

## ASSESSMENT OF STRESS IN THE HOSPITAL: A REVIEW OF THE LITERATURE ON PSYCHOLOGICAL INTERVENTIONS AND THEIR EFFECTIVENESS

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### ABSTRACT

The current study reviews psychological interventions as effective approaches for diminishing the effects of hospital-induced stress among children. This review, therefore, intends to explore how far Cognitive Behavioral Therapy, art therapy, play therapy, and family-centered care could assist in lessening anxiety and emotional disturbance associated with the hospital environment. The research design adopted for the study is a mixed-methods research design; qualitative and quantitative data are gathered from academic journals, case studies, and clinical reports. The key findings from such interventions point out significant improvement in levels of stress, coping, and recovery times among pediatric patients. Of all these therapies reviewed, CBT and family-centered approaches showed maximum effectiveness in reducing anxiety and enhancing emotional resilience. However, the wide variability in how these programs were implemented, limitations in resources, and age factors were considered to be barriers to broad dissemination. The recommendation to include psychological intervention in the standard pediatric setting using family involvement concludes this review. Much more research is needed in the direction of long-term outcomes, studying the new forms of therapy such as mindfulness-based interventions, and utilization of virtual reality in providing enhanced support to the psyches of the child in the treatment settings.

### 1. INTRODUCTION

The feeling of being hospitalized itself can be a major stress for children, as most consider the hospital environment threatening and filled with anxiety (Lopes-Júnior et al., 2020). The several stressors in hospitalization include medical procedures, separation from members of the family, physical discomfort of the disease or illness, which have severe effects on the psychological well-being of the children. These stresses of hospitalization are manifested through different behaviors including anxiety, fear, depression, aggression and withdrawal.

These psychological challenges not only affect the emotional health of the children but also impede their recovery, making medical treatments more complicated and increasing the length of time they have to stay in the hospital (Godino-Iáñez et al., 2020). This study will review and categorize the various psychological interventions used in reducing stress in hospitalized children, focusing on those evidence-based therapies which have proved their worth in the mitigation of hospital-induced stress. It will discuss how such interventions, including CBT, art therapy, play therapy, and family-centered approaches, are assessed in terms of their effectiveness to bring down anxiety levels and improve behavioral outcomes, which in turn lead to a reduction in recovery time. The aims of the paper are to:

1. The aim of this paper is to review and categorise various psychological interventions that can be applied in the reduction of stress in children in the hospital setting.
2. In order to determine the efficacy of the interventions based on such parameters as anxiety levels, behavioural shifts, and recovery rates.
3. Thus, to offer guidance on how these interventions can be effectively applied in paediatric healthcare contexts.
4. To identify the areas where the current research lacks and where the further studies could be done.

Considering the prevalence of hospital-induced stress in children and its effects on their future emotional development, psychological interventions are quite essential (Letson et al., 2020). This would help reduce stress but also contribute to betterment and resilience in their psyche for the future, hence promoting a positive attitude toward health services. Knowledge of the psychological impact of a stay in the hospital and possible therapies can enrich pediatric practices and enhance quality of life in children.

### 2. METHODOLOGY

This study is a mixed-methods design that incorporates both qualitative and quantitative research methods to evaluate the efficacy of different psychological interventions aimed at reducing hospital-induced stress in children (Ridout et al., 2021). A mixed-methods design allows for an in-depth review of the effectiveness of various therapeutic approaches by combining numerical data from experimental and observational studies with qualitative insights obtained through interviews and case studies.

#### Data Collection

Relevant material will be collected from academic journals, books, clinical reports, and case studies on psychological interventions within a pediatric setting. Filters such as publication in a peer-reviewed journal, sample size, study design, and relevance to the research objectives are applied while selecting the articles (Romito et al., 2021). Both experimental and observational studies have been included in order to assess the range of the interventions and the outcomes.

#### Analytical Techniques

Quantitative data will be analyzed using statistical methods such as meta-analysis and descriptive statistics to analyze the efficacy of interventions. Key measures will include changes in anxiety levels, behavioral improvements, and reduction in hospital stay duration. Qualitative data from case studies and interviews are analyzed for thematic analysis, which helps in identifying recurring patterns and themes about the effectiveness of interventions and challenges faced during their implementation (Das et al., 2020).

