord progressions from which family members can chose in the event that creating music feels daunting. Playing musical examples of classic lullabies such as “Twinkle, Twinkle Little Star” or “Hush a Bye” can aid in setting the tone for lullaby composition.

When the lullaby is completed it can be recorded for the family. This recording can serve a variety of purposes. Depending upon the hospital policy and the policies of the
Neonatal Intensive Care Unit, the recording can be placed inside the infant’s isolette or bassinette. The device used to play the recording should be set using a decibel level monitor and maintained at safe levels (<55db) at all times. For many families, the fact that their infant will hear their voice, when they are unable to be physically present, offers comfort and reduces guilt. Having the recording in their isolette also benefits the infants; they are able to experience a level of bonding and attachment that they would not otherwise have.

When it comes time for termination of music therapy services, the family would be able to take their recording and use it to aid in their transition home. The song which was written as a love anthem for their infant during a tremendously difficult time can now be a part of the celebratory home-coming and the routine of establishing the normalcy of family life. The song represents the process through which the families came; experiencing and resolving grief, anxiety, anger, depression, stress and trauma in a healthy, creative, expressive and tangible mode. The song is a reward to the family of and for their courage. They have been on a journey during which they were able to experience and own their emotions fully and through their music.

"Music Therapy for Families of NICU Infants Program": Evaluation

Throughout music therapy treatment, the music therapist should maintain clinical session documentation for the purpose of evaluating the treatment goals and objectives. The general goals and objectives for the program can be found in Appendix C. The goals and objectives address the over-arching areas of clinical need for families of NICU infants. The goals and objectives can be expanded and tailored to address the families’ specific needs when they extend beyond the set goals.
The clinical documentation form for the program can be found in Appendix D. Prior to each music therapy session, the therapist may wish to determine which specific goals and objectives to address within the session. The therapist may choose to focus on all of the goals and objectives, additional goals and objectives or have one main goal and objective for the session. These decisions will depend upon the family and their needs as well as the treatment timeline.

The music therapist can specify the goals and objectives on the form in the corresponding areas of the form. The instruments each family member selected and played during the session can be noted on the session documentation form. The specific music used in the session can be documented as well. If the family requested a familiar song to sing and play, engaged in an improvisation of a certain quality (slow, minor, lively) or completed their family song, all of this can be noted in detail.

Ideally, all three interventions will be implemented in each session; however, it is possible that this will not always occur because of time constraints. It is recommended the music therapist make note of which interventions are used, and if an additional intervention is introduced, on the session documentation form.

The session documentation form contains an area for evaluating progress towards goals and objectives. The music therapist can qualitatively evaluate, after each session, progress the family has made toward their goals and objectives. Treatment plans can be altered and session frequency increased in the event that progress is not being made. The therapist may need to change the treatment plan by using the majority of the session time for relaxation for instance, in order to achieve the goals of stress and anxiety reduction.
Examination of Financial Issues for Implementation of “Music Therapy for Families of NICU Infants Program”

The potential cost-saving benefits of music therapy. Accepting the proposed program as a means of support for NICU families has the potential for benefits which are three-fold. The family benefits from clinical intervention tailored to meet their needs, which may allow them to process through and ultimately survive the NICU experience. This support can potentially minimize the need for further mental health services to be provided to the family. When a mother or father is exhibiting extreme signs of distress due to their infants’ hospitalization, the hospital may admit the parent for evaluation as well as pharmalogical intervention. Stress can be the attributing factor for sleeplessness, fatigue, loss of appetite and extreme mood swings. Any and all of these symptoms may alert the NICU staff for the need of parent or family member hospitalization. Music therapy sessions however, would potentially minimize the stress response of these families as they would be allowed a safe environment in which to express and process through the situation.

When a family is receiving music therapy services to aid in their coping and processing, the medical staff ultimately has more time to focus on medical interventions. Although interaction between the medical staff and the families is never discouraged, the music therapist can be the primary staff member who offers psycho-social support. The medical staff can then focus on the infant intervention and medical procedures which are of vital importance.

