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Sensory Decline and Cardiovascular Risk in Older Adults: Psychosocial and Communication-Mediated Pathways – A narrative review

Damian Zienkiewicz
Szpital Praski pw. Przemienia Pańskiego, Solidarności 67, 03-401 Warsaw, Poland
zienkiewicz.damian@gmail.com
https://orcid.org/0009-0008-7263-1545
Maciej Jakub Kozicki
Medical University of Warsaw (WUM), 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland.
maciej.kozicki.mk@gmail.com
https://orcid.org/0009-0000-1966-0306
Julia Maria Kostro
Stefan Żeromski Specialist Hospital, Osiedle na Skarpie 66, 31-913 Kraków, Poland
julikostro00@gmail.com
https://orcid.org/0009-0006-3455-2825
Gabriela Makulec
Wojskowy Instytut Medyczny, Szaserów 128, 04-141 Warsaw, Poland
gabriela.makulec@gmail.com
https://orcid.org/0009-0009-1357-1340
Karolina Domosud
Wojskowy Instytut Medyczny, Szaserów 128, 04-141 Warsaw, Poland
karolinadomosud@gmail.com
https://orcid.org/0009-0007-4345-2188
Magdalena Papież
Medical University of Warsaw (WUM), 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland
magda.papiez.9@gmail.com
https://orcid.org/0009-0001-6530-3198
Zofia Jędra
Samodzielny Publiczny Szpital Kliniczny im. prof. W. Orłowskiego CMKP
Czerniakowska 231, 00-416 Warsaw, Poland
zjedra7@gmail.com
https://orcid.org/0009-0000-5449-9546
Anna Libera
Wojewódzki Szpital Zespolony w Kielcach, Grunwaldzka 45, 25-736 Kielce, Poland
liberaania12@gmail.com
https://orcid.org/0009-0000-6806-3014
Karolina Bartkiewicz
Medical University of Warsaw (WUM), 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland.
karolina.bartkiewicz2000@gmail.com
https://orcid.org/0009-0009-3082-7272

Lizaveta Novik
Medical University of Warsaw (WUM), 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland.
lnovik84@gmail.com
https://orcid.org/0009-0000-2181-2284

Abstract
Background:
Hearing loss affects roughly 65% of adults aged 70 and older, vision impairment 20–30%, and dual sensory loss becomes increasingly common with age. Meta-analyses show that all three forms of sensory decline are associated with higher risks of hypertension, stroke, coronary heart disease, and cardiovascular mortality, even after adjustment for traditional cardiovascular risk factors. Shared vascular pathology explains part of these associations, but psychosocial and communication pathways may also contribute.
Aim:
To summarize evidence on psychosocial and communication-mediated mechanisms linking sensory decline to cardiovascular risk in older adults and to outline an integrated conceptual model.
Material and Methods:
A narrative review was conducted using targeted searches of PubMed and Google Scholar. Meta-analyses, cohort studies, and relevant qualitative and mechanistic literature were included. Findings were synthesized qualitatively.
Results:
Sensory impairment increases cognitive and communicative demands, which may heighten chronic stress and influence neuroendocrine and inflammatory pathways relevant to cardiovascular disease. Reduced sensory input limits social participation and contributes to social isolation and loneliness, both established cardiovascular risk factors. In healthcare settings, communication barriers can impair symptom reporting, treatment adherence, and management of complex cardiovascular regimens. These pathways complement biological mechanisms and help explain persistent associations between sensory decline and cardiovascular outcomes.
Conclusions:
Psychosocial and communication mechanisms appear to be modifiable contributors to cardiovascular vulnerability in older adults with sensory impairment. Potential strategies include routine sensory screening, communication-accessible care, and interventions addressing isolation and stress. Randomized trials are needed to determine whether sensory interventions can reduce cardiovascular events.

Key words: sensory impairment, cardiovascular risk, psychosocial pathways, communication barriers

Section 1: Introduction

1.1 Epidemiology of Sensory Decline and Cardiovascular Disease in Older Adults

Sensory decline is highly prevalent among older adults worldwide. Age-related hearing loss affects approximately 65% of adults aged 70 years and older, rising to over 80% in those 85+ (Sharma et al., 2020, Lin et al., 2011). Visual impairment affects 20-30% of adults aged 70 and older (Killeen et al., 2023), while dual sensory loss affects about 20% of those 71+ and nearly 60% of those 90+ (Garcia Morales et al., 2024). Concurrently, cardiovascular disease (CVD) remains the leading cause of death globally, accounting for 19 million deaths annually and one-third of all mortality (WHF, 2025). The frequent co-occurrence of sensory decline and CVD in older adults suggests potential mechanistic connections beyond age-related comorbidity alone.

