

**The Use of Sensory Rooms in Children with Autism**

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## Introduction

Autism spectrum disorder (ASD) is widespread and “the overall ASD prevalence per 1,000 children aged 8 years was 27.6” (Maenner et al., 2023). Autism spectrum disorder is “a highly prevalent neurodevelopmental disorder characterized by permanent impairments in social interactions, communication skills, and restricted and repetitive behaviors” (Kangarani-Farahani et al., 2024). Autism is mostly found to be genetic, however environmental factors, social factors, gender, and birth complications may all be risk factors. The severity of autism is based on their functional ability and categorized into three different levels. Level one is when there are minimal signs and symptoms of autism, level two is when there is a noticeable deficit in communication and social skills, and level three is the most severe with communication being majorly impacted. Many parents are faced with challenges and must overcome sensory-related obstacles daily. Children with autism spectrum disorder may become distressed if they are overstimulated by the environment, such as the bright lights, a loud environment, and being around many people. Educating families about the use of sensory rooms for children with autism can help decrease the number of people experiencing anxiety and sensory overload. Characteristics of sensory overload include agitation, difficulty concentrating, irritability, muscle tension, trouble controlling emotions, and inability to communicate. Symptoms of anxiety include “whine/whimper, stutter, trembling/shaking body or voice, jumpiness, body contortions/rigid posture, physical complaint, desire to leave, verbal expression of fear or worry, crying and irritability” (Unwin et al., 2022). Sensory rooms are now being used more frequently to enhance communication between the child and other adults, such as nurses and teachers. Using sensory rooms can help create a safe space for children to play and learn how to

communicate with their families and healthcare workers, such as telling nurses how they are feeling and if they are in pain.

### **Sensory Room Characteristics and Components**

Sensory rooms are being built more as it has been proven that these environments decrease the anxiety and overstimulation of children with autism spectrum disorder. Multi-sensory rooms may include bubble tubes, light boards, fibre optics, tactile boards, neutral-colored walls, sensory balls, earmuffs, sensory brushes, or Play-Doh. Depending on the room and the child's needs they may be given one or more of these items. According to Basadonne et al. (2021), "a sensorimotor enrichment intervention in domestic contexts was found to improve ASD severity and cognition in children with ASD". In these evidence-based practices, it was also noted that each child has different sensory requirements. "The sensory room is provided by an advanced technological system that allows the personalization and transformation of the environment, adapting it to the specific needs of each patient" (Domenico et al., 2024). This personalized room can allow the nurses to accommodate the needs of each child individually, such as dimming the lights for some children and providing sensory balls for other children. These multi-sensory rooms can be found in hospitals, homes, schools, and community centers. Providing resources to parents on where they can go to find these rooms will help decrease the amount of anxiety and sensory overload that may occur if parents do not have the items to meet their child's personal needs.

### **Prevalence and Statistics**

According to Domenico et al. (2024), "the average prevalence of ASD in children of 8-year-olds is around 1 in 54 in the United States". Statistics show that this disorder is rising in prevalence and more children are struggling with communication strategies, anxiety, sensory

overload, and social interactions. According to Kangarani-Farahani et al. (2024), “50-88% of children with ASD had significant motor impairments on standardized motor assessments and/or functional questionnaires”. Integrating the use of sensory rooms has proven that with time children with autism spectrum disorder can increase the amount of communication and improve their social interactions. The children were in the sensory rooms with their parents and the parents noticed a remarkable difference in their behaviors. One of the evidence-based practices showed that “More time spent at the TSLB (touch, sound, and light board) and the tactile board generally associated with more parent-reported sensory behaviours, while more time spent at the bubble tube generally associated with fewer parent-reported sensory behaviours” (Unwin et al., 2024). This proves that the bubble tube helped decrease the amount of sensory overload, such as sensory-seeking behaviors, in children during the study. Control also played a major role in decreasing the amount of anxiety and sensory-related issues in children with autism spectrum disorder. According to Unwin et al. (2022), “Giving children control of the sensory equipment in the room could ensure that they are able to meet their sensory needs”. Giving children control and choosing their desired sensory objects can help improve communication and decrease anxiety in stressful environments. The main goal of these evidence-based practices is to increase the children’s communication and independence during stressful and stimulating environments by using different methods, such as toys, to decrease their sensory-seeking behaviors.