As previously stated, when the stress, anxiety, depression or trauma symptoms of the family have lessened through music therapy treatment, infant interaction will be positively affected. Whipple (2000) found infants, whose parents received Multi-Modal Stimulation
Training, which included music, increased caloric intake and subsequently had a shorter hospitalization than those whose parents did not receive the training or use the program. The medical goal for many NICU infants is to increase caloric intake and thus subsequent weight gain. When an infant has gained a suitable amount of weight, and other medical issues have been resolved, they are typically discharged home. A shorter recovery period, and thus a shorter hospitalization, will ultimately have a positive financial impact on neonatal intensive care units and hospitals as a whole.

**Budget.** In order to provide effective clinical interventions, a music therapist beginning the proposed program could plan to spend the estimated total listed, in Table 2-A, for instruments and materials helpful for running the program:

<table>
<thead>
<tr>
<th>Instruments:</th>
<th>Other- office supplies, pamphlets, business cards:</th>
<th>Estimated total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1540.00 (listed below)</td>
<td>$100-$250.00</td>
<td>$2490.00</td>
</tr>
<tr>
<td>$200 guitar, $500 digital piano</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2-A

Instruments recommended for use when implementing the “Music Therapy for Families of NICU Infants Program” are detailed in the improvisation section of this paper. Price range and vendor information are listed on the following page (p. 55) in Table 2-B.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Approximate Cost</th>
<th>Ordering Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remo Ocean Drum-16”</td>
<td>$49.60 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Remo ET-0216-10</td>
</tr>
<tr>
<td>Remo Ocean Drum-22”</td>
<td>$68.25 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Remo ET-0222-10</td>
</tr>
<tr>
<td>African Rhythms G 4-Pitch Piccolo Tongue Drum with mallets</td>
<td>$89.35 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> African Rhythms Part #200707</td>
</tr>
<tr>
<td>Overseas Connection Mali Rope Tuned Djembe</td>
<td>$147.00 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> M464 Mali 17”x10”</td>
</tr>
<tr>
<td>Pearl Primero Wood Conga and Bongo Package</td>
<td>$280.80</td>
<td>Guitar Center (1-866-498-7882 store locator)</td>
</tr>
<tr>
<td>Bell Tree-Rhythm Tech Bar Bells</td>
<td>$88.00 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> RT8300 Bar Bells</td>
</tr>
<tr>
<td>Wooden Maracas</td>
<td>$6.40 set of two + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Basic Beat BB013</td>
</tr>
<tr>
<td>Sleigh Bells</td>
<td>$3.00 each + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Basic Beat BBS5</td>
</tr>
<tr>
<td>Zildjian ZBT Crash Cymbal-14”</td>
<td>$54.99 + shipping</td>
<td><a href="http://www.musicianshut.com">www.musicianshut.com</a> Item #m700144, Model ZBT14C</td>
</tr>
<tr>
<td>Latin Percussion Single Row Bar Chimes Chime Stand</td>
<td>$82.99 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> LP449C part #200417 Part #251712</td>
</tr>
<tr>
<td>Han Chi TSG-14, 14” Tiger sound gong with mallet</td>
<td>$65.00 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Part #200862</td>
</tr>
<tr>
<td>Peruvian Cactus Rain Stick- 12”</td>
<td>$9.50 + shipping</td>
<td><a href="http://www.appollosaxes.com">www.appollosaxes.com</a> Item # IA-2601 Brand: Inter-American Trading</td>
</tr>
<tr>
<td>Metallaphone- Alto</td>
<td>$243.50 + shipping</td>
<td><a href="http://www.westmusic.com">www.westmusic.com</a> Studio 49 1000 Series H-1000 Chromatic Add-on for Alto Metallaphone Part#202231</td>
</tr>
<tr>
<td>Wooden Xylophone</td>
<td>$182.99 + shipping</td>
<td><a href="http://www.netag.com">www.netag.com</a> Lyons Xylophones Part # DSXR</td>
</tr>
</tbody>
</table>

Table 2-B

Upon implementing the proposed program the therapist may decide to purchase either a guitar or a piano (keyboard) depending upon budget as well as the therapists’ preferred instrument. Having access to both a piano and guitar can provide the prospect of a variety of musical opportunities. Cost varies extensively for both instruments depending upon brand, electric versus acoustic, classical versus steel string, size (full scale keyboard), weighted or non-weighted keys, and additional features. Both guitar and piano can be tested
by therapist prior to purchase, as there are many practical and musical properties to take into account.