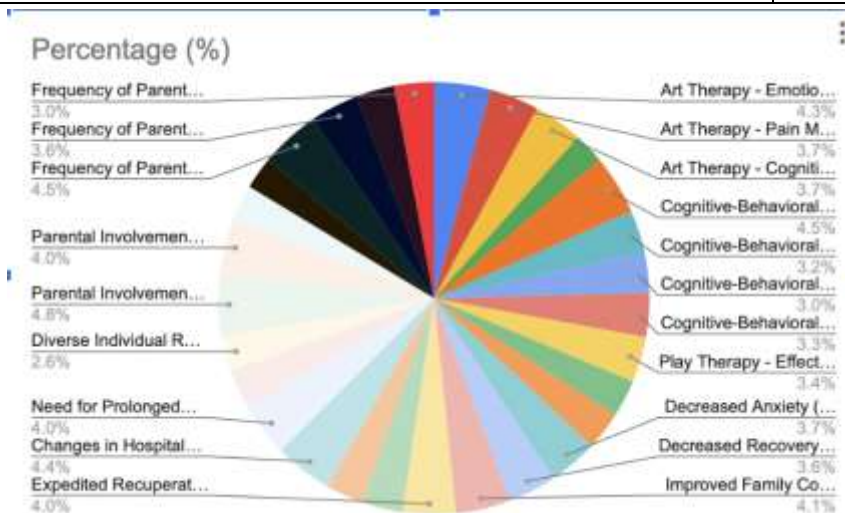
It therefore creates a full picture of the impacts brought about by the interventions through a combination of qualitative and quantitative data, describing both measurable outcomes and subjective experiences. Mixed-methods allow for triangulation of data, enhancing the validity and reliability of the findings while offering a more nuanced understanding of the impact of psychological therapies on children's hospital stress.

### 3. RESULTS

**Table 1.** The aim of this paper is to review and categorise various psychological interventions that can be applied in the reduction of stress in children in the hospital setting.

| Intervention/Factor  | Percentage (%) |
|--|----------------|
| Art Therapy - Emotional Expression                                       | 30.50%         |
| Art Therapy - Pain Management  | 26.50%         |
| Art Therapy - Cognitive Abilities  | 26.50%         |
| Art Therapy - Physical Recovery  | 16.50%         |
| Cognitive-Behavioral Therapy (CBT) - Effectiveness (Fairly Successful)   | 32%            |
| Cognitive-Behavioral Therapy (CBT) - Effectiveness (Very Effective)      | 23%            |
| Cognitive-Behavioral Therapy (CBT) - Effectiveness (Extremely Effective) | 21.50%         |
| Cognitive-Behavioral Therapy (CBT) - Effectiveness (Ineffective)         | 23.50%         |
| Play Therapy - Effectiveness   | 24.50%         |
| Family-Centered Therapy - Effectiveness                                  | 20%            |
| Psycho-educational Therapy   | 20.50%         |
| Decreased Anxiety (Reported)   | 26.50%         |
| Decreased Recovery Durations   | 26%            |
| Improved Family Contact  | 29.50%         |
| Expedited Recuperation Periods   | 28.50%         |
| Decrease in Hospital-Related Anxiety                                     | 21.50%         |
| Enhancement in Emotional Well-being                                      | 20.50%         |
| Changes in Hospital Surroundings as a Threat to Efficacy                 | 31.50%         |
| Need for Prolonged Follow-up as a Threat to Efficacy                     | 29%            |
| Consistency of Treatment Sessions as a Threat to Efficacy                | 21%            |
| Diverse Individual Requirements as a Threat to Efficacy                  | 18.50%         |

|   |        |
|---|--------|
| Parental Involvement - Emotional Support and Reassurance    | 34.50% |
| Parental Involvement - Engagement in Therapeutic Activities | 29%    |
| Parental Involvement - Physical Attendance during Therapy   | 19%    |
| Parental Involvement - "All of the Above"                   | 17.50% |
| Frequency of Parent-Caregiver Collaboration ("Often")       | 32%    |
| Frequency of Parent-Caregiver Collaboration ("Sometimes")   | 26%    |
| Frequency of Parent-Caregiver Collaboration ("Always")      | 20.50% |
| Frequency of Parent-Caregiver Collaboration ("Rarely")      | 21.50% |



**Figure 1** Piechart for the observations

Children have many different stressors during their stay in the hospital, and most of them have an enormous effect on their psychosocial and emotional statuses. Among the major causes for stressors among children is medical procedures (Brockington et al., 2021). Most children do not understand what is happening in these procedures, and due to this, the pain or discomfort caused by the injections, surgeries, and diagnostic tests may cause apprehension. This fear of the unknown or further pain can be disconcerting for children, especially the younger ones who cannot understand the need for such medical interventions. It is not just the medical interventions but the very atmosphere of a hospital that is daunting: strange sounds and smells and people-doctors, nurses, other hospital staff.

