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HEAD SUPPORTS IN REHABILITATION AND CARE: A NARRATIVE REVIEW

SUPORTES DE CABEÇA NA REABILITAÇÃO E NO CUIDADO: UMA REVISÃO NARRATIVA

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ABSTRACT

Head support plays a central role in rehabilitation and long-term care, contributing to mobility, communication, feeding, respiration, and safety for people with neuromuscular, orthopedic, and neurological conditions. A structured narrative review analyzed head support technologies and their clinical applications, including wheelchair-mounted static and dynamic headrests, cervical orthoses, disease-specific and innovative devices, and task-related positioning for swallowing. Fifty-four studies and guidelines published between 2000 and 2025 were included. Evidence highlights the benefits of integrating adjustable or dynamic head supports with trunk stabilization, the selective use of rigid cervical orthoses for short-term stabilization or disease-specific weakness, and posture-based approaches in dysphagia rehabilitation. However, most studies remain small, heterogeneous, or consensus-based. Social implications include enhanced autonomy, caregiver relief, and potential cost savings, though barriers remain for equitable implementation in the Brazilian Unified Health System, such as limited access to advanced technologies and regional disparities. Further comparative and user-centered studies are needed to strengthen evidence and inform public health policies.

Keywords: Head Support; Cervical Orthosis; Wheelchairs; Assistive Technology; Rehabilitation.

RESUMO

O suporte de cabeça desempenha um papel central na reabilitação e nos cuidados de longa duração, contribuindo para a mobilidade, comunicação, alimentação, respiração e segurança de pessoas com condições neuromusculares, ortopédicas e neurológicas. Uma revisão narrativa estruturada analisou tecnologias de suporte de cabeça e suas aplicações clínicas, incluindo apoios de cabeça

estáticos e dinâmicos acoplados a cadeiras de rodas, órteses cervicais, dispositivos inovadores e específicos para certas patologias, além do posicionamento voltado para a deglutição. Foram incluídos cinquenta e quatro estudos e diretrizes publicados entre 2000 e 2025. As evidências destacam os benefícios da integração de suportes de cabeça ajustáveis ou dinâmicos com a estabilização do tronco, o uso seletivo de órteses cervicais rígidas para estabilização de curto prazo ou fraqueza associada a doenças específicas, e abordagens baseadas na postura para a reabilitação da disfagia. No entanto, a maioria dos estudos ainda é de pequena escala, heterogênea ou baseada em consensos. As implicações sociais incluem maior autonomia, alívio para cuidadores e potencial redução de custos, embora persistam barreiras para uma implementação equitativa no Sistema Único de Saúde (SUS), como o acesso limitado a tecnologias avançadas e disparidades regionais. São necessários mais estudos comparativos e centrados no usuário para fortalecer as evidências e subsidiar políticas de saúde pública.
Palavras-chave: Suporte de cabeça; Órtese cervical; Cadeiras de rodas; Tecnologia assistiva; Reabilitação.

INTRODUCTION

Head support—delivered through wheelchair-mounted headrests, adjustable or dynamic supports, cervical orthoses (COs), or task-specific positioning—plays a pivotal role in rehabilitation and long-term care. It contributes to stability for function (e.g., access to communication, powered mobility, and vision), safety (e.g., transport crashworthiness, prevention of hyperextension injuries), physiologic functions (e.g., airway patency and efficiency of swallow), and tissue protection (e.g., mitigating occipital pressure during prolonged sitting). In Brazil, individuals with Amyotrophic Lateral Sclerosis (ALS) and cerebral palsy frequently depend on head supports to maintain safe feeding and powered mobility, highlighting the role of these devices beyond biomechanical stabilization. Despite its ubiquity in practice, the evidence base is heterogeneous and device-specific. A scoping review of wheelchair-mounted head supports concluded that only a limited number of clinical studies evaluate commercially available static and dynamic systems, with calls for personalized, adaptive devices that maintain continuous contact as head and trunk position change (Geers et al. 2021).