A basic acoustic guitar with a decent sound will range in price from $110 to $300. A classical guitar which features a wider neck and nylon strings, providing a warmer sound, falls within the same price range. Keyboards offer a less-expensive alternative to a piano and many are now made with weighted keys to provide the player with the tactile input similar to that of a piano. When purchasing a piano for a new practice, the therapist should do his/her research and plan to spend upwards of one thousand dollars. When beginning the program on a limited budget, it is worthwhile to research schools, churches and the like as they may be willing to part with a used piano for a low price or perhaps donate one for tax purposes. Keyboards are a less-expensive alternative to purchasing a piano however, it is important to thoroughly research make and brand as many keyboards are toy-like in nature and inappropriate for a therapy session. Keyboards which are listed as digital pianos possess weighted keys and a sound closer to that of a piano. Digital pianos vary in price from three hundred plus dollars to fifteen hundred dollars.

*Contractual agreement.* The American Music Therapy Association Handbook (AMTA) details music therapy salaries according to region, therapist credentials (BA vs. MA), and full-time employment versus part-time contract work. When implementing the proposed program, the music therapist may wish to work with the hospital to develop a contract which fits the needs of all parties involved. Neonatal intensive care units vary in size depending upon the hospital. In an urban area such as New York City, the neonatal intensive care unit at Beth Israel Medical Center is large and broken up into three different
sub-units. In this instance, a full-time music therapist who is a member of the NICU treatment team may be ideal. Table 3-A illustrates the salary and benefit requirements of a full-time music therapist. A salary distinction is made between music therapists with a Bachelor’s degree and those with a Masters. Salaries vary depending upon state and region however, a specific breakdown state by state is not included in this paper.

**Average range of full-time music therapy salaries and benefits:**

<table>
<thead>
<tr>
<th></th>
<th>Annual Salary: $30-$40,000</th>
<th>Liability Insurance: varies</th>
<th>Average Salary Package: $37,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-BC, Bachelors Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT-BC, Masters Degree</td>
<td>Annual Salary: $42-$65,000</td>
<td>Liability Insurance: varies</td>
<td>Average Salary Package: $58,000</td>
</tr>
</tbody>
</table>

When implementing the “Music Therapy for Families of NICU Infants Program” in hospitals with a relatively small neonatal intensive care unit, the proposed program could be effectively administered through part-time contract work with a minimum of three work days per week. Three (full) work days, would allow time for the therapist to gather referrals, perform assessments and conduct music therapy sessions. Less than three work days would most likely not allow for the appropriate amount of time in which to coordinate with families, schedule assessments and conduct sessions.

Table 3-B illustrates average contract salaries for part-time music therapist as published by the American Music Therapy Association Handbook. Depending upon the institution the contract may make a distinction between amounts per session versus amount per day. Smaller institutions may wish to contract the music therapist per session with a potential minimum or maximum number of sessions per day. A differentiation of salary is made between therapists holding a Bachelors degree in music therapy and those with a Master’s degree.
Average range of part-time music therapy salaries:

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Per Hour/Session</th>
<th>Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-BC, Bachelors Degree</td>
<td>$35-45</td>
<td>$125.00</td>
</tr>
<tr>
<td>MT-BC, Masters Degree</td>
<td>$45-80</td>
<td>$275.00</td>
</tr>
</tbody>
</table>

Table 3-B
“Music Therapy for Families of NICU Infants Program”: Recommendations

“The Music Therapy for Families of NICU Infants Program” does not include specific guidelines for infant intervention. It should be assumed however, that the music therapist conducting this program will also be working with NICU infants. Bedside music therapy sessions with families and infants to facilitate bonding are detailed in the music therapy literature. For the purpose of addressing the families’ specific emotional needs through music therapy interventions, protocols for treatment with infants were not included.

