International Journal of Mental Health Nursing

WILEY

International Journal of Mental Health Nursing

REVIEW ARTICLE OPEN ACCESS

Exploring Oral Health Promotion Among Mental Health Providers: An Integrative Review

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Received: 28 September 2024 | **Revised:** 9 January 2025 | **Accepted:** 19 January 2025

Funding: The authors received no specific funding for this work.

Keywords: guideline | knowledge | mental disorder | mental health | oral health | practice

ABSTRACT

Individuals living with mental illness can experience dire oral health and face numerous barriers to oral health care. While mental health providers are important in oral health promotion, there is a major gap in knowledge on their oral health knowledge, attitudes and practices and guidelines/recommendations for best practice. This integrative review addresses this gap by synthesising evidence on mental health providers oral health knowledge, attitudes and practices and available clinical guidelines/recommendations. Searches were undertaken across six databases, supplemented with grey literature searches. The inclusion criteria were mental health providers, including nurses, doctors and allied health providers. Articles or guidelines/recommendations were excluded if they primarily related to drug and alcohol or substance use and eating disorders. A total of 16 studies and five guidelines/recommendations were included (20 were of high-moderate quality). Mental health providers were receptive to playing a role in oral health promotion and screening and this was supported by guidelines/recommendations. However, current practices of mental health providers in promoting oral health are fragmented and inconsistent due to various barriers: limited knowledge, education, and training, lack of collaboration with dental services, heavy workloads, time constraints and challenging client behaviours. This review highlights an urgent need to strengthen supports for mental health providers to promote oral health with professional development in oral health, more detailed clinical practice guidelines, brief and user-friendly oral health screening tools and streamlined dental referral pathways.

1 | Introduction

Mental illness can affect a person's cognition, emotional regulation and behaviour causing relational distress. While potential impacts on people's functioning is documented (American Psychiatric Association and Association 2013, World Health Organization 2022), there is growing awareness of the complex interplay between mental illness and dire oral health outcomes (Skallevold et al. 2023).

Globally, poor oral health for those living with mental illness is a significant intractable problem that is resistant to resolution. There is agreement that a multidisciplinary approach to oral health care is central in improving outcomes for people living

with mental illness (Skallevold et al. 2023), but little guidance on how this can be achieved (Tiwari et al. 2022).

Psychotropic medications used in the treatment of mental illness can cause hyposalivation and bruxism leading to dental caries and damage to the tooth structure and temporomandibular joint (Samaras 2016; Johnson et al. 2024). Anhedonia and lack of motivation, as a result of mental illness, can impact self-care such as toothbrushing (Vancampfort et al. 2015), resulting in a higher risk of tooth loss and oral health diseases such as dental caries (Kisely et al. 2011; Cockburn et al. 2017).

In a recent systematic review (Johnson et al. 2024), poor diet, communication issues, limited knowledge of preventative dental practices and dental anxiety among those with mental illness were major contributing factors to poor oral health. Additionally, costly dental care, long waitlists for public dental health services, lack of private health insurance and the lack of a universal dental health care scheme can have a major impact on this group (Ho et al. 2018; McKibbin et al. 2015; Kuipers et al. 2018).

There is increasing recognition of the link between poor oral health and systemic inflammation, particularly among those living with mental illness (Skallevold et al. 2023). Cardiovascular disease, diabetes, respiratory diseases and some cancers are common in this population, and the link between comorbid physical health issues, mental illness and dire oral health outcome is increasingly documented (Pizzol et al. 2023; Skallevold et al. 2023).

The global strategy and action plan on oral health 2023–2030 highlights the critical importance of the non-dental workforce in addressing poor global oral health (World Health Organization 2024). While non-dental providers have been shown to be cost effective for health services (Tannous et al. 2021) and acceptable, feasible and effective in oral health education, screening and referrals in people with diabetes (Poudel et al. 2018a), cardiovascular disease (Sanchez et al. 2018), stroke (Ferguson et al. 2020) and pregnant women (George et al. 2018) far less is known about non-dental providers, oral health and people living with mental illness (Tiwari et al. 2022). Older studies (Khokhar et al. 2011; De Mey et al. 2016) have shown that education and training of mental health care providers may positively impact oral health knowledge among people with mental illness. There are, however, no robust reviews of published studies or clinical guidelines/recommendations on oral health knowledge, attitudes, practices and barriers impacting the provision of oral health care by mental health providers. This review addresses this gap, with knowledge derived from this review critical in enacting the global strategy and action plan on oral health (World Health Organization 2024).

2 | Aim

The aim of this integrative review was to synthesise the literature, including clinical guidelines/recommendations, on mental health providers oral health knowledge, attitudes and practices in the provision of oral health care.

The following questions guided this review:

1. What is the knowledge, attitudes and practices of mental health providers regarding oral healthcare for people living with mental illness?
2. Are there current guidelines and/or recommendations available regarding oral health care for mental health providers?

3 | Definition of Terms

For this review 'mental health provider' was used to include non-dental practitioners that provide direct mental health care to people with a mental illness, including nurses, doctors, occupational therapists, social workers, diversional therapists and support workers. 'People living with mental illness' included any person with a clinical diagnosis of a mental illness or mental disorder.

Knowledge included understanding and awareness of oral health and mental illness, including complications and impact of prescribed medication, knowledge of oral hygiene and causes of poor oral health.

Attitudes referred to mental health providers perceptions towards oral health, including barriers, acceptability and feasibility of incorporating oral healthcare within their practice.

Practices included actions to maintain oral health: tooth brushing frequency, type of tooth brushing aids, dental visits and oral health promotion activities that mental health providers may engage in.

4 | Methods

The review methods were consistent with Souza et al. (2010) and included developing the review question and search strategy, identifying relevant studies, quality assessment and summarising and interpreting the evidence. Consistent with others (Saraswat et al. 2020), in the absence of specific reporting guidelines for integrative reviews, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement and reporting checklist was used (Page et al. 2021). The review protocol is registered with the International Prospective Register of Systematic Reviews (PROSPERO) (registration ID-CRD42023467194).

4.1 | Eligibility

Studies that met the following criteria were included: published in English, included mental health provider/s, and explored at least one of the study outcomes (knowledge, attitudes and/or practices towards oral health), or guidelines and recommendations regarding oral health care of people living with a mental illness. All study types were eligible for inclusion to ensure a breadth of evidence was captured. No restrictions were placed on year, quality, or setting of study or guideline/recommendations. Studies that included mental health providers providing care for

only a population with a singular diagnosis of alcohol or substance use, intellectual disability or behavioural and psychological symptoms of dementia were excluded due to the additional oral health complexities associated with these comorbidities. Studies focused on mental health providers caring for people experiencing eating disorders were excluded due to the additional oral health complications that arise secondary to this disorder.

4.2 | Search Strategy

An initial systematic search of all literature published up until October 2023 was undertaken in consultation with a university librarian. A second search was undertaken in July 2024 to capture studies published between October 2023 and July 2024. Various search strategies were employed in six databases (PubMed, MEDLINE, PsychINFO, CINAHL, ProQuest and Scopus). Grey literature searches were conducted in the Bielefeld Academic Search Engine (BASE), EMBASE, the Cochrane Library, Google, Google Scholar and ProQuest Dissertations and Theses, the conference papers index (via ProQuest) and Scopus. Keywords used in the search included: Mental illness*, mental disorder, psychiatry, oral health, oral health care, oral hygiene, dental care, mouth care, attitude*, perception, experience, awareness, guideline and recommendation and an English language filter was applied. Data-specific index terms were used with terms combined using 'Boolean' operators. Reference lists of included studies were hand-searched. Search results were imported from Endnote bibliographic software into the Cochrane systematic review management programme, Covidence. Duplicate references and the screening process was managed in Covidence. Titles and abstracts of studies were assessed by two separate investigators (AG, AJ) against the inclusion and exclusion criteria. Full texts were screened by separate investigators (AG, AJ, AK) with any discrepancies resolved with team discussion. The selection process and final included studies are illustrated in Figure 1.