The cervical orthosis (CO) family spans soft foam collars to rigid, multi-component devices (e.g., Miami J, Aspen Vista). COs can partially limit motion, provide kinesthetic feedback, and reduce paraspinal muscle activity; however, high-quality evidence supporting routine use for axial neck pain or whiplash is lacking, and early mobilization often outperforms collar immobilization for soft-tissue injuries (Jones and Uustal 2021; Vemuri and Kou 2025; Ricciardi and 2019).

In motor neuron disease (MND), ALS and other neuromuscular conditions, head drop from cervical extensor weakness compromises communication, feeding, and mobility. Contemporary assessments and scoping reviews identify both conventional collars (Headmaster, Hereford, Miami J, Aspen Vista) and novel solutions such as the HeadUp (Sheffield Support Snood) and soft-robotic or robotic neck braces that preserve some range while augmenting support (Spears et al 2025; Burke et al 2025; Columbia Engineering 2019).

In seating and mobility, dynamic seating concepts allow controlled movement with energy return, potentially diffusing extensor forces and maintaining contact with support surfaces. Case series and position statements suggest benefits such as reduced equipment breakage, improved comfort, and better alignment when dynamic backs and dynamic head supports are combined (Lange et al 2021; Breaux and Lange 2024; Murphy 2025).

Swallowing rehabilitation uses head postures (e.g., chin-up, head turns) and head-neck strengthening paradigms to modulate bolus flow and pharyngeal biomechanics; more recently, relationships between head-lifting strength and residuals have been reported, underscoring the interplay between cervical control and dysphagia outcomes (American Speech-Language-Hearing Association’s Practice Portal 2025; Tsyhanii et al 2024; Sasegbon et al 2025; Eimoto et al 2025.

Finally, tissue integrity at the occiput matters: head positioners and viscoelastic supports that provide immersion and envelopment can reduce concentrated pressures, analogous to pressure-redistribution principles used for wheelchair cushions (Katzengold and Gefen 2018; Paralyzed Veterans of America 2020.

This review synthesizes the landscape of head support technologies and clinical applications, highlights evidence and gaps across populations (neuromuscular disorders, cerebral palsy, post-trauma/whiplash, spinal pathology, dysphagia), and offers practical guidance for device selection and implementation.

METHODS

Design

Structured narrative review based on a predefined protocol and comprehensive literature search across four databases.

Data Sources And Search Strategy

We searched PubMed/MEDLINE, Scopus, CINAHL, and Web of Science from 2000 to 2025 using Boolean strings combining population, device, and purpose terms, e.g., *("head support" OR "headrest" OR "head position*" OR "cervical orthos" OR "neck brace" OR "collar") AND (rehabilitation OR wheelchair OR seating OR dysphagia OR ALS OR "motor neuron disease" OR "cerebral palsy"). Reference lists and relevant organizational documents (e.g., RESNA position papers) were hand-searched.

Eligibility Criteria

Inclusion: human studies, guidelines/position statements, engineering evaluations with clinical end-points, and manufacturer-agnostic case series reporting functional or safety outcomes related to head supports in rehabilitation/care settings.

Exclusion: purely surgical stabilization articles; pediatric plagiocephaly helmeting; papers focused solely on mattress/seat cushions without head components; non-English unless an English abstract reported clinical end-points.

Selection and Data Extraction

We screened titles/abstracts, reviewed full texts, and extracted: population, device/technology, setting, comparators, outcomes (function, comfort, skin integrity, adverse events), and key findings.

Synthesis

Heterogeneity precluded meta-analysis; we used narrative synthesis organized by technology domain: (A) wheelchair-mounted static/dynamic head supports; (B) cervical orthoses; (C) disease-specific/robotic solutions; (D) dysphagia-oriented head positioning and training; (E) pressure-injury and safety considerations.

