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POST-DENTURE INSERTION CARE IN GERIATRIC PATIENTS

Challenges and Management Strategies — A Comprehensive Review

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Abstract: Tooth loss is still a common issue among older individuals worldwide, and removable complete or partial dentures remain the most widely available option for addressing edentulism. While past prosthodontic research has mainly focused on creating dentures and making immediate adjustments after insertion, the period following insertion, which determines the long-term success of removable prosthetic treatment, is not given enough attention in everyday practice. Elderly patients pose specific difficulties due to factors like age-related changes in the mouth structure, declining saliva production, dry mouth from multiple medications, weakening muscles, cognitive issues, and decreased hand coordination. This article reviews existing literature on the main obstacles faced by older adults after denture placement and the proven methods used to address them. Some key challenges include mouth inflammation, painful sores, mouth corner cracks, excessive tissue growth due to dentures, decreased ability to chew food well, speech issues, risk of inhaling foreign objects, emotional struggles, and poor denture cleaning, which is closely linked to pneumonia risk in frail seniors. Strategies supported by research include regular check-up schedules, thorough denture cleaning methods, taking dentures out at night, adjusting the fit of dentures, using denture adhesives wisely, applying antifungal treatments, considering implant-supported dentures if suitable, educating caregivers, and marking dentures for those in care facilities. The preferred choice for those with no lower teeth is the two-implant-supported lower denture. Effective care after denture placement requires a continuous, collaborative, and patient-focused approach that combines dental follow-ups with general healthcare, dietary guidance, and involving caregivers, especially for those who rely on others for care and those in care homes.

Index Terms - Elderly dental care, Full dentures, Partial removable dentures, Inflammation under dentures, Dentures attached to implants, Impact of oral health on overall well-being, Follow-up care after denture placement, Regular check-ups for dental prosthetics

1. INTRODUCTION

The globe is experiencing an unmatched demographic shift.The percentage of the worldwide population who are 60 years and older is expected to grow significantly in the twenty-first century, leading to increases in oral diseases related to aging and the demand for prosthetic rehabilitation [32]. Tooth loss, the final result of dental caries, periodontal disease, trauma, and unsuccessful treatments, continues to be very common among older adults. A meta-analysis of international data indicated that significant tooth loss impacted a considerable percentage of adults aged 65 and above, showing notable differences across regions and income brackets [31]. Despite the decrease in complete edentulism rates in various high-income nations in recent decades, the overall count of completely and partially edentulous older individuals is still rising due to population

ageing[21].

Removable full and partial dentures continue to be the most readily available prosthetic solution for older adults who are edentulous or partially edentulous [23]. Despite implant-retained overdentures currently being recognized as the preferred standard of care for edentulous mandibles according to the McGill (2002) and York (2009) consensus statements [12, 24], conventional removable dentures still play a significant role in clinical practice worldwide. This is attributed to factors such as lower costs, greater accessibility, and patient-specific limitations— including severe ridge resorption, systemic health conditions, cognitive issues, financial constraints, and per sonal preferences—that can hinder the feasibility of implant therapy [19, 22]. The success of denture treatment is not only based on the technical quality of denture production. The post-insertion period—comprising patient adaptation, mucosal care hygiene upkeep, regular adjustments, relining, and the management of tissue-related disorders—is when the long- term success or failure of removable prosthetic rehabilitation is ultimately established [26]. Guidelines base d on evidence from the American College of Prosthodontists clearly highlight the post-insertion phase as a vital factor in prosthetic results and stress the importance of organized recall and mainte nance of hygiene [26].

Elderly individuals exhibit a unique combination of biological, behavioral, and contextual issues that make post-insertion care more complex. Cumulative residual ridge resorption gradually decreases the denture-bearing area and affects retention and stability [1, 2]. Mucosal involution associated with aging decreases the threshold for traumatic injury [4]. Polypharmacy and systemic illness often lead to clinically relevant xerostomia, which undermines mucosal integrity, denture stability, and patient comfort [13, 18]. Decreased manual dexterity, eyesight issues, and cognitive deterioration hinder an older adult's capability to maintain proper denture hygiene, raising the chances of denture stomatitis and Candida proliferation [4,8,18, 20]. Ultimately, biofilm associated with dentures has been connected to aspiration pneumonia and increased mortality in vulnerable elderly individuals, especially those who wear dentures consistently while sleeping [33, 30, 34, 36]. This examination compiles the existing research on post-insertion care for elderly denture users. The aims are:(i)to outline the main difficulties faced after denture placement in elderly individuals; (ii) to assess the evidence backing present clinical and behavioral management techniques; and (iii) to identify shortcomings pertinent to upcoming practice and research. The review is organized by themes and is aimed at the practicing prosthodontist, the general dentist, and the postgraduate student.

