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INTEGRATIVE REVIEW

# Nursing practices to optimise rheumatic fever prevention in a high-risk country: An integrative review

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## Abstract

**Background:** New Zealand is one of the last high-income countries in the world experiencing significant rates of rheumatic fever. Nurses play a crucial role in rheumatic fever prevention; however, little is understood as to how nurses can best achieve this.

**Aim:** To explore nursing practices that optimise rheumatic fever prevention.

**Design:** An integrative review.

**Methods:** Four electronic databases (CINAHL, SCOPUS, Medline via, and Ovid) were searched for peer-reviewed empirical articles published from 2013 to 2023. Grey literature (guidelines/reports) was also sourced. Critical appraisal was applied using the Mixed-Methods Appraisal Tools and the Joanna Briggs Critical Appraisal checklist. *Qualitative Research in Psychology*, **3**(2), 77–101, thematic analysis method was used to generate themes.

**Results:** Seven research articles and three national reports were included. Four themes—in-depth nursing knowledge and improving prophylaxis adherence, cultural competency, and therapeutic nurse–patient relationships—were found.

**Conclusion:** While nursing knowledge and ways to improve injection adherence are essential, being culturally receptive and developing therapeutic relationships are equally important. Without strong and trusting relationships, it is difficult to deliver care required for prevention success.

**Implications to care:** When working with vulnerable populations it is important to be culturally receptive in all interactions with patients and their families.

**Impact:** New Zealand has high rates of rheumatic fever, especially among vulnerable populations such as Pacific Islanders and Māori. Nurses are often frontline primary care providers who, when skilled with the right tools, can help reduce the prevalence of this disease.

**Reporting method:** The Preferred Reporting Items for Systematic Reviews and Meta-Analysis flow chart.

**Patient or public contribution:** No Patient or Public Contribution was required for this research.

KEYWORDS
Aotearoa, New Zealand, nursing practices, prevention, rheumatic fever, strategies

## 1 | INTRODUCTION

Rheumatic Fever (RF) is a multi-organ autoimmune disorder (Bennett et al., 2019), which develops as a delayed consequence of untreated or inadequately treated Group A Streptococcal (GAS) pharyngitis, commonly known as 'strep throat' (Baker et al., 2019; Chandrashekhar et al., 2020). A severe initial episode or recurrent episodes of RF can cause long-term, permanent injury to the valves of the heart, resulting in rheumatic heart disease (RHD) (Baker et al., 2019). RHD is life-threatening, characterised by heart valve lesions and is the primary cause of morbidity and mortality in RF (Carapetis et al., 2016).

The RF poses a global health burden, predominately in underdeveloped countries, where an estimated 470,000 new cases are diagnosed yearly, of which 60% will lead to RHD (Tal et al., 2022). Aotearoa, New Zealand (NZ), however, stands out from other developed countries, as it is one of the last high-income countries in the world experiencing significant rates of RF (Baker et al., 2019). Between 2000 and 2018, Aotearoa, NZ, observed 2,752 RF hospitalisations, averaging 145 per year. However, at least 10% of RF cases go undetected, meaning the actual rates could be significantly higher (Baker et al., 2019). Additionally, 288 cases of recurrent RF required re-hospitalisation over the same period, accounting for 9.5% of the total RF hospitalisations per year (Bennett et al., 2021). In Aotearoa, NZ, RF diagnoses are inequitably distributed, occurring almost exclusively in Māori and Pacific populations (Tu'akoi et al., 2022).

Of concern, among 5–14-year-olds, Pacific children are approximately 80 times more likely and Māori children are 36 times more likely to develop RF, compared to other ethnicities (Tu'akoi et al., 2022). Some of the reasons for this significant disparity are that Māori and Pacific individuals have the highest prevalence of many high RF risk factors; poor housing conditions, low health literacy, and lack of access to healthcare (Baker et al., 2019; Oliver et al., 2021). Overall, this evidence suggests there are inequities in NZ healthcare and in access to equitable social determinants of health (Baker et al., 2019; Bennett et al., 2019; Burgess, 2016) and indicates a system-wide failure to meet the needs of these two population groups (Bennett et al., 2019; Burgess, 2016). This highlights the need for targeted interventions and strategies to address the specific challenges faced by these communities.

From 2011 to 2017, the NZ government implemented the Rheumatic Fever Prevention Programme, intending to reduce RF through the prevention of GAS pharyngitis as a primary prevention initiative (Baker et al., 2019; Burgess, 2016; Jack et al., 2018; Tu'akoi et al., 2022). Although the Rheumatic Fever Prevention Programme had some success in reducing the rates of initial RF, it did not achieve the overall target, and vast inequities still exist (Tu'akoi et al., 2022). Given that RF rates have not shown a lasting, long-term reduction, it is evident that further action is required to address inequities and ensure case numbers do not continue to rise (Tu'akoi et al., 2022). Furthermore, the Rheumatic Fever Prevention Programme's key focus was on the primary prevention of RF; however, few initiatives to improve secondary prevention initiatives exist, such as receiving Benzathine penicillin G (BPG) to prevent RF recurrences. The persistence of RF recurrences in Aotearoa, NZ is said to be due to the failure of secondary prevention (Burgess, 2016; Jack et al., 2018). Therefore, efforts to improve secondary prevention are pertinent to reducing RF.

**What does this paper contribute to the wider global clinical community?**

- Critical attributes nurses need to be aware of to influence change in preventing rheumatic fever are highlighted that can be applied to a global audience.

Nurses play a crucial role in RF prevention through their involvement in primary and secondary prevention measures (Techane et al., 2022). Nurses work in various roles and settings contributing to RF care, including primary health nurses, school nurses, district nurses (community nurses), nurse practitioners and hospital-based nurses, particularly paediatric nurses (Burgess, 2016). They are often the first point of contact for patients seeking healthcare services and are responsible for providing education, conducting assessments, implementing preventive measures, and coordinating care for individuals at risk or diagnosed with RF (Sanyahumbi et al., 2019; Heart Foundation of New Zealand (HFNZ), 2014). Specifically, nurses who engage in RF health promotion activities have the responsibility to educate individuals, families, and communities about GAS pharyngitis symptoms, treatment regimens, and importance of hygiene practices and throat swabbing (Carapetis et al., 2016; Sanyahumbi et al., 2019). Nurses also conduct assessments, including physical examinations that assess for signs and symptoms of GAS pharyngitis and RF (Burgess, 2016; Heart Foundation of New Zealand, 2014). Nurses typically perform throat cultures and rapid antigen tests to test for GAS pharyngitis and refer patients for serology testing (Carapetis et al., 2016).

Through nurses' involvement in various aspects of patient care, nurses wield a significant and unique opportunity to contribute to preventing initial occurrences and recurrences of RF. Therefore, it is pertinent that nurses understand the practices that optimise the prevention of RF. This is particularly important in Aotearoa NZ as RF rates have risen since the end of the Rheumatic Fever Prevention Programme. There is presently a gap in the literature regarding nurses' unique contributions to address the challenges and disparities associated with RF prevention in Aotearoa NZ.

### 1.1 | Aim

To explore nursing practices that optimise the prevention of RF in Aotearoa, NZ. This knowledge will inform future nursing practice, interventions, guidelines, clinical pathways, theory, and education on RF nursing practices in Aotearoa New Zealand and globally.