4.3 | Quality Assessment

The Joanna–Briggs Institute (JBI) critical appraisal checklist aligned with each study approach was used including the checklist for qualitative research (Lockwood et al. 2015), checklist for analytical cross-sectional studies (Moola et al. 2020) and checklist for quasi-experimental studies (Tufanaru et al. 2020). The AGREE II checklist (AGREE Next Steps Constorium 2017) was used to assess the methodological quality of included guidelines and recommendations. Three investigators (AJ, LR, TR) independently scored the studies by assigning 1 point for each applicable item. If the item was not met, then the item received 0. A third author (AG) was consulted to resolve any discrepancies. Once consensus was established, the overall quality was rated as poor (0%–59%), moderate (60%–79%) and high (80%–100%) (Goldsmith et al. 2007). No articles or guidelines/recommendations were excluded based on quality appraisal.

4.4 | Data Summary and Interpretation

Data extraction was completed on all included articles using a form developed by the team that included author, year of publication, country, study characteristics (including study design, method, sample size and participant demographics), study findings and quality assessment rating (Table 1). Due to the lack of homogeneity of studies, meta-analysis was not possible. Included articles were read and reread with codes generated using a hybrid inductive and deductive approach (Swain 2018). Codes were grouped into sub themes and themes using guidelines for thematic synthesis (Swain 2018; Thomas and Harden 2008). A second investigator (AG) reviewed and a team meeting was held to explore interpretations and finalise the themes. Four broad themes, supported by direct quotes, were developed (Table 2): oral health knowledge, oral health attitudes, oral health practices and barriers. The guidelines and expert consensus statement were thematically analysed into a separate group.

5 | Results

A total of four guidelines, one expert consensus statement, and 16 articles were included. The articles were published between 1992 and 2024 from Australia ($n=5$), Brazil ($n=1$), Germany ($n=1$) Netherlands ($n=3$), Nigeria ($n=1$), Saudi Arabia ($n=1$), United Kingdom (UK) ($n=1$) and the United States (USA) ($n=3$). The guidelines and expert consensus statement were published between 2000 and 2020 from Australia/New Zealand ($n=2$), Canada ($n=1$) and the UK ($n=2$). The sample size of the studies ranged from 4 to 643, and included doctors, nurses, peer workers and allied health professionals.

Of the 16 studies, 5 were quantitative, 5 qualitative and 6 mixed methods. The quality of most studies was assessed as high ($n=12$) and moderate ($n=4$) quality (Table 2). Three of the guidelines and one expert consensus statement, were assessed as high/moderate quality, with one assessed as low quality (Table 3).

6 | Limited Oral Health Knowledge

In seven studies (Ashour 2020; Kuipers et al. 2023; Scrine et al. 2018; Wieland et al. 2010; Lapidos et al. 2022; Guerra et al. 2023; De Mey et al. 2016), authors examined oral health knowledge of which three (Ashour 2020; Lapidos et al. 2022; De Mey et al. 2016) were quantitative and the rest qualitative (Kuipers et al. 2023; Scrine et al. 2018; Wieland et al. 2010; Guerra et al. 2023).

6.1 | Recommended Oral Hygiene Practices

In one study, with oral hygienists and mental health nurses, most participants (77.8%) were knowledgeable about best practice for toothbrushing and that brushing twice daily was recommended for optimal oral hygiene (De Mey et al. 2016). However, fewer participants were aware that toothpaste should always contain fluoride (44%–66%) (De Mey et al. 2016). In a study with psychiatric residents, they described having limited knowledge about oral health and what to speak about with people in this area (Guerra et al. 2023).

Participants expressed a lack of awareness around referring people to the dentist, expressing that it is not a frequent practice, unlike referring to other medical specialities (Guerra et al. 2023):

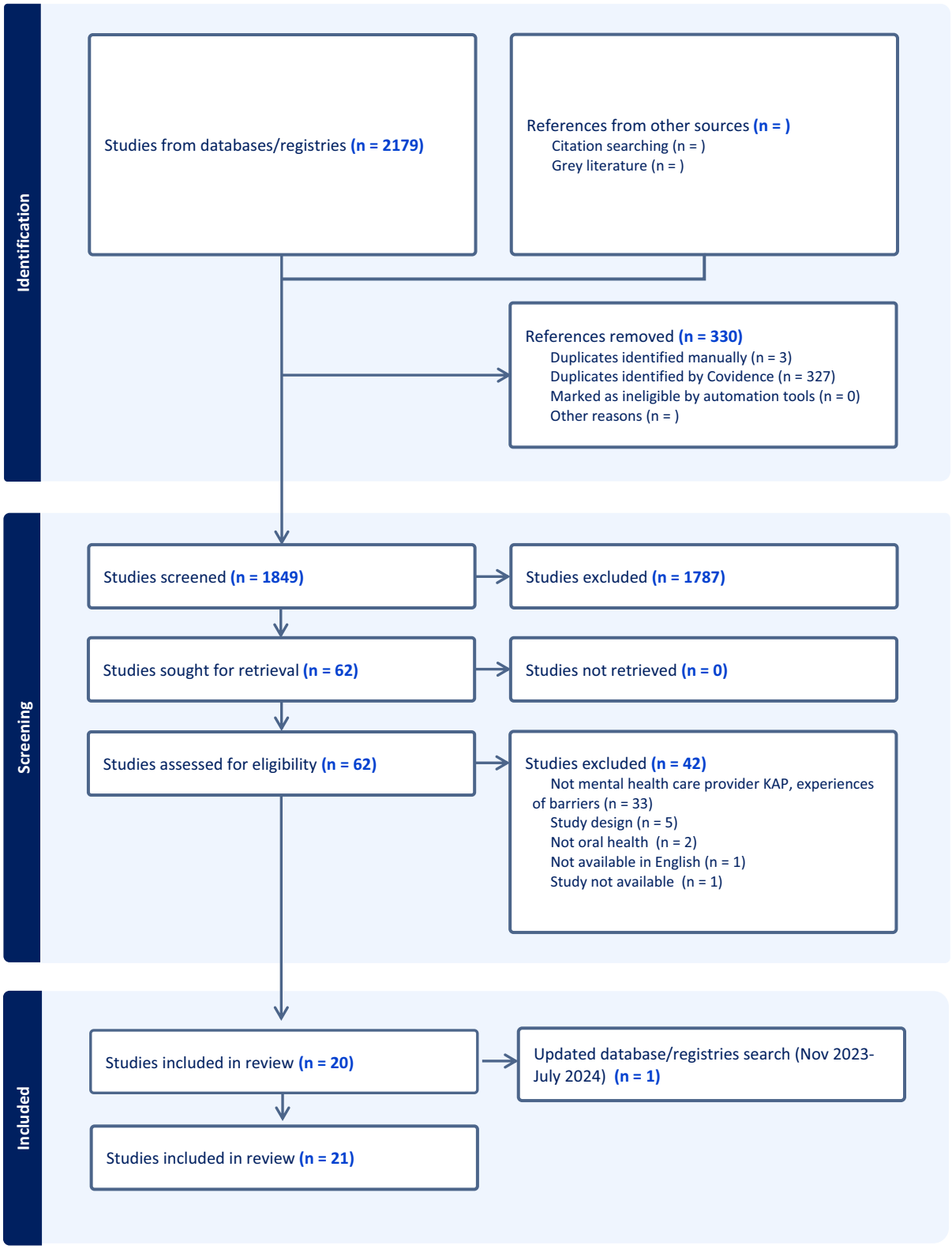

FIGURE 1 | PRISMA diagram.

> It is extremely common, for example, for me to refer a patient with schizophrenia to the gynaecologist for the first time … Whereas for the dentist … does not happen so frequently.
>
> (Guerra et al. 2023)

6.2 | Oral-Systemic Health Link

In two studies, (Ashour 2020; Kuipers et al. 2023) with mental health nursing staff, low levels of knowledge of how poor oral health can affect overall general health were reported. In one of these studies ($n = 247$) (Ashour 2020) very few (4.5%) participants

TABLE 1 | Demographics.