1.2 Rationale for Examining Mediating Psychosocial and Communication Pathways

Emerging evidence indicates that sensory decline may influence cardiovascular risk not only through direct biological mechanisms but also via psychosocial and behavioral pathways. Hearing and vision loss can increase stress, reduce social engagement, and impair communication with healthcare providers, factors associated with cardiovascular morbidity (Jung et al., 2022, Wallhagen, 2010). Stress activates neuroendocrine pathways that

elevate blood pressure and systemic inflammation, while social isolation is associated with higher rates of hypertension, myocardial infarction, and stroke (Hawkley and Cacioppo, 2010). Impaired health-care communication can compromise adherence to medication, lifestyle interventions, and preventive care, potentially amplifying cardiovascular risk (Wallhagen, 2010, Alhusein et al., 2018, Fuzesi et al., 2024). Understanding these mediating pathways is critical for designing interventions that target both sensory and cardiovascular health in older adults.

1.3 Aims and Structure of the Review

This review aims to synthesize current evidence on the relationships between sensory decline and cardiovascular risk in older adults, with a particular focus on psychosocial and communication-mediated pathways. We identified relevant literature through targeted searches of PubMed and Google Scholar, prioritizing meta-analyses, systematic reviews, and large prospective cohort studies published primarily within the last 15 years. Rather than following a systematic search protocol, we selectively synthesized key studies to construct an integrated conceptual framework. Specifically, the review:

- Summarizes the epidemiology of hearing and vision loss in aging populations and their associations with cardiovascular outcomes.
- Briefly contextualizes established biological pathways linking sensory decline to cardiovascular disease.
- Explores psychosocial and behavioral mediators, including chronic stress, social isolation, and healthcare communication barriers.
- Presents an integrated conceptual model linking sensory impairment to cardiovascular outcomes through multiple pathways.
- Discusses clinical and public health implications, identifies gaps in knowledge, and proposes future research directions.

By integrating biological, psychosocial, and health-system perspectives, this review provides a framework for understanding the multifactorial contributions of sensory decline to cardiovascular risk and informs strategies for intervention in older adults.

Section 2: Epidemiological Associations Between Sensory Decline and Cardiovascular Disease

Establishing whether sensory decline independently predicts cardiovascular outcomes requires examining prospective longitudinal evidence. This section reviews cohort studies and meta-analyses demonstrating that hearing loss, vision impairment, and dual sensory loss are associated with increased cardiovascular disease risk, with relationships persisting after adjustment for traditional cardiovascular risk factors.

2.1 Hearing Loss and Cardiovascular Disease

Meta-analysis of eight cohort studies comprising over 4.5 million participants found sensorineural hearing loss associated with 31-33% increased stroke risk after adjustment for cardiovascular risk factors (Khosravipour and Rajati, 2021). Pooled analyses show odds ratios of 1.36 for coronary artery disease and 1.38 for any cardiovascular disease in individuals with hearing loss (Tan et al., 2024). In a clinical population of over 6,300 patients, 64% had hearing loss, with graded associations between hearing loss severity and cardiovascular risk burden (Baiduc et al., 2023).

The temporal relationship appears bidirectional: stroke patients demonstrated significantly higher 5-year incidence of sudden sensorineural hearing loss, with adjusted hazard ratio of 1.71 (Kuo et al., 2016). Sex-specific patterns emerged, with hearing loss-hypertension relationships limited to males, while myocardial infarction showed significant associations only in women (Baiduc et al., 2023, Jin et al., 2024).

2.2 Vision Impairment and Cardiovascular Disease

Meta-analysis of six cohort studies (N=22,159) followed for 5-14 years found that narrower retinal arterioles and wider retinal venules were associated with increased coronary heart disease risk in women (McGeechan et al., 2009). Retinal vein occlusion demonstrates particularly strong associations: meta-analysis found RVO associated with 84% increased cerebrovascular disease risk and 32% increased myocardial infarction risk (Chen et al., 2025). For age-related macular degeneration, meta-analysis found both early and late AMD preceded CVD, with stroke more strongly associated than coronary heart disease (Lee et al., 2021). Patients with early AMD had 20% increased heart failure risk (Chang et al., 2021).