## 2 | METHODS

### 2.1 | Design

This research follows Whittemore and Knafl's (2005) integrative review approach, which is a systematic process to identify, analyse, appraise, and synthesise research (Toronto & Remington, 2020). Past empirical and theoretical literature, including qualitative and quantitative studies, summarise and make conclusions to comprehensively understand the phenomenon being studied (Toronto & Remington, 2020). Grey literature, such as government documents, was included to ensure comprehensive coverage of current health interventions that may not be included in published research articles.

### 2.2 | Search methods

The search took place from January 2023 to June 2023. Four databases were utilised: CINAHL complete via EBSCO, SCOPUS, Medline via EBSCO, and Ovid Emcare. Grey literature was sourced from websites, reference lists, and organisational pages for appropriate Aotearoa NZ rheumatic fever guidelines, strategies, reports, or policy documents. The searches were conducted using a variation of key search terms relating to the research area (see Table 1).

### 2.3 | Search outcome

The initial electronic database search yielded a total of 1,300 articles. These articles were then uploaded into EndNote, where duplicates were removed; the remaining number of articles was 923. Next, the 923 articles were screened by title and keywords, which resulted in the exclusion of 742 articles as they were considered irrelevant to the research question. The number of articles remaining for screening against the inclusion and exclusion criteria was 181.

**TABLE 1** Search term categories.

| | |
|---|---|
| Subject line one | 'Rheumatic fever' OR 'rheumatic heart disease' OR 'acute rheumatic fever' OR ARF OR RF OR RHD |
| Subject line two | Prevent* OR treatment OR interven* OR Prophylaxis OR manag* OR program OR Strteg* |
| Subject line three | 'New Zealand' OR NZ OR Aotearoa OR Māori OR Pasifika |

**TABLE 2** Inclusion and exclusion criteria.

| Inclusion criteria | Exclusion criteria |
|---|---|
| • New Zealand based studies.<br>• Articles that focused on nursing practices on rheumatic fever and its prevention.<br>• Published in English language.<br>• Published between 2013 and 2023.<br>• Peer-reviewed published empirical studies.<br>• Grey literature (guideline, strategy, report or policy document) sourced from websites, reference lists, and organisational pages on nursing practices on rheumatic fever and its prevention (2013–2023). | • Studies based in other countries.<br>• Studies that do not relate to the research question.<br>• Not published in English language.<br>• Published prior to 2013.<br>• Systematic reviews, integrative reviews, discussion pieces and editorials.<br>• Grey literature published prior to 2013. |

All 181 titles were uploaded to Rayyan, an artificially intelligent systematic review software (Ouzzani et al., 2016), where they were examined against the inclusion and exclusion criteria by the primary researcher (see Table 2). Articles deemed suitable were double-checked by secondary researcher X. If there was any ambiguity as to whether an article should be included or excluded, this was discussed between the two researchers until consensus was made. In total, seven research articles were retained for evaluation and appraisal. Grey literature was screened, and six pieces met the inclusion and exclusion criteria. After reading through the reports in full, this number was decreased to three after consensus between two researchers, X and X. The screening process is summarised and presented in the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow chart (Page et al., 2021) (see Figure 1).

### 2.4 | Critical appraisal

The seven research articles and three pieces of grey literature were critically appraised for their quality to assess their value, reliability, and applicability. The Mixed-Methods Appraisal Tool (MMAT) version 2018 (Hong et al., 2018) was used to analyse the research articles, and the Joanna Briggs Critical Appraisal checklist for Text and Opinion Papers was used to perform the quality appraisal for the grey literature (McArthur et al., 2015). To minimise bias and ensure that the critical appraisal process was accurate, the research team independently reviewed all selected studies/documents to ensure they met the methodological quality requirements. No manuscripts or documents were excluded based on a low critical appraisal score as all scored 100% in meeting their respective criteria.

### 2.5 | Data abstraction

Each study's main and relevant findings were highlighted. A review matrix was then created, summarising each article's aim and key findings relating to RF prevention and nursing practices (Table 3).

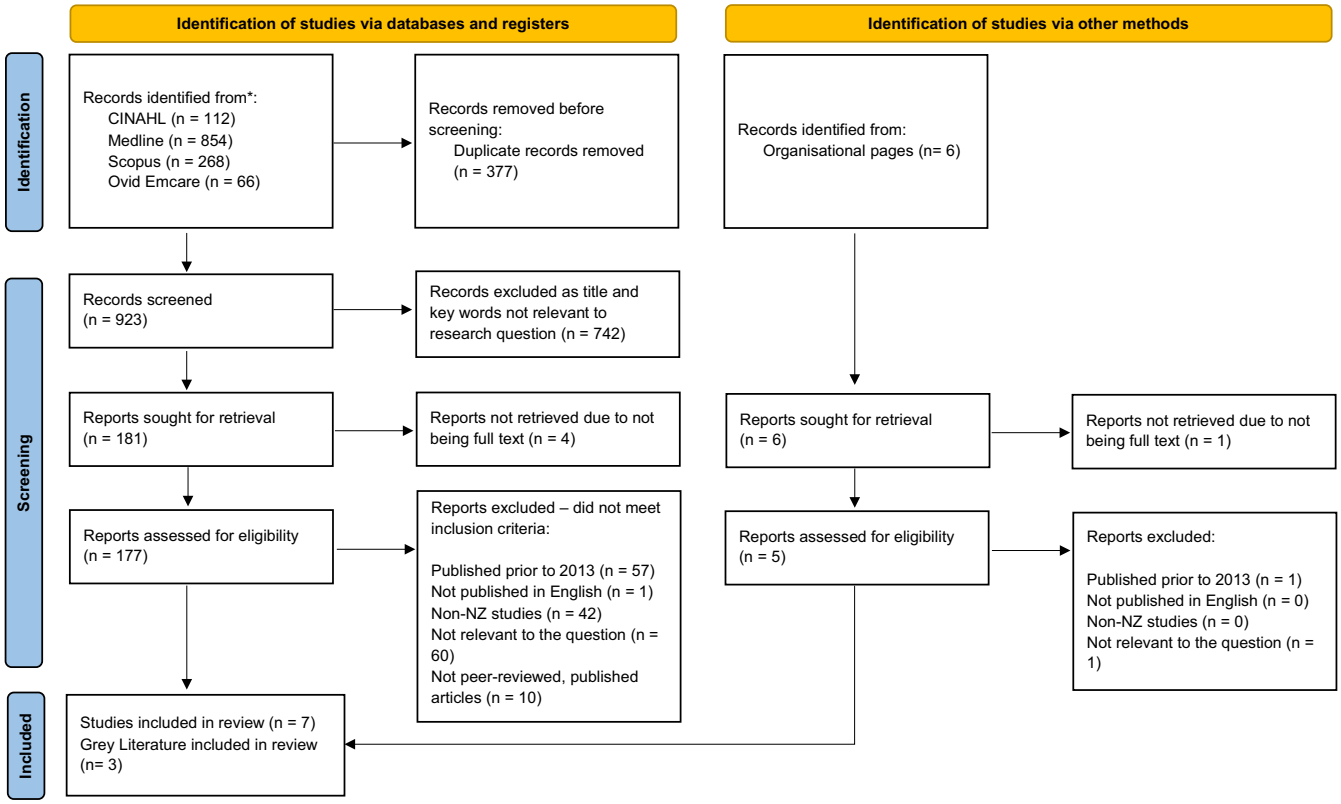


FIGURE 1 PRISMA flow diagram. [Colour figure can be viewed at wileyonlinelibrary.com]

## 2.6 | Syntheses

The data from the sources were analysed by ordering, coding, and summarising the findings using Braun and Clarke's (2006) thematic analysis. This began by thoroughly reviewing, re-reading, and becoming familiarised with the data. Codes were then applied to capture and categorise the different ideas present in each article. Similar codes were clustered together, forming 10 overarching theme piles that were all aligned with the review's objective. Any complementary, overlapping themes were merged and organised, following the guidelines proposed by Braun and Clarke (2006) to ensure coherence and distinctiveness among the themes. After this process, the analysis yielded four defining themes: In-depth nursing knowledge and understanding, improving prophylaxis adherence, cultural competency, and therapeutic nurse–patient relationships.