2. REVIEW METHODOLOGY

Elderly individuals exhibit a unique combination of biological, behavioral, and contextual issues that make post-insertion care more complex. Cumulative residual ridge resorption gradually decreases the denture-bearing area and affects retention and stability [1, 2]. Mucosal involution associated with aging decreases the threshold for traumatic injury [4]. Polypharmacy and systemic illness often lead to clinically relevant xerostomia, which undermines mucosal integrity, denture stability, and patient comfort [13, 18]. Decreased manual dexterity, eyesight issues, and cognitive deterioration hinder an older adult's capability to maintain proper denture hygiene, raising the chances of denture stomatitis and Candida proliferation [4, 8, 18, 20]. Ultimately, biofilm associated with dentures has been connected to aspiration pneumonia and increased mortality
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to assess the evidence backing present clinical and behavioral management techniques; and (iii) to identify shortcomings pertinent to upcoming practice and research. The review is organized by themes and is aimed at the practicing prosthodontist, the general dentist, and the postgraduate student.].

3. AGE-RELATED CHANGES AFFECTING DENTURE OUTCOMES

3.1 Residual Ridge Resorption

Residual ridge resorption (RRR) is a persistent, cumulative, and irreversible loss of the alveolar bone that occurs after tooth extraction and persists for a lifetime. The groundbreaking twenty-five-year mixed-longitudinal study conducted by Tallgren revealed that the mandible experiences about four times greater vertical bone loss compared to the maxilla during the period of denture usage, with the most significant rate of resorption occurring within the first six months and decreasing progressively after that [1]. Atwood's morphological classification of the residual ridge (Orders I to VI) [2] continues to be an effective clinical framework for characterizing ridge shape and planning the prosthetic treatment. In older individuals, significantly resorbed ridges (Atwood Orders V and VI) frequently occur, greatly complicating stability and retention after insertion, often requiring chairside or lab relining, soft liners, or—in certain patients—pre-prosthetic surgical procedures or a shift to implant therapy [23].

3.2 Mucosal and Soft-Tissue Changes

The aging process of the oral mucosa is marked by a thinning epithelium, decreased cellular turnover, lower levels of keratinisation, reduced vascular supply, and diminished elasticity in the submucosa. These histological alterations decrease the mechanical threshold for trauma from denture bases and hinder the healing of mucosal injuries [4]. The simultaneous emergence of a hypermobile ("flabby") fibrous ridge in the anterior maxilla—frequently resulting from the occlusion of natural teeth or implant-supported fixed prostheses against an edentulous arch—adds complexity to impression-taking and stability after insertion.

3.3 Salivary Changes and Xerostomia

While healthy ageing by itself does not significantly lower unstimulated whole-saliva flow, the joint impact of polypharmacy (especially anticholinergic, antihypertensive, antidepressant, and diuretic drugs), autoimmune diseases (notably Sjögren's syndrome), head-and-neck radiotherapy, and persistent dehydration leads to clinically relevant xerostomia in a considerable number of older individuals [13, 18]. Decreased salivary flow weakens the salivary film that aids in the retention of maxillary dentures, heightens mucosal friction, makes candidal overgrowth more likely, and diminishes buffering ability, leading to more mucosal damage and greater patie nt dissatisfaction.

3.4 Neuromuscular and Sensory Changes

Aging impacts the size and coordination of masticatory muscles, strength of the tongue, oral stereognosis, and the cortical flexibility required to incorporate a new removable prosthesis into proprioceptive regulation. These modifications lead to an extended adjustment time following denture placement, an increased need fo r adjustments after insertion, and—in elderly individuals who are frail or have cognitive impairments—a higher likelihood of dysphagia and aspiration [30, 34].

4. POST-INSERTION MUCOSAL COMPLICATIONS

Mucosal injuries are the most commonly reported complications after insertion in elderly denture users. Budtz-Jørgensen's foundational
epidemiological research outlined the range of mucosal lesions linked to dentures and set the groundwork for their clinical categorization and treatment [4]. Later evaluations have improved this framework and measured the adjustable risk factors [5, 27].