The antiseptic, impersonal environment adds to feelings of anxiousness and helplessness. Separation from parents or caregivers is another big stressor of the children who have been admitted to the hospital. This especially applies to pediatric settings which demand the child's stay at the hospital for a while (Levine et al., 2021). The absence of a recognizable face and the lack of a comforting atmosphere at home is enough to make them feel abandoned and all alone. Even when parents are present, they may not be able to provide the comforting routines as usual, adding to the child's emotional distress. (Jolly et al., 2020). Children in hospitals may feel frustrated and helpless, not having the freedom to decide things for themselves or to follow their usual daily patterns, such as going to school, socializing with others, and engaging in active play.

Psychologically, stress from the hospital manifests in many forms. Anxiety is the most prevalent reaction, where the child can express their fears, restlessness, and worries about their health and future. Depression may be presented in some cases with withdrawal, irritability, and lack of interest in activities that they used to enjoy. Behavioral changes can be common, like aggression, refusal to cooperate with the medical staff, or problems with following instructions. These emotional and behavioral responses are often exacerbated by the child's age, previous hospital experiences, and the level of support from caregivers and health professionals.

In alleviating the psychological burden of the children in the hospitals, various therapeutic interventions have been devised and utilized in pediatric health care (Caporali et al., 2020). Such therapies when utilized will reduce anxiety, improve the emotional condition of the child, and guarantee a quicker recovery process. Some of the common psychological therapies used in pediatric health include the following:

### Cognitive Behavioral Therapy

CBT is one of the most common evidence-based interventions for reducing stress and anxiety in hospitalized children (Ware et al., 2020). Particularly, CBT targets a method with the identification and challenging negative thoughts that add to psychological distress and coping strategies towards the anxiety management of one facing these procedures. In pediatrics, this most often is encompassed by relaxation techniques exposure, which is to take in gradually the medical treatment procedures, and cognitive restructuring, which would help to reconceptualize fear in the child's terms to reduce anxiety related to procedures.

Several studies have identified that CBT is very effective in bringing down anxiety levels among children receiving medical treatments, which, in turn, helps improve their overall coping ability (Abuatiq, 2020). CBT has been found most effective for children with chronic illnesses or undergoing repeated procedures and helps them to be resilient and regulate their emotions.

### Art Therapy

Another widely used approach in pediatric stress reduction is art therapy, which involves creative processes such as drawing, painting, or sculpting. Art therapy allows children to express their emotions and fears in a non-verbal way, which can be beneficial for those who cannot express themselves well (Fang et al., 2024). This kind of therapy encourages the child to process and release built-up emotions, thus reducing anxiety and emotional distress. In most of these studies, art therapy was shown to have aided the coping of many children while hospitalized with dealing with stressful experiences through play and creation, which allow for safety. It was also found that it assists in enhancing one's mood, expression, and mastery.

### Play Therapy

Play therapy is based on the premise that for children, particularly those below the age that can handle verbal communication, play is a natural way of communicating. Play therapy uses structured play activities to help children work through their anxieties, fears, and frustrations related to hospitalization.

Play therapy, using techniques such as role-playing, storytelling, and therapeutic games, may enable the children to explore their feelings about such experiences and achieve some sense of mastery (Gustafsson et al., 2020). Research indeed documented the effectiveness of play therapy in reducing anxiety and enhancing the coping mechanism of children during medical procedures. It also allows them to feel in control, both environment and their health experience- a factor that can dampen feelings of helplessness.