Author, year of publication	Country	Design and method	Sample size/ Setting	Years of experience (years)	Age in years (range)	Gender (%)	Profession
Ashour (2020)	Saudi Arabia	Quantitative Cross-sectional survey	$N=247$	$<5=20.6\%$ $5–10=44.6\%$ $>10=34.8\%$	NR	M = 55% F = 45%	Nurses = 40% Nurse technicians = 60%
Azodo et al. (2012)	Nigeria	Quantitative Cross-sectional survey	$N=136$	$<10=39.3\%$ $\geq 10=60.7\%$	$\leq 30=14.7\%$ $31–40=44.9\%$ $41–50=27.9\%$ $>50=12.5\%$	M = 35.3% F = 64.7%	Nurses = 100%
Blinkhorn et al. (2012)	Australia	Mixed-methods Pre-post test	NR	NR	NR	NR	Nurses
De Mey et al. (2016)	Netherlands	Quantitative Pre-post test Pre-post test design	$N=27$	NR	NR	NR	Nurses = 27
Fornefeld et al. (2024)	Germany	Mixed-methods Cross-sectional	$N=52$	$<5=1.9\%$ $5–10=3.8\%$ $11–15=13.5\%$ $16–20=19.2\%$ $20\geq 61.5\%$	$35–44=9.6\%$ $45–54=21.2\%$ $55–64=57.7\%$ $>65=11.5\%$	M = 26.9% F = 73.1%	Psychiatrist = 52
Happell et al. (2015)	Australia	Mixed-methods Cross-sectional	$N=643$	NR	NR	NR	Nurses
Kuipers et al. (2023)	Netherlands	Qualitative	$N=19$	0–34	22–54	M = 21% F = 79%	Nurses = 18 Student mental health nurse = 1
Lapidos et al. (2022)	USA	Quantitative Pre-post test	$N=113$	NR	18–74	M = 21% F = 76%	Community workers = 53 Peer providers = 44 Dually certified community worker and peer provider = 13 Other = 3
Guerra et al. (2023)	Brazil	Qualitative	$N=7$	NR	NR	M = 57% F = 43%	Psychiatry residents = 7
McGrath et al. (2021)	Australia	Quantitative Cross-sectional	$N=141$	$<1=40.4\%$ $1–2=33.3\%$ $2–3=12.8\%$ $3–4=8.5\%$ $>4=5\%$	NR	NR	Community Rehabilitation Support Workers = 141

(Continues)

TABLE 1 | (Continued)

Author, year of publication	Country	Design and method	Sample size/ Setting	Years of experience (years)	Age in years (range)	Gender (%)	Profession
Mishu et al. (2022)	UK	Qualitative	*N* = 4	NR	31–50	M = 50% F = 50%	Mental Health Nurse = 2 Clinical psychologist = 1 Occupational therapist = 1
Scrine et al. (2018)	Australia	Qualitative Interviews	*N* = 9	NR	NR	NR	Social Worker = 4 Mental Health Nurse = 3 Psychologist = 1 Occupational Therapist = 1
Ter horst (1992)	Netherlands	Mixed-methods Cross-sectional survey	*N* = 61	NR	23–52	M = 57% F = 43%	Nurses
Wieland et al. (2010)	Australia	Mixed-methods Cross-sectional	*N* = 43	NR	NR	NR	Mental health staff (multidisciplinary)
Wright et al. (2021)	USA	Qualitative	*N* = 10	NR	NR	M = 60% F = 40%	Psychiatrists = 9 Psychiatric resident = 11
Murray (2012)	USA	Mixed methods Cross-sectional	*N* = 56	Nurse (average) = 18.3 Psychiatrist (average) = 27.6	Nurse (average) 53.7 Psychiatrist (average) 61.2 years	Nurse M = 11% F = 89% Psychiatrist M = 69% F = 31%	Nurse practitioners = 20 Psychiatrists = 36
Guideline/Recommendation							
National Institute for Heath and Care Excellence (2014)	UK	Guideline	N/A	N/A	N/A	N/A	N/A
Griffiths et al. (2000)	UK	Guideline	N/A	N/A	N/A	N/A	N/A
Registered Nurses' Association of Ontario (2020)	Canada	Guideline	N/A	N/A	N/A	N/A	N/A
Lambert et al. (2017)	Australia/ New Zealand	Expert consensus statement	N/A	N/A	N/A	N/A	N/A
Galletly et al. (2016)	Australia/ New Zealand	Guideline	N/A	N/A	N/A	N/A	N/A

Abbreviations: F, female; M, male; N/A, not applicable; NR, not reported; OH, oral health.

TABLE 2 | Findings of included studies.

	Findings				
Author (year)	**Limited OH knowledge**	**Varied attitudes towards OH**	**Inconsistent OH practices**	**Barriers to promoting OH**	**Quality assessment**
Ashour (2020)	**Oral-systemic health link**—4.5% were able to identify all oral abnormalities that affect systemic health with the majority of participants (62.2%) identifying gum disease only —8.1% identified reported all of patients at risk of mouth problems. Majority of participants (43.2%) identified HIV/AIDS **Impact of psychotropic medication**—Less than half of participants (41.4%) identified psychotropic medication to affect oral health —4.5% identified all the adverse effects on oral health of psychotropic medication. Majority of participants (47.3%) identified dryness of mouth as a side effect	**Prevalence and priority** *MHCP*—27.9% high importance—21.6% medium importance—9.0% low importance—17.1% equal importance—24.3% no importance —51.4% agreed that proper oral care is needed for the general health of patients—61.9% agreed that all patients should have an oral checkup on admission to hospital—62.7% that oral care should be done as often as possible during their hospital stay **Scope of practice**—31.6% agreed that it is a nurses responsibility to check the clients oral cavity—26.1% reported not my job—95% reported that they look for healthy teeth and gums to indicate a healthy mouth	**Provision of OH care** *Brush*—91% reported toothbrush *Cleaning material*—50.5% toothpaste—42.3% plain water—7.2% mouth rinse	**Poor consumer compliance and motivation** *Consumer compliance and safety* Problems while cleaning a patients mouth—29.7% uncooperative patients—18.9% tongue cleaning is unpleasant for some—5.4% tongue coating—25.2% patients may choke—23.4% reduced patient consciousness—34.2% Restricted mouth opening **Limited knowledge and training**—36.8% agreed that they have been given adequate training in providing oral health care—32.8% lack of training	High
Azodo et al. (2012)		**Prevalence and priority**—67.6% reported that patients had higher prevalence of dental problems compared to general population—1.2% perceived lack of benefit to patients—1.2% patient have more pressing problems	**Provision of oral health care**—94.1% reported assisting patients with cleaning their mouth—82.4% reported helping patients cleaning artificial teeth	**Constraints with healthcare systems** *Staffing and workload*—11.8% Inadequate number of nurses—10.6% Lack of time *Available resources*—43.5% Lack of materials **Poor consumer compliance and motivation** *Consumer compliance and safety*—74% Uncooperative patients—30.6% patient refusal of oral care—5.9% patient biting toothbrush—23.5% Patient refusal to open mouth—27.1% communication problems	moderate

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Blinkhorn et al. (2012)		**Scope of practice**—Not included within the nurse's job description		**Limited knowledge and training**—Nurses had little knowledge of oral health and relevance of good oral hygiene **Constraints with healthcare systems** *Available resources*—No agreed protocol on oral hygiene *Systems*—Storage of resident's toothbrushes was haphazard and timing of toothbrushing varied—Lack of oral hygiene equipment	high
De Mey et al. (2016)	**Impact of psychotropic medication**—81.5% identified dry mouth as a side effect of antidepressants.—59.3% answer correctly that one side effect of antipsychotics is dry mouth or excessive salivation and muscle stiffness **Recommended OH practices**—77.8% identified brushing twice a day for optimal oral hygiene—44.4% identified that toothpaste should always contain fluoride				high
Fornefeld et al. (2024)			**OH promotion and assessment** Discussed OH and OH examinations in their practice: Daily = 1.9% Once a week = 9.6% Once a month = 7.7% Rare and not regular 69.2% Never = 11.5% —Participants identified that they don't specifically inquiry about dental health. If though a consumer reported a dental report then they would address the concern.		High