4.1 Denture Stomatitis

Denture stomatitis is a persistent, multifactorial inflammatory disorder of the mucosa that supports dentures, traditionally categorized by Newton's three-type classification (Type I localized hyperemia, Type II diffuse erythema, Type III papillary hyperplasia) [3]. The prevalence reported among elderly denture users differs significantly, indicating variations in
diagnostic standards, demographics, and denture usage practices [5, 27]. Consistently recognized risk factors in various studies encompass prolonged (24-hour) denture use, insufficient denture and oral hygiene, poorly fitting or unrelined dentures, tobacco use, diabetes mellitus, dry mouth, and weakened immune system [4, 8, 20, 27, 33]. Candida albicans is involved in most instances, usually as a component of a polymicrobial biofilm on the surface of the denture [8, 20, 27]. Evidence-based management strategies consist of removing dentures at night and storing them in water or suitable disinfectant, mechanically brushing both the denture and palatal mucosa, applying topical antifungal treatments (nystatin or miconazole) while simultaneously disinfecting the denture surface, and replacing or relining poorly fitting prostheses [26, 27]. A systematic review by Cochrane on denture cleaning methods found that both mechanical and chemical techniques diminish denture biofilm, with the most effective results coming from combined methods [17].

4.2 Traumatic Ulcers

Traumatic ulcers rank as the second most common mucosal lesion following insertion, with the highest occurrence during the first one to two weeks after delivery. Common locations encompass the lingual flange of the mandible, the labial vestibule, and the mucosa covering bony protrusions. The majority of ulcers heal on their own after adjusting the problematic denture surface and using chlorhexidine rinses for a short period. In older individuals—especially those with inadequately managed diabetes mellitus or compromised wound healing—an ulcer lasting more than two to three weeks requires biopsy to rule out oral squamous cell carcinoma.

4.3 Angular Cheilitis

Angular cheilitis appears as red, cracked lesions at the corners of the lips. Its causes are multifactorial, generally including Candida species, Staphylococcus aureus, reduced vertical dimension of occlusion, nutritional deficiencies (iron, vitamin B12, folate), and saliva accumulation at the commissures. In older adults, the decrease in occlusal vertical dimension—resulting from denture wear, jaw ridge resorption, or failure to replace worn dentures—is a significant factor and needs to be addressed in management..

4.4 Denture-Induced Hyperplasia (Epulis Fissuratum)

Denture-induced fibrous hyperplasia is a hyperplastic reaction of the alveolar or vestibular mucosa due to chronic irritation caused by an excessively extended denture flange. It is more frequently observed in individuals who wear dentures long-term and is strongly linked to ignoring follow-up appointments and not relining dentures as the ridges deteriorate. Management necessitates the surgical removal of hyperplastic tissue alongside denture relining or remaking to eliminate the causative factor; neglecting the underlying prosthesis results in recurrence.

4.5 Denture-Related Burning Mouth Sensation

A sensation of burning beneath a denture, without observable mucosal lesions, could indicate xerostomia, an allergic response to leftover acrylic monomer or metal parts, a candidal infection, deficiencies in vitamins or minerals, or psychogenic influences. A structured assessment and treatment focused on the recognized root cause
are necessary.

Table 1: *Principal Post-Insertion Mucosal Complications and Their Management*

Complication	Principal Aetiology	Clinical Features	Key Management
Denture stomatitis	Candida biofilm; continuous wear; poor hygiene	Erythema of denture-bearing mucosa; Newton I–III	Nocturnal removal, hygiene, topical antifungals, reline/replace
Traumatic ulcer	Overextended flange; occlusal interference	Painful ulcer at flange/bony prominence	Adjust denture; chlorhexidine rinse; biopsy if > 2–3 weeks
Angular cheilitis	Candida ± S. aureus; loss of OVD; nutritional deficiency	Fissured erythema at commissures	Topical antifungal-antibacterial; restore OVD; nutritional review
Denture-induced hyperplasia	Chronic flange irritation; non-compliance with recall	Folds of fibrous tissue along flange	Surgical excision; reline/refabricate prosthesis
Burning mouth sensation	Xerostomia, allergy, Candida, deficiency, psychogenic	Burning without visible lesion	Identify and treat underlying cause

5. FUNCTIONAL CHALLENGES FOLLOWING DENTURE INSERTION

5.1 Masticatory Efficiency

Standard complete dentures return merely a portion of the chewing efficiency of natural teeth, while implant-supported overdentures improve this significantly [20, 22]. Elderly individuals experience the extra challenge of diminished chewing muscle strength and changed chewing habits, which collectively restrict the variety of foods they can comfortably enjoy [25]. Decreased chewing efficiency has been associated with diet alterations such as lower consumption of fibrous fruits and vegetables, greater dependence on soft, calorie-rich foods, and a heightened risk of micronutrient deficiency [25, 28].