If the music therapist implementing the program does not have previous experience working with infants hospitalized in the NICU, he/she may wish to acquire additional training as the population is highly specialized. In addition to reading the literature in this paper regarding Music Therapy in the NICU, the music therapist can contact a music therapist currently working with the population. The music therapist implementing the program could arrange for session observation or fieldwork in the NICU. Attending seminars and conferences will most likely provide the music therapist with additional training.

The “Music Therapy for Families of NICU Infants Program” was designed based on three specific music therapy interventions. If and when the session deviates from said interventions, which is probable, the therapist can notate interventions used in the session documentation. For example, if the music therapist decides to use guided imagery and relaxation to recorded music with a particular family (with a clear clinical rationale) it should be noted. If the music therapist implementing the program notes (through the use of the
PSS:NICU) that the families’ stress level was significantly lower than other treated families, the therapist may decide to introduce relaxation and imagery to other sessions.

There is an un-written flexibility within the program; with the understanding that the music therapist implementing the program would use clinical rationale for any deviations and that the deviations should be in the form of additions to the interventions and not omissions. The music therapist conducting the program may wish to add the additional evaluation component (PSS:NICU and STAI surveys) for the purpose of a research study. The music therapist would make adjustments to the program in order for it to serve a research purpose.

The “Music Therapy for Families of NICU Infants Program” was designed for families of NICU infants; however in the event that NICU mothers have formed a relationship and wish to participate in treatment together, this program could be used with variations. The interventions could potentially focus on the same goals but the design of the program would focus less on family and more on supporting non-familial relationships (friendships). Changes such as these would be made by the music therapist conducting the program.

The “Music Therapy for Families of NICU Infants Program” was designed with clear goals in mind; to offer music therapy treatment to a population vastly under-served yet who are in dire need of support.
Conclusion

In working in the NICU, I witnessed first-hand a mother experiencing a mental breakdown as she suffered from post-partum psychosis. She was hospitalized in the mental health unit of the hospital and received treatment. Some would argue that the proposed program is contra-indicative as it does not include interventions with the family and their infant to promote bonding. I would argue that in the case of this mother, the attachment process suffered immensely because of the mothers’ hospitalization. Perhaps had she received support whereby she could express her overwhelming emotions and process them in a healthy, constructive way her suffering would not have been so severe.

I also witnessed many situations in the NICU whereby because of visiting hours, medical rounds or an infant’s medical intervention (x-ray) the families would spend time anxiously waiting to enter the unit. There were times when their anxiety seemed to increase as each moment passed and they waited to spend time with their infant. When they are finally able to see them, they are often in a more heightened state than when they first arrived. Implementing music therapy services in the interim and when it is not possible for the families to see their infants anyway can only be beneficial to both family and baby.

Families of NICU infants deserve and require treatment to facilitate coping. Music therapy treatment can offer safety, respite, empowerment, and control. This could, in turn, promote attachment, health, and a positive NICU experience for the families.
Appendix A

“Music Therapy for Families of NICU Infants Program” Referral Form:

<table>
<thead>
<tr>
<th>Date: __________</th>
<th>Spectrum of Service, Level of Support Needed: ________</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>[1. = acute/immediate need 2. = moderate need 3. = least need]</td>
</tr>
</tbody>
</table>

Name of staff member making referral: ______________________________________

Staff member’s contact number (hospital extension): _________________________

Name of family member(s) being referred and relationship to infant:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name of infant: ___________________ Patient number: ___________________

Infant’s date of birth: ___________ Gestational age: __________ Corrected age: __________

Reason for infant hospitalization:

________________________________________________________________________

________________________________________________________________________

Reason(s) for music therapy referral- check all that apply:

- □ Mother visibly distressed    □ Father visibly distressed    □ Other family member visibly distressed (list)____________________
- □ Family member(s) need additional support as determined by: (check all that apply)
  - □ Dr.__________________ □ Nurse:__________________ □ Social work:__________________
  - □ Family member:__________________ □ Other:__________________

- □ Other reason(s) for referral, please include any/all information pertinent to the referral:
  (Complications during labor, or delivery; maternal illness; psychosocial information)

________________________________________________________________________
Appendix B

“Music Therapy for Families of NICU Infants Program”: Assessment Form
(attach referral form)

Date: __________
Name of family member(s) and relationship to the infant:
___________________________________________________________
___________________________________________________________

Musical background(s) of family members:

□ Familiar with music therapy (family member name): ____________________________
□ Never heard of music therapy (""}): ____________________________
□ Previously received music therapy (""): ____________________________
□ First experience with music therapy (""):

□ List any/all instruments played for career or hobby:

<table>
<thead>
<tr>
<th>Instrument(s)</th>
<th>Family member name</th>
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</table>

Instruments chosen (by the family), list and name corresponding family member

1st improvisation_______________________________________________________
2nd improvisation_______________________________________________________

Mood which family member(s) wished to convey through the improvisation: (explain)
___________________________________________________________
___________________________________________________________

Mood of second (opposite) improvisation: ____________________________
Characteristics of each member’s playing:

1st improvisation_______________________________________________________
___________________________________________________________
2nd improvisation_______________________________________________________
___________________________________________________________

Ability to recognize/follow dynamic changes? □ yes □ no Explain:___________________________
Ability to recognize/follow tempo changes? □ yes □ no Explain:___________________________
### Appendix B(2)

#### Notes from discussion:

- 
- 
- 

#### Familiar Song Chosen by family:

- 

#### Additional recommendations/notes:
Appendix C

“Music Therapy for Families of NICU Infants Program”: Clinical Goals and Objectives

**Goal 1:** Client will experience a decrease in symptoms of stress and anxiety through clinical participation in music therapy sessions.

Objective 1.A: Client will participate in music therapy relaxation protocols

Objective 2.B: Client will demonstrate ability to conduct music-assisted relaxation protocols as taught in the session for use outside of the session

**Goal 2:** Client will increase ability to express thoughts and feelings related to their infant’s hospitalization.

Objective 2-A: Client will participate in musical improvisation representing the mood which most closely matches their feelings related to their infant’s hospitalization.

Objective 2-B: Client will identify mood of music, post-improvisation, and discuss thoughts and feelings related to the improvisation.

Objective 2-C: Client will discuss thoughts and feelings experienced during the improvisation relating to their infant’s hospitalization.

**Goal 3:** Client will increase ability to identify and verbalize needs within the music therapy session.

Objective 3-A: Client will take part in decision making process during the songwriting treatment protocol

Objective 3-B: Client will verbalize their instrument preferences during music therapy protocols.

**Goal 4:** Client will increase their ability to take time to care for themselves

Objective 4-A: Client will participate in music therapy experiences which focus on self-care versus the care of their infant.
Appendix D

“Music Therapy for Families of NICU Infants Program”
Session Documentation Form

Date: _______________ Therapist name: ____________

Client(s): __________________________________________________________

Session #: _______ Treatment period beginning (date): __________________________

Session goals: __________________________________________________________

________________________________________________________________________

Evaluation of progress- goals: ______________________________________________

________________________________________________________________________

Session objectives: _________________________________________________________

________________________________________________________________________

Evaluation of progress- objectives: __________________________________________

________________________________________________________________________

Treatment Protocol Used: □ Clinical Improvisation □ Relaxation □ Songwriting
□ Other- explain: _________________________________________________________

Instruments used: _________________________________________________________

________________________________________________________________________

Music used: ______________________________________________________________

________________________________________________________________________

Additional Notes:
Appendix E

PARENTAL STRESS SCALE: NEONATAL INTENSIVE CARE UNIT

c Margaret S. Miles, RN, PhD 1987, 2002

Nurses and others who work in neonatal intensive care units are interested in how the experience of having a sick baby hospitalized in the neonatal intensive care unit (NICU) affects parents. We would like to know what aspects of your experience as a parent are stressful to you. By stressful, we mean that the experience has caused you to feel anxious, upset, or tense.