### **The Impact on Nursing and Patient-Centered Care**

Nursing care is impacted by the rise of sensory rooms for children because of the therapeutic effect on communication and having the children with autism spectrum disorder be more comfortable in new environments that accommodate their sensory needs. Sensory overload is common in children with autism, and this can put the children in distress and that can lead to

the parents not wanting to bring them new places due to chronic stress and anxiety. “Small sensory stimulants (such as humming electrical sounds or bright lights) that nurses ignore can overwhelm children with overactive sensory systems” (Wood et al., 2019). Nursing staff can easily overlook little things, such as having bright lights on and ignoring beeping monitors, that can improve patient-centered care. Having nurses implement sensory rooms could help decrease any fear and anxiety provoked by sensory needs. By having a sensory room in a hospital or even just sensory toys these children could reduce the child’s anxiety, increase the number of social interactions, and communicate with nurses more easily. According to Kangarani-Farahani et al. (2024), “Implementing an appropriate therapeutic intervention for motor impairments in children with ASD may lead to greater independence in functional performance”. Sensory rooms can allow autistic children to be more independent and self-sufficient around others. Educating parents is one of the most important parts of the nursing process because the parents may not know where or how access to these rooms. Various styles of teaching that nurses may use include the teach-back method, showing videos and pictures of what to look for, providing pamphlets with information, and telling them the locations of where sensory rooms are located. Giving out pamphlets and websites that show the locations of these sensory rooms would be the first step in easing the parents’ anxiety about meeting their child’s personal needs. Nurses can also educate the parents on objects, lights, or toys that may help decrease the chances of sensory overload from occurring in any overstimulating environment, such as bringing Play-Doh or earmuffs with them if they expect the event to be loud and crowded. Also, giving a list of objects that are found in sensory rooms may be beneficial so that the parents have the option to buy some of the items to keep with them when the child is in distress. Having access to all of these resources makes a significant impact on patient care because the children and parents can be in

any environment and still communicate with others about how they are feeling in order to get the treatment that they need. It is important to prioritize the child's needs and accommodate any hospital room so that the nurse can establish rapport and the children are comfortable.

### **Conclusion**

Applying these multi-sensory rooms to emergency departments and schools would benefit the children's health and well-being by putting their individualized needs first. Providing patient-centered care is crucial for children with autism spectrum disorder and they may require more hospital visits or extended schooling, which may increase their anxiety and sensory needs. "Modifying both the patient-care environment and the patient-flow process to accommodate for the needs of children with ASD/SPD created a more peaceful and healing environment for children and their families" (Wood et al., 2019). Educating parents on using these rooms when they are available may help prevent anxiety, stress, and sensory overload from occurring in the healthcare and school settings. Some topics of education that these parents can take away with them and use at home may be to dim the lights, use bright-colored objects that light up with different colors, paint rooms in their house neutral colors, use objects with different textures, such as Play-Doh, and use projectors when applicable. Evidence-based practices have proven that children with autism spectrum disorder have improved their symptoms by just spending a couple of times in these multi-sensory rooms. "Children with a range of developmental disabilities showed increased prosocial behaviour when preferred equipment, rather than general equipment" (Unwin et al., 2024). This shows that by incorporating these multi-sensory rooms for a couple of children for this study has shown that there has been a positive impact. By educating each parent who has a child with autism spectrum disorder to ask about these facilities or to look out for places that have sensory rooms could dramatically make an impact on patient care and

ensure that the hospital has the proper equipment during their time of care to enhance communication and the number of social interactions. Sensory rooms can be easily implemented in various hospital settings and help decrease the amount of sensory overload and anxiety from occurring in children with autism spectrum disorder.

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