5.2 Speech and Phonetics

Phonetic adjustment is often necessary during the initial two to four weeks following the placement of a new prosthesis, especially regarding sibilants and fricatives. The majority of patients adjust with experience, but ongoing challenges might suggest excessively thick palatal contours, improper positioning of anterior teeth, or insufficient posterior palatal seal. Elderly individuals with diminished neuromuscular adaptability, post-stroke speech difficulties, or considerable cognitive deficits may need extended adjustment times and organized patient instruction.

5.3 Swallowing and Aspiration Risk

Dysphagia is gaining recognition as a significant issue among frail and institutionalized elderly individuals [30, 34]. Poorly fitting dentures lead to oropharyngeal dysphagia by hindering bolus formation, and case reports note the aspiration of dislodged denture pieces or whole dentures, especially in individuals with dementia, post-stroke conditions, or those under sedation. It is advised to mark dentures, remove them during sleep for high-risk individuals, and incorporate them with structured swallowing therapy [26, 33, 30].

6. PSYCHOSOCIAL AND QUALITY-OF-LIFE CONSIDERATIONS

The psychosocial aspect of wearing dentures is significant. The loss of teeth brings considerable emotional implications, and the process of obtaining and using a removable prosthesis affects self-perception, social involvement, and the perception of aging [29]. Validated patient-reported outcome tools created to measure these aspects consist of the Oral Health Impact Profile (OHIP, 1994) [7], its abbreviated edentulous-specific variant (OHIP-EDENT, 2002) [11], and the Geriatric Oral Health Assessment Index (GOHAI,1990)[6]. Randomizedandlongitudinal research consistently demonstrates that properly fitted and maintained dentures enhance oral health-related quality of life (OHRQoL), and that implant-supported overdentures typically surpass conventional complete dentures in patient-reported results [9, 14, 20, 22]. Significantly, patient satisfaction with dentures has only a weak connection to the technical quality rated by clinicians, highlighting the crucial importance of comfort, function, and aesthetics as perceived by patients [14]. Factors indicating poor adaptation after insertion involve unrealistic expectations before treatment, depression, cognitive difficulties, significant ridge loss, and past negative experiences with dentures; organized pre-insertion counseling and regular early follow-up appointments are linked to improved results [23, 22, 40]..

7. DENTURE HYGIENE AND MAINTENANCE

Although it plays a crucial role in the long-term success of prosthetics, denture hygiene is often the aspect of post-insertion care that is done poorly, especially among older
adults who are dependent and in institutions [10, 26]. Poor hygiene is the main changeable factor behind denture stomatitis and is also involved in the development of aspiration pneumonia in vulnerable elderly individuals [30, 34, 36].

7.1 Mechanical Cleaning

Mechanical cleaning using a denture brush and a non-abrasive cleanser specifically for dentures continues to be the essential element of everyday hygiene [17, 26]. Standard toothpaste—especially abrasive whitening types—harm denture-base acrylic and should be avoided. Brushing must focus on both sides of the denture, along with the palate and the top of the tongue, which serves as a significant reservoir for Candida species..

7.2 Chemical Cleansers

Chemical denture cleansers consist of alkaline peroxides, alkaline hypochlorites, neutral peroxides containing proteolytic enzymes, diluted organic acids, and chlorhexidine-based disinfectants. A Cochrane systematic review found that chemical soaking paired with mechanical brushing led to more significant reductions in denture biofilm compared to mechanical brushing alone, with no individual cleanser definitively superior [17]. Effervescent peroxide tablets are commonly utilized but must be employed according to the manufacturer's guidelines, as extended immer sion can damage base resins. Sodium hypochlorite diluted (1:10) is very effective against biofilm but can corrode metal parts and might lighten denture colors; thus, it should be restricted to acrylic-only prostheses, applied for short durations, and rinsed well.