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Happell et al. (2015)		**Prevalence and priority**—71.4% of participants identified oral dental conditions as being much worse than the wider community, followed by 26% somewhat worse than the wider community—Participants expressed that dental issues affected the client's mental health journey	**OH promotion and assessment** Giving people advice on oral health: Never = 8% ($n = 53$) Rarely = 34% ($n = 220$) Often = 32% ($n = 203$) Very often = 18% ($n = 114$) Always = 8% ($n = 53$)	**Constraints with healthcare systems**—Participants reported that dental problems an overlooked problem and that dental care was marginalised compared with other health problems and identified that although overlooked, poor dental health is more common than other physical health concerns *Dental services*—Public dental services have long wait times—Significant barrier to dental health expertise and treatment was cost and that clients experiencing oral health problems were younger and therefore missed out on dental resources	High
Kuipers et al. (2023)	**Oral-systemic health link**—Participants acknowledge their lack of knowledge regarding importance of oral health, oral health in mental health, oral health diseases and symptoms—Lack of oral health knowledge due to no oral health education in undergraduate Bachelor of Nursing program **Impact of psychotropic medication**—Participants acknowledge their lack of knowledge regarding medication and oral health	**Scope of practice**—4 participants stated that MHN's should include oral health in their care—2 participants stated that they felt their colleagues did not consider oral health care to be part of their job and that the role of family should be more prominent—Other participants did not think nurses were responsible for maintaining and increase oral health as part of their daily work.—Participants expressed that care is focused on clinical recovery and that oral health care is not considered part of recovery—Felt that every patient should perform their ADL, and little attention is paid to personal care	**Provision of oral health care**—All participants indicated that they currently do nothing to improve or maintain oral health in clients with a psychotic disorder—Identified that since oral health care is not asked about during intake processes, oral health care was acted on when problems arose	**Limited knowledge and training**—Lack of knowledge and awareness about oral care and this was a reason they did not know what to do **Constraints with healthcare systems** *Staffing and workload*—Not enough time with patients to include oral health care *Available resources*—Lack of oral health care materials (toothbrush/toothpaste), or did not know was available **Poor consumer compliance and motivation**—Felt that talking about oral health care to patients was perceived by patients as strange because patients expect to be treated for mental health problems *Consumer motivation*—Difficult to motivate patients to maintain or increase oral care	High
Lapidos et al. (2022)	**Recommended OH practices**—66% identified brushing with fluoride toothpaste as best way to prevent cavities	**Scope of practice**—93% agreed that community workers should provide information on oral health—23% reported planning to provide oral health topics		**Limited knowledge and training**—12% of participants reported feeling well prepared to provide oral health topics	High

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Guerra et al. (2023)	**Recommended OH practices**—Identified a lack of knowledge regarding exploring oral health with people—Participants identified a lack of knowledge regarding other specialities, and were unaware of where to refer people with oral health problems			**Limited knowledge and training**—Identified lack of oral health training in undergraduate studies **Constraints with healthcare systems**—Participants expressed that the dentist does not form part of a group of doctors that they usually would refer to (medical specialities) and there is limited communication with nonmedical areas—Participants reported a lack of understanding about the specialities and the different discipline in the field of health and therefore not understanding their role in the client's oral health	High
McGrath et al. (2021)		**Scope of practice**—51.8% agreed and 34.8% strongly agreed that supporting clients with their oral health needs should be part of their work—56.7% agreed, and 32.6% strongly agreed that support workers have a role to play in promoting oral health—32.6% disagreed, and 12.8% a strongly disagreed that including oral health promotion will have less time to address mental health needs –7.8% agreed and 5% strongly agreed that oral health education should only be provided by an oral health professional **Prevalence and priority**—53.2% agreed and 43.3% strong agreed that people living with SMI should be encouraged to visit an oral health professional regularly	**OH promotion and assessment**—56% indicated that they did not currently engage in oral health promotion activities when working with clients—Participants with higher self-rated knowledge and confidence were more likely to practice oral health promotion and perceived fewer barriers.	**Limited knowledge and training**—'Staff have insufficient knowledge about oral health': 34.5% neutral and 34% agree and 3.5% strongly agree with the statement—'Staff have insufficient knowledge about dental services' 26.2% neutral and 34.8% agree and 5% strongly agree with the statement **Constraints with healthcare systems** *Staffing and workload*—Not enough time when working with consumers': 29.8% neutral, 31.2% agree, 6.4% strongly agree *Available resources*—Staff have insufficient access to oral health resources: 31.9% neutral, 22.7% agree, 3.5% strongly agree **Poor consumer compliance and motivation** *Consumer motivation*—Consumers lack of interest: 22.7% neutral, 46.1% agree, 12.1% strongly agree	High

(Continues)

TABLE 2 | (Continued)

	Findings				
Author (year)	**Limited OH knowledge**	**Varied attitudes towards OH**	**Inconsistent OH practices**	**Barriers to promoting OH**	**Quality assessment**
Mishu et al. (2022)		**Scope of practice**—Identified that they could be trained to look out for their patient's oral health by flagging up any signs of a problem and referring the patient to receive appropriate care as well as making sure patients have, and understand importance of regular dental checks		**Constraints with healthcare systems**—Lack of integration of health services; services mostly deals with one aspect of a patients health, not working in coordination *Staffing and workload*—High caseloads and demand for mental healthcare, facilitating the patients in the other areas of their healthcare may not always be feasible with limited resources **Poor consumer compliance and motivation** *Consumer motivation*—Lack of motivation and lack of compliance by clients because even when there is perceived adequate support their nonconcordance would potentially prevent the service user from benefiting from the dental service	High

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Scrine et al. (2018)	**Impact of psychotropic medication**—Participants were aware of oral health implications of psychotropic medications and noted that clients rarely knew about these side effects and doubted that oral health complications were raised with the client when medications were being prescribed	**Prevalence and priority**—Participants acknowledged the need for health professionals to prioritise the oral health and care of people with poor mental health *Consumer*—clients generally did not prioritise their oral health—Clients may be aware of their poor oral health that they perceived it as irrelevant to their lives unless they were in pain, or felt powerless to do anything about it **Scope of practice**—Not necessarily their (mental health care providers) responsibility and could even be seen as intrusive or patronising (by clients)—Participants expressed those prescribing or dispensing medication were to ensure clients were informed and encouraged to attend to oral care—Participants identified the importance of strengthening the capacity of mental health professionals by ensuring they have a greater understanding of oral health and quality of life, and proving strategies for integrating oral health care into their work		**Limited knowledge and training**—Some participants believed that colleagues lacked understanding of the importance of addressing oral health with their clients **Constraints with healthcare systems**—Participants described the rigidity of the public system where missed (oral health) appointments meant long delays—Participants felt that without accessible dental health services it was very difficult or even pointless to support their needs—Attributed to by the siloed approach to peoples care among health professionals *Staffing and workload*—Lack of resources in mental health system with personnel expected to work with larger caseloads. Prioritise patients safety and risk mitigation as paramount over other health issues	High
Ter Horst (1992)		**Prevalence and priority**—74% nurses though that need for dental treatment was high in all or some of the patients who did not visit the dentist regularly		**Poor consumer compliance and motivation** *Consumer compliance and safety* Dentist visits—35% Lack of motivation—29% Dental fear—19% Mental retardation—15% Refusal	Moderate