This questionnaire lists various experiences parents have reported as stressful. Please indicate how stressful each item listed below has been for you using the following scale:

1 = Not at all stressful: the experience did not cause you to feel upset, tense, or anxious
2 = A little stressful
3 = Moderately stressful
4 = Very stressful
5 = Extremely stressful: the experience upset you and caused a lot of anxiety or tension

If you did not have the experience, indicate this by circling N/A meaning that you have "not experienced" this aspect of the NICU.

Now let's take an item for an example: The bright lights in the NICU.
If for example you feel that the bright lights in the neonatal intensive care unit were extremely stressful to you, you would circle the number 5 below:

NA 1 2 3 4 5

If you feel that the lights were not stressful at all, you would circle the number 1 below:

NA 1 2 3 4 5

If the bright lights were not on when you visited (not likely), you would circle NA indicating "Not Applicable" below:

NA 1 2 3 4 5

Below is a list of the various SIGHTS AND SOUNDS commonly experienced in an NICU. We are interested in knowing about your view of how stressful these SIGHTS AND SOUNDS are for you.

Circle the number that best represents your level of stress.

1. The presence of monitors and equipment NA 1 2 3 4 5
2. The constant noises of monitors and equipment NA 1 2 3 4 5
3. The sudden noises of monitor alarms NA 1 2 3 4 5
4. The other sick babies in the room NA 1 2 3 4 5
5. The large number of people working in the unit NA 1 2 3 4 5
6. Having a machine (respirator) breathe for my baby NA 1 2 3 4 5
Appendix E (3)

Below is a list of items that might describe the way your BABY LOOKS AND BEHAVES while you are visiting in the NICU as well as some of the TREATMENTS that you have seen done to the baby. Not all babies have these experiences or look this way, so circle the NA, if you have not experienced or seen the listed item. If the item reflects something that you have experienced, then indicate how much the experience was stressful or upsetting to you by circling the appropriate number.

1. Tubes and equipment on or near my baby NA 1 2 3 4 5
2. Bruises, cuts or incisions on my baby NA 1 2 3 4 5
3. The unusual color of my baby (for example looking pale or yellow jaundiced) NA 1 2 3 4 5
4. My baby's unusual or abnormal breathing patterns NA 1 2 3 4 5
5. The small size of my baby NA 1 2 3 4 5
6. The wrinkled appearance of my baby NA 1 2 3 4 5
7. Seeing needles and tubes put in my baby NA 1 2 3 4 5
8. My baby being fed by an intravenous line or tube NA 1 2 3 4 5
9. When my baby seemed to be in pain NA 1 2 3 4 5
10. When my baby looked sad NA 1 2 3 4 5
11. The limp and weak appearance of my baby NA 1 2 3 4 5
12. Jerky or restless movements of my baby NA 1 2 3 4 5
13. My baby not being able to cry like other babies NA 1 2 3 4 5
*14 My baby crying for long periods NA 1 2 3 4 5
Appendix E (4)

*15 When my baby looked afraid NA 1 2 3 4 5

*16 Seeing my baby suddenly change color (for example, becoming pale or blue) NA 1 2 3 4 5

*17 Seeing my baby stop breathing NA 1 2 3 4 5

The last area we want to ask you about is how you feel about your own RELATIONSHIP with the baby and your PARENTAL ROLE. If you have experienced the following situations or feelings, indicate how stressful you have been by them by circling the appropriate number. Again, circle NA if you did not experience the item.