2.3 Dual Sensory Impairment and Cardiovascular Risk

In a Chinese longitudinal cohort (N=11,332), vision impairment alone increased CVD risk by 24%, hearing loss alone by 20%, while concurrent impairments increased risk by 35% (He et al., 2024). Meta-analysis of 12 cohort studies (N=310,211) found dual sensory impairment associated with 44% higher all-cause mortality and 83% higher cardiovascular mortality (Liu et al., 2024). The Blue Mountains Eye Study found dual sensory impairment associated with 62% increased all-cause mortality over 10 years (Gopinath et al., 2013), suggesting synergistic effects.

2.4 Summary

While shared vascular pathology contributes, the independence of associations after risk factor adjustment indicates that psychosocial, behavioral, and communication-mediated pathways may operate alongside biological mechanisms.

Section 3: Biological Pathways – A Contextual Overview

Direct biological pathways linking sensory organs to cardiovascular health provide reasonable explanations for observed associations. This section briefly reviews three primary biological mechanisms before covering independent psychosocial pathways.

3.1 Shared Microvascular Pathology

The stria vascularis maintains cochlear function and is the only epithelial tissue containing intraepithelial capillaries (Thulasiram et al., 2022). Degeneration of the stria vascularis is a leading cause of age-related hearing loss. Cochlear hair cells have exceptionally high metabolic activity, making them susceptible to hypoxic damage. Age-related changes in strial microvasculature, including reduced capillary density and decreased perfusion, impair cochlear function. These microvascular changes may reflect pathological processes affecting coronary and cerebral vessels (Lang et al., 2023).

The retinal vasculature tells us a lot about microvascular health of whole human body. Retinal blood vessels share embryological origin and physiological characteristics with cerebral vessels, including comparable blood-barrier properties. Changes in retinal vessel caliber have been frequently associated with cardiovascular outcomes and reflect systemic microvascular pathology (Cheung et al., 2012).

3.2 Common Cardiovascular Risk Factors

Diabetes affects sensory organs through microvascular disease, metabolic disturbances, and accumulation of advanced glycation end-products (Barrett et al., 2017). Diabetic retinopathy is a typical microvascular complication. However, the magnitude of sensory-CVD associations often exceeds what would be predicted from diabetes alone (Barrett et al., 2017).

Hypertension may damage cochlear and retinal vasculature, but epidemiological evidence shows inconsistencies, with associations limited to specific subgroup (Przewoźny et al., 2015). Smoking of all cardiovascular risk factors shows the strongest and the most consistent relationship with hearing loss (Baiduc et al., 2023).

3.3 Systemic Inflammation

Some longitudinal studies found serum CRP levels associated with incident hearing impairment, particularly in adults under age 60 (Nash et al., 2014), yet results are inconsistent. Some investigations find associations largely explained by body mass index and smoking (Lassale et al., 2020). The cochlea is particularly vulnerable to oxidative damage – increased reactive oxygen species causes apoptosis and hearing loss progression (Teraoka et al., 2024).

3.4 Limitations of Biological Explanations

Associations between sensory impairment and cardiovascular risk persist after extensive adjustment for traditional cardiovascular risk factors (pooled HR 1.31-1.33)(Khosravipour and Rajati, 2021, Tan et al., 2024). If biological pathways fully explained the relationship, adjustment should eliminate associations. Instead, effect sizes remain substantial, particularly for dual sensory impairment (Liu et al., 2024). The temporal complexity of associations, with sensory impairment predicting incident CVD in individuals without baseline disease, suggests additional mechanisms operate.

4. Psychosocial and Behavioral Mediators

Biological mechanisms contribute to sensory–cardiovascular associations, but adjusted epidemiological models suggest they do not fully explain observed risks. Psychosocial and behavioral pathways may operate alongside biological ones. This section examines evidence on chronic stress, social isolation, and healthcare communication barriers as potential mediators, acknowledging limitations in direct causal evidence.