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Wieland et al. (2010)	**Impact of psychotropic medication**—Mental health staff were generally unaware of the potential oral side effects of psychiatric medications	**Prevalence and priority** *MHCP*—24.4% rated oral health as a priority, in comparison with other areas which were rated between 43.9% and 97.5%—MHCP felt that patient's do not prioritise dental care *Consumer*—86% strongly agreed or agreed that patients were less likely to care for their teeth—60.1% strongly agreed or agreed that patients were more likely to cancel appointments **Scope of practice**—Staff did not consider oral and dental health as part of the mental health staff role—81.4% agreed or strongly agreed that identifying oral health needs was part of their role—48.8% felt proficient in identifying oral health needs of their patients and—76.7% wanted to improve these skills	**Provision of oral health care**—Mental health staff reported negative experiences when attending appointments with patients—79.1% had referred a patient to the dentist in the past 2 years	**Limited knowledge and training**—Not asking about dental and oral health **Constraints with healthcare systems** *Staffing and workload*—Competing clinical priorities *Dental services*—High cost of dental care—dental staff becoming frustrated with patients symptoms of mental illness, using complex language, overloading patients with information, demonstrating lack of understanding of patients cognitive deficits, expecting mental health staff to prompt patients daily with oral care, and communicating with mental health staff rather than directly with patients	Moderate
Wright et al. (2021)		**Prevalence and priority**—Low priority of dental care within practice **Scope of practice**—Perceived that oral health screening would not make a difference—Perception that psychiatrists believe that oral health is not a part of general or mental health	**OH promotion and assessment**—Felt that there was a lack of communication on oral health by psychiatrists—Psychiatrists identified that they do not screen for dental issues	**Limited knowledge and training**—They identified a lack of training about the role of oral health in mental health and the need to screen for oral diseases **Constraints with healthcare systems** *Staffing and workload*—Identified time as a barrier—Siloed aspect of oral health care **Poor consumer compliance and motivation** *Consumer OH knowledge*—Perceived that clients low education levels and lack of knowledge about importance of oral health affect their seeking dental care *Consumer fear*—Perceived clients as having dental anxiety and fear as a barrier *Symptoms of illness*—Perceived characteristics of mental illness were a barrier	High

(Continues)

TABLE 2 | (Continued)

Author (year)	Findings				Quality assessment
	Limited OH knowledge	Varied attitudes towards OH	Inconsistent OH practices	Barriers to promoting OH	
Murray (2012)			**Provision oral health care** NP's reported that they encourage patients to increase water intake (68.8%) followed by mouth rinses (56.3%) followed by sugar-free candy (43.8%) and visit dentist (43.8%) Psychiatrists reported that they encouraged increase water intake (65.7%) and sugar-free candy (65.7%), followed by mouth rinses (45.7%) and gums/candies containing xylitol (31.4%) **OH promotion and assessment**—Frequency that MHCP discussed side effects of dry mouth prior to prescribing a medication: NP's reported 44.4% discussed either always or often Psychiatrists 66.6% reported discussed ether always or often—Frequency that providers discussed problematic OH signs with patients: NP's = always 9.1% and often 9.1% Psychiatrist = always 0%, often 6.3% Frequency that providers assess OH of patients with mental health condition: NP's = reported 0% for always and 21% often Psychiatrists reported 0% for always, 3% often—100% of NP's and 76.5% of Psychiatrist assessed signs of oral health based on appearance of teeth		Moderate

Abbreviations: ADL, activities of daily living; MHCP, mental healthcare provider; NP, nurse practitioner; OH, oral health.

TABLE 3 | Findings of included guidelines and expert consensus statement.

Author (Year)	Promoting oral health in clinical practice	Undertaking oral health screening	Providing referrals and clinical follow-up	Quality assessment
Galletly et al. (2016) (guideline)	Recommendations relating to physical health of people with psychosis: Ensure that regular dental care is provided		Management plan should include clear information about who is responsible for implementing physical health care interventions (such as prescribing metformin, antihypertensive medication, organising dental care and/or consulting with a dietician)	Moderate
Griffiths et al. (2000) (guideline)	Provide oral health advice and support clients, families and carers, appropriate to their needs which address: – The oral health needs of clients – Dietary issues in the context of health eating for and general health – Techniques for plaque control and the maintenance of gingival and periodontal health Oral side effects of medications	Psychiatric health assessment to include oral health assessment: – Identify risk factors for oral health – Identify individual oral care needs – Develop a personal oral care plan – Appropriate oral hygiene equipment – Preventative measures – Need for and access to dental services Establish a dental input to multi-inter-disciplinary assessment where appropriate including: – Procedures for ensuring access to pain relief – Appropriate general and specialist dental services – Oral hygiene advice and support Support for health professionals and carers in oral care	Establish procedures for ensuring continuity of dental care on discharge from hospital	Low
Lambert et al. (2017) (expert consensus statement)	*Health professionals should work in partnership with people with enduring psychotic illness, families and carers.* This role may involve: Encouraging good dental hygiene and regular checkups	*Requirements for screening and detections*: The initial assessment should cover: Dental hygiene and dry mouth Within the initial assessment checklist, dentist is included under lifestyle factors	*Development of a management plan*: A comprehensive management should also include an annual dental assessment	High

(Continues)

TABLE 3 | (Continued)

Author (Year)	Promoting oral health in clinical practice	Undertaking oral health screening	Providing referrals and clinical follow-up	Quality assessment
National Institute for Health and Care Excellence (2014) (guideline)	Recommendation 7: Ensure frontline health and social care staff can give advice on the importance of oral health Recommendation 9: Commission training for health and social care staff working with children, young people and adults at high risk of poor oral health			Moderate
Registered Nurses' Association of Ontario (2020) (guideline)	Provide oral health advice and support clients, families and carers, appropriate to their needs which address: – The oral health needs of clients—Dietary issues in the context of health eating for and general health—Techniques for plaque control and the maintenance of gingival and periodontal health—Oral side effects of medications Recommendation 7.1: The expert panel suggests that health service organisations provide education to health providers that includes interactive hands-on training to identify and implement strategies and techniques that can be used when providing oral care to persons who are behaviourally complex	Psychiatric health assessment to include oral health assessment: – Identify risk factors for oral health – Identify individual oral care needs – Develop a personal oral care plan – Appropriate oral hygiene equipment – Preventative measures – Need for and access to dental services Establish a dental input to multi-interdisciplinary assessment where appropriate including: – Procedures for ensuring access to pain relief – Appropriate general and specialist dental services – Oral hygiene advice and support – Support for health professionals and carers in oral care		High

were able to identify all oral abnormalities that affect systemic health, with the majority of participants identifying that only gum disease affects systemic health. Only 8.1% could identify all systemic conditions/diagnoses as risk factors for oral problems, although 43.2% correctly identified people living with HIV/AIDS as an at-risk population (Ashour 2020).

In one study (Kuipers et al. 2023), with mental health nurses ($n = 19$), a lack of knowledge regarding why oral health was important for people living with mental illness was noted: 'I know that oral care is important, but I do not know why'.

6.3 | Impact of Psychotropic Medications

A lack of knowledge of the impact of psychotropic medication on oral health was common, particularly among mental health nurses (Ashour 2020; Kuipers et al. 2023; Scrine et al. 2018; Wieland et al. 2010; De Mey et al. 2016). In Saudi Arabia (Ashour 2020) ($n = 247$), less than half of participants (41.4%) identified that psychotropic medications affect oral health, with only 4.5% of participants able to identify all possible oral health adverse effects associated with psychotropic medications. In the Netherlands ($n = 27$), 81.5% of nurses could identify dry mouth as a side effect of antidepressant medication, with 53.3% correctly identifying one antipsychotic side effect: dry mouth, excessive salivation or muscle stiffness (De Mey et al. 2016).

7 | Oral Health Attitudes

Oral health attitudes were the focus of four quantitative, two qualitative and three mixed method studies (Ashour 2020; Azodo et al. 2012; Blinkhorn et al. 2012; Happell et al. 2015; Kuipers et al. 2023; Lapidos et al. 2022; McGrath et al. 2021; Mishu et al. 2022; Scrine et al. 2018; Ter Horst 1992; Wieland et al. 2010; Wright et al. 2021).