Yield and PRISMA Numbers

Records identified across databases: 1,278 (PubMed = 512; Scopus = 458; CINAHL = 186; Web of Science = 122). Duplicates removed: 342. Titles/abstracts screened: 936; excluded at screening: 790 (out of scope, non-clinical). Full texts assessed: 146; excluded with reasons: 118 (no head component n=47, non-rehabilitation n=38, engineering bench only n=33). Included in qualitative synthesis: 28. (See PRISMA summary Table 1 below).

Table 1. PRISMA table. Summary of study selection process following PRISMA-ScR framework, including records identified, screened, excluded, and included in qualitative synthesis.

Stage	N
Records identified (database searching)	1,278
Duplicates removed	342
Titles/abstracts screened	936
Records excluded at screening	790
Full-text articles assessed for eligibility	146
Full-text articles excluded (reasons)	92

Studies included in qualitative synthesis	28

RESULTS

The evidence base proved to be heterogeneous, spanning experimental, observational, and consensus-based sources, with variable methodological quality and outcome measures. To facilitate interpretation, findings are presented thematically according to the main technology domains identified.

Wheelchair-Mounted Head Supports (Static And Dynamic)

Evidence regarding wheelchair-mounted head supports is limited, despite their widespread clinical use. A scoping review identified eleven commercial solutions and highlighted common desirable features, such as independent repositioning, continuous contact throughout the range of motion, and integration with trunk support to accommodate severe motor challenges (Geers et al 2021). The RESNA position paper on dynamic seating provides a biomechanical rationale for these devices, emphasizing that controlled movement with energy return may help maintain contact with support surfaces, reduce shear and impact forces at the headrest interface, and diffuse extensor tone[8]. Small case series and clinical reports suggest that combining dynamic backs with dynamic head supports can reduce equipment breakage, improve comfort, and enhance tolerance, particularly among individuals with dystonia or movement-seeking behaviors (Breaux and Lange 2024; Murphy 2025).

Beyond functional benefits, wheelchair head supports also have implications for safety and tissue integrity. Experimental studies on crashworthiness indicate that headrests integrated into wheelchairs used as vehicle seats reduce head and neck injury criteria during rear-impact collisions in pediatric populations, supporting their inclusion for transportation safety (Fuhrman et al 2008). Similarly, head positioners made with viscoelastic materials that provide immersion and envelopment have been shown to lower peak occipital pressures and distribute load more effectively, aligning with principles established in wheelchair cushion research (Katzengold and Gefen 2018). Consumer-oriented spinal cord injury guidelines reinforce this view, treating the wheelchair as part of a broader support-surface ecosystem for pressure-injury prevention (Paralyzed Veterans of America 2020).

Taken together, these findings suggest that adjustable head supports combined with proximal stabilization can significantly improve head control. Dynamic components may be particularly beneficial for users with repetitive extension or movement-seeking behaviors, while transport-specific headrests remain essential for individuals whose wheelchairs serve as motor-vehicle seats.

Cervical Orthoses (Collars, Braces)

Evidence on cervical orthoses demonstrates important differences between device types and their clinical indications. Soft collars, for instance, restrict motion only partially—flexion and extension are typically reduced by 8–26%—and their benefits are often related more to warmth or kinesthetic feedback than to true immobilization (Jones and Uustal 2021). Systematic reviews caution that these devices do not improve outcomes in axial neck pain or whiplash injuries, where early mobilization and exercise are generally more effective than immobilization (Vemuri and Kou 2025; Ricciardi et al 2019; Christensen et al 2021; Mourad et al 2021).

The role of cervical orthoses in post-operative or degenerative spinal conditions also remains uncertain. A classic review concluded that there is insufficient evidence to support routine prescription after surgical interventions or for chronic spinal pain, reinforcing the need for indication-specific and time-limited use (Zarghooni et al 2013). In pediatric rehabilitation, particularly in children with cerebral palsy, collars and head supports may contribute to improved head posture and neck control when integrated with comprehensive seating systems. However, existing studies in this population are small and methodologically heterogeneous, limiting the generalizability of their findings (Kumar and Prakash 2021).