# 3 | FINDINGS

All 10 included studies had varied designs and methods; two were mixed methods approaches (Anderson et al., 2016; Russell et al., 2014), five were qualitative (Anderson, Leversha, et al., 2017; Oliver et al., 2017; Anderson et al., 2019; Barker et al., 2017; Anderson et al., 2020), and three were grey literature that incorporated both qualitative and quantitative research (Anderson, Mills, & Eggleton, 2017; Office of the Prime Minister's Chief Science Advisor (OPMCS) and the Heart Foundation New Zealand (HFNZ), 2014), which was quantitative in nature (see Table 3).

## 3.1 | Theme one: In-depth nursing knowledge and understanding

The importance of having an in-depth nursing knowledge and understanding of RF prevention was represented across seven papers as being a vital knowledge nurses must maintain to be effective (Anderson, Leversha, et al., 2017; Oliver et al., 2017; Anderson et al., 2020; Anderson et al., 2016; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021; Anderson, Mills, & Eggleton, 2017). In order for nurses to accurately diagnose and subsequently treat RF, they required comprehensive knowledge on the etiological factors and diagnostic features of RF (Anderson, Leversha, et al., 2017; Anderson, Mills, & Eggleton, 2017; Oliver et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). The absence of this knowledge among nurses negatively impacted RF prevention, leading to misdiagnosis, delayed diagnosis, and missed treatment opportunities (Anderson, Leversha, et al., 2017; Anderson, Mills, & Eggleton, 2017; Oliver et al., 2017; Office of the Prime Minister's Chief Science Advisor, 2021). Similarly, the Heart Foundation of New Zealand (2014) highlighted that misdiagnoses resulted in the forfeiture of treatment, consequently predisposing individuals to recurrent RF, cardiac impairment, and

**TABLE 3** Summary of included articles.

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 1. Nurse-led school-based clinics for rheumatic fever prevention and skin infection management: evaluation of Mana Kidz programme in Counties Manukau.<br>Anderson et al., 2016. | The aim of this study is to evaluate registered nurse-led school clinics in 61 primary and intermediate schools in Counties Manukau, and to inform decision makers about the value of delivering targeted primary care services in school-based setting for primary and intermediate-aged children. | Mixed methods study.<br>Multi-variable analysis, 2013, $n=1,299$ to 2014, $n=1,751$.<br>Surveys, 2013: Parents $n=439$, students $n=457$, and 2014: Parents $n=235$, students $n=608$.<br>Family focus groups, $n=34$ mothers and grandmothers.<br>Stakeholder interviews, $n=36$ (18 school staff, 11 providers, and 7 Mana Kidz staff). | 1. Nurses having the knowledge of community support services to ensure patients and families are referred to the appropriate services to address their unmet needs – insulation, nutrition, and other needs.<br>2. Education of patients and families promotes knowledge and awareness of RF – Improved health literacy was demonstrated, especially knowledge about sore throats, ARF, medication adherence and skin infections.<br>3. Nurses creating trusting relationships with their patients encouraged patient engagement with services.<br>4. The implementation of school-based clinics effectively reduced the incidence of RF by improving children's adherence to IMI prophylaxis – attributed to the flexibility and reduced access barriers to healthcare provided by the school-based clinics. | MMAT-Mixed method-100% |
| 2. Reducing the pain of intramuscular benzathine penicillin injections in the rheumatic fever population of Counties Manukau District Health Board<br>Russell et al., 2014. | To evaluate the effectiveness of lignocaine and a vibrating device with cold pack (Buzzy) for pain management of intramuscular (IM) benzathine penicillin injections in the rheumatic fever (RF) population of Counties Manukau Te Whatu Ora. | Mixed Methods Study.<br>All RF patients in Counties Manukau: $n=405$<br>All Survey Responders: $n=199$ | 1. Overall pain scores were significantly reduced over all four time points.<br>2. Combined use of lignocaine and the buzzy resulted in a greater reduction of pain, compared to lignocaine alone – For children 13 years and under, 32 chose lignocaine and Buzzy, while only 11 chose lignocaine alone. In adolescents from 14 to17 years of age, 24 chose lignocaine and Buzzy, while 13 chose lignocaine alone. In comparison 14 adults chose lignocaine and Buzzy, and 20 chose lignocaine only.<br>3. The qualitative analysis of participant comments showed a reduction in negative comments from 60 (e.g. 'They hurt', 'It scares me') down to 15 (e.g. 'Just a little bit sore', 'They suck'). It also showed an increase in positive comments from eight (e.g. 'Feels OK', 'At least I am getting better') to 40 ('Awesome', 'They are so much better').<br>4. After 5 months, a file audit showed that 66% of all RF patients of Counties Manukau Te Whatu Ora were choosing to use lignocaine and 43% were choosing to use Buzzy. In total, 71% of all RF patients were choosing one or both of these analgesic interventions.<br>5. Overall, lignocaine and Buzzy significantly improves patients pain associated with the injection. | MMAT-Mixed method-100% |

(Continues)

TABLE 3 (Continued)

