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The Use of Medical Clowns as a Psychological Distress Buffer During Anogenital Examination of Sexually Abused Children

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This quasi-experimental study examined the effects of medical clowns on psychological distress during pediatric anogenital examinations. A convenience sample of 30 allegedly sexually abused minors ranging in age from 1 to 17 years (M = 10.57, SD = 4.71) was recruited among children at a medical center for sexually abused children in Israel. Parents and children completed self-report questionnaires consisting of two measures: the Posttraumatic Stress Disorder Symptoms Scale and an evaluation scale regarding the role of and experience with medical clowns. Results indicated that children accompanied by a medical clown during examination expressed less fear, reported lower pain levels, and had fewer invasive thoughts.

Research suggests that pediatric anogenital examinations are subjectively experienced by children at diverse anxiety levels (Gulla, Fenheim, Myhre, & Lydersen, 2007; Waibel-Duncan, 2001). Professionals often worry that the examinations might retraumatize the child because certain stimuli may
be associated with the previous traumatic event. Children may resist the examination, a reaction that, in turn, might compel the physician to resort to extreme measures such as anesthesia (Pillai, 2005).

In recent years, hospitals have begun to incorporate medical clowns in the treatment of patients, especially in pediatrics. Medical clowns are trained professionals who apply innovative techniques to mitigate the pain and anxiety of hospitalized children and their families. To the best of our knowledge, data on the effects of medical clown involvement during anogenital examinations are scarce. Some studies indicate the existence of a positive influence of medical clowns on children’s emotional state (Battrick, Glasper, & Weaver, 2007; Scheyer, Nuttman-Shwartz, & Ziyoni, 2008; Weaver, Prudhoe, Battrick, & Glasper, 2007). The current quasi-experimental study examines the role of medical clowns during anogenital examination and their influence on the psychological distress caused by the examination among children who have allegedly been sexually abused.

**ANOGENITAL EXAMINATION AS RETRAUMATIZATION**

Minors who have allegedly been sexually abused are usually referred for medical examination (especially when the alleged abuse occurred within the last 72 hours, when penetration or attempted penetration is involved, or when there is evidence of bleeding or acute injury) (Christian et al., 2000; Davies & Seymour, 2001). The examination’s purposes are to identify physical injuries or evidence of venereal disease and to obtain forensic evidence (Palusci, Cox, Shatz, & Schultze, 2006; Dubowitz & DePanfilis, 2000; Sudhir, Anderson, & Brady, 2009).

Waibel-Duncan and Sanger (2004), who studied the coping strategies of 40 girls and 104 adults with regard to anogenital examination, found low levels of examination-related anxiety in both children and adults. However, other researchers found high levels of distress among children and their parents due to the pervasiveness of the examination, photographing of the genitalia, physical pain (especially when the hymen is sensitive), and lack of preparation prior to the examination (Bernard, Peters, & Makoroff, 2006; Davies & Seymour, 2001; Gully, Britton, Hansen, Goodwill, & Nope, 1999; Waibel-Duncan, 2001). Gully and colleagues (1999) identified significantly greater distress symptoms during the anogenital examination than during the preceding general physical examination. According to Mears, Hefflin, Finkel, Deblinger, and Steer (2003), many aspects of the examination are likely to be perceived as embarrassing, painful, or frightening. In addition, Gulla et al. (2007) stressed that anogenital examinations were more distressing for children than other types of medical examinations.

The debate about anogenital examination serving as a retraumatizing experience in childhood sexual abuse (CSA) involves variables such as the
child’s self- and social resources (Hernandez, 2006), level of previous distress (Waibel-Duncan & Sanger, 2004), the contextual factors of the CSA event such as the perpetrator’s identity and violence level during the assault (Gully, Hansen, Britton, Langley, & McBride, 2000), demographic variables such as the child’s age (Marks, Lamb, & Tzioumi, 2009; Waibel-Duncan, 2001), and the circumstances and atmosphere during the examination itself (e.g., Allard-Dansereau, Hébert, Tremblay, & Bernard-Bonnin, 2001; Wiese, Armitage, Delaforce, & Welch, 2005).

These studies relate mainly to the physical aspects of anogenital and forensic evaluations (Hernandez, 2006), often ignoring the examination’s psychological aspects and its effect on the child. A knowledge gap exists regarding the subjective experiences of the child and her or his family during the examination.