4.1 Chronic Stress and Neuroendocrine Activation

Sensory impairment increases cognitive and communicative demands, contributing to sustained listening effort and fatigue (McGarrigle et al., 2021, Alhanbali et al., 2017, Hornsby, 2013). Pediatric evidence shows altered hypothalamic–pituitary–adrenal (HPA) axis activity in children with hearing loss, including elevated salivary cortisol and reduced cortisol awakening response (Bess et al., 2016). Adult studies consistently demonstrate greater perceived stress and listening-related fatigue among those with impaired hearing (McGarrigle et al., 2021), though direct physiological measures remain limited. Chronic stress activation is associated with vascular injury and cardiovascular risk through endothelial dysfunction, elevated blood pressure, and accelerated atherosclerosis (Girod and Brotman, 2004). Dysregulated cortisol rhythms and inflammatory cytokines (interleukin-6, tumor necrosis factor-α, C-reactive protein) may further contribute (Mohd Azmi et al., 2021). While direct evidence linking sensory impairment to these pathways in older adults is sparse, the overlap between stress findings and known cardiovascular mechanisms suggests plausibility.

4.2 Social Isolation and Loneliness

Social isolation reflects objective deficits in social contact, while loneliness reflects perceived discrepancy between desired and actual relationships (Cornwell and Waite, 2009). Sensory impairment limits social participation through communication difficulties, environmental noise, difficulty recognizing faces, and reduced mobility confidence (Shukla et al., 2020, Petersen et al., 2022, Fraser et al., 2019, Shah et al., 2020, Alma et al., 2012). Systematic reviews show consistent associations between hearing loss and increased loneliness/social isolation in multivariable-adjusted studies (Shukla et al., 2020). Stronger social relationships correlate with better survival (Holt-Lunstad et al., 2010), while poor relationships increase coronary heart disease and stroke risk (Valtorta et al., 2016). Social isolation/loneliness is linked to 16% higher cardiovascular risk (Wang et al., 2025), with physiological markers including elevated blood pressure, inflammation, and stress hormones. In heart failure patients, loneliness associates with higher mortality (Manemann et al., 2018). Hearing loss contributes to dementia risk partly via social isolation (Livingston et al., 2020).

4.3 Healthcare Communication Barriers

Communication barriers are common in older adults with hearing loss, contributing to misunderstandings of symptoms, diagnoses, and treatments (Cudmore et al., 2017, Lu et al., 2024). Screening remains infrequent despite high prevalence (Mick and Pichora-Fuller, 2016). Stigma and clinical environments (noise, limited visual cues) exacerbate challenges (Palmer and Zitelli, 2024, McMahon et al., 2021, Lu et al., 2024). Providers often use written notes or family interpretation, risking incomplete information (Garcia et al., 2025). This contributes to medication errors during care transitions (Rojas-Ocaña et al., 2023). Effective communication links to better adherence (Zolnierek and Dimatteo, 2009), while hearing loss increases adverse events and poor cardiovascular regimen adherence (Deal et al., 2019).

4.4 Behavioral Pathways and Interconnections

Sensory impairment may influence cardiovascular health indirectly through reduced physical activity, sleep disruption, dietary changes, and healthcare avoidance, though direct evidence within sensory-impaired groups is limited. These pathways interconnect: hearing loss drives communication difficulties and withdrawal, increasing isolation/loneliness, which activates stress/HPA dysregulation. Communication barriers lead to poorer risk factor management. Dual sensory impairment shows heightened cardiovascular/mortality risk (Liu et al., 2024, Gopinath et al., 2013), suggesting compounded effects as one modality loss reduces compensation.

4.5 Summary

There are psychosocial and behavioral mechanisms that explain how sensory impairment lead to cardiovascular outcomes in a reliable, modifiable way. Social isolation shows consistent epidemiological associations comparable to traditional risk factors. Communication barriers are well-documented and addressable through training, environmental changes, and screening. These pathways likely interact with biological mechanisms but require further longitudinal studies to clarify independent contributions and mediation effects.

Section 5: Integrated Conceptual Model

5.1 Model Overview

Current evidence supports an integrated conceptual model in which sensory impairment—hearing loss, vision impairment, or dual sensory loss—acts as an upstream determinant influencing cardiovascular risk through multiple concurrent pathways. These pathways include biological mechanisms, psychosocial stressors, communication-related barriers, and downstream behavioral responses. They operate simultaneously and interactively rather than as isolated processes.

