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Papers in all areas of nursing are welcome. Authors should present original work, or new and original analysis of existing work. Letters to the editor are also published. All articles and manuscripts will be subjected to the same rigorous review process.

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FROM THE EDITOR: **Patricia McClunie-Trust**

Ensuring our nursing research sees the light of day

Tēnā koutou, tēnā koutou, tēnā tatou katoa.

Welcome to the 2024 edition of *Kaitiaki Nursing Research.* As we publish the 15th edition of the journal, I am reflecting on the evolution of nursing research in Aotearoa, New Zealand, particularly the optimism and challenges described by Chick (1987) and Chick and Kinross (2006) in the second part of the last century. These pioneers highlighted the importance of nursing research in advancing the profession and supporting health-care outcomes. In the late 1980s, Chick (1987) optimistically noted that nursing research seemed on the cusp of a new era. However, despite the passion and energy for innovative research projects, nurse researchers faced significant challenges, particularly a lack of funding. As Chick and Kinross (2006, p. 149) noted, "*Many hours and much energy went into planning projects that never gained a funding source and therefore never saw the light of day."* Despite a sense of beginning a new era of nursing research in the 1980s, many promising projects remained unfulfilled (Litchfield, 2009).

Nursing research in Aotearoa, New Zealand has progressed in recent years, with a stronger focus on producing evidence-based knowledge that directly influences practice, policy and education. It has called attention to systemic issues, including health-care equity, culturally responsive care, and the specific needs of Māori and Pacific populations. However, the challenges of earlier days persist, particularly in securing sustainable funding, aligning research with health-care policy needs, and ensuring research findings are implemented effectively in practice. Nursing research is essential for advancing nursing education in New Zealand – the robust integration of research into academic programmes is vital to prepare future nurses with a strong foundation in research literacy and evidence-based decision-making. It must also produce knowledge that illuminates the purpose and scope of nursing in the unique and increasingly more complex demands of nursing roles in Aotearoa, New Zealand.

Kaitiaki Nursing Research welcomes submissions that explore diverse aspects of nursing practice, education, policy, and patient care. Getting published in *Kaitiaki Nursing Research* enables researchers and practitioners to share findings with a broader audience, fostering a collaborative approach to addressing health-care challenges. In this edition, the journal has collaborated with Te Wāhanga Rangahau Tapuhi – the New Zealand Nurses Organisation (NZNO) Nursing Research Section, to share the commitment to fostering a robust culture of inquiry and evidence-based practice.

Researched viewpoint

The researched viewpoint by Brownie and Broman highlights the critical role of a robust domestic nursing workforce in New Zealand's health-care system, where nurses form more than half the regulated health workforce. Given the ageing demographic of nurses and New Zealand's high proportion of internationally qualified nurses (IQNs), the urgency for data-driven workforce planning is pressing. Challenges such as retirement projections and heightened reliance on IQNs require immediate action, especially in light of disparities in health-care access and outcomes for Māori, Pacific, and rural communities, where domestically trained, culturally aligned nurses are vital. With the current health and vocational education reforms adding complexity, addressing New Zealand's nursing workforce challenges necessitates proactive data-sharing and analysis to support a sustainable and effective health-care system.

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Primary research studies

Malone and Bingham assessed the impact of an eight-week credentialed trauma-informed care course on health-care professionals' attitudes toward implementing trauma-informed practices. A trauma-informed approach helps health-care providers understand service users' experiences more deeply and effectively. A quasi-experimental pre-and-post-study design was applied using purposive sampling. The ARTIC-35, a validated tool, measured participant attitudes toward trauma-informed care before and after the course.The results of this study suggest that trauma-informed care is essential for the delivery of optimal care and benefits both patients and health-care providers by improving self-efficacy and care outcomes. As the largest health-care workforce, registered nurses (RNs) are pivotal in integrating trauma-informed practices and enhancing the quality of patient care.