1. Being separated from my baby NA 1 2 3 4 5

2. Not feeding my baby myself NA 1 2 3 4 5

3. Not being able to care for my baby myself (for example, diapering, bathing) NA 1 2 3 4 5

4. Not being able to hold my baby when I want NA 1 2 3 4 5

5. Feeling helpless and unable to protect my baby from pain and painful procedures NA 1 2 3 4 5

6. Feeling helpless about how to help my baby during this time NA 1 2 3 4 5

7. Not having time to be alone with my baby NA 1 2 3 4 5

*8. Sometimes forgetting what my baby looks like NA 1 2 3 4 5

*9. Not being able to share my baby with other family members NA 1 2 3 4 5

*10 Being afraid of touching or holding my baby NA 1 2 3 4 5
Appendix E (5)
*11 Feeling staff is closer to my baby than I am NA 1 2 3 4 5

Using the same rating scale, indicate how stressful in general, the experience of
having your baby hospitalized in the NICU has been for you:
1 = Not at all stressful: the NICU experience did not cause me to feel upset, tense, or anxious
2 = A little stressful
3 = Moderately stressful
4 = Very stressful
5 = Extremely stressful: the NICU experience upset me and caused a lot of anxiety or tension

Thank you for your help. Now, was there anything else that was stressful for you
during the time that your baby has been in the neonatal intensive care unit? Please
discuss below:
STATE-TRAIT ANXIETY INVENTORY FOR ADULTS
SELF-EVALUATION QUESTIONNAIRE
STAI Form Y-1 and Form Y-2

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1
Please provide the following information:
Name: __________________________ Date: ____
Age: ______ Gender (Circle) M F T
1. I feel calm ........................................................................................................... 1 2 3 4
2. I feel secure........................................................................................................ 1 2 3 4
3. I am tense.......................................................................................................... 1 2 3 4
4. I feel strained ................................................................................................... 1 2 3 4
5. I feel at ease .................................................................................................... 1 2 3 4
6. I feel upset........................................................................................................ 1 2 3 4
7. I am presently worrying over possible misfortunes....................................... 1 2 3 4
8. I feel satisfied................................................................................................. 1 2 3 4
9. I feel frightened.............................................................................................. 1 2 3 4
10. I feel comfortable........................................................................................... 1 2 3 4
11. I feel self-confident...................................................................................... 1 2 3 4
12. I feel nervous ............................................................................................... 1 2 3 4
13. I am jittery....................................................................................................... 1 2 3 4
14. I feel indecisive............................................................................................ 1 2 3 4
Appendix F (2)

15. I am relaxed................................................................. 1 2 3 4

16. I feel content .............................................................. 1 2 3 4

17. I am worried............................................................... 1 2 3 4

18. I feel confused............................................................ 1 2 3 4

19. I feel steady................................................................. 1 2 3 4

20. I feel pleasant............................................................. 1 2 3 4

DIRECTIONS:
A number of statements which people have used to describe themselves are given below. Read each statement and then blacken the appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

SELF-EVALUATION QUESTIONNAIRE
STAI Form Y-2
Name_________________________ Date__________

21. I feel pleasant ............................................................ 1 2 3 4

22. I feel nervous and restless.......................................... 1 2 3 4

23. I feel satisfied with myself........................................ 1 2 3 4

24. I wish I could be as happy as others seem to ............ 1 2 3 4

25. I feel like a failure...................................................... 1 2 3 4

26. I feel rested.............................................................. 1 2 3 4

27. I am "calm, cool, and collected"................................. 1 2 3 4

28. I feel that difficulties are piling up so that I cannot overcome them... 1 2 3 4

29. I worry too much over something that really doesn’t matter........... 1 2 3 4
<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>I am happy</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>31</td>
<td>I have disturbing thoughts</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>32</td>
<td>I lack self-confidence</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>33</td>
<td>I feel secure</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>34</td>
<td>I make decisions easily</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>35</td>
<td>I feel inadequate</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>36</td>
<td>I am content</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>37</td>
<td>Some unimportant thought runs through my mind and bothers me</td>
<td>1 2 3 4</td>
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<tr>
<td>38</td>
<td>I take disappointments so keenly that I can't put them out of my mind</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>39</td>
<td>I am a steady person</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>40</td>
<td>I get in a state of tension or turmoil as I think over my recent</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>Concerns and interests</td>
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Appendix G