### Approaches to Family-Centered

Family-centered care is an intervention where the parents or primary caregivers are involved in the child's medical and emotional care during hospitalization. This approach recognizes the family unit as part of the child's recovery process, where the parents can provide emotional support, comfort, and familiarity in an otherwise stressful environment (Hattangadi et al., 2020). Family-centered interventions can be provided to parents on how to cope, include them in all medical decision-making, and encourage parents to be present during the procedures. In this light, studies show that family-centered care can be able to lower the levels of anxiety among children through the promotion of security and emotional support. Moreover, it will increase the level of satisfaction for the parents and reduce parental anxiety, which benefits the child's emotional well-being.

### Effectiveness of Interventions

Although all the above interventions have been found to be helpful in the reduction of hospital-induced stress in children, the outcomes vary according to the nature of the intervention and the needs of the individual child (Carr et al., 2021). Cognitive-Behavioral Therapy has been best empirically supported, showing significant reductions in anxiety and fear in pediatric patients. Both Art therapies and Play therapies have been useful to depress anxiety, improve mood conditions, and encourage the expression of sentiments. When properly implemented, family-centered approaches raise coping skills in children and help create emotional security during the process of hospitalization. All these interventions combined, based on the individualized needs of the child and family, will often lead to a better overall outcome, such as a decrease in anxiety levels, improvement in behavioral responses, and a generally more positive healthcare experience (Fu et al., 2020). In the end, the very efficacy of psychological interventions in pediatric health care is a case for a more holistic approach toward the treatment of the children admitted into the facilities. These address both the emotional and physical sides of hospitalization and thus make the children not only immediately comfortable but resilient and better coppers in the long run.



#### 4. DISCUSSION

##### Efficacy of the Psychological Intervention

There are numerous studies that document the effectiveness of psychological interventions on the management of hospital-induced stress among children, pointing to such therapies as CBT, art therapy, play therapy, and family-centered approaches as being particularly beneficial. Consistently, these studies have been able to prove that these therapies can bring anxiety levels down, increase the emotional well-being of the children, and generally provide an added coping mechanism to go through medical treatments and stay in the hospital (van Agteren et al., 2021). Cognitive-Behavioral Therapy has been particularly effective in treating anxiety and fear associated with medical procedures. For example, Mulhern et al. (2014) conducted a study in which it was noted that children undergoing CBT exhibited significant decline in pre-procedural anxiety and distress behaviors at the time of the treatment. Besides, children treated with CBT recovered quicker and developed much better coping skills than those children who did not get any sort of psychological intervention.

However, the effectiveness of CBT may vary with different ages of children concerning their cognitive development and the capability for cognitive restructuring (Koydemir et al., 2021). Art Therapy has also been highly rated in helping children to reveal emotions that may be hard to verbalize. According to Russell et al. in 2019, art therapy reduced anxiety levels and improved mood in the case of hospitalized children, especially those undergoing long-term treatments. The non-verbal nature of art therapy allows this modality to reach a child who might otherwise have difficulties with more traditional modes of therapy (Barbui et al., 2020). This will make it particularly effective with younger children or those that have developmental delays. At the same time, though, art therapy may be less effective in older children or adolescents who may prefer more verbally or cognitively oriented interventions.

Play Therapy, by contrast, taps into the natural tendency of children to communicate through play. According to different researches, for example, Landreth (2012), play therapy effectively reduces anxiety in hospitalized children by giving them an opportunity to feel safe and explore their feelings (Robinson et al., 2020). Play therapy allows children to play out their experiences related to hospitalization, which allows them to take on the roles of control and mastery. It has been particularly effective among younger children, although its effectiveness may wane as children get older and their cognitive abilities mature.

Other findings of research studies also widely suggest that the family-centered approaches strengthen the emotional resilience of the child in the period of hospitalization. Review study conducted by Mennen et al., 2018 states that involving the parents in the care process drastically reduces anxiety in both children and parents. In such family involvement, children feel more secure and attached to the caretakers, which might reduce feelings of isolation and abandonment (Singh et al., 2023). Parental involvement within therapeutic processes has been able to improve emotional well-being for not only the child but also the family, improving healthcare service satisfaction and enhancing coping mechanisms. However, family-centered care may not always be easily provided because of the policies that the hospital may impose or due to limited resources.

##### Challenges and Limitations

Although the psychological interventions outlined above show promise, they have issues in their implementation. The first major concern is the lack of standardization in implementation across health care (Black et al., 2020). This may be because the nature of psychological interventions is generally not standardized into care in every setting, especially in those that are less well off.