Biological mechanisms include shared microvascular pathology in cochlear, retinal, and cardiovascular tissues; the impact of common risk factors such as diabetes, hypertension, and smoking; and systemic inflammation with oxidative stress. These mechanisms contribute to observed associations but do not fully explain effect sizes that persist after adjustment for traditional cardiovascular risk factors.

Psychosocial mechanisms add independent pathways. Sensory impairment increases cognitive load and environmental unpredictability, contributing to chronic stress and potential HPA axis dysregulation. Communication difficulties often drive withdrawal from social contexts, resulting in objective isolation and subjective loneliness—factors consistently associated with elevated cardiovascular risk. Healthcare communication barriers impair symptom recognition, treatment adherence, and self-management, all of which are central to cardiovascular care. These mechanisms lead to behavioral consequences including reduced physical activity, altered dietary patterns, and healthcare underutilization.

Downstream outcomes include hypertension, coronary heart disease, stroke, heart failure, and cardiovascular mortality. Bidirectional relationships are incorporated: cardiovascular disease may exacerbate sensory decline via vascular injury, while sensory impairment predicts incident cardiovascular events via psychosocial and behavioral pathways.

5.2 Key Features and Moderators

A central feature of the model is the cascading nature of psychosocial pathways. Sensory decline initiates a sequence such as:

hearing loss → communication difficulty → social withdrawal → loneliness → chronic stress → HPA activation → increased cardiovascular risk.

Dual sensory impairment amplifies these processes. Because individuals cannot compensate with another intact modality, communication, mobility confidence, and social engagement decline more sharply, producing synergistic—not merely additive—effects on cardiovascular risk.

Multiple factors moderate these pathways. Sensory rehabilitation (e.g., hearing aids, vision correction), availability of social support, socioeconomic resources, healthcare system accessibility, and individual resilience may buffer adverse outcomes. These moderators help distinguish modifiable aspects of the pathway from less reversible biological damage.

5.3 Evidence and Limitations

Support for the model comes from epidemiological studies demonstrating associations that persist after adjustment for cardiovascular risk factors, consistent evidence for psychosocial mediators such as stress and isolation, and dose–response relationships for severity of sensory impairment. Evidence also supports bidirectional relationships and greater risk with dual sensory loss.

However, the evidence base remains largely observational. Causal inference is limited, and the relative contributions of biological, psychosocial, and behavioral mechanisms are still unclear. Interactions between pathways are likely but poorly quantified. Most studies measure sensory function only at baseline and do not incorporate repeated measures of sensory status, psychosocial variables, or biomarkers. Longitudinal designs with repeated assessments are needed to test mediation and to quantify the extent to which each pathway contributes to cardiovascular risk.

Despite these limitations, the integrated model offers a coherent framework for understanding multifactorial links between sensory decline and cardiovascular disease and highlights potential targets for intervention.

Section 6: Clinical and Public Health Implications

The links between sensory impairment and cardiovascular risk through biological, psychosocial, and communication-mediated pathways carry important implications for clinical practice and public health. These findings suggest opportunities for early detection, risk stratification, and preventive intervention across healthcare systems.

6.1 Screening and Integration

The strong associations between sensory impairment and cardiovascular outcomes support bidirectional screening approaches. Patients presenting with cardiovascular disease should undergo routine assessment of hearing and vision, as sensory impairment may complicate symptom recognition, communication, and self-management. Conversely, adults with hearing or vision impairment may benefit from enhanced cardiovascular risk evaluation. Simple screening tools, including whispered voice tests, portable audiometry and Snellen charts, can be incorporated into primary care and cardiology settings with minimal burden. Integrating sensory screening into chronic disease management may identify individuals at heightened risk who would otherwise be missed.

6.2 Sensory Rehabilitation and Cardiovascular Outcomes

Evidence regarding the impact of sensory rehabilitation on cardiovascular outcomes remains limited but increasingly suggestive. Observational data indicate that hearing aid use is associated with lower all-cause mortality among adults with hearing loss (Choi et al., 2024), though randomized trials and studies with cardiovascular-specific endpoints are still lacking. Potential mechanisms include reductions in social isolation, improved patient–provider communication, enhanced medication adherence, and attenuation of chronic stress responses. Vision rehabilitation may similarly reduce functional limitations and promote social participation, but data linking vision correction to cardiovascular outcomes are sparse. As understanding of these pathways expands, sensory rehabilitation may represent a modifiable factor in cardiovascular prevention.