7.1 | Prevalence and Priority

There was acknowledgement that people living with mental illness experience poorer oral health (Azodo et al. 2012; Happell et al. 2015; Ter Horst 1992). In two studies, 68%–74% of nurses reported that people living with mental illness had high prevalence of dental problems and high dental treatment needs (Azodo et al. 2012; Happell et al. 2015; Ter Horst 1992). Poor oral health was described as very distressing for individuals, impacting their mental health journey and their 'ability to cope thereby worsening their depression/anxiety/illness' (Happell et al. 2015).

Mental health staff in Saudi Arabia (51.4%–62.7%) cited oral health care as central for general health and that all people with mental illness should have an oral checkup on admission to hospital and regular oral care during their stay (Ashour 2020). In Australia, nursing staff placed significant importance (96.5%) on regular dental visits for people living with a mental illness (McGrath et al. 2021).

7.2 | Scope of Practice

Among the cross-sectional studies (Ashour 2020; Wieland et al. 2010; McGrath et al. 2021; Blinkhorn et al. 2012) between 31.6% and 93% of participants agreed that mental health professionals should play a role in the oral health of people living with a mental illness including: oral health information (Lapidos et al. 2022) and identifying and supporting people with their oral health needs (Wieland et al. 2010; McGrath et al. 2021). In a study with nurses ($n = 247$), most (95%) would look for healthy teeth and gums to indicate a healthy mouth and about a third (31.6%) agreed it was a nurse's responsibility to check the client's oral cavity (Ashour 2020). These views were supported in four qualitative studies (Kuipers et al. 2023; Scrine et al. 2018; Blinkhorn et al. 2012; Mishu et al. 2022), with general awareness of oral health warning signs (Kuipers et al. 2023; Mishu et al. 2022) and the need to build the capacity of nondental staff identified as important to ensure greater oral health knowledge and understanding (Scrine et al. 2018). In contrast, authors (Scrine et al. 2018; Wieland et al. 2010; Blinkhorn et al. 2012) identified that some mental health professionals did not see oral health as their responsibility or role (Scrine et al. 2018; Blinkhorn et al. 2012). In Australian studies with mental health professionals, oral health was not rated as a high priority (Scrine et al. 2018; Wieland et al. 2010).

8 | Oral Health Practices

Oral health practices were explored in three quantitative studies (Ashour 2020; Azodo et al. 2012; McGrath et al. 2021) four qualitative studies (Kuipers et al. 2023; Mishu et al. 2022; Wright et al. 2021) and four mixed method studies (Fornefeld et al. 2024; Happell et al. 2015; Murray 2012; Wieland et al. 2010).

8.1 | Oral Health Promotion and Assessment

The practice of oral health promotion and assessment by mental health professionals was reported as inconsistent (Happell et al. 2015; Murray 2012; McGrath et al. 2021; Wright et al. 2021; Fornefeld et al. 2024), with between 42% (Happell et al. 2015) and 69.2% (Fornefeld et al. 2024) of mental health providers stating they rarely gave oral health advice or engaged in oral health promotion. In an American study (Murray 2012), few nurse practitioners (18.2%) or psychiatrists (6.3%) regularly discussed problematic oral health with people living with mental illness, but 44.4% of nurse practitioners and 66.6% of psychiatrists (66.6%) discussed dry mouth side effects when prescribing medication (Murray 2012). Psychiatrists and nurse practitioners recommended increasing water intake (65.7% and 68.8%, respectively) and sugar free candy (65.7% and 31.4%, respectively) (Murray 2012). In Australia, participants with high self-rater knowledge and confidence were more likely to practice oral health promotion activities (McGrath et al. 2021).

8.2 | Provision of Oral Health Care

Reported practices included assisting with teeth cleaning (91% (Ashour 2020)–94% (Azodo et al. 2012)), using toothpaste to

clean people's teeth (50.5%), followed by plain water (42.3%) and a mouth rinse (7.2%) (Ashour 2020). In an Australian study, the majority of participants (79%) had referred a person with mental illness to a dentist in the past 2 years, however, they reported negative experiences including lack of understanding from dental staff around cognitive deficits, delusions and anxiety and poor communication from dental staff to people with mental illness (Wieland et al. 2010). In a study from the Netherlands (Kuipers et al. 2023) nurses reported that oral health was not part of the intake process and that little was done to improve or maintain oral health for people living with a psychotic disorder: '[nurses] do not concern themselves with this, and when patients are admitted ...no attention is paid [to] oral health'.

9 | Barriers to Promoting Oral Health

This theme was identified across 13 articles (Ashour 2020; Azodo et al. 2012; Blinkhorn et al. 2012; Happell et al. 2015; Kuipers et al. 2023; Lapidos et al. 2022; Guerra et al. 2023; McGrath et al. 2021; Mishu et al. 2022; Scrine et al. 2018; Ter Horst 1992; Wieland et al. 2010; Wright et al. 2021) of which four were quantitative, six were qualitative and three were mixed methods. The sub themes included limited knowledge and training, healthcare system constraints and poor consumer compliance and motivation.

9.1 | Limited Knowledge and Training

Limited oral health knowledge and/or training was identified across 10 articles (Ashour 2020; Blinkhorn et al. 2012; Kuipers et al. 2023; Lapidos et al. 2022; Guerra et al. 2023; McGrath et al. 2021; Mishu et al. 2022; Scrine et al. 2018; Wieland et al. 2010; Wright et al. 2021). Reports of feeling well prepared to provide oral health education, including knowledge of dental services was low (12%–28%) in US (Lapidos et al. 2022) and Australian studies (McGrath et al. 2021). The limited focus in undergraduate studies on oral health was cited as a barrier in a Brazilian study: 'In undergraduate studies ... almost nothing about oral health? I think I may have had one or two classes' (Guerra et al. 2023). Mental health professionals indicated that they would appreciate any kind of oral health information that could be shared during their interactions with clients (Scrine et al. 2018).

9.2 | Constraints With Healthcare Systems

Healthcare system barriers to oral healthcare provision by mental health providers was identified in 10 articles (Azodo et al. 2012; Blinkhorn et al. 2012; Happell et al. 2015; Kuipers et al. 2023; Lapidos et al. 2022; McGrath et al. 2021; Mishu et al. 2022; Wieland et al. 2010; Wright et al. 2021; Guerra et al. 2023) including a lack of integration of health services, services only focused on one aspect of a person's health (Mishu et al. 2022) and a siloed, lack of interprofessional collaboration between different health disciplines (Scrine et al. 2018; Guerra et al. 2023; Wright et al. 2021):

Participants described a lack of integration of health services, feeling services mostly dealt with only one aspect of a person's health (Mishu et al. 2022) Participants identified a lack of interprofessional collaboration not only between different health disciplines, referring to a 'siloed' approach (Scrine et al. 2018; Wright et al. 2021), but also that oral health professionals were separate to the group of health professionals they would usually refer to (Guerra et al. 2023):

> Somebody goes to their psychiatrist and they get given medication for their mental health, but then their physical health is separate, a completely separate GP, and then their dental care again is completely separate, and diet is completely separate
>
> (Scrine et al. 2018)

Dental care was described as marginalised in health care, and despite high rates of poor oral health it is often the last aspect of peoples' needs that is addressed (Happell et al. 2015).

The health system was described as rigid where a missed dental appointment meant long delays and wait times. Without easily accessible dental services for people with mental illness it was difficult to support individuals' oral health needs (Scrine et al. 2018):

> People's lives can be so chaotic and their thought processes are so disorganised that things can get lost, and then ... because they missed that appointment [dental], it is like, 'Well, then you go to the bottom of the list' ... that expectation of people with chaotic lives to fit into that stream isn't always a good mix
>
> (Scrine et al. 2018)

Staffing and excessive workload for mental health professions was consistently identified (Azodo et al. 2012; Kuipers et al. 2023; McGrath et al. 2021; Mishu et al. 2022; Scrine et al. 2018; Wieland et al. 2010; Wright et al. 2021) with a lack of time (McGrath et al. 2021), or adequate number of nurses seen as barriers:

> We have about 30 min with a patient ... we also must check on medication, and symptoms ... no time to do something with oral health
>
> (Kuipers et al. 2023)

Large caseloads meant the priority was manly focussed on patient safety rather than oral health (Scrine et al. 2018).