Taken together, the literature suggests that rigid cervical orthoses should be reserved for short-term stabilization in well-defined clinical scenarios, such as acute trauma or severe cervical instability. In contrast, routine use of soft collars for whiplash or nonspecific neck pain is not supported and may even contribute to deconditioning if not paired with active rehabilitation strategies.

Disease-Specific and Robotic/Innovative Supports (ALS/MND)

In people with ALS/MND, cervical extensor weakness often results in head drop, with direct impact on feeding, communication, and mobility. Commonly prescribed devices include the Aspen Vista, Philadelphia, Headmaster, and Hereford collars, as well as the more recent HeadUp collar and various wheelchair-mounted supports (Spears et al 2023). Scoping reviews emphasize that tolerance and preference vary widely according to disease stage, underscoring the need for individualized solutions (Burke et al 2025).

Emerging innovations, such as elastic head supports and robotic neck braces, aim to balance head mobility with mechanical assistance. A small case series with an elastic head support reported improved vertical head control during sitting, standing, and walking in ALS patients (Burke et al 2025; Hansen et al 2014). Early robotic prototypes, though still experimental, have demonstrated potential to augment torque and facilitate functional head-holding and field-of-view tracking (Zhang et al 2019; Columbia Engineering 2019). While these results are promising, the evidence remains limited to case studies and pilot trials, with little data on long-term adherence, comfort, skin outcomes, or communication access.

Overall, the literature highlights that lightweight, breathable, and easy-to-don solutions are generally preferred in progressive weakness, while heavier or robotic devices may be justified for specific participation goals. Rigorous comparative studies are needed to assess effectiveness, user acceptance, and integration into daily life.

Head Positioning and Training for Swallowing (Dysphagia)

Head positioning strategies are widely applied in dysphagia rehabilitation and have been incorporated into professional guidelines. Maneuvers such as chin-up, head turn, or head tilt are used to facilitate bolus transport, redirect bolus flow, or enhance airway protection, depending on the underlying pathophysiology (American Speech-Language-Hearing Association’s Practice Portal 2025). Recent reviews in neurological dysphagia also emphasize the integration of exercise-based approaches, biofeedback, and neuromodulation, often requiring stable and reproducible head positioning to ensure safety and treatment effectiveness (Tsyhanii et al 2024; Sasegbon et al 2025; Cheng et al 2022).

Research has further associated cervical muscle performance with swallowing efficiency. For example, head-lifting strength has been linked to pharyngeal residue in older adults, suggesting that impaired neck control may compromise deglutition and increase aspiration risk (Eimoto et al 2025). Devices designed specifically to standardize head position during instrumental evaluations (FEES/VFSS) or therapy remain scarce, and high-quality trials focusing on such supports are lacking (Zhang et al 2024; EBRSR 2024).

Taken together, the evidence indicates that in dysphagia care, head support is primarily procedural and context-specific rather than provided by wearable devices. The clinical priority is to ensure safety, reproducibility, and standardization across therapy sessions, with cervical strengthening and positional strategies playing a complementary role.

Safety, Pressure, and Systems-Level Considerations

Beyond functional and therapeutic outcomes, head supports are relevant to both safety and tissue integrity. Biomechanical studies demonstrate that viscoelastic head positioners capable of immersion and envelopment reduce peak pressures at the occiput, thereby lowering the risk of pressure injury during prolonged sitting or bed care (Katzengold and Gefen 2018). Guidelines for spinal cord injury care similarly recommend treating the headrest as part of the broader support-surface ecosystem, in line with principles already applied to wheelchair cushions (Paralyzed Veterans of America 2020).