MEDICAL CLOWNS

Medical clowning (also referred to as “therapeutic clowning” or “clown doctors”) developed in order to ease the anxiety and pain of hospitalized children. Currently, medical clowns work mainly in pediatric settings (Koller & Gryski, 2007; Scheyer et al., 2008). Medical clowns, as opposed to volunteer clowns, are trained professionals. Medical clowns strive to improve the physical and mental well-being of patients and function as an integral part of the medical team (Koller & Gryski, 2007; Scheyer et al., 2008). Their role is to provide children who are in a state of helplessness with a sense of control; to increase communication between the medical staff, children, and their caregivers; and to decrease the tension and anxiety often resulting from physically intrusive procedures. The clown enables the child to be a creative partner in play experience and engages the child in pleasurable interaction during the examination. In this way, the child is able to disconnect her- or himself from the stressful situation. The clown is lonely and vulnerable (reflecting the hospitalized child’s emotional state) and is inferior to the child (which empowers the child, who thus is no longer weak) (Koller & Gryski, 2007). The clown helps the child and her or his family to derive meaning from the hospital experience (Miller Van Blerkom, 1995).

There is little empirical data on the use of medical clowns within health care settings (Battrick et al., 2007; Bornstein, 2008; Weaver et al., 2007). Nonetheless, existing studies demonstrate that integrating medical clowns within the medical setting is helpful for both health care providers (Smerling et al., 1999) and patients (Battrick et al., 2007) during hospital visitation as well as hospitalization (Scheyer et al., 2008; Weaver et al., 2007). The presence of a medical clown during invasive medical procedures was found to lower both children’s and parents’ symptoms of distress (Gorfinkle, Slater, Bagiella, Tager, & Labinsky, 1998; Smerling et al., 1999; Vagnoli, Caprilli,
Robiglio, & Messeri, 2005) and children’s levels of physical pain (Aquino, Bortolucci, & Marta, 2004). Gorfinkle and colleagues found significant decreases in children’s self-reported distress and parent-rated child distress during the clown’s presence. However, when baseline differences were covaried, these results failed to reach significance.

Based on theory and empirical work, we hypothesized that symptoms of distress would be lower for the intervention group, when a clown was present during the anogenital examination, than for the comparison group, when a medical clown was not present during the examination.

**METHOD**

**Participants and Procedure**

This quasi-experimental study was approved by the institutional review board of the local medical center. Thirty children who underwent anogenital examination at an Israeli hospital’s center for medical and forensic examination of sexually abused children were recruited. The children ranged in age from 1 to 17 years ($M = 10.57, SD = 4.71$). The sample was divided into two groups according to participation/nonparticipation of a medical clown during the examination. To prevent ethical dilemmas, the groups were divided according to the clowns’ work hours (clowns work at the hospital only between the hours of 9 and 1, Sunday to Thursday). The study group, in which a medical clown was present during the examination, consisted of 24 children whose mean age was 9.55 ($SD = 4.5$; 3 males, 21 females). The comparison group, in which a medical clown was not present, consisted of 6 children whose mean age was 14.52 ($SD = 3.4$; all female). Regarding the perpetrator’s identity, 30% of the alleged perpetrators were family members, 46.7% were acquaintances, and 23.3% were strangers. In terms of disclosure, 46.2% of children disclosed to a parent, 23% disclosed to a school professional, and 30.8% disclosed to a professional such as a social worker or the family doctor. More than half (65.5%) of the children were accompanied by their mothers, 10.3% by their fathers, and 24.2% by both parents.

**Assignment Procedure**

Between March 2008 and August 2009, minors accompanied by a parent were referred to the medical center subsequent to suspected sexual abuse. The study was introduced to all of the parents who accompanied their children. Thirty parents provided voluntary written informed consent to participate in the study. The low consent rate may be explained by the extreme emotional distress concerning these sensitive topics leaving the families emotionally unavailable to complete the questionnaires.
Subsequent to the anogenital examination, parents and/or children completed a self-report questionnaire. The children who were unable to independently complete the questionnaire were aided by a parent who read each question and recorded the response.