6.3 Communication-Accessible Healthcare

Communication barriers constitute a directly modifiable pathway connecting sensory impairment to poorer cardiovascular outcomes. Training for clinicians should emphasize effective communication strategies, including speaking clearly at a measured pace, ensuring adequate lighting and face visibility, minimizing background noise, and using teach-back techniques to confirm understanding. Environmental adaptations—such as assistive listening devices, high-contrast signage, and consultation rooms optimized for lipreading—require modest investment and can substantially improve care quality.

Accessible health information is essential for chronic cardiovascular management. Medication instructions, dietary guidance, and symptom-monitoring materials should be available in large-print and audio formats. Digital health platforms, including telehealth portals and medication reminders, should incorporate captioning, adjustable audio, and visual accessibility features to ensure equitable usability.

6.4 Addressing Psychosocial Mediators

Interventions targeting psychosocial pathways may reduce cardiovascular risk even when sensory impairment persists. Stress-management strategies—including mindfulness-based interventions, cognitive-behavioral approaches, and tinnitus-focused coping programs—address chronic stress responses. Social engagement initiatives, community programs, peer support groups for individuals with sensory impairment, and technology training to facilitate virtual communication may mitigate isolation and loneliness. Caregiver- and communication-partner training is another important, often overlooked intervention, enabling families to support effective communication and reduce interpersonal strain.

6.5 Integrated Care Models and Health Equity

Integrated care models linking audiology, ophthalmology, cardiology, primary care, and geriatrics can improve outcomes through coordinated assessment and management. Telehealth expansion further underscores the need for accessibility standards, including captioning, high-quality video for lipreading, and adjustable audio amplification.

Equity considerations are central. Barriers to sensory care, such as high costs of hearing aids, limited insurance coverage and geographic disparities in access, mirror disparities in cardiovascular health. Policy reforms expanding coverage for hearing aids and vision services may function as upstream cardiovascular prevention strategies. Given the high prevalence of sensory impairment, even small improvements in access could bring substantial population-level benefits through better chronic disease management, reduced adverse events, and fewer hospitalizations.

Section 7: Research Gaps and Future Directions

7.1 Methodological Challenges

Despite consistent epidemiological associations between sensory decline and cardiovascular risk, key methodological limitations constrain causal inference. Most evidence is observational and vulnerable to confounding by shared risk factors such as age, vascular disease, and metabolic conditions. Reverse causation further complicates interpretation: cardiovascular disease may accelerate sensory decline through microvascular or inflammatory mechanisms, obscuring temporal ordering. Many studies rely on self-reported hearing or vision status rather than objective assessments, introducing potential misclassification. Heterogeneity in impairment definitions, follow-up durations, and covariate adjustment strategies contributes to inconsistent effect estimates across studies.

7.2 Priority Research Questions

Do sensory interventions reduce cardiovascular risk?

Randomized controlled trials of hearing aids, cochlear implants, or vision correction with cardiovascular outcomes as primary endpoints are notably absent. Observational evidence linking regular hearing aid use to lower all-cause mortality (Choi et al., 2024) underscores the potential clinical relevance but requires confirmation through controlled trials.

Which psychosocial pathways are most influential?

Social isolation appears the most consistently documented mediator, yet the relative and interactive contributions of chronic stress, healthcare communication barriers, and behavioral factors remain poorly quantified. Formal mediation analyses are needed to determine what proportion of sensory-associated cardiovascular risk operates through each pathway and whether these pathways differ across severity levels and sensory modalities.

What explains the heightened risk associated with dual sensory impairment?

The synergistic effects of concurrent hearing and vision impairment exceed simple additive predictions. Possible explanations include loss of compensatory strategies, more pronounced social withdrawal, compounded stress responses, or distinct neurobiological mechanisms. Clarifying these processes would support targeted intervention development.

7.3 Needed Study Designs

Randomized controlled trials evaluating whether sensory interventions reduce cardiovascular events represent the strongest design for establishing causality. Given the chronic nature of cardiovascular disease, such trials require large samples and multi-year follow-up to detect effects on outcomes including hypertension, coronary heart disease, stroke, heart failure, and mortality.