7.3 Nocturnal Wear and Storage

Wearing dentures continuously (24 hours) is one of the most frequently noted risk factors for denture stomatitis and has been associated, in extensive epidemiological studies, with a significantly heightened risk of pneumonia in the elderly population [33]. Consequently, patients need to be advised—and caregivers in long-term care must be educated—to take out dentures at night and keep them in water or a suitable disinfectant solution. Dry storage is not recommended since it causes dimensional alterations in acrylic resins.

7.4 Hygiene in Institutional and Long-Term Care

Numerous studies have shown poor denture hygiene in long-term care facilities, caused by staff time constraints, insufficient oral-health education, difficulties in communication with cognitively impaired residents, and lack of clear institutional guidelines [10]. A randomized controlled trial by Frenkel

and associates demonstrated that organized caregiver training programs enhance denture and oral hygiene results for elderly individuals in institutions [10]. Later recommendations have emphasized the nece ssity of including oral-
health evaluation and treatment in standard nursing routines within residential environments [37].

Table 2: *Comparison of Common Denture Hygiene Methods*

Method	Mechanism	Reported Effectiveness	Limitations
Mechanical brushing	Physical disruption of biofilm	Effective when daily and thorough	Abrasion if rough brush / toothpaste used
Alkaline peroxide	Effervescent oxygen release	Reduces biofilm; better when combined with brushing	Limited efficacy against mature biofilm
Sodium hypochlorite (dilute)	Strong oxidant; antimicrobial	Highly effective against Candida and bacteria	Corrodes metal components; may bleach pigments
Chlorhexidine immersion	Cationic antiseptic	Antimicrobial; reduces stomatitis	Staining; reduced efficacy over time
Enzymatic cleansers	Proteolytic breakdown of biofilm	Useful adjunct	Variable efficacy across formulations

8. NUTRITIONAL CONSEQUENCES OF DENTURE WEAR

Nutritional status is both a factor and an outcome of prosthetic success in elderly individuals. Decreased masticatory
efficiency, especially due to poorly fitting dentures, correlates with lower consumption of fruits, vegetables, fiber, and protein, along with a greater dependence on soft, calorie-dense foods that provide limited nutritional benefits [25]. Older adults who are edentulous or wear dentures face a higher risk of malnutrition compared to those with natural teeth [29]. Significantly, findings from a randomized controlled trial conducted by Bradbury and associates indicated that merely supplying well-fitting dentures, without dietary counselling, did not consistently enhance fruit and vegetable consumption; the inclusion of systematic nutritional counselling was essential for achieving notable dietary progress [28]. Effective intervention thus necessitates integrated input from prosthodontics and dietetics, typically organized via gen eral medical practitioners or geriatric clinics [37].

9. MANAGEMENT STRATEGIES FOR POST-INSERTION CARE

9.1 Structured Recall Protocols

While the ideal recall timeframe continues to be discussed among specialists, guidelines from the American College of Prosthodontists support a systematic post-insertion recall that includes initial adjustment appointments and
a yearly comprehensive evaluation, with timeframes tailored to individual risk factors [26, 40].
Recall appointments must focus on evaluating mucosal health, denture fitting and
occlusion, reinforcing hygiene practices, and screening for oral cancer, which is notably prevalent among older adults and can occur under a denture [32].

9.2 Relining, Rebasing, and Soft Liners

As residual ridges undergo resorption, the denture base gradually becomes misaligned with the supporting tissues, leading to instability, food retention, and trauma to the tissues [1]. Chairside or laboratory hard relines enhance fit to the tissues, while soft liners (silicone-based or plasticized acrylic) are beneficial for patients with thin atrophic mucosa or ongoing post-

insertion discomfort. Soft liners, nonetheless, need more stringent hygiene oversight due to their increased vulnerability to colonization by Candida species [20, 26]. Tissue conditioners are temporary substances used to enable inflamed mucosa to recover prior to final impressions or relining.

9.3 Denture Adhesives

Initially regarded with doubt by certain prosthodontists, denture adhesives are now broadly acknowledged as a valid addition for specific patients—especially those with significantly resorbed ridges, xerostomia, or transitional requirements [26]. Adhesives should not replace a well-fitting prosthesis or relining when necessary, and proper daily removal and hygiene must be kept up.