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 3. Whānau perceptions and experiences of acute rheumatic fever diagnosis for Māori in Northland, New Zealand. Anderson, Mills, & Eggleton, 2017. | This study explored Māori whānau experiences of ARF, including pathways to primary healthcare and barriers and facilitators for diagnosis of ARF. | Qualitative study. Total participants $N = 36$ | 1. Facilitators of diagnosis of RF – Access to primary care, healthcare providers' knowledge and appropriate action of sore throat management.<br>2. Whānau felt that delays in the diagnosis and misdiagnosis of their children was due to lack of knowledge and awareness of RF by healthcare professionals.<br>3. Healthcare professionals' relationship with whānau – Healthcare professionals' attitudes and ability to create whanaungatanga (relationships) with whānau influenced participants engagement and utilisation of health services.<br>4. Effective communication between nurses and patients facilitates therapeutic relationships – nurses that do not listen to their patients and are dismissive of their questions and experiences hinders their nurse–patient relationship.<br>5. Nurses attitudes and views influences their ability to create relationships with patients. | MMAT-Qualitative 100% |
| 4. Enablers and barriers to secondary prophylaxis for rheumatic fever among Māori aged 14–21 in New Zealand: A framework method study. Barker et al., 2017. | The purpose of this study was to identify the perceived enablers and barriers to secondary recurrence prophylaxis following ARF for Māori patients aged 14–21. | Qualitative study. Total Participants $N = 19$ | 1. Understanding of RF was a key enabler or barrier of adherence depending on the participants' specific understanding. Participants who understand RF and its seriousness had a greater appreciation of why another episode of RF could be detrimental to their health, and therefore reported to adhere to injections.<br>2. Understanding of the purpose of the injections every month was also an enabler or barrier depending on the participant. For example, several intermittent or lost to follow-up participants did not know why they needed injections every month.<br>3. Fully adherent patients had the strongest understanding. Intermittent and lost to follow-up participants tended to report they did not know much about RF.<br>4. A positive relationship between patients and their healthcare provider is an enabler of injection adherence.<br>5. A few participants expressed that negative interactions with their district nurses (DN) had put them off getting injections. One example of this included a negative perception of a DN, which led to a patient refusing the injection.<br>6. A relational influence described was the interactions with the DNs who administer the monthly injections. Most participants said that their nurse was, 'Friendly,' 'Really nice' and 'Cool', promoting therapeutic nurse–patient relationships.<br>7. In the Waikato Te Whatu Ora region, bicillin injections are delivered in the community, with most patients receiving injections from community DNs at their homes or at school or at a local clinic. This flexible arrangement is a key enabler for adherence. | MMAT-Qualitative 100% |
| 5. Acute rheumatic fever and exposure to poor housing conditions in New Zealand: A descriptive study. Oliver et al., 2017. | This study aimed to investigate ARF cases' housing conditions and sore throat treatment to identify opportunities for improving ARF prevention in New Zealand. | Qualitative study. Total Participants $N = 55$ | 1. There are gaps in the knowledge of the aetiology and risk factors of RF, which limits the effectiveness of disease control and prevention intervention.<br>2. Healthcare professionals knowledge and understanding of RF ensures patients receive the necessary treatment and management. | MMAT-Qualitative 100% |

TABLE 3 (Continued)

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 6. Mismatches between health service delivery and community expectations in the provision of secondary prophylaxis for rheumatic fever in New Zealand. Anderson et al., 2019 | This research explored Māori and Pacific family experiences of reoccurrences of rheumatic fever to better understand barriers to accessing secondary prophylaxis to inform health service improvements. | Qualitative study. Total participants = 113; Group 1: *N* = 80, Group 2: *N* = 33 | 1. Participants consistently described a mismatch between the approach taken by RF health services and the approach needed by the population it serves. This misalignment created barriers to accessing and engaging with RF care for families who often had complex lives, and cultural-specific values and needs.<br>2. Families described how the lack of cultural safety among some healthcare professionals negatively influenced their RF treatment and clinical experiences. An example included male healthcare providers asking young Pacific girls to expose their chests for medical examinations without family present. Participants explained how such experiences left them feeling scared, vulnerable and disrespected.<br>3. Services that allowed flexibility in timing and location of RF treatment counter access barriers.<br>4. Many patients described how having nurses who came to their homes, schools or workplaces was helpful in creating rapport with them, facilitating positive experiences with RF treatment.<br>5. Key facilitators for effective management of RF were flexible, community-based models of care, good communication and rapport with HCPs, and good information sharing. | MMAT-Qualitative 100% |
| 7. Pacific Fono: A community-based initiative to improve rheumatic fever service delivery for Pacific Peoples in South Auckland. Anderson et al., 2020. | The aim of the fono was to strengthen Pacific leadership at a governance level and to provide a culturally safe forum to discuss initiatives to reduce the effects of rheumatic fever in Pacific communities | Qualitative study. Total Participants *N* = 66 | 1. Respondents emphasised the 'big need' for rheumatic fever education and awareness interventions.<br>2. Limited Pacific language literacy resources were a key barrier as many resources are in English and not written in simple, direct terms.<br>3. Respondents suggested that education should be delivered in Pacific languages.<br>4. Applying culturally safe, appropriate and responsive interventions was the most commonly reported solution to addressing rheumatic fever. Respondents emphasised the importance of ethnic-specific initiatives.<br>5. The key area that respondents reported could be effective for Pacific engagement was within health services. They indicated that such initiatives could promote Pacific trust and engagement in health services and facilitate better communication between health-care professionals and Pacific patients. | MMAT-Qualitative 100% |

(Continues)

TABLE 3 (Continued)

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 8. New Zealand Guidelines for Diagnosis, Management and Secondary Prevention of Acute Rheumatic Fever and Rheumatic Heart Disease: 2014 Update. Heart Foundation of New Zealand (HFNZ), (2014). | The objectives of this guideline are:<br>-To identify and present the evidence for best practice in acute rheumatic fever (ARF) diagnosis<br>-To identify the standard of care that should be available to all people in New Zealand.<br>-To identify areas where current management strategies may not be in line with available evidence.<br>-To ensure that high-risk populations receive the same standard of care as that available to other New Zealanders. | Review of quantitative research | 1. Currently prevention of an initial attack of RF requires the prompt and accurate diagnosis and adequate antibiotic treatment of GAS throat infections. RF can be prevented if the preceding throat infection is treated in a timely and effective way.<br>2. It is important that an accurate diagnosis of RF is made as: misdiagnosis of RF may lead to the individual suffering a further attack of RF, cardiac damage and premature death.<br>3. The diagnosis of RF relies on health professionals being aware and having the knowledge of the diagnostic features.<br>4. Improved health staff awareness of the diagnosis and management of RF is necessary in order to improve case findings, encourage compliance with prophylaxis and to improve the quality and delivery of health education delivered to cases and their families.<br>5. Professional education targeting both primary and secondary care providers, doctors, nurses, dentists, pharmacy, medical and nursing students. There is a need for increased understanding in primary care of early RF management, and the need for hospitalisation in RF.<br>6. Health education is critical at all levels. Lack of parental awareness of the causes and consequences of RF was a key contributor to poor adherence among children on long-term prophylaxis.<br>7. Comprehensive health education has improved community awareness of sore throat, RF and assisted case identification.<br>8. Education provided to the patient and their family should cover: The cause and complications of ARF, the reason for secondary prophylaxis and the signs and symptoms of recurrence, and the importance of medical follow-up.<br>9. As the populations at the highest risk of RF are Māori and Pacific, the involvement of Māori and Pacific health workers, with their skills in outreach and their community knowledge, is important.<br>10. It is important to support and utilise the expertise, experience, community knowledge, culture and language skills of Māori and Pacific health workers in order to assist with adherence to secondary prophylaxis.<br>11. Improved adherence to prophylaxis is seen with nurses developing a personal rapport with each case.<br>12. Effective communication between health staff and families is important in developing relationships.<br>13. A reduction in IMI pain is experienced when two analgesic interventions are offered: intramuscular delivery of benzathine penicillin with either .25 ml of 2% lignocaine alone or .25 ml of 2% lignocaine with a vibrating device with cold pack (Buzzy). | Joanna Briggs Text and opinion 100% |

TABLE 3 (Continued)

