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## Symptom Relief and Quality of Life in Autistic Children Using Medical Cannabis: A Secondary Analysis

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## Objectives

- This study aimed to examine the experiences of parents and caregivers of autistic children who used medical cannabis (MMJ) for the treatment of core symptoms or co-occurring conditions
- Considered priorities and outcomes of medical cannabis use, including:
  - Quality of life (QoL) effects
  - Symptoms of interest
  - Symptoms of co-occurring conditions

## Background

### ASD

Autism spectrum disorder (ASD): A developmental condition that can impact communication, behavior, and social interaction. At present, 1 in 44 children in the U.S. receives a diagnosis of ASD by age 8.

### MMJ

Medical marijuana (MMJ): In many U.S. states, MMJ is an approved treatment for specific conditions, which in some cases includes ASD.

- Existing pharmaceutical interventions for ASD have several limitations
  - Side effects can also be a significant issue
- MMJ has become an increasingly common type of complementary and alternative medicine (CAM) for this population
- ASD is a qualifying condition for MMJ in 14 US states
  - It can also be recommended at the clinician's discretion in some others
- Existing research has established the potential for medical cannabis to address core symptoms, co-occurring conditions, and improve quality of life for autistic individuals
- Evidence is limited and more research is needed

## Methods

- Secondary analysis of a cross-sectional online survey of patients and caregivers of children with a diagnosis of ASD and who had used MMJ to treat symptoms
- Survey was provided by *Hope Grows for Autism*, a Pennsylvania-based cannabis medicine group dedicated to research, education, and advocacy supporting families with children who have autism.
- Asked about side effects, products used, effect on various symptoms, discontinuation of medical cannabis, and other self-reported clinical outcomes
- All data was self-reported by parents and caregivers

## Results

- N=50 participants
- N=18 reported having a child with severe autism
- N=13 reported having a child with moderate autism
- Majority of respondents seeking to treat 1+ symptom with medical cannabis
- Irritability was the #1 symptom parents reporting to treat with medical cannabis

**Table 1: Symptoms interested in treating with medical cannabis**

| Symptom Interested in Treating | N (50) |
|--------------------------------|--------|
| Anxiety                        | 18     |
| Irritability                   | 24     |
| Meltdowns                      | 16     |
| Obsessive Compulsiveness       | 9      |
| Focus and Attention / ADHD     | 17     |
| Hyperactivity                  | 12     |
| Insomnia                       | 14     |
| Self-Injurious Behaviors       | 9      |
| Self-Stimulatory Behaviors     | 13     |
| Communication                  | 14     |
| Other                          | 7      |

- Respondents generally reported improvement across symptoms
- No respondents reported worsening of existing symptoms
- Symptoms that at least 40% of participants reported improvement in included aggression, irritability, meltdowns, anxiety, agitation, and communication

**Table 2: Change in symptoms observed following initiation of medical cannabis**

| Symptom                      | Aggression | Irritability | Meltdowns | Anxiety | OCD     | Focus/ADHD | Communication | GI Issues | Insomnia | Self-Stimulatory Behaviors | Hyperactivity | Pain    | Appetite | Agitation | Self-Injury |         |
|------------------------------|------------|--------------|-----------|---------|---------|------------|---------------|-----------|----------|----------------------------|---------------|---------|----------|-----------|-------------|---------|
| Significantly Improved N (%) | 24 (48)    | 30 (60)      | 26 (52)   | 22 (44) | 13 (26) | 15 (30)    | 20 (40)       | 11 (22)   | 13 (26)  | 12 (24)                    | 14 (28)       | 10 (20) | 9 (18)   | 15 (30)   | 20 (40)     | 17 (34) |
| Improved N (%)               | 6 (12)     | 7 (14)       | 4 (8)     | 6 (12)  | 6 (12)  | 5 (10)     | 1 (2)         | 3 (6)     | 11 (22)  | 10 (20)                    | 10 (20)       | 0 (0)   | 5 (10)   | 4 (8)     | 8 (16)      | 4 (8)   |
| No Change N (%)              | 11 (22)    | 7 (14)       | 10 (20)   | 14 (28) | 20 (40) | 17 (34)    | 20 (40)       | 19 (38)   | 11 (22)  | 12 (24)                    | 12 (24)       | 10 (20) | 18 (36)  | 10 (20)   | 9 (18)      | 6 (12)  |

## Limitations

- Small sample of online respondents who had interest in MMJ as a therapeutic option, reducing generalizability
- Survey was delivered by Hope Grows for Autism; participants would be aware of their role in developing MMJ products
- The survey data did not include all demographic information
- All data in the survey was self-reported

## Discussion & Next Steps

- Families of autistic children who have challenges with behavior and communication face significant barriers to finding treatment plans that work for them
- QoL is a major concern, both for autistic children and for their families
- MMJ is rising rapidly in popularity as a potential option
- It is clear from the literature that whether providers feel capable to discuss the topic or not, autistic individuals and families will continue to pursue MMJ as a possible complementary treatment
- Research on MMJ is progressing, but legal barriers mean that progress is slow
- Current research, including this study, suggests the possibility that MMJ could have significant benefits for at least some individuals in this population

## Conclusion

- The findings of our study have important implications for clinical practice and research
- Respondents reported using a variety of cannabis products including THC as well as improvement in a variety of symptoms
- Further understanding of which cannabis products relieve which symptoms is needed to inform future research as well as clinical practice

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