Measures

The Posttraumatic Stress Disorder Symptoms Scale (PSS-I; Foa, Riggs, Dancu, & Rothbaum, 1993) is a 17-item interview assessing the severity of each of the DSM-IV posttraumatic stress disorder (PTSD) symptoms during the past 2 weeks. Each symptom is rated on a 4-point scale from 0 (not at all) to 3 (very much). Subscale scores are calculated by summing items in each of the PTSD symptom clusters: reexperiencing, avoidance, and arousal. The scale had high internal consistency (alpha = .88) at both the first and second waves and moderate to high correlations with other measures of psychopathology. The PSS-I has high test-retest reliability (r = .80) and interrater reliability (k = .91). The Cronbach alpha reliability in the current study was .80.

The medical clown measure was developed by the authors and is a self-report nine-item questionnaire assessing the level of distress during the exam and self-perceptions of the clown’s presence. Each item is rated on a 5-point scale (not at all, only slightly, moderately, a lot, or the most). For example, children were asked to grade the level of fear and pain during the examination and their perceptions about the medical clown’s degree of helpfulness, both for themselves and for their parents. In addition, the child was asked to describe the most significant memory deriving from the visit to the center: the anogenital examination, the clown encounter, blood test, or other (leaving an open space for the child to complete).

In addition, practitioners and volunteers who were present during the anogenital examination were administered a five-item self-report questionnaire (again, not at all, only slightly, moderately, a lot, or the most) focusing on the effects of the medical clown on the child and his or her parent(s). For example, they were asked whether the clown’s presence helped improve the child’s emotional state or whether the clown’s presence contributed to the child’s cooperation during the examination.

RESULTS

The results were analyzed in terms of comparisons among the control group and the study group. We carried out t tests to examine the differences between the groups concerning posttraumatic stress (PTS) symptoms (arousal, intrusive thoughts, and avoidance) and subjective levels of distress during the exam.

Table 1 provides descriptive statistics (means and percentages) for the medical clown measure. All of the children and most of the staff members
positively viewed the clown’s role during anogenital examinations. All of the children reported “a lot” or “the most” when referring to the helpfulness of the medical clown during the medical examination for both themselves and their parents.

With regard to the most remembered aspect of the event, 40% of the study group and 100% of the comparison group reported that the medical examination was the most significant episode. More than half (53.3%) of the study group reported the interaction with the clown as the most remembered aspect of the medical examination situation ($\chi^2 = 5.46, p < .06$). Due to the small sample size ($n = 20; 10$ were missing), the extent of significance found ($p < .06$) does seem to indicate a direction for this variable.

All staff members reported that the clown’s presence was very (a lot or the most) beneficial for the child (100%) and for the parent’s psychological well-being (79.3%) and contributed to the child’s cooperativeness during the examination (93.3%). In addition, 92.6% of the staff members reported that the clown’s presence contributed to their own wellbeing during the examination.

The subcategories of PTS symptoms (arousal, intrusive thoughts, and avoidance) were selected for between-group comparison: level of fear during examination, level of pain during examination, and 3 posttraumatic symptom (PSS-SR) factors (invasiveness, avoidance, and hyperarousal). Table 2 presents a general description of averages, standard deviations, $t$ values, and the significance of each indicator. The $t$ values displayed are the results of independent sample $t$ tests.
Significant differences between the study group and comparison group were found in the following subcategories of PTS: level of fear, study group $M = 2.05$, $SD = 1.24$, comparison group $M = 3.6$, $SD = 1.21$, $t(21) = -2.73$, $p < .05$; level of pain, study group $M = 1.94$, $SD = 1.43$, comparison group $M = 3.83$, $SD = 1.16$, $t(10.77) = -3.203$, $p < .01$; and invasiveness, study group $M = 1.69$, $SD = 0.79$, comparison group $M = 2.59$, $SD = 0.24$, $t(20) = -2.69$, $p < .05$.

**DISCUSSION**

The current quasi-experimental study examined medical clowns’ contribution to allegedly victimized children’s psychological well-being during an anogenital examination. Findings indicated that when a medical clown was present during the examination, the child reported less pain and fear. This finding is consistent with previous research demonstrating that the presence of a medical clown contributes to a decrease of anxiety levels during invasive medical procedures (e.g., Gorfinkle et al., 1998) and that using humor techniques may increase children’s pain tolerance (Stuber et al., 2007). Based on previous findings that fear and pain are positively correlated, McNeil and Rainwater (1998) suggested that fear of pain might heighten the level of pain itself in dental treatment, labor, and diverse medical examinations. Thus, it can be presumed that the child’s fear of the anogenital examination might increase the level of pain during the procedure. Laughing with the clown and adding humor to a stressful situation is thus likely to reduce fear, which in turn will reduce the body’s tension and actual pain. The fact that children who were accompanied by the clown reported fewer symptoms of invasiveness (intrusive thoughts of the previous experience of the sexual assault) seems to confirm the latter presumption.