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9.4 Implant-Retained Overdentures

The consensus statements from McGill (2002) and York (2009) recognized the two-implant mandibular overdenture as the preferred standard treatment option for edentulous mandibles [12, 24]. Following systematic reviews and meta-analyses have verified enhancements in retention, chewing efficiency, patient satisfaction, oral health-related quality of life, and—by preserving alveolar bone—sustained ridge maintenance over time, when compared to traditional complete dentures [14, 20, 22]. Advanced age by itself does not disqualify patients from implant therapy; choices should consider overall health, financial factors, the technical requirements for maintaining the implants, and patient choice [40].

9.5 Patient and Caregiver Education

Educational initiatives—conducted in person, in written form, and via demonstration—enhance hygiene practices and lessen mucosal issues [10, 37]. The most successful interventions involve repetition, various methods, and support from caregivers and family. Written guidelines must consider varying levels of health literacy and visual impairments among older adults, and demonstrations should, when feasible, be viewed during recall appointments.

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9.6 Denture Marking

Denture marking is advised for patients in institutions and those with cognitive impairments, as it aids in identification (to avoid loss and confusion between residents) and facilitates radiographic localization when aspiration occurs. Techniqu es vary from surface etching to embedding radio-opaque markers into the denture base.

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Table 3: *Evidence-Supported Management Strategies and Their Indications*

Strategy	Indication	Key Considerations
Structured recall	All denture wearers	Early adjustment + annual review; risk-stratified [26]
Hard reline / rebase	Loss of fit due to ridge resorption	Confirm occlusion; reassess hygiene
Soft liner	Atrophic mucosa, chronic soreness	Closer Candida monitoring required
Tissue conditioner	Inflamed mucosa pre-impression	Short-term only; replace 2–4 weekly
Denture adhesive	Severe RRR, xerostomia, transitional	Not a substitute for fit; daily removal
Implant overdenture	Edentulous mandible (first choice)	Assess medical fitness and finance [12, 24]

Topical antifungals	Candidal denture stomatitis	Disinfect denture surface concurrently
Caregiver education	Institutional / dependent care	Repeated, multimodal, reinforced [10, 37]
Denture marking	Institutional, cognitively impaired	Radio-opaque preferred for aspiration risk

10. SPECIAL CONSIDERATIONS IN COMMON COMORBIDITIES

10.1 Patients with Dementia and Cognitive Impairment

Dementia complicates every aspect of post-insertion treatment. Patients might neglect to take out their dentures, decline help with oral hygiene, misplace their dentures, or accidentally inhale them. With the decline of cognitive function, the aims of prosthodontic care gradually change from rehabilitation to the preservation of comfort, nutrition, and dignity [37, 40]. Choices about offering, maintaining, or streamlining dentures should be made together with family and caregivers and reassessed as the illness advances. Behavioural strategies—known caregivers, tranquil settings, gentle methods, and reduction of excessive visits—enhance compliance.

10.2 Patients with Parkinson's Disease

Parkinson's disease causes tremors, stiffness, slowness of movement, and decreased manual dexterity, which all make denture placement and removal, daily cleaning, and stability during use more difficult. Modified toothbrush handles, electric toothbrushes, and caregiver support with personal care are useful supplements. Drooling and difficulty swallowing, prevalent in late-stage illness, elevate the likelihood of aspiration from displaced prostheses.

10.3 Patients Following Stroke

Individuals who have survived a stroke may exhibit hemiplegia, dysarthria, dysphagia, and cognitive impairments [30, 34]. The placement of dentures shortly after a stroke is typically postponed until neurological condition stabilizes. Altered prosthetic designs—heavier lower dentures, posterior teeth positioned toward the tongue, and adjusted flange shapes—support compensation for remaining neuromuscular deficiencies. Therapy for speech and swallowing should be aligned with prosthodontic treatment.

10.4 Patients with Diabetes Mellitus

Uncontrolled diabetes mellitus is linked to increased occurrences of denture stomatitis, oral candidiasis, slow mucosal healing, and xerostomia [13, 18]. The focus is on glycaemic optimization, enhanced denture hygiene, regular follow-ups, and swift treatment of any mucosal lesions.

10.5 Patients with Xerostomia and Sjögren's Syndrome

Xerostomia is a key clinical factor affecting the comfort and retention of dentures [13, 18]. Management includes recognizing and, if feasible, decreasing causative medications, promoting hydration, suggesting sugar-free chewing aids if dental condition permits, evaluating salivary substitutes, and—in certain patients—prescribing sialogogues, while also using denture adhesives carefully. Soft liners might enhance comfort compared to thin atrophic mucosa.