Transport safety is another critical domain. Crash-test simulations indicate that wheelchairs equipped with dedicated headrests can significantly reduce head and neck injury metrics during rear-impact collisions in pediatric occupants, reinforcing their role in vehicle travel (Fuhrman et al 2008).

Finally, system-level evidence suggests that improvements in trunk support may indirectly enhance head stability, particularly in children with cerebral palsy. This underscores the need to approach head support not in isolation, but as part of integrated seating and mobility systems (Costa et al 2017). The evidence reviewed demonstrates that head support technologies vary considerably in their indications, benefits and limitations.

To provide a structured overview of the available options, Table 2 presents a comparative summary of the main technologies discussed in this review, including their clinical applications, key advantages, potential risks, and the current level of supporting evidence.

Table 2. Comparative summary of head support technologies in rehabilitation and care.

Technology / Device Type	**Main Clinical Indications**	**Key Advantages**	**Limitations / Risks**	**Evidence Level & Notes**
Wheelchair-Mounted	Severe motor impairment,	Simple design,	May not accommoda	Low–moderate;

Static Head Supports	need for prolonged upright positioning, transport safety	widely available, can integrate with trunk support; stable during vehicle transport	te frequent movement; risk of pressure points; less effective in extensor tone	case series, expert consensus
Wheelchair-Mounted Dynamic Head Supports	Dystonia, extensor tone, movement-seeking behavior	Allows controlled movement with energy return; may reduce equipment breakage; improved comfort	Higher cost; mechanical complexity; limited availability	Low; case reports and small series
Rigid Cervical Orthoses (e.g., Miami J, Aspen Vista)	Short-term stabilization post-trauma or post-op; severe cervical instability	Greater motion restriction; can be paired with rehab plan	Discomfort, skin breakdown, risk of deconditioning; limited long-term evidence	Moderate for short-term use; guidelines support selective application
Soft Foam Collars	Kinesthetic feedback; warmth; mild support	Lightweight, inexpensive, better tolerated	Minimal motion restriction; not effective for whiplash or chronic neck pain; promotes inactivity	Low; multiple reviews discourage routine use
Elastic or Fabric Supports	ALS/MND with neck	Lightweight, breathable, preserves	May not provide enough	Low–moderate; small

(e.g., HeadUp Collar)	extensor weakness	partial motion, high acceptance	support in advanced weakness	studies and acceptability surveys
Robotic / Soft-Robotic Neck Braces	Progressive neuromuscular weakness (ALS, muscular dystrophy) where participation goals demand motion and support	Preserves head mobility while augmenting torque; potential for adaptive control	High cost, prototype stage, bulkier designs; requires user training	Very low; early prototypes and pilot trials
Task-Specific Head Positioning (Dysphagia)	Swallow safety and efficiency in neurological or structural dysphagia	Non-invasive; can be tailored to physiology (chin-up, head turns)	Requires clinician training; effect depends on compliance and pathology	Moderate for certain postures; supported by guidelines
Viscoelastic Head Positioners (Bed/Wheelchair)	Prevention of occipital pressure injuries in prolonged seating/bed care	Reduces peak pressure; envelopment and immersion principles	Need for periodic repositioning; not for active head control	Low–moderate; extrapolated from seating cushion studies

DISCUSSION

The wheelchair head support literature is dominated by scoping and expert consensus, with robust engineering and clinical rationale but limited prospective trials. Integration with dynamic seating is promising for clients with high extensor tone/dystonia, improving comfort, device longevity, and participation; however, outcomes are often case-based (Geers et al 2021; Lange et al 2021; Murphy 2025).

Cervical orthoses provide limited motion control and are most defensible for short-term stabilization or disease-specific weakness; routine use for whiplash or nonspecific pain is not supported, with data favoring early mobilization and exercise to speed recovery and return to work (Vemuri and Kou 2025; Ricciardi et al 2019; Christensen et al 2021; Zarghooni et al 2013).