Prospective cohort studies with repeated measures of sensory function, psychosocial factors, biomarkers, and cardiovascular outcomes would enable mediation and longitudinal pathway analyses. Natural experiments such as changes in insurance coverage for hearing aids or vision care offer opportunities to evaluate real-world population-level effects. Mechanistic studies incorporating physiological monitoring, inflammatory and neuroendocrine biomarkers, or neuroimaging could clarify how psychosocial stressors linked to sensory impairment influence cardiovascular physiology. Equity-focused research is needed to determine whether intervention effects vary by socioeconomic status, healthcare access, and technological literacy.

7.4 Emerging Technologies and Collaboration

Technological advances offer new opportunities for expanding research and intervention. Hearing aids equipped with integrated sensors and health monitoring capabilities may facilitate personalized risk assessment. Smartphone-based hearing and vision tests can enable scalable screening, including in resource-limited settings. Artificial intelligence applied to retinal imaging may support early cardiovascular risk detection. Implementation of these technologies requires attention to ethical considerations, including data privacy, algorithmic bias, and equitable access.

Progress will require sustained interdisciplinary collaboration across audiology, ophthalmology, cardiology, geriatrics, psychology, epidemiology, and health services research. Overcoming disciplinary silos is essential for advancing integrated models of sensory–cardiovascular health.

Section 8: Conclusion

Sensory decline, affecting most of the older adults, and cardiovascular disease, the leading global cause of mortality, frequently co-occur in patterns that cannot be explained by simple comorbidity. This review synthesized evidence demonstrating robust associations between hearing loss, vision impairment, dual sensory loss, and cardiovascular outcomes that persist after adjustment for traditional cardiovascular risk factors.

Shared vascular pathology and common risk factors explain part, but not all, of these associations. A central insight of this review is that psychosocial and behavioral pathways—chronic stress and neuroendocrine activation, social isolation and loneliness, healthcare communication barriers, and altered health behaviors—likely operate alongside biological mechanisms. Social isolation is the most consistently documented psychosocial correlate of sensory impairment and an established cardiovascular risk factor Although healthcare communication barriers are less studied in terms of numbers, they can be changed and have a likely impact on the quality of care and cardiovascular health outcomes. These psychosocial pathways are potentially modifiable even when sensory or vascular pathology cannot be fully reversed. Sensory screening may be a useful addition to cardiovascular care, and cardiovascular risk assessment may benefit from greater attention to sensory impairment. Healthcare delivery should become more communication-accessible through provider training, environmental modifications, and assistive technologies. Interventions targeting social isolation, chronic stress, and care coordination may improve health outcomes in sensory-impaired populations, though causal effects on cardiovascular events remain to be demonstrated.

Critical research gaps remain. Randomized trials testing whether sensory interventions reduce cardiovascular events are essential to establish causality and to inform clinical recommendations. Mechanistic studies quantifying the relative contributions of psychosocial pathways and identifying modifiable intervention targets are similarly needed. Health equity considerations must remain central, given persistent disparities in sensory care access, hearing aid affordability, and cardiovascular outcomes.

Addressing sensory health may represent an underrecognized avenue for improving cardiovascular care in aging populations. By understanding sensory decline not merely as an inevitable aspect of aging but as a potential, partially modifiable contributor to cardiovascular vulnerability operating through multiple biological and psychosocial pathways, clinicians, public health practitioners, policymakers, and researchers can more effectively develop integrated approaches to improve both sensory function and cardiovascular health in older adults.

Disclosure

Author’s contribution

Conceptualization: Damian Zienkiewicz and Karolina Bartkiewicz and Karolina Domosud
Methodology: Maciej Kozicki and Karolina Bartkiewicz and Karolina Domosud
Investigation: Magdalena Papież and Zofia Jędra
Data curation: Magdalena Papież and Zofia Jędra
Formal analysis: Gabriela Makulec and Maciej Kozicki and Lizaveta Novik
Visualization: Gabriela Makulec and Damian Zienkiewicz and Lizaveta Novik
Writing – original draft: Damian Zienkiewicz and Karolina Bartkiewicz and Karolina Domosud
Writing – review and editing: Anna Libera and Julia Kostro
Supervision: Damian Zienkiewicz, Julia Kostro and Anna Libera
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