10.6 Frail and Institutionalised Older Adults

Frailty, characterized by diminished physiological reserves and increased susceptibility to stressors, shifts the risk–benefit analysis of denture care. Easier denture methods, mobile dental care for those unable to leave home, and incorporation with thorough geriatric evaluations are gaining more support [37, 40].

11. DISCUSSION

This review compiles evidence from essential and modern literature regarding post-denture-insertion care in elderly patients. Multiple conclusions can be made with a fair degree of certainty. Initially, post-insertion mucosal issues—especially denture stomatitis—are frequent, mainly involve Candida species linked to inadequate hygiene
and prolonged denture use, and can be significantly altered through behavioral and
pharmacological measures. Secondly, structured
recall enhances results by facilitating the early identification and handling of complications [26]. Third, two-implant mandibular overdentures are evidently better than conventional complete dentures regarding retention, masticatory efficiency, and patient-reported outcomes in appropriately selected patients [12, 20, 24, 22]. Fourth, the quality of life related to oral health is more significantly influenced by the comfort, function, and aesthetics perceived by patients than by the technical quality assessed by clinicians, highlighting the importance of patient-centered care [14]. Fifth, the participation of caregivers is essential for dependent and institutionalized groups and serves as a significant leverage point for enhancing system-wide performance [10, 37].

Many problems, nonetheless, continue to be debated or insufficiently examined.

The ideal recall period differs among guidelines. The comparative effectiveness of particular chemical denture cleaners, the recommended guidelines and indications for soft liners, and the criteria for shifting to implant therapy in elderly or frail patients all exhibit significant variability across studies [17]. Rigorous randomized trials involving frail and cognitively impaired elderly individuals are rare due to ethical, logistical, and practical difficulties, with the majority of outcome information coming from observational studies focused on relatively healthy older adults. The involvement of caregivers, socioeconomic status, and health literacy are often not reported, despite being key factors influencing outcomes [38, 39].

12. FUTURE DIRECTIONS

The literature examined reveals multiple priority areas. Initially, the standardization of outcome measures—especially the diagnostic criteria for denture stomatitis and the validated patient-reported tools for OHRQoL [6, 7, 11]—would enhance comparability among studies. Secondly, additional high-quality intervention studies are necessary to assess caregiver-focused training programs and the incorporation of oral-health evaluations into standard geriatric and nursing care [10, 37]. Third, there is a need for additional assessment of the long-term results and cost-efficiency of digital and tele-prosthodontic processes in elderly and home-bound groups. Fourth, acknowledging that oral health is essential for healthy aging promotes better integration of prosthodontic services with geriatric, nutritional, and palliative care [35, 38, 39, 37]. Ultimately, significant inequalities are present in access to prosthodontic services for older adults; interventions at the policy level are crucial additions to clinical advancements [38, 39].

13. CONCLUSION

Post-denture insertion care in elderly patients is a clinically challenging and increasingly significant area of modern prosthodontic practice. The long-term success of removable prosthetic rehabilitation is defined during the post-insertion period, rather than during the actual fabrication of the denture. Aging individuals exhibit a combination of biological, behavioral, and contextual difficulties that interact in unforeseen ways, necessitating a long-term, multidisciplinary, and patient-focused strategy.

This review has highlighted the main recurring themes in the existing literature: mucosal issues primarily characterized by denture stomatitis, functional adjustments related to chewing, speaking, and swallowing, psychosocial factors and quality-of-life impacts, the crucial significance of denture cleanliness, nutritional effects, and the unique management challenges posed by prevalent comorbidities and frailty. Management strategies backed by evidence—organized recall, mechanical and chemical cleanliness, nighttime denture removal, relining and soft liners, careful application of adhesives, topical antifungal treatment, implant-supported overdentures for the toothless mandible, education for caregivers, and denture labeling—are accessible and should be utilized based on risk stratification. The

evidence is strong in certain fields (denture stomatitis, mandibular overdentures, OHRQoL) but weak in others (treatments for very frail and cognitively impaired elderly individuals). Future studies and clinical practices must focus on standardised outcomes, equal access, and collaboration with geriatric medicine. In the end, the effectiveness of post-insertion care is evaluated not just by the technical excellence of the prosthesis, but also by the comfort, functionality, dignity, nutrition, and overall quality of life of the elderly patients treated by the prosthodontist.

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