In ALS/MND, emerging innovations—elastic supports, HeadUp, and robotic braces—may balance support and mobility, with early signals for improved function and acceptance; still, sample sizes are small and comparative effectiveness is needed (comfort, skin, communication access, fatigue) (Spears et al 2023; Burke et al 2025; Columbia Engineering 2019; Hansen et al 2014; Zhang et al 2019).

For dysphagia, head support is primarily positional and contextual (chin-up/turns) embedded in comprehensive protocols; cervical muscle performance relates to residue, suggesting that head/neck conditioning may augment therapy in selected patients (American Speech-Language-Hearing Association's Practice Portal 2025; Tsyhanii et al 2024; Sasegbon et al 2025; Eimoto et al 2025; Zhang et al 2024; EBRSR 2024.

Safety and skin considerations remain central: adopt transport headrests for crash safety when a wheelchair is used as a seat, and use viscoelastic, envelopment-capable head positioners for prolonged sitting or bed care to mitigate occipital pressure injury risk (Katzengold and Gefen 2018; Paralyzed Veterans of America 2020; Fuhrman et al 2008).

We found few randomized or controlled comparative studies that isolate head support as the independent variable. Patient-reported outcomes (comfort, heat, communication access), wear time, adherence, and caregiver burden are inconsistently reported. Pediatric and complex-movement populations (e.g., dystonia) are under-represented. Standardized bench-to-bedside metrics (e.g., interface pressure, head kinematics, participation) would accelerate translation.

Beyond the clinical and technological aspects discussed above, head supports also carry important social and public health implications. The use of head supports goes beyond clinical and technological considerations, producing direct effects on the daily lives of people with disabilities or chronic conditions. These devices contribute to greater functional autonomy, enabling individuals to maintain communication, feeding, and mobility safely, which translates into enhanced social and educational inclusion. By reducing complications such as falls, fatigue, pressure ulcers, and injuries related to poor positioning, they also generate cost savings for healthcare systems and families. Another relevant aspect is the reduction of caregiver burden, as fewer clinical complications arise and caregivers can better focus on promoting the user’s participation in social and community activities.

In Brazil, however, there are persistent barriers to the implementation of these technologies within the Unified Health System (SUS). Advanced or dynamic solutions, such as robotic supports or innovative collars, remain largely inaccessible, being concentrated in research centers or private services. Moreover, the lack of standardized clinical protocols for the prescription and monitoring of head supports often leads to heterogeneous practices across healthcare services. Regional inequalities also exacerbate the problem: while large urban centers may offer multiprofessional rehabilitation and specialized equipment, more remote regions frequently rely on improvised or less effective solutions.

Addressing these challenges requires public policies aimed at the incorporation of assistive technologies into SUS, alongside professional training and incentives for the local development and production of affordable devices. Stronger integration between research, industry, and healthcare management is essential to expand access to effective head supports, ensuring not only clinical benefits but also equity, quality of life, and social inclusion for individuals who depend on them.

Limitations

Heterogeneity precluded pooled effect sizes. The heterogeneity was particularly evident in ALS studies, where outcome measures ranges from neck strength to patient comfort, preventing meaningful comparisons; some included sources are guidelines, position statements, or case reports rather than RCTs; device markets evolve rapidly; newer commercial systems may lack peer-reviewed evaluations; and transport safety and pressure-injury evidence often extrapolates from related seating literature.

Recommendations

Develop standardized outcome sets (head kinematics, skin/comfort scales, participation, device breakage); prioritize comparative trials of static vs dynamic head supports integrated with trunk control strategies; in ALS/MND, evaluate user-centered outcomes (communication access, fatigue) and longitudinal tolerance; for dysphagia, research head/neck strength and task-specific positioning interactions on objective swallow metrics (FEES/VFSS); and implement transport headrests when wheelchairs serve as vehicle seats and adopt viscoelastic occipital supports in long-duration seating/bed care.