Limited oral health resources were identified as a barrier in both hospital and community mental health settings (Azodo et al. 2012; Blinkhorn et al. 2012; McGrath et al. 2021; Kuipers et al. 2023). Low numbers of mental health professionals had adequate access to resources (26.2% (McGrath et al. 2021)–43.5% (Azodo et al. 2012)), such as toothbrush and toothpaste, or did not know if this was available (Kuipers et al. 2023; Blinkhorn

et al. 2012). A lack of storage options for storing inpatients oral hygiene equipment such as toothbrushes (Blinkhorn et al. 2012) was reported.

9.3 | Poor Consumer Compliance and Motivation

Various consumer related factors were reported as barriers to oral health provision by mental health providers (Kuipers et al. 2023; McGrath et al. 2021; Mishu et al. 2022; Ter Horst 1992; Wright et al. 2021; Azodo et al. 2012) including: lack of cooperation (29.7% (Ashour 2020)–74% (Azodo et al. 2012)), restricted mouth opening (34.2%), fear that person may choke (25.2%), tongue cleaning and coating being unpleasant for people (18.9%) (Ashour 2020), patient's refusal to oral care (23.5%–30.6%) and communication problems (27.1%) (Azodo et al. 2012). There was a view (Kuipers et al. 2023) that people receiving mental health care might think oral health discussions strange when they were being treated for mental health problems.

Authors (Lapidos et al. 2022; Happell et al. 2015; Mishu et al. 2022; Ter Horst 1992) stated that the ability of mental health providers to deliver oral health care was impacted by poor consumer motivation and consumers lack of interest in oral health. Lack of motivation was the main reason why people experiencing mental illness did not attend the dentist (35%) (Ter Horst 1992) with (60.1%) of participants in an Australian study indicating that people living with mental illness were more likely to cancel their dental appointments (Wieland et al. 2010). For people with mental illness, Australian researchers (Scrine et al. 2018) summarised a major barrier for mental health providers working with people with mental illness:

> I think dental is something that comes up a lot, but I think sometimes in the kind of pecking order of where things are, even though it's very important, it can often slip down because there are all these other sort of stresses and life crises going on that sort of need to be dealt with first
>
> (Scrine et al. 2018)

10 | Guidelines and Recommendations for Oral Health Care

In the four guidelines (Galletly et al. 2016; National Institute for Health and Care Excellence 2014; Griffiths et al. 2000; Registered Nurses' Association of Ontario (RNAO) 2020) and one consensus statement (Lambert et al. 2017) the oral health role of mental health providers in managing oral health care for people living with mental illness was documented.

10.1 | Promoting Oral Health in Clinical Practice

In two guidelines, the role of frontline health and social care staff in providing advice on the importance of oral health (National Institute for Health and Care Excellence 2014; Griffiths et al. 2000) and oral health support to clients, families and carers was reinforced, including techniques for plaque control and oral side effects of medications (National Institute for Health and Care Excellence 2014).

The clinical practice guidelines by the Royal Australian and New Zealand College of Psychiatrists (RANZCP), recommended that psychiatrists should ensure that regular dental care was provided to people with psychosis (Galletly et al. 2016) with the RANZCP expert consensus statement reinforcing that health professionals should work in partnership with people with an enduring psychotic illness, their families and carers, to ensure good dental hygiene and regular dental checkups (Lambert et al. 2017).

The guidelines and consensus statement included the need for education and support for mental health staff to provide oral health care. In two guidelines (National Institute for Health and Care Excellence 2014; Registered Nurses' Association of Ontario (RNAO) 2020) it was highlighted that organisations should provide interactive and hands-on education and training for health and social care staff working with people at risk of poor oral health (National Institute for Health and Care Excellence 2014; Registered Nurses' Association of Ontario (RNAO) 2020) including identifying and implementing strategies and techniques when working with people with mental illness (Registered Nurses' Association of Ontario (RNAO) 2020).

10.2 | Undertaking Oral Health Screening

Direction was provided on undertaking oral health screening in guidelines and the consensus statement (National Institute for Health and Care Excellence 2014; Griffiths et al. 2000; Lambert et al. 2017). In the UK, guidelines (National Institute for Health and Care Excellence 2014) recommended that oral health screening be included for all children, young people and adults at high risk of poor oral health. This includes people living with mental illness as a high-risk population group.

When psychiatric assessments are conducted, it was recommended that discussions with people with mental illness should include identifying oral health risk factors, screening and detection, identifying individual oral health needs, developing a personal oral care plan, ensuring appropriate oral hygiene equipment, preventative measures and identification and access to dental services (Griffiths et al. 2000; Lambert et al. 2017). Establishing dental input as part of interdisciplinary teams was identified, which includes appropriate general and specialist dental services, oral hygiene advice and support for mental health providers and carers in oral care (Griffiths et al. 2000).

10.3 | Referrals and Clinical Follow-up

In the guidelines (Griffiths et al. 2000; Galletly et al. 2016) and consensus statement (Lambert et al. 2017) the need for oral health referrals and follow-up of people living with a mental illness was reinforced. Procedures should be established for ensuring continuity of dental care on discharge from a health service (Griffiths et al. 2000), and ongoing management plans which identifies clear information regarding who is responsible for organising dental care (Galletly et al. 2016). In the expert

consensus statement (Lambert et al. 2017) the need for a comprehensive oral health management plan, including an annual dental assessment, was confirmed.

11 | Discussion

This is the first integrated review to synthesise mental health providers oral health knowledge, attitudes, practices and clinical guidelines/recommendations. Key findings included variations in oral health knowledge among mental health providers, lack of knowledge of the impact of oral health on general health, and the effects of psychotropic medication. Oral health attitudes included acknowledgement that people with mental illness have poorer oral health, but mental health providers may not always prioritise it in practice. Oral health practices among mental health professionals were inconsistent, with barriers identified including lack of knowledge and training, healthcare system issues and consumer factors. The review findings underscore the urgent need for better oral health education and training, system integration and consistent practices to improve oral health outcomes for people living with mental illness.

High rates of dental problems, including advanced dental disease, and higher oral health needs among people with a mental illness, have been identified in key systematic reviews (Kisely et al. 2011; Yang et al. 2018). The importance of the nondental workforce in improving oral health outcomes has been reinforced by the World Health Organization (2024) with acknowledgement that addressing poor oral health among high risk, vulnerable populations cannot be left to dental professionals. While the acceptability of oral health provision by the nondental health workforce has been reported in studies in maternity, chronic disease and palliative care (Dahlen et al. 2019; Sanchez et al. 2017; Poudel et al. 2018b; Villarosa et al. 2024), the need to invest in the mental health workforce to ensure they are adequately prepared to incorporate oral health in their practice was confirmed in this review. The review findings show that current oral health practices by mental health providers are fragmented and inconsistent, particularly around oral health advice and screening. Poor oral health knowledge among mental health providers is a barrier to addressing fragmented and inconsistent practice. Poor oral health knowledge among the mental health workforce is not limited to mental health, with previous studies showing similar results among nurses and general practitioners in diabetes (Poudel et al. 2018b), stroke (Ferguson et al. 2020), and palliative care (Villarosa et al. 2024).