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 9. Group A Streptococcus and acute rheumatic fever in Aotearoa New Zealand – A summary of current knowledge in Aotearoa New Zealand. Office of the Prime Minister's Chief Science Advisor (OPMCS) | This review aims to summarise what we know about the processes that lead to group A streptococcus (GAS) infection, acute rheumatic fever (RF) and rheumatic heart disease (RHD) in Aotearoa New Zealand. It has a primary focus on the Aotearoa New Zealand knowledge base and lessons learned from previous initiatives, but places this in an international context where appropriate. | Review of literature using both quantitative and qualitative research | 1. Early and accurate diagnosis of RF is important because it enables prompt treatment (secondary prophylaxis).<br>2. Primary prevention – healthcare professional education, education of patients, families and wider public.<br>3. Knowledge of the incidence of GAS throat infections is important to better understand and prevent development of RF.<br>4. For RF, people experienced missed diagnoses due to a lack of knowledge and awareness from healthcare professionals. Even when families raised concerns about RF they reported dismissal of concerns and delayed diagnosis and treatment.<br>5. There is a need for primary care upskilling to prevent delays in diagnosis and treatment of RF.<br>6. Raising awareness of the symptoms of RF in primary and secondary care to avoid missed diagnoses and treatment opportunities.<br>7. The issue with GAS throat infections is not that they require healthcare professionals expertise to manage, but rather they need to be easily and quickly identified and treated to reduce RF risk.<br>8. Not everyone accessed the assistance or social services they were entitled to due to nurses lack of referrals – Very few Pacific families were referred to a social housing provider during their child's illness. Lack of referrals were due to nurses lack of knowledge of social support services available.<br>9. Pacific peoples in particular struggled with the way that information was presented, preferring translated material.<br>10. Some issues related to limitations in communication and language, which was contributed to healthcare professionals being of different ethnicity to the patient.<br>11. The clinical experience was poor due to a lack of cultural safety. The service was not suited to those it served – the Westernised biomedical approach did not align with Pacific and Māori holistic approaches to health, and treatment was not always culturally safe. For example, when nurses show no effort to try and pronounce Māori names, and Māori patients had experienced their head (which is considered sacred) being touched without asking first.<br>12. Health providers utilising effective communication with patients; maintaining eye contact, listening to patients, paying attention and not typing on the computer, answering and asking questions.<br>13. Nurses educating patients and parents is the key contributor to improving patient's prophylaxis IMI adherence.<br>14. Efforts to reduce pain with their injections improved patient's experiences. These included the use of numbing cream, freezer buzzy bees (a handheld vibrating device with removable ice wings that can be used as a method of pain relief and distraction) and massage.<br>15. Not everyone had a solid understanding of what the medication is, why this treatment is needed or why they had to receive it for so long.<br>16. Community-based models of care where district nurses came to see patients for their secondary prophylaxis, and were flexible with timing and location, were positive for patients. | Joanna Briggs Text and opinion 100% |

(Continues)

TABLE 3 (Continued)

| Title, authors, critical appraisal score | Aim | Methodology & Sample Size | Findings summary | MMAT or JBI score |
|---|---|---|---|---|
| 10. Māori and Pacific Whānau Experiences of Recurrent Rheumatic Fever and Unexpected Rheumatic Heart Disease in New Zealand.<br>Anderson, Leversha, et al., 2017. | Little is known about the lived experiences or the persistence of the inequities for Māori and Pacific people. This research aimed to address these knowledge gaps to inform health-service improvements. | Qualitative design interviews<br>38 family (whānau) interviews were undertaken with a total of 80 whānau members.<br>Nine one-on-one interviews were undertaken with Health care professionals.<br>Six focus-group interviews were also undertaken with a total of 24 secondary prophylaxis providers (public health nurses/district nurses) | 1. Nurses limited knowledge of RF about the causes, signs and symptoms, consequences and treatment, leads to misdiagnosis and delayed diagnosis of GAS infections or RF, in turn, missing treatment opportunities.<br>2. Delays in recognition and diagnosis of RF were reported by both whānau and healthcare professionals.<br>3. The complex lives of whānau and the mismatch with RF services meant that often secondary prophylaxis providers were having to 'fill the gaps' of whānau needs by undertaking non-health services.<br>4. Non-clinical aspects of care greatly facilitated whānau experiences of RF treatment and management. According to healthcare professionals, having community health workers helped to bridge the difficulties for whānau and take the pressure off secondary prophylaxis providers.<br>5. Patients and families require education of RF to raise awareness of the aetiology, presentation, treatment regime and the seriousness of the disease.<br>6. Ethnic concordance between whānau and their healthcare professionals was also perceived by participants to develop better rapport, empathy, trust and communication, as a result of shared cultural understandings and language.<br>7. Education resources should be available in a range of languages to mitigate language barriers.<br>8. Utilising different languages to relay education to patients assists with improving understanding and knowledge of RF.<br>9. Whānau described how the lack of cultural safety of some healthcare professionals created negative health care experiences – e.g. during home-based RF management.<br>10. Relationships between whānau and their healthcare professionals were pivotal to their experiences of RF and had significant influences on the diagnosis, treatment, and management of RF. Whānau described how having a good rapport with healthcare professionals promoted an understanding of RF/RHD, fostered communication, trust and respect, and facilitated adherence to the treatment and management of RF.<br>11. Therapeutic nurse–patient relationships, fostering open communication, allows nurses to understand patient's needs, preferences and concerns and cater to these – this encourages patients active participation in their care.<br>12. Healthcare professionals who were non-judgemental and had good attitudes were successful in creating effective relationships with patients.<br>13. Educating patients and families about RF was a facilitator of adherence to their treatment and management.<br>14. A lack of information from healthcare professionals promoted missed injections.<br>15. Concomitant administration of lignocaine and the use of counter stimulation via the Buzzy vibrating device, should be offered to all patients receiving intramuscular benzathine penicillin to reduce side effects—including fear—and to enhance adherence.<br>17. Community rather than clinic-based care – having nurses who came to their homes, schools or places of work prevented many of the access barriers they had experienced with clinic-based health care. | Joanna Briggs Text and opinion 100% |

premature death. Of concern, Anderson, Mills, and Eggleton (2017) illustrated several examples from whanau stories where RF had been misdiagnosed due to lack of knowledge.

> *A good four years before that [diagnosis of ARF], I had a fair idea that Hohepa [son] had rheumatic fever, and I had been into the clinic a couple of times, and I had explained to them that I was sure it was rheumatics because of the symptoms he was getting, but the doc, the nurses at the clinic were telling me he had rheumatism arthritis and I was adamant that it was rheumatics because I had dealt with the symptoms before with my eldest son, but they kept putting it off and kept telling me it was rheumatism arthritis, and then yeah, couple years later he's diagnosed with rheumatics… I think about three times I had gone in there with him… they kept telling me it was rheumatism arthritis* (Anderson, pg. 4).

This parent was one of many who described how clinicians appeared to lack the knowledge, experience, and exposure to RF, ultimately leading to delayed or misdiagnosis (Anderson, Mills, & Eggleton, 2017).

Along with knowledge of RF itself, this review found that it was also imperative that nurses had knowledge about the wider social determinants that impact on RF for family, as well as the services and support available to address them. For example, two articles and one piece of grey literature emphasised how nurses should ensure patients and families are referred to appropriate community support services to address unmet needs (Anderson et al., 2016; Anderson, Leversha, et al., 2017; Office of the Prime Minister's Chief Science Advisor, 2021). Anderson et al. (2016) stated that referrals to support services provide necessities such as housing, nutrition, and transport that help address the broader barriers of RF prevention (Anderson et al., 2016). The Office of the Prime Minister's Chief Science Advisor (2021) report highlighted that participants in their study were not referred to community support services due to the nurse's lack of knowledge of the available services and not knowing processes on how to organise these referrals for patients. On the other hand, due to the complexity of RF patients' lives, some community nurses frequently fill gaps in patient's and family's lives by providing non-nursing-related services, such as driving patients to supermarkets and advocating for patient's services, such as Work and Income New Zealand (Anderson, Leversha, et al., 2017). There are numerous benefits for community nurses and patients to have support workers involved in their care, such as assistance with non-clinical aspects of life, therefore enhancing patient health outcomes and reducing community nurses work burden (Anderson, Leversha, et al., 2017).

