May 2nd, 12:00 AM

A Literature Review of Current Treatments for the Hypermobility Subtype of Ehlers-Danlos Syndrome

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Introduction

- Ehlers-Danlos Syndrome (EDS) is an inheritable connective tissue disorder which results from a genetic mutation in the body's ability to produce collagen
- The hypermobility subtype of EDS (hEDS) is the most common variant
- hEDS is characterized by:
  - Joint hypermobility and dislocations
  - Skin hyperextensibility
  - Muscle hypotonia and atrophy
  - Loss of proprioception
  - Difficulty with movement
  - Many individuals with hEDS live with chronic pain due to hypermobility of joints
- Patients with hEDS also experience physical limitations, which reduces quality of life

Purpose

- Compare the current treatment options for the hEDS and determine which option is the most effective
- Help create a standard of care which will improve the quality of life of those living with hEDS

Methods

Database	Date	Keyword String	Results
Pubmed	September 2022	"Ehlers-Danlos Syndrome OR Connective Tissue Hypermobility" AND "Physical Therapy OR Injury OR Pain Management OR Gait Strategy OR Injection OR Treatment OR Genetics."	5,175
Web of Science			
Embase			

Types of Studies: Systematic reviews, clinical trials, review articles, cross sectional studies, and longitudinal outcome evaluation studies were included.

Inclusion Criteria: All studies were peer reviewed, written in English, and included patients with hEDS.

Data Analysis: Extracted data was analyzed descriptively. Different treatment options were reviewed and compared based on effectiveness in reducing symptoms of hEDS.

Results

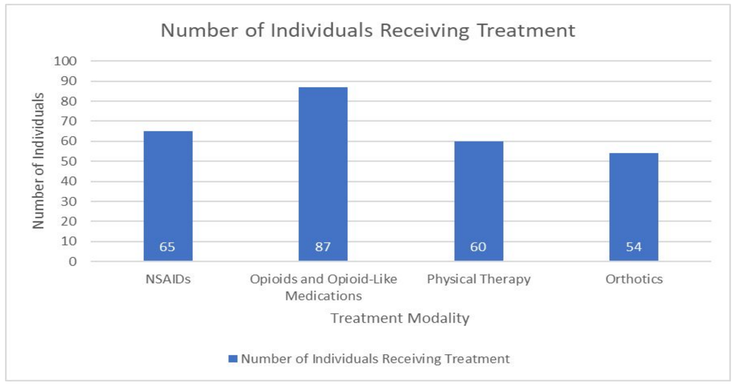

Figure 1. Data from S*ong, B., et. al.* comparing the number of individuals with hEDS receiving each treatment option.

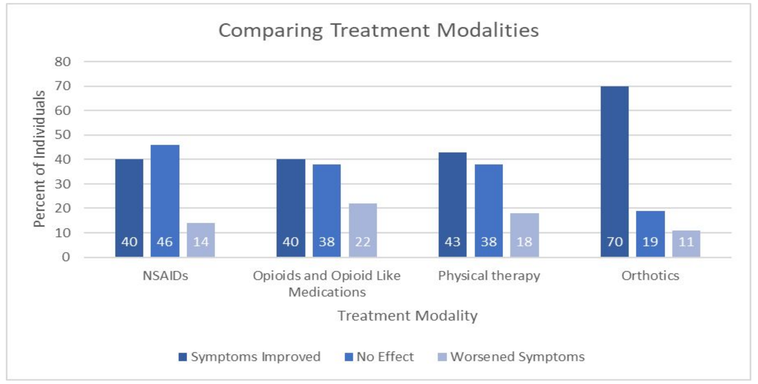

Figure 2. Data from *Song, B., et. al.* comparing the effectiveness of each treatment modality.

Strategy	Reported Use 6 Months		Current Use		Mean Helpfulness	
	n	%	n	%	Mean	SD
Acetaminophen	19	1.61	16	1.36	1.84	0.834
NSAIDs	53	4.5	41	3.48	2.45	0.978
Opioids	43	3.65	34	2.88	3.20	1.179

Table 1. Data from *Arthur, K., et. al.* showing the number of patients with hEDS using pain medications for treatment of chronic pain and their mean helpfulness in alleviating symptoms.

Discussion/Conclusion

- Pain medications such as opioids and NSAIDs are the most commonly used treatment methods, however, they carry the risk of addiction and other serious side effects
- Orthotics has the highest reported improvement in symptoms among patients with hEDS
- In treating hEDS, a Combination of multiple therapies should be used to maximize their positive effects in improving symptoms and to minimize their negative side effects
- A key limitation is the lack of studies that directly compare the effectiveness of each treatment modality

Future Directions

Future research should:

1. Directly compare the effectiveness of each treatment to identify which consistently yields the best results
2. Evaluate the most effective combination of treatment options to encompass the biopsychosocial and multimodal approach to treating patients with hEDS

Full Paper

References