Nov 17th, 10:00 AM - 11:30 AM

Adolescent Idiopathic Scoliosis: An Integrative Literature Review of the Variations in Psychosocial Effects

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Adolescents with Scoliosis: An Integrative Literature Review of Psychosocial Effects

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Abstract

Background: Adolescent Idiopathic Scoliosis (AIS) is a common orthopedic disorder among adolescents worldwide. Treatment courses vary, but physical and psychological impacts are often indicated. The literature points to both positive and negative psychosocial impacts that AIS and treatment cause.

Objectives: The purpose of this study was to compare positive and negative psychosocial outcomes among patients with AIS, relative to various patient and treatment variables.

Method: This study utilized an integrative literature review.

Results: Trends in the literature, empirical tools, type of treatment reviewed and nature of psychosocial outcomes were observed.

Conclusion: Special attention by healthcare providers to AIS patients’ body-image perceptions, treatment modality and treatment compliance is warranted.

Keywords: scoliosis, adolescent, psychological

Background

- Adolescent Idiopathic Scoliosis: An orthopedic disease manifested by curvature of the spine that can progress over time and compromise physical functioning and vitality. In severe, untreated cases, the condition can be fatal [1]. Treatment courses vary, and include a combination of clinical observation, physical therapy, orthopedic bracing and/or surgical intervention.

- Patient outcomes among AIS individuals
  - AIS treatment produces significant physical and psychological changes for AIS patients [2]
  - Positive outcomes: improved body image and self-perceptions of physical agility
  - Negative outcomes: depression, social isolation and low self-esteem

- These conflicting outcomes are described between separate studies as well as within results of the same study. Throughout the literature, some patients with AIS exhibit positive psychosocial outcomes while these same and other patients exhibit negative outcomes.

- To compare psychosocial outcomes, two research questions were explored:
  1. What variables are associated with both positive and negative psychosocial outcomes among patients treated AIS?
  2. What evidence exists to support nursing interventions that could promote positive outcomes and avoid negative outcomes in the treatment of AIS?

Research Methods

- Design: integrative literature review of pertinent literature [3]
- Literature Search Strategies: database search using Cumulative Index to Nursing and Health Literature (CINAHL) an ProQuest Nursing and Allied Health Sources. Keywords included psychological, scoliosis, and adolescent.
- Inclusion criteria included publication within ten years, articles that were written in English, peer-reviewed and derived from academic journals. Relevant article titles and abstracts were selected for further review.
- Data Analysis: Matrix-style display of each selected article. Each article’s author(s), sample, empirical tools utilized, type of AIS intervention(s) and psychosocial outcomes were displayed.

Results

Fifteen studies were selected for further analysis. The studies encompassed the following characteristics:

- Samples that included both male and female AIS patients
- From a wide variety of geographical and cultural backgrounds
- Methodologies that utilized empirical tools such as the Scoliosis Research Society Outcomes Questionnaire (SRS-22) and the Sobernheim Stress Questionnaire (BSSQ)
- Twelve studies discussed adolescents only; three studies discussed adult patients
- Majority of the studies were on orthotic bracing (as opposed to surgical intervention or physical therapy)
- Only one study described negative psychosocial outcomes only; the remaining studies had a fairly equal distribution of both positive and negative outcomes

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SRS-22 Example Questions

15. Have you had your family experiencing financial difficulties because of your back?
   - Slightly
   - Moderately
   - Very much
   - Very much
   - Rarely
   - Never

16. In the past six months, have you felt down hearted and negative psychosocial outcomes?
   - Very much
   - Very much
   - Rarely
   - Never

17. Have you had a happy person during the past six months?
   - Very much
   - Very much
   - Rarely
   - Never

18. Do you feel better with your current back condition?
   - Very much
   - Very much
   - Rarely
   - Never

19. Do you feel better with your current back condition?
   - Very much
   - Very much
   - Rarely
   - Never

20. Are you and/or your family experiencing financial difficulties because of your treatment?
   - Very much
   - Very much
   - Rarely
   - Never

Discussion

- Gender
  - Female subjects were over-represented in the literature on AIS. However, in studies that discussed both female and male patients, gender did not appear to predispose patients to positive versus negative outcomes.
  - Anxiety and depression related to AIS was observed among both sexes.

- Body Image
  - The relationship between patient perceptions of their physical appearance and emotional well being was extensively discussed
  - A positive relationship between perceptions regarding body-image and emotional well being was prevalent across many studies
  - Contrasting findings regarding the relationship between degree of spinal deformity and psychological status were derived. Some studies suggested that the greater the deformity, the greater the risk for psychosocial disturbances. Other studies suggest that regardless of the degree of deformity, having AIS predisposes patients to psychological and social distress.

- Treatment Modality & Compliance
  - Treatment type—bracing, surgery or observation—did not have a clear link to the nature of patients’ psychosocial outcomes because conflicting trends were found in the literature
  - Patients who exhibited brace compliance exhibited positive psychosocial outcomes; the opposite appeared true for those who were non-compliant.

Conclusion

Due to the conflicting evidence regarding which variables produce positive versus negative outcomes, an individualized approach to providing care for AIS patients is ideal. As individual treatment plans are created, special attention to patients’ self-perceptions regarding body image, the type of treatment they will receive and their willingness to remain compliant is indicated.

Recommendations for Further Research

- Male study participants
- Effects of surgical intervention
- Improving brace compliance
- Protective factors against disturbed body-image
- The role of peer support groups
- Long-term effects of AIS in adulthood

Acknowledgements: Thank you to Barbara Harris, RN, PhD for her support and suggestions as I drafted the proposal for this review. Dr. Harris’s encouragement served as the impetus I needed to discuss a topic that is near and dear to my heart.