

Psychosocial Factors Influencing Family Stress in the Context of Pediatric Cochlear Implantation

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Abstract

Introduction: Pediatric cochlear implantation (CI) is increasing, but family psychosocial stress remains understudied.

Methods: A systematic review (2005–2025) identified studies examining stress in families of CI recipients under 18 years.

Results: Sixteen studies met criteria. Stressors included socioeconomic challenges, communication difficulties, parental mental health concerns, technology and academic issues, and limited support. Sibling stress was rarely examined.

Conclusion: Families experience multidimensional stress, with significant gaps in sibling-focused research.

Introduction

- Pediatric cochlear implantation (CI) rates continue to rise, with significant implications for children and their families.
- Despite this growth, psychosocial factors contributing to family stress remain insufficiently characterized.
- This scoping review aimed to synthesize existing literature on psychosocial stressors affecting families of pediatric CI recipients and to identify gaps requiring further investigation.
- A clearer understanding of these stressors is key to identify gaps for future study.

Methods

- A systematic search of Ovid, CINAHL, and Scopus was conducted for articles published between January 1, 2005, and January 1, 2025.
- Two reviewers independently screened studies, with disagreements resolved by a third reviewer. Eligible studies included CI recipients under 18 years of age and examined psychosocial factors associated with family stress.
- Studies involving adult CI users, general hearing loss, or published before 2005 were excluded.
- Included studies were analyzed across family-related, child-related, and professional or service-related stress domains.

Results

- Of 6,003 records identified, 310 remained after duplicate removal and initial screening. Sixteen studies met inclusion criteria following full-text review.
- Common family-related stressors included lower socioeconomic status, communication challenges, and parental anxiety or depression.
- Child-related psychosocial stressors encompassed cochlear implant technology difficulties, academic challenges, and behavioral concerns.
- Families also reported stress related to limited professional support, service access barriers, and advocacy demands.
- Only one study examined sibling stress; the remainder focused exclusively on parents.
- These articles highlight several psychosocial factors associated with increased stress in families who have a child with cochlear implantation.

Tables A-C: Data obtained from analyzing included articles that met criteria according to categories corresponding to A. Parents/Family Related Psychosocial Factors, B. Child CI Related Psychosocial Factors, and C. Professionals/Service-Related Factors.  Indicates that there was reported increased stress for a given factor stated in the associated article.  Indicates there was reported decreased/less stress associated with a factor. N/A indicates the factor was not discussed in the article.

Study	Sample	Parents/Family Related Psychosocial Factors									
		Family	Income	Transportation	Emotional Concerns	Self-Competency	Communication Barrier with Child	Time for Oneself	Education	Depression/Anxiety	Acceptance by Family/Society
Adily et al., 2024	29	↓	↑	↓	N/A	↓	N/A	↓	N/A	N/A	↓
Anmyr et al., 2016	54	N/A	N/A	N/A	N/A	↓	N/A	↓	N/A	↓	↓
Balakrishna et al., 2023	100	↑	↑	N/A	N/A	↓	↓	↓	N/A	↓	↓
Bhamjee et al., 2019	82	↑	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	↓
Chao et al., 2014	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chen et al., 2013	113	↑	↑	N/A	N/A	N/A	N/A	↑	N/A	N/A	N/A
Huttunen et al., 2012	18	N/A	N/A	↓	N/A	↓	↓	N/A	N/A	↓	↓
Kobosko et al., 2013	153	N/A	N/A	N/A	N/A	N/A	N/A	N/A	↑	N/A	N/A
Majorano et al., 2020	20	N/A	N/A	N/A	N/A	↑	N/A	N/A	N/A	N/A	N/A
Sud et al., 2023	50	↑	N/A	↑	N/A	↑	N/A	↓	N/A	N/A	↓
Talebi et al., 2018	25	N/A	N/A	N/A	N/A	N/A	N/A	↓	↑	N/A	N/A
Gurbuz et al., 2013	25	N/A	N/A	N/A	N/A	N/A	N/A	↓	↓	N/A	N/A
Sarant et al., 2014	70	N/A	N/A	↓	N/A	↑	N/A	↓	↑	↑	↑
Warner-Czyz et al., 2021	36	N/A	N/A	N/A	N/A	↓	N/A	N/A	N/A	↓	↓
Weisel et al., 2007	64	↑	N/A	↓	N/A	N/A	N/A	↑	N/A	N/A	↓
Moroe et al., 2016	5	↑	N/A	N/A	N/A	↑	N/A	N/A	N/A	N/A	↑

B.

Study	Sample	Child CI Related Psychosocial Factors				
		Other Health Issues in Addition to CI Use	Child's Safety	CI Use Issues	Education Issues	Behavioral Issues
Adily et al., 2024	29	N/A	N/A			
Anmyr et al., 2016	54	N/A	N/A		N/A	
Balakrishna et al., 2023	100	N/A	N/A			
Bhamjee et al., 2019	82		N/A			N/A
Chao et al., 2014	60	N/A	N/A	N/A	N/A	
Chen et al., 2013	113	N/A	N/A	N/A	N/A	N/A
Huttunen et al., 2012	18		N/A			N/A
Kobosko et al., 2013	153	N/A	N/A	N/A	N/A	N/A
Majorano et al., 2020	20	N/A	N/A	N/A		
Sud et al., 2023	50	N/A	N/A		N/A	
Talebi et al., 2018	25	N/A	N/A	N/A	N/A	N/A
Gurbuz et al., 2013	25	N/A	N/A	N/A	N/A	N/A
Sarant et al., 2014	70		N/A	N/A		
Warner-Czyz et al., 2021	36	N/A	N/A	N/A	N/A	N/A
Weisel et al., 2007	64	N/A	N/A	N/A	N/A	N/A
Moroe et al., 2016	5	N/A	N/A	N/A		N/A

C.

Study	Sample	Professionals/Service Related Factors	
		Professional Support	Services and Advocacy
Adily et al., 2024	29	N/A	N/A
Anmyr et al., 2016	54		
Balakrishna et al., 2023	100		
Bhamjee et al., 2019	82		
Chao et al., 2014	60	N/A	N/A
Chen et al., 2013	113	N/A	N/A
Huttunen et al., 2012	18		
Kobosko et al., 2013	153	N/A	N/A
Majorano et al., 2020	20	N/A	N/A
Sud et al., 2023	50	N/A	N/A
Talebi et al., 2018	25	N/A	N/A
Gurbuz et al., 2013	25	N/A	N/A
Sarant et al., 2014	70	N/A	N/A
Warner-Czyz et al., 2021	36	N/A	N/A
Weisel et al., 2007	64	N/A	N/A
Moroe et al., 2016	5	N/A	N/A

Conclusions

- This scoping review reveals critical gaps in understanding psychosocial stress among families of pediatric CI users, particularly siblings.
- Several modifiable stressors were identified across multiple domains, underscoring opportunities for targeted clinical support. Families experience stress related to several psychosocial factors.
- Future research should prioritize how to alleviate stress related to more manageably modifiable factors such as professional support, use of cochlear implants, and aiding families overcome communication barriers with their child.