The review findings provide guidance for education designers/providers and support the need for a greater educational focus on the link between oral health and systemic health (Kuipers et al. 2023; Ashour 2020), the potential oral health side effects of psychiatric medications (Wieland et al. 2010; Scrine et al. 2018), and referral pathways for people with mental illness to ensure optimal oral health outcomes (Guerra et al. 2023). Cost and access to dental care was not a prominent finding in this review, despite both being well-known barriers to oral health care among people with mental illness (Vujicic et al. 2016; Johnson et al. 2024). However, understanding waiting lists to access public dental services and the cost of treatment of private dental care (Ghanbarzadegan et al. 2021) should be included in educational programmes to ensure consumers are well informed. Mental health providers must be made aware of additional challenges, inequalities and equity issues that impact oral health care of people living with mental illness (Johnson et al. 2024). The higher rates of unemployment and socioeconomic disadvantage seen among people living with mental illness can further impact on affordability of dental services (Fryers et al. 2003). The symptoms of mental illness can prevent people from making dental appointments, catching transport or getting to appointments on time (Bjørkvik et al. 2021). Inpatients can face practical barriers like wheelchair access to dental services and availability of adequate sinks for toothbrushing all of which affect equitable access to oral health care (Ngo et al. 2018).

The current lack of oral health education provided in undergraduate programmes and the limited number of continuing professional development (CPD) programmes in oral health tailored for the nondental workforce (Rojo et al. 2022) is a major gap that must be addressed. Within mental health settings there have been numerous calls to develop oral heath training programmes for mental health providers but there is a dearth of evidence that such a programme has been comprehensively developed and evaluated to date (McKibbin et al. 2015; Slack-Smith et al. 2017; Scrine et al. 2018). Educational and professional organisations need to develop targeted programmes to address the current oral health knowledge gap among those delivering mental health care. Building the capacity of the mental health workforce, including nurses, can significantly improve their knowledge and confidence to promote oral health and have a positive effect on clinical practice (George et al. 2016, 2020, 2023; Kong et al. 2021; Faghihian et al. 2023; Rojo et al. 2023).

People with mental illness sometimes exhibit challenging behaviours, and this was identified as a barrier to oral health provision in this review. Behaviours might include clients biting the toothbrush, refusing to open their mouth, and generally being uncooperative with oral care (Azodo et al. 2012). These behaviours are not unique to people with mental illness, with nurses in aged care and palliative care settings also reporting similar encounters when providing care (Patterson Norrie et al. 2020). These findings reiterate the importance of education and training in strategies to address these challenges when providing oral health care. Incorporating carers into oral health promotion has been shown to be effective in improving oral health (Zenthöfer et al. 2016) so there are benefits to extending education and training to family members and carers.

The lack of integration of the dental and general health systems is an ongoing challenge with findings from a recent systematic review (Christian et al. 2023) indicating that reorienting existing health systems towards integration takes time and requires action (including political), leadership and change management at every level. Siloing of dental and mental health professions is not helpful (Kuipers et al. 2023; Wright et al. 2021; Balasubramanian et al. 2021; Boynes et al. 2020) and prevents effective integration of oral health

in mental health treatment planning. The lack of integration means that mental health providers are uncertain where to refer people with oral health problems (Guerra et al. 2023) and who is responsible for the follow-up. As advocated in the guidelines found in this review, mental health services should have procedures in place to ensure continuity of dental care on discharge from health services (Griffiths et al. 2000) and comprehensive management plans to guide annual dental assessment (Lambert et al. 2017), and ongoing care. For dental professionals though, the lack of an integrated system means less exposure to people with mental illness. Mental health providers have the potential to play an important role in the education and training of dental and oral health professionals to address a lack of understanding and knowledge of mental illness and strategies to ensure improved person-centred oral and dental health care (Wieland et al. 2010). A recent review has shown that when dental care is accessed by people living with a mental illness the experience can leave them feeling anxious and uncomfortable (Kuipers et al. 2018), with authors indicating that some dentists lack empathy and are poorly prepared to address dental anxiety and fear of suffocation among people with mental illness (Wright et al. 2021). Similar findings have been reported with dental practitioners treating other at-risk population groups including children in out-of-home care and those with eating disorders (Patterson-Norrie et al. 2022; Fenwicke et al. 2024). A greater focus on shared learning between those working in dental, oral health and mental health would support greater understanding about the symptomatology of mental illness, best practice oral health care and may ensure improved service delivery, with a particular focus on the provision of trauma informed care. Having this type of care can help address the communication needs of people living with mental illness and ensure they have a better comprehension of the oral health information being shared by health care providers (Johnson et al. 2024). However, training in trauma informed care is lacking among both dental and mental health providers and is an area that needs to be addressed through improved undergraduate training and professional development programmes (Muskett 2014; Palfrey et al. 2019).

There is good evidence that preventative oral health care is strongly associated with significant cost savings for people with enduring conditions (Borah et al. 2022). In addition, oral health screening and referral to existing services has been shown to be cost effective for health services (Tannous et al. 2021). High workloads and time constraints among the mental health workforce were identified as barriers to oral health provision in this review (Scrine et al. 2018). Lack of time is frequently cited by nurses and medical staff as a key reason for neglecting oral health care in general settings (Sanchez et al. 2018; Poudel et al. 2018b, 2020; Patterson Norrie et al. 2020). It is therefore vital that oral health care interventions incorporated in mental health providers practice must be simple and not time consuming. Resources like screening tools need to be brief and easy to use. The provision of toothbrushes and toothpaste, including storage facilities may also be a simple yet effective way to integrate oral health into mental health care (Kuipers et al. 2023) in services where this is not well established.

12 | Limitations

Most studies in this review included a broad range of health care providers, with some authors not indicating the type of mental health provider. This limitation, together with limited evidence focused on specific provider groups, made it impossible to explore differences in the knowledge, attitude and practices among different types of mental health providers. Future studies examining specific groups of mental health providers would contribute to the knowledge base. Due to the paucity of studies, it is not possible to assess whether the current knowledge gaps identified among mental health providers persist after professional development strategies, leaving room for potential mitigation strategies. Most studies and all guidelines/consensus statements were from high-income countries and differentiating between low- and high- income countries was not possible. Culture, healthcare systems and infrastructure may influence the views of mental health providers, especially in countries with limited access to low-cost or free public health dental services. This requires further exploration to ascertain possible differences based on these factors. This review did not include studies in languages other than English. This is a limitation of this review.

13 | Conclusion

This integrated review provides a comprehensive synthesis of current knowledge, attitudes, practices and barriers to oral health care among mental health providers, alongside a critical examination of existing guidelines and statements. The findings underscore a significant gap in oral health knowledge and practices among mental health providers, which impacts their ability to effectively address the oral health needs of individuals living with mental illness. While there is recognition of the poor oral health status among people with mental illness, this awareness does not always translate into consistent oral health practices. Variability in knowledge and inconsistency in oral health practices reflects a broader issue of lack of integration and prioritisation of oral health within mental health care settings. The importance of education and training tailored for mental health providers is evident. A greater focus on education must be supported by systemic changes to better integrate oral health care into mental health services, ensuring that oral health is not marginalised, but is considered a fundamental aspect of overall care. Bridging the gap between knowledge, attitudes and practice, overcoming systemic barriers and fostering collaboration across disciplines are essential steps towards improving oral health outcomes for people with mental illness. This review reinforces the need for ongoing efforts to integrate oral health care into mental health practice and to better equip mental health providers with the necessary skills and resources to effectively address people's oral health needs. While strategies for mental health providers are important, tackling the intractable problem of oral health for people living with mental illness must include the wider structural barriers in mental health around workforce shortages and a fragmented care system. Policy changes like incentives for promoting integrated oral health care or dedicated funding for oral health programmes in mental health settings are important.

14 | Relevance for Clinical Practice

Individuals living with mental illness face significantly poorer oral health compared with the general population. Mental health providers are uniquely positioned to address these disparities and enhance oral health outcomes for this vulnerable group. The findings of this review underscore the importance of better integration of oral health care into mental health practice. By bolstering mental health providers knowledge, raising awareness and addressing the barriers that hinder the implementation of oral health into practice, substantial strides can be made in improving the oral health of people living with mental illness.

Acknowledgements

Open access publishing facilitated by Western Sydney University, as part of the Wiley - Western Sydney University agreement via the Council of Australian University Librarians.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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