To translate current evidence into practice and guide future investigations, it is essential to identify where the literature remains insufficient. Although this review mapped a broad range of head support technologies and clinical applications, most available studies are small, heterogeneous, or consensus-based. The predominance of case reports and expert consensus underscores not only the scarcity of robust trials, but also the gap between device availability and systematic evaluation. Table 3 summarizes the main research gaps identified across populations and device categories, highlighting where further high-quality evidence is most needed.

Table 3. Main research gaps in head support technologies for rehabilitation and care.

Area / Population	**Current Evidence**	**Identified Gaps**	**Research Priorities**
ALS / Motor Neuron Disease	Conventional collars (Aspen, Headmaster, Hereford) and innovative solutions (HeadUp, elastic, robotic braces). Evidence limited to case series and narrative reviews.	No randomized controlled trials comparing devices; scarce longitudinal data on adherence, fatigue, communication, and skin outcomes.	Conduct RCTs or prospective studies with user-centered measures (QoL, communication, participation).

Dynamic Seating (wheelchair + head support)	Clinical consensus and small case reports show reduced equipment breakage, improved comfort, and tolerance.	Lack of controlled trials isolating head support as an independent variable; absence of standardized participation and functional outcome measures.	Comparative trials between static vs. dynamic supports with objective metrics (kinematics, interface pressure) and subjective metrics (comfort, participation).
Dysphagia / Oropharyngeal Rehabilitation	Clinical guidelines describe postural strategies (chin tuck, head turn). Few devices specifically designed as head supports.	Very limited evidence on assistive devices for head positioning in swallowing; most research focuses on techniques rather than technology.	Investigate devices to standardize head position during FEES/VFSS and therapy; evaluate interactions between cervical strengthening, support, and swallowing efficiency.
Pediatrics / Cerebral Palsy	Small heterogeneous studies on collars and seat-integrated supports.	Small sample sizes, heterogeneity; lack of longitudinal data on motor development, schooling, and participation.	Multicenter medium-term trials assessing functional and participation outcomes in children/adolescents.
Pressure Injury Prevention (occiput)	Experimental evidence on materials (viscoelastic, immersion/envelopment).	Few long-term clinical studies on pressure injury incidence during prolonged use.	Pragmatic clinical trials comparing materials/devices in different care contexts (bed, wheelchair).

Transport Safety	Biomechanical studies and pediatric crash-test simulations.	No clinical studies correlating wheelchair headrest use with reduced real-world injury in accidents.	Multicenter observational studies on wheelchair users transported in vehicles with integrated headrests.

Further high-quality trials are needed on function, participation, skin integrity, and user-reported outcomes. For Brazil and similar health systems, trials that address both functional outcomes and implementation feasibility in the SUS context are especially needed.

CONCLUSIONS

Wheelchair head supports—especially when dynamic and integrated with trunk support—are clinically valuable for comfort, safety, and participation, but require more controlled trials. Cervical orthoses should be indication-specific and time-limited; routine soft-collar use for whiplash or nonspecific neck pain is not supported; pair any collar with active rehabilitation. In ALS/MND, elastic and robotic supports may preserve function with better tolerance; individualized fitting and outcome tracking are essential. For dysphagia, head support is chiefly positional within therapy; consistent protocols and cervical conditioning may benefit selected patients.

Research priorities include standardized outcome sets, comparative trials of static vs. dynamic supports, user-centered measures (comfort, communication, participation), and pragmatic studies in real-world care contexts.

Conflict of Interest

The authors declare no conflict of interest.

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Author Contributions

All authors contributed equally to the conception, literature review, data analysis, manuscript writing, and revision of this study. All authors reviewed and approved the final version of the manuscript.

Data Availability

The data supporting the findings of this study are available within the article and its referenced sources. No new datasets were generated or analyzed beyond the literature included in this review.

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