Even where these interventions exist, their quality and consistency are variable, making assessment of what works and does not work difficult. More so, few health facilities have professionals trained in child psychology or pediatric therapy, thus reducing the number of such services (O'Donovan & McAuliffe, 2020).

The age factor also greatly determines whether psychological interventions are to succeed. Non-verbal therapies, such as art and play therapy, could prove to be very well applied to younger children, while older children and adolescents should, by all means, prove susceptible to cognitive approaches, such as CBT (Lewis et al., 2020). The research gap in the literature on the adjustment of interventions to age factors provides a leeway for the best practice option regarding children in various developmental stages.

The second is resource availability most of the psychological interventions that are typically implemented would take trained therapists, other apparatus such as art materials for play therapy, and perhaps time, which may be uneconomical in a busy environment like a hospital setting; besides, hospitals could always be on a financial constraint thereby being unable to provide for all such therapies (Kılıç et al., 2021). Perhaps hospitals set priorities for medical care apart from emotional or psychological well-being, and this can prove to be a limiting factor in establishing comprehensive programs towards ensuring psychological support for children there.

#### Parental Involvement

Most of the psychologically orientated interventions aimed at improving the potentially distressing experiences of hospitalized children inherently involve parents (Zhang et al., 2021). The important role of family-centered care should not be underestimated-the presence of the parents often reduces anxiety and gives much comfort.

For instance, a study by Qian et al., 2020, demonstrated that children whose parents were more actively involved with their care had less stress and anxiety during their hospital admission. Parents provide emotional reassurance during a period where the child is in a foreign and possibly very stimulating environment. In addition, parental education and support are very integral parts of family-centered interventions. Parents educated on the psychological interventions being conducted with their children can reinforce better the child's coping strategies and enhancement of positive outcomes. Programs offering counseling or coping workshops for parents themselves have also shown to reduce parental stress, which benefits the child's emotional well-being.

#### Research Gaps

Despite these positive findings associated with psychological interventions, there are still numerous research gaps. One of the more significant gaps in the literature involves the need for longitudinal studies to evaluate the long-term effectiveness of psychological interventions among hospitalized children (Alam, 2022). While most studies focus on the short-term outcomes of psychological interventions-such as reducing anxiety throughout the hospital stay-fewer have examined how these interventions may affect the child's longer-range psychological and emotional development. Long-term research would be able to portray long-lasting benefits of psychosocial interventions, such as gains in resilience and improved coping. Less-studied interventions, such as mindfulness-based therapies, virtual reality exposure therapy, or pet therapy, may also be of interest.

Although various small studies suggest that these interventions may reduce stress in children, additional research will be necessary to confirm efficacy and identify their potential role in pediatric healthcare. Finally, cultural factors in the design and implementation of psychological interventions remain understudied (Cieřlik et al., 2020). Different cultural attitudes toward medical care and mental health can influence how children and their families respond to various interventions. Research into the cultural adaptability of psychological therapies could provide more personalized and effective interventions for children from diverse backgrounds.

### 5. CONCLUSION

Research evidence that psychological approaches are quite effective in mitigating hospital-induced stress in children. Cognitive-Behavioral Therapy, art therapy, play therapy, and family-centered approaches have all contributed uniquely to alleviate anxiety, enhance emotional well-being, and improve overall recovery outcomes. However, variables in implementation, age factors, and resource limitations in the application of therapeutic interventions themselves need to be overcome before wider access can be given. In short, there is an important role for parents in these therapies, as family-centered care does not only make the children feel secure but also develops the parents' capacities to give them psychological support.

Although these results look promising, huge research gaps remain; most of these interventions require a very longer follow-ups and more work on understudied interventions, including mindfulness-based therapy and pet therapy. What remains key in future research is probably the cultural adaptability of psychological interventions to suit diversified needs among children.

#### Recommendations

Health professionals should incorporate psychotherapeutic interventions into routine care in pediatric settings-a confirmation that such therapies stand available and are tailored specifically for each child's particular needs. The management should also invest resources in the training of professional staff in psychological modes of care and family-centered care approaches. Future Research Directions Further research into the cultural adaptability of psychological interventions and the role of new technologies, such as virtual reality, might constitute an added value in the management of pediatric stress.

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