> **A trauma-informed approach helps health-care providers understand service users' experiences more deeply and effectively.**

Research reviews

Toneycliffe's literature review sought to identify motivations for RNs in clinical practice to transition into nursing education. With an increasing demand for RNs, retaining a strong nursing education workforce is essential. The findings of this review showed RNs who transitioned into teaching roles in nursing education citing various motivations and challenges. The autonomy and satisfaction of giving back to the profession and training future nurses appealed to some, while academic aspirations motivated others. Dissatisfaction with clinical environments also prompted some nurses to shift to education. The rising demand for nursing education requires a growing educator workforce to handle increased student intakes into pre-registration programmes. Understanding the motivations behind nurses' transitions from clinical practice to education can help develop sustainable recruitment and retention strategies for nurse educators in tertiary institutions.

The integrative review by Gilbertson and McClunie-Trust explored whether behaviour therapy improves well-being in adults with epilepsy. Epilepsy complicates daily life through unpredictable seizures and treatment side-effects, with adverse effects on well-being. Behaviour therapy has shown benefits in self-management and enhancing well-being in other chronic conditions. Quantitative data from the 16 studies included in the review revealed three significant themes that indicated improvements in well-being. Barriers such as transportation, memory issues, and technology literacy affected participation in the studies. However, the findings of this review suggest that behaviour therapy shows potential for improving well-being in adults with epilepsy.

Research brief

Aotearoa, New Zealand faces a rapidly ageing population, with numbers aged over 65 projected to grow by 36 per cent between 2021 and 2031. As life expectancy rises, older adults are expected to live longer with chronic illnesses, increasing health-care demands. Nurses, positioned at the frontline, are key to addressing these needs. The polytechnic sector, responsible for training the majority of nursing graduates, plays a critical role in ensuring future nurses are well-prepared for this demographic shift. A review of recent literature by Heath et al. replicated a survey by Neville et al. (2008) to assess core components in nursing curricula for aged care. Research questions explored the definition, timing, settings, and educational experiences of aged-care placements and staff and student preparation processes in polytechnic nursing programmes. This review identified additional factors affecting aged-care education, including clinical examples used in teaching, types and timing of clinical placements in aged care, student preparation for placements, and the quality of supervision. Researchers also noted the importance of the curriculum addressing demographic shifts and intersectional factors.

Methodology

The methodology resource by Woods explores ResearchGate as a professional forum and hub for sharing knowledge, publications and research data. ResearchGate is a platform for researchers to collaborate across institutional and international boundaries. Woods explains how researchers can sign up, find resources, share their research internationally, and track who is reading and citing their publications.

NZNO Nursing Research Section

In the final section of this year's edition, we have included a report from Te Wāhanga Rangahau Tapuhi, the NZNO Nursing Research Section, which was established in 1975 and currently has 377 nurse researcher members. The report outlines the section's mission, aims and recent activities, including commentary on the research forum held in Tamaki Makaurau, Auckland, in early October, themed *"Hoki whakamuri, kia anga whakamua – Look at the past to help forge the future."* We have published five abstracts from the presentations at the October forum.

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RESEARCHED VIEWPOINT:

Sharon Brownie and Patrick Broman

Growing our own: The abyss of data monitoring and support for New Zealand's domestic nursing workforce pipeline

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Nurses, the backbone of the health sector (Salmond & Macdonald, 2021), comprise more than 50 per cent of the regulated health workforce in New Zealand (New Zealand Nurses Organisation, 2018) with 74,497 current annual practising certificates (APCs) (New Zealand Nurses Organisation, 2018; New Zealand Nursing Council, 2023). It goes without saying that investment in, and support and retention of, the domestic nursing pipeline and workforce is of critical importance (Salmond & Macdonald, 2021). While internationally qualified nurses (IQNs) make a critical contribution to the New Zealand workforce, a healthy domestic nursing pipeline is key to culturally-aligned care and improved health outcomes (Derouin, 2022; Komene et al., 2023; Moore et al., 2022; Wilson, 2018). The reported strengths of domestically-qualified nurses include better communication with patients, increased patient satisfaction, and enhanced patient outcomes in several areas (Derouin, 2022; Moore et al., 2023). Given the longstanding inequities in health service access and outcomes for Māori, Pacific and regionally remote communities, Māori and Pacific nurses are particularly important (Komene et al., 2023; Wilson, 2018; Wilson et al., 2022).