“Music Therapy for Families of NICU Infants Program”
Additional Evaluation Documentation Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Treatment Start Date</th>
<th>Pre-test Scores</th>
<th>Treatment End Date</th>
<th>Post-test Scores</th>
<th>Number of M.T. Sessions</th>
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Appendix H

Permission to use PSS:NICU

Parental Stressor Scale: Neonatal Intensive Care Unit
To: Researchers Interested in Using the PSS:NICU
From: Margaret S. Miles, RN, PhD, FAAN
Carrington Hall, CB 7460
School of Nursing
University of North Carolina
Chapel Hill, NC 27599-7460
mmiles.uncson@mhs.unc.edu

You are free to download and use the Parental Stressor Scale: NICU for your research. However, the instrument is copyrighted (c Margaret S. Miles, RN, PhD 1987) and cannot be duplicated or copied without first submitting to Dr. Miles a signed copy of the permission form that follows. Requests for any changes or alterations in the instrument should be made in writing to Dr. Miles.

Please consult the instrument manual for scoring. You may also wish to review the methodological article: Miles, M.S., Funk, S.G., & Carlson, J. (1993). Parental Stressor Scale: Neonatal Intensive Care Unit. Nursing Research, 42, 148-152. Indicate in this space with the asterisk (*) the time frame you wish parents to consider in completing the scale (i.e., since admission, in the past week, today). The Staff Communication items, which we were unable to factor due to large numbers of N/As, has been left on the tool.

You may choose whether or not to use this subscale. The PSS:NICU has been used all over the world. We have translations of the tool available in the following languages: Chinese, Japanese, Portugese, Spanish, German, Finnish, and Icelandic. It is presently being translated into additional languages. If you wish a copy of one of the translated versions, please write to M. Miles or e-mail her at the address below. If you wish to translate the instrument into another language, please seek written permission and send a copy of the final version along with the methods used to M. Miles.

If you wish to use the Parental Stressor Scale: Pediatric ICU, please write to the School of Nursing, University of Kansas, 39th & Rainbow, Kansas City, Kansas 66160. Fax: 913 588-1660.

Note, there is another version of this tool, the Parental Stressor Scale: Infant Hospitalization, which was designed for parents of infants hospitalized in any area of the hospital.

This PSS:IH is also located on this web site.
Appendix H (2)

There is also an instrument, the Nurse Parent Support Tool, on which parents are asked to assess the amount of support they got from the nursing staff in the hospital related to their needs as the parent of a hospitalized child. The NPST can also be found on this Web site.

The authors acknowledge support from the Division of Nursing, Health Resources and SErvices Administration, Public Health Service, Department of Health and Human Services, Grant No. NU01284. The authors also wish to acknowledge Donna Sheilds-Poe Mount Sinai Hospital, Toronto, Ontario, and Janet Pinelli, Associate Professor, McMaster University, Toronto, Ontario, for their participation in data collection with partial funding from the Ontario Ministry of Health Systems Research.
Appendix I

Permission to use State Trait Anxiety Inventory

For use by Angela Thompson only. Received from Mind Garden, Inc. on April 28, 2009
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Published by Mind Garden, Inc., www.mindgarden.com

Permission for Angela Thompson to reproduce 1 copy within one year of April 28, 2009

State-Trait Anxiety Inventory for Adults
Sampler Set
Manual, Test Booklet and Scoring Key

Developed by Charles D. Spielberger
in collaboration with R.L. Gorsuch, R. Lushene, P.R. Vagg, and G.A. Jacobs
Distributed by Mind Garden, Inc.
info@mindgarden.com
www.mindgarden.com

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References:


Krout, R. E. (2001). The effects of single session music therapy interventions on the observed and self-reported levels of pain control and physical comfort and relaxation of hospice patients. *American Journal of Hospice and Palliative Medicine, 18*(6), 383-390.