## 3.2 | Theme two: Improving prophylaxis adherence

Improving anaphylaxis adherence was represented in five articles and two grey literature documents (Anderson et al., 2016; Anderson, Leversha, et al., 2017; Barker et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021; Russell et al., 2014; Anderson et al., 2019). This is where nurses played a crucial role to promote the prevention of RF through efforts to improve adherence to secondary prophylaxis. By ensuring patients adhered to prescribed prophylaxis regimen, nurses contributed to preventing RF by reducing the risk of GAS pharyngitis (Anderson, Leversha, et al., 2017). To be successful, nurses need to focus on improving patients' adherence to their intramuscular injections through family/patient educational initiatives (Anderson et al., 2016; Anderson, Leversha, et al., 2017; Barker et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021).

It was evident in this review that nurse-led educational initiatives for patients and parents were a key contributor to enhancing their knowledge and understanding of RF, which is a crucial factor to improve prophylaxis adherence (Anderson et al., 2016; Anderson, Leversha, et al., 2017; Barker et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). Barker et al.'s (2017) reported that participants with the greatest understanding of RF and its seriousness were more aware on how harmful another episode of RF could be; hence, they were fully adherent to their intramuscular injections (IMI). Contrary to the findings, Anderson, Leversha, et al. (2017) and the Office of the Prime Minister's Chief Science Advisor (2021) report found that most RF respondents knew they had to receive monthly injections; however, they did not understand why, leading to missed penicillin injections. As this quote from Anderson, Leversha, et al. (2017) demonstrates:

> *'I just know that I have to get injections every month. But I don't know what happens inside. Yeah, I had a [RF] relapse a few years ago. Um, that wasn't so good. I couldn't walk. I didn't know why [I had the relapse]. Um, but, yeah, it was because I wasn't taking my injections and stuff.'* – Anderson, Leversha, et al., 2017-*Pg 20*.

Similarly, lack of parental awareness of the causes and consequences of RF was a crucial factor in poor adherence among children to long-term prophylaxis (Heart Foundation of New Zealand, 2014).

Pain experienced with IMI was a significant barrier to adherence; however, nurses who utilised analgesic interventions proved an effective strategy (Russell et al., 2014; Anderson, Leversha, et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). Anderson, Leversha, et al. (2017) reported that the administration of lignocaine (a local anaesthetic) with the IMI significantly alleviated pain for participants. Lennon et al. (2014) recommended that .25 ml of 2% lignocaine be utilised with a vibrating device. A vibrating ice pack device (a 'buzzy' shaped like a bee) emerged as a facilitator for individuals as it effectively reduced injection site pain (Anderson, Leversha, et al., 2017; Heart Foundation of New Zealand, 2014). Russell et al. (2014) reported that the combined use of lignocaine and the 'buzzy' device

resulted in significant pain reduction in participants. Additionally, their five-month audit revealed that these analgesic interventions had been popular in the RF population, with a 71% uptake. The Office of the Prime Minister's Chief Science Advisor (2021) report concurred with these findings and further suggested that applying topical numbing cream prior to administering the injection, along with post-administration massage, demonstrated additional improvements in participants' pain.

Improved patient adherence is attributed to flexible administration schedules associated with nurse-led community RF services (Office of the Prime Minister's Chief Science Advisor, 2021; Anderson et al., 2019; Barker et al., 2017; Anderson et al., 2016; Anderson, Leversha, et al., 2017). RF services that did not offer flexibility in the location and timing of treatment proved to act as a barrier (Anderson et al., 2019; Office of the Prime Minister's Chief Science Advisor, 2021). Anderson, Leversha, et al. (2017) and Barker et al. (2017) stated respondents described how having nurses come to their homes, schools, or places of work and offering times for their IMI on the weekend prevented many access complications. In addition, Anderson et al. (2016) highlighted that the community-based Mana Kidz school nurse-led RF initiative was effective in improving prophylaxis adherence.

> *It's all about removing the barriers; they* [Mana Kidz staff] *don't say they can't do things. They are very flexible and will make the situation work for our Pasifika and Māori families*. (School staff) (Pg 41).

The findings indicated that implementing school-based clinics reduced the incidence of RF by improving adherence to secondary prophylaxis. This positive outcome was attributed to the enhanced flexibility and reduced access barriers to healthcare provided by school-based clinics.

### 3.3 | Theme three: Cultural competency

Cultural competency was represented in five articles (Anderson, Leversha, et al., 2017; Anderson et al., 2019; Anderson et al., 2020; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). It was evident that there needed to be a better understanding on how health services delivery aligned with the population it served. This misalignment created barriers to access and engagement for families with cultural-specific values and needs (Anderson et al., 2019). Therefore, as Māori and Pacific populations are at the highest risk of RF, Māori and Pacific nurses need to be included in their care (Heart Foundation of New Zealand, 2014). Cultural concordance refers to the alignment between a healthcare provider's cultural background, language, beliefs, and values and those of the patients they treat (Anderson, Leversha, et al., 2017). Four studies stressed the importance of cultural concordance in improving culturally competent nursing practice (Heart Foundation of New Zealand, 2014; Anderson, Leversha, et al., 2017; Anderson et al., 2020; Office of the Prime Minister's Chief Science Advisor, 2021). Research highlights that Pacific Islanders' experience a sense of comfort and reduced anxiety when seeing nurses who share their Pacific heritage (Anderson, Leversha, et al., 2017). Similarly, due to shared cultural understanding and views, cultural concordance between patients and nurses promotes effective communication, facilitates trust, and increased participation in healthcare services (Anderson et al., 2020; Anderson, Leversha, et al., 2017).

> *'If I had a Pacific doctor or nurse, I would feel more comfortable talking to a Poly [sic] doctor than to other doctors [of an] other nationality … if I was [to] talk to a Pacific Islander, I would be more likely to express how I feel, I guess. I wouldn't be scared'* (Anderson, Leversha, et al., 2017-Pg 23).

Incorporating cultural-specific communication in RF nursing care is pivotal to provide culturally competent practice (Anderson, Leversha, et al., 2017; Anderson et al., 2020; Office of the Prime Minister's Chief Science Advisor, 2021). In order to surmount language barriers and facilitate comprehension of RF education, RF educational materials need to be delivered in diverse languages (Anderson, Leversha, et al., 2017; Anderson et al., 2020; Office of the Prime Minister's Chief Science Advisor, 2021). The understanding of English-written RF educational resources by Pacific individuals can be challenging (Office of the Prime Minister's Chief Science Advisor, 2021). However, limited Pacific language resources are currently available (Anderson et al., 2020). Anderson, Leversha, et al.'s (2017) highlighted the importance of cultural-specific communication and education. They explained that when a nurse explained the English-written RF pamphlet in Tongan, the Tongan patient finally understood what RF was and why it was essential to treat.