New Zealand is not alone in facing challenges regarding its home-grown nursing workforce. In a recent report, *Sustain and Retain in 2022 and Beyond,* the International Council of Nurses recommends that countries each undertake immediate and ongoing assessments of the local nursing workforce, including factors such as new-graduate entries, retirements, turnover, retention and migration (both incoming and outgoing) to underpin data-informed planning for nursing workforce education, development and retention (Buchan et al., 2022). Against this backdrop, we have attempted to access data to inform a current state-assessment of New Zealand's domestic nursing workforce pipeline. While some data was easily sourced, access to a full and complete picture proved impossible.

While some data was easily sourced, access to a full and complete picture proved impossible

A 2019/2020 touch point seemed a plausible starting point in the search for data. In 2020, the World Health Organization (WHO) published its first *State of the World's Nursing* report, drawing data from 191 member states (World Health Organization, 2020a). The profile for New Zealand reported 27.25 per cent of the total nursing workforce as "foreign trained", ranking New Zealand with the highest

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percentage of IQNs of countries surveyed (World Health Organization, 2020b). The vulnerability of New Zealand's nursing workforce was further noted with the fact that 32 per cent of nurses were aged 55 years and over – a third of the workforce likely to retire in the next 10 years (World Health Organization, 2020b). In profiling these vulnerabilities, the WHO report did not envisage the pending pandemic and its significant impacts, nor did it consider New Zealand's specific risk factors such as the impact of the prolonged period of uncertainty and change associated with reforms of the health and vocational education sectors (Te Pūkenga, 2021; Tertiary Education Union, 2019). These factors have only exacerbated New Zealand's reliance on IQNs, who, by September 2023, are reported to comprise 40.7 per cent of the workforce (New Zealand Nursing Council, 2023). Of 4505 nurses joining the register in the September 2023 quarter alone, 3885 (86 per cent) were IQNs and 620 (14 per cent) domestically-qualified nurses (NZQN) (New Zealand Nursing Council, 2023).

Matters of health workforce supply and demand are complicated issues, with the extent and causality of drivers not easily apparent – detailed data analysis is required to better understand patterns and trends. Almost two decades ago, North and Hughes (2006) expressed frustration at the lack of data available for workforce planning – a sentiment echoed by Health Workforce New Zealand (Ministry of Health, 2016) and the policy recommendations of Shaw and Heap (2022). Each highlighted the urgent need to connect information held within various entities as well as a need to link the unconnected "islands of expertise" (Ministry of Health, 2016; North & Hughes, 2006; Shaw & Heap, 2022).

Responsibility for, and information related to, the nursing pipeline and employed workforce is held by a multitude of entities, including the Ministries of Health and Education; the Tertiary Education Commission (TEC); New Zealand Qualifications Authority (NZQA); Te Whatu Ora; the Department of Immigration within the Ministry of Business, Innovation and Employment; and the New Zealand Nursing Council, to name a few (Ministry of Health, 2016). Information is fragmented and often inconsistent, and while some information is gleaned via parliamentary questions and official information requests (OIAs), the overall picture remains incomplete.[1] Analysis of data that can be collected paints a disturbing picture of a lack of unified governance, of uncoordinated data monitoring and of insufficient support for the preparation of a domestic nursing workforce:

- **Lack of coordination of nursing education and workforce data:** Previously reported problems (Ministry of Health, 2016; North & Hughes, 2006) of inaccessible and inconsistent nursing and workforce data remain unaddressed. Health Workforce New Zealand has attempted to improve data about the nursing and overall health workforce (Ministry of Health, 2016), drawing from multiple sources including regulatory bodies (the Nursing Council), the Ministry of Health, district health boards, private sector employers, and official data-sets. However, its 2016 report concluded that because various organisations released data using different methodologies, at different times of the year, there are significant limitations in the ability to obtain a cohesive view of patterns and trends (Ministry of Health, 2016).