It appears that the presence of a clown enables children to distinguish between the sexual assault and the anogenital examination, which seems in turn to decrease the likelihood of association between the two experiences. Clearly, the findings do not directly support the assumption that the child’s self-image during the examination is not of a victim but rather of a

### TABLE 2

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Study group $M$ ($SD$)</th>
<th>Comparison group $M$ ($SD$)</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of fear</td>
<td>2.05 (1.24)</td>
<td>3.66 (1.21)</td>
<td>-2.73**</td>
</tr>
<tr>
<td>Level of pain</td>
<td>1.94 (1.43)</td>
<td>3.83 (1.16)</td>
<td>-3.203*</td>
</tr>
<tr>
<td>Invasiveness</td>
<td>1.69 (0.79)</td>
<td>2.59 (0.24)</td>
<td>-2.69**</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>1.88 (0.82)</td>
<td>2.44 (0.31)</td>
<td>-1.61</td>
</tr>
<tr>
<td>Avoidance</td>
<td>1.77 (0.82)</td>
<td>2.08 (0.38)</td>
<td>-0.91</td>
</tr>
</tbody>
</table>

* $p < .05$; ** $p < .01$. 

18 D. Tener et al.
capable, worthy, in-control figure. However, perhaps experiencing the expected unpleasant procedure with a medical clown might reduce possible retraumatization and even relieve some of the tension of the entire situation.

The clown and child are mutually involved in an enjoyable, therapeutic interaction. The nature of the clown-child interaction strengthens healthy dissociative mechanism activation during the examination, with the clown thus preventing the possibility that the examination will become a traumatizing experience (Silberg, 1998). Therefore, it is not surprising that the most remembered episode was the interaction with the clown and not the anogenital examination itself. As Waibel-Duncan and Sanger (2004) stated, the medical clown’s role is to become a social resource for the sick child.

Alleviating the emotional state of the victimized child via the presence of the clown also assists parents. Though this finding is not surprising, it is of importance since the parents are the most important sources of social support for the child during this stressful period (Hernandez, 2006; Miller Van Blerkom, 1995). Parents of sexually abused children are prone to suffer from symptoms of secondary traumatization (Barnes, 2004), which in turn might harm their ability to provide adequate emotional support to their children. Seeing their child interact with the clown in an alternative, unexpected atmosphere—healthy humorous play—is likely to relieve some of the parents’ tension and stress. For parents, it might reinstate confidence in their child’s ability to remain a child and to overcome the traumatic event. It may also suggest to parents the possibility of using humor later, despite the distressful event.

Despite the limitations of this study, such as its small sample size, the diversity of participants’ ages, and the possibility that the results are due to group differences (such as variation in age), which could nullify the findings, our results provide insight into the possible positive effects of involving a medical clown during anogenital examinations of children. Practitioners working with sexually abused children are searching for ways to reduce short- and long-term effects of the trauma and of any needed examinations. Our findings indicate that the involvement of a medical clown during anogenital examinations indeed reduces pain, fear, and symptoms of invasiveness. The medical clown’s presence helped the practitioners to conduct their exam and increased the cooperativeness of the child. Such increased cooperativeness could have significant implications for reducing the need for anesthesia and increasing the quality of forensic evidence for prosecution.

Further, the medical clown’s involvement at the referral stage might be important. Rapport building between the medical clown and the child and parents prior to the medical examination may lessen the child and parents’ anxiety and contribute to increased trust with other involved practitioners, especially the examiner. Thus, the entire situation may be more bearable for the child and his or her parents. Further study using larger samples and more comparable treatment and control groups is needed. In addition,
further longitudinal quasi-experimental research is needed to examine whether the interaction with the clown might also serve as a buffer for later psychological distress. Finally, there is a need for qualitative research incorporating in-depth interviews with all involved parties regarding the use of medical clowns in the context of anogenital examinations.

REFERENCES


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