Being culturally responsive and respecting people's beliefs is crucial in providing culturally competent care (Anderson, Leversha, et al., 2017; Anderson et al., 2019; Anderson et al., 2020; Office of the Prime Minister's Chief Science Advisor, 2021). Currently, healthcare services are not suited for the individuals it serves; the Westernised medical model does not align with Māori and Pacific holistic approaches to health (Office of the Prime Minister's Chief Science Advisor, 2021). Lack of cultural responsiveness in nursing refers to the inadequacy to recognise, understand, and respond to cultural needs, beliefs, values, and practices of patients from diverse backgrounds; for example, when nurses touch the head of a Māori patient without permission (the head is deemed sacred) (Office of the Prime Minister's Chief Science Advisor, 2021). Cultural insensitivity was also experienced during home visits, where a Samoan woman spoke of her discomfort receiving an IMI from a male nurse when her husband was not home (Anderson, Leversha, et al., 2017). These examples show the importance of nurses acquiring a comprehensive understanding of Māori and Pacific holistic health approaches to foster culturally responsive practice. Moreover, various respondents in Anderson et al.'s (2020) study iterated this by highlighting the importance of employing ethnic-specific approaches in nursing by incorporating cultural practices.

### 3.4 | Theme four: Therapeutic nurse patient relationships

Therapeutic nurse–patient relationships were represented in five studies (Anderson, Mills, & Eggleton, 2017; Barker et al., 2017; Anderson, Leversha, et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). These relationships were characterised by building rapport, trust, and whanaungatanga (connection), which played a crucial role in patient's active engagement with RF services (Anderson, Mills, & Eggleton, 2017; Barker et al., 2017; Anderson, Leversha, et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). Patient engagement refers to patients taking an active role in managing their condition, following recommended treatments, and making informed decisions about their healthcare (Anderson, Leversha, et al., 2017). The therapeutic nurse–patient relationship facilitates open communication, allowing nurses to gain insight into their patient's unique needs, preferences, and concerns; in turn, this enables nurses to individualise care, promoting patient engagement. Furthermore, Anderson, Mills, and Eggleton (2017) reported that therapeutic relationships significantly influenced patients' treatment and management of RF due to increased engagement with services. Specifically, this phenomenon is exemplified by enhancing patients' adherence to IMI regimens (Anderson, Leversha, et al., 2017; Barker et al., 2017; Heart Foundation of New Zealand, 2014). The Heart Foundation of New Zealand (2014) noted that improved adherence to prophylaxis IMI was evident in cases where individualised personal and positive nurse–patient rapport was developed. In contrast, antagonistic interactions between nurses and patients resulted in patients refusing their IMI (Barker et al., 2017).

A widely reported component of therapeutic nurse–patient relationships was effective communication by nurses (Anderson, Leversha, et al., 2017; Anderson, Mills, & Eggleton, 2017; Barker et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). Effective communication includes maintaining eye contact, listening, paying attention, answering questions, showing interest, and asking relevant questions (Office of the Prime Minister's Chief Science Advisor, 2021). When nurses did not listen to patients and were dismissive of their questions and experiences, patients felt their relationship with healthcare providers was hindered (Anderson, Mills, & Eggleton, 2017). Nurses' attitudes and views, an integral part of effective communication, were also reported to impact their ability to create therapeutic relationships with their patients (Anderson, Leversha, et al., 2017; Anderson, Mills, & Eggleton, 2017; Barker et al., 2017). Anderson, Mills, and Eggleton's (2017) stated healthcare provider's friendly attitudes and non-judgmental views assisted their ability to create whanaungatanga with patients. Similarly, patients value healthcare professionals who can laugh with them (Anderson, Mills, & Eggleton, 2017) as was similarity reported by Barker et al. (2017) that when nurses were 'friendly,' 'really nice', and 'cool' this facilitated therapeutic relationships.

## 4 | DISCUSSION

This review found that nurses require comprehensive knowledge of the etiological factors and diagnostic features of RF to be able to recognise and refer, or accurately diagnose RF (Anderson, Leversha, et al., 2017; Anderson, Mills, & Eggleton, 2017; Oliver et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). This is congruent with Graber et al. (2018), who similarly found that the most crucial determinant of accurate and timely diagnosis is comprehensive knowledge of the condition and associated factors. In addition, it is important for nurses to have knowledge and understanding of the risk factors for the population group they are caring for, as well as the relevant diagnostic criteria (Heart Foundation, 2023; McMillan et al., 2021). Accurate diagnosis is important for the health and wellbeing of Tamariki (children) and Rangatahi (young people) where missed or delayed diagnosis can have dire consequences including predisposing individuals to recurrent RF, cardiac impairment, and premature death (Heart Foundation of New Zealand, 2014). Therefore, continuous education, training, and professional development are required to ensure nurses have comprehensive knowledge and understanding of RF to effectively contribute to its diagnosis and management (Techane et al., 2022).

In addition to possessing knowledge regarding the medical nuances of RF, nurses should have a comprehensive understanding of the underlying socioeconomic determinants. This review found that nurses require in-depth knowledge of the available community support services to provide holistic care to patients (Anderson et al., 2016; Anderson, Leversha, et al., 2017; Office of the Prime Minister's Chief Science Advisor, 2021). By understanding and addressing the socioeconomic determinants of health, nurses can provide more holistic care by mitigating disparities (Hirschey et al., 2021). As frontline healthcare providers, nurses are in a privileged position to help bridge the gap between underlying socioeconomic determinants and RF prevention by referring patients to community support services (Techane et al., 2022). For example, in Aotearoa, NZ, if a patient is experiencing housing issues, nurses can refer them to free housing assistance programmes, such as the 'Awhi' (to embrace), a healthy homes initiative (The National Hauora Coalition, 2023). However, this holistic approach relies on nurses' knowledge of the available community support services and their ability to process the referrals (Beidler et al., 2022; Lathrop, 2020). Through this knowledge, nurses gain the ability to effectively address patients' unmet needs, thereby bridging the gap between socioeconomic determinants and RF prevention.

Moreover, nurses can further bridge the gap between socioeconomic determinants and RF prevention by specifically addressing patients' limited access to services. Lack of access has been well established as a significant barrier to BPG adherence (Liaw et al., 2022). Specifically, Adem et al. (2020) found that the leading barriers were travelling distance (56.9%) and inconvenient work schedules (22.5%). In this review, it was reported that improved patient adherence is attributed to community-based flexible administration

schedules; nurses coming to patient's homes, schools, or places of work and offering times on the weekend prevented many access complications (Office of the Prime Minister's Chief Science Advisor, 2021; Anderson et al., 2019; Barker et al., 2017; Anderson et al., 2016; Anderson, Leversha, et al., 2017). These findings correspond with those of Kevat et al. (2017), who highlighted the positive impact nurses administering prophylaxis BPG at patients' homes had on adherence. Community-delivered care addresses several access complications, specifically by overcoming transportation barriers, mitigating financial issues such as the cost of public transport, minimising time off school and work, and catering to shift work (Graves et al., 2022). Therefore, nationwide, nurse-led RF prophylaxis services should be community-based to offer flexibility to patients and address the access barriers to healthcare. This will likely lead to increased adherence to IMI, reducing the incidence of RF and reoccurrences.

Acknowledging that RF prevention in Aotearoa, NZ extends beyond the clinical domain and requires cultural dimensions to facilitate efficacious care is essential. There needs to be more alignment between how health services deliver care and the approach needed by the population it serves (Anderson et al., 2019). The increased prevalence of RF in Māori and Pacific populations exemplifies racial inequity in healthcare (Talamaivao et al., 2020). In Aotearoa, racism is recognised as a significant determinant of health disparities (Burgess, 2016). Disrespectful interactions within healthcare reinforce Māori and Pasifika perceptions that these services are unfriendly, judgemental, and challenging to navigate, consequently contributing to their avoidance of services (Wilson et al., 2021). In turn, racism results in inequitable health outcomes (Burgess, 2016; Talamaivao et al., 2020). To enhance health outcomes for Māori and Pacific individuals in Aotearoa, nurses need to deliver culturally competent care that meets the needs of these populations (Graham & Masters-Awatere, 2020). There is growing acknowledgement of the importance of cultural competency to achieve equitable healthcare (Curtis et al., 2019). However, this review revealed a scarcity of literature, with only five articles underscoring the crucial role of culturally competent nursing practices in RF care (Anderson, Leversha, et al., 2017; Anderson et al., 2019; Anderson et al., 2020; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). This dearth is concerning, as the absence of cultural competency hinders meaningful progress and effective interventions in addressing the disparities these communities face in Aotearoa.

Being culturally responsive is also crucial to provide culturally competent care, as discovered in this review (Anderson, Leversha, et al., 2017; Anderson et al., 2019; Anderson et al., 2020; Office of the Prime Minister's Chief Science Advisor, 2021). Cultural competence is strongly related to services providing culturally responsive care (Gradellini et al., 2021). Culturally responsive nursing focuses on actively engaging with patients' beliefs and values, recognising culture's influence on health, and adapting practices accordingly (Wilson et al., 2018). Wyber et al. (2022) emphasised the importance of culturally responsive care in RF prevention for indigenous populations, as it encourages engagement and participation in services. However, the Westernised medical model of healthcare in Aotearoa, NZ does not align with Māori and Pacific holistic approaches to health (Office of the Prime Minister's Chief Science Advisor, 2021). Wilson et al. (2021) found the same; the NZ health system is informed primarily by a 'one-size-fits-all' approach, contradicting Māori and Pacific relational-based worldviews of health. This was exemplified in the review, where nurses touched the heads (tapu) of Māori patients without their permission (Office of the Prime Minister's Chief Science Advisor, 2021). Respecting people, places and objects that are tapu (sacred, restricted) is fundamental for Māori health and well-being (Wilson et al., 2018). The disregard for Māori culture and the discriminatory practices of health professionals lead to the avoidance of healthcare services, including those related to RF (Wilson et al., 2021). From an equity perspective, adopting a 'one-size-fits-all' approach to care is inherently flawed and culturally unsafe (Wilson et al., 2018). Overall, it is essential that nurses actively engage with patients' cultures to provide care that honours and respects their beliefs and values. To be culturally responsive, nurses must examine their biases, beliefs, attitudes, prejudices, and assumptions and their potential impact on patient care (Dawson et al., 2022; Wilson et al., 2018).

To further enhance patient engagement in RF care, nurses should focus on establishing therapeutic relationships (Anderson, Mills, & Eggleton, 2017; Barker et al., 2017; Anderson, Leversha, et al., 2017; Heart Foundation of New Zealand, 2014; Office of the Prime Minister's Chief Science Advisor, 2021). In this review, Anderson, Mills, and Eggleton (2017) found that friendly attitudes, non-judgmental views, and a sense of humour assisted nurses' ability to create whanaungatanga (relationships) with patients and supported patient autonomy. A friendly and kind attitude helps to create a welcoming and approachable environment, making patients feel more comfortable to share their concerns (Bradshaw et al., 2022). Non-judgmental views foster a safe space for patients to express themselves without fear of criticism or discrimination, encouraging honest and transparent communication (Haley et al., 2017). Overall, effective communication is an essential facilitator of therapeutic nurse–patient relationships. Nurses should actively listen to patients and be non-judgmental, kind and friendly to ensure they can build these relationships with patients.

Although this integrative review has highlighted many initiatives that would be desirable for nurses to implement to improve inequitable health outcomes for those at risk for RF, nurses, like many health professionals, are privy to sociopolitical barriers to the care they provide and need support from the organisations that they work within. Great care is often idealised yet hindered by workforce shortages, staff burnout and, more recently, recovery from the COVID-19 pandemic (Tenbensel et al., 2023). Work environments have increasing patient complexity and patient management systems that do not flex to cater to increases in acuity (Clendon, 2011). Education opportunities in primary health care are often missing across both undergraduate and postgraduate spaces, with a firm career pathway planning,

incentives to upskill and provision of mentoring needed (Finlayson et al., 2009). However, recently, the government has been prioritising spending in primary healthcare, and there are many exciting opportunities for nurses to become nurse practitioners with incentives offered to the Māori and Pacific NP workforce (Adams et al., 2020). This can potentially enhance opportunities for skilled nurses to work within high-risk RF populations.

### 4.1 | Strengths and limitations

This review addresses a gap in the literature for nursing practices related to RF in a high-risk settings. Although these studies in this review were exclusively conducted in Aotearoa, NZ the review's relevance and applicability can be applied globally to other countries that share high incidence of RF. However, limitations also exist; although the author took care to make sure the most up-to-date resources were discovered during the systematic search, it is possible that some articles may have been omitted due to the key words utilised. It is likely that additional evidence exists beyond the confines of the search terms employed in this study.

There is potential for bias in the data extraction and synthesis. This was mitigated by ensuring that the studies were quality appraised and that the research team individually checked the themes for mutual understanding. The presence of potential publication bias should also be acknowledged by only including published studies, as studies with significant findings are more likely to be published, while those with non-significant or negative results are not.

## 5 | CONCLUSION

This study highlights nursing practices that optimise RF prevention in Aotearoa. NZ and can be applied globally. The research findings suggest that for RF prevention to be successful, nurses should have in-depth knowledge and understanding of RF. This ensures accurate diagnosis and subsequent treatment of RF and assists in bridging the gap between the socioeconomic determinants and RF prevention. RF nursing services should be community-based to offer flexibility to patients and prevent any access complications. Furthermore, to improve BPG adherence, nurses can educate patients to enhance health-seeking behaviour and utilise analgesic interventions to reduce the associated pain. Since Māori and Pacific populations are most affected by RF in Aotearoa, NZ, it is pivotal that nurses provide culturally competent care. Specifically, nurses should ensure cultural-specific communication and culturally responsive practice to foster patient engagement in RF services, a vital component of RF prevention. Continued efforts must be made to increase the number of Māori and Pacific nurses in Aotearoa, NZ, as cultural concordance between patients, families, and nurses in RF care is crucial. Lastly, nurses establishing therapeutic relationships with their patients also promote engagement with RF services.

### AUTHOR CONTRIBUTION

RM and RM conceived and designed the study. RM and RM undertook the database searches and initial screening. RM and RM undertook the critical appraisals of all included documents. RM and RM extrapolated the data and undertook the synthesis of the findings. RM, RM, MF and JB undertook a further critical review of the analyses and results and RM, RM, MF and JB performed editing and writing of the original and revised manuscript.

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### CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest.

### DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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