  Almost a decade later, the issue of data fragmentation persists. For example, the training funder (the TEC) does not hold specific data about nursing enrolments and is unable to determine whether student intakes have declined or increased (Tinetti, 2023b). Inquiries regarding which providers are funded to provide postgraduate papers linked to the nurse entry to practice (NETP) programme were refused as too time intensive to collate (Verrall, 2023). Similarly, questions to Te Pūkenga about the turnover of nurse educators since the introduction of the Reform of Vocational Education (RoVE) revealed that this data was reportedly fragmented across the different payroll systems and therefore too difficult to collate (Tinetti, 2023e).

The current approach, effectively 'poaching' people with employable skills from other nations, has rightly been described as a 'free rider' labour market policy

- **RoVE impacts and challenges within the Te Pūkenga network:** New Zealand's vocational education sector is grappling with major challenges, including financial deficits, funding shortfalls and the impact of prolonged change associated with the establishment and pending disestablishment of a national provider – Te Pūkenga (Rankin, 2023). The Te Pūkenga network graduates approximately 70 per cent of New Zealand's domestic nurses. Of concern, the RoVE changes seem to have adversely impacted sector performance, affecting programme development and students and faculty alike. Nursing education is currently provided across 13 Te Pūkenga entities, each with a unique curriculum and accreditation process (NZ Nursing Council, 2023). It makes sense to unify aspects of these processes; however, a careful change process would be required to achieve success. A unified Te Pūkenga curriculum was submitted for accreditation in mid-2023 but later withdrawn (Kenny, 2023). NZQA reported inadequate consultation with relevant stakeholders and gaps in the submitted curricula content, structure, governance and delivery arrangements (Tinetti, 2023f). A large-scale loss of nursing leaders from the sector – the retention rate for heads of nursing across Te Pūkenga schools of nursing from January 1, 2019, to July 5, 2023, was 38 per cent (Tinetti, 2023a, 2023c) – is of concern, and is perhaps unsurprising given that the Tertiary Education Union described proposed changes as *"rushed and disrespectful"* (NZ National Party, 2023b; Tertiary Education Union, 2023). Data obtained under the Official Information Act show at least 69 nursing educators having left roles at Te Pūkenga in 2023 alone, with nine from an overall head count of 25 (36 per cent) having departed Waikato Institute of Technology (Te Pūkenga, 2023). In the meantime, delays persist in the intended unification, with a rescheduled accreditation date of November 2023 now scheduled for Quarter 1, 2024, but subject to potential further change aligned with new government direction for Te Pūkenga (NZ National Party, 2023a).

  Concerning trends are also seen in nursing student attrition and completion rates across all three years of Te Pūkenga bachelor of nursing programmes. Data released by Te Pūkenga via OIA (Te Pūkenga, 2023) shows first-year attrition rates from 2022 enrolments as high as one third at some institutions (Unitec and WelTec-Whitireia) and above 20 percent (one in five students) at Eastern Institute of Technology, Manukau Institute of Technology, NorthTec and Waikato Institute of Technology (Te Pūkenga, 2023). That attrition continues into the third and final year of the degree (up to 15 per cent attrition from final-year studies at some providers) is particularly worrying. Urgent research is required into why nursing students are abandoning study throughout the programme, including those close to completion. Additionally,

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[1] For example, private providers are not subject to Official Information Act requirements and the Nursing Council, while a regulatory authority, appears to be exempt.

there is an urgent need to identify effective mitigation strategies to reverse these trends.

- **Lack of support for students in graduate-entry nursing programmes:** Graduate-entry nursing programmes provide a two-year accelerated-entry pathway for students who hold a degree in another discipline. They are relatively new in Australia and New Zealand, developed in response to the workforce demand for more domestically-trained nurses (Macdiarmid et al., 2021). Students undertake a two-year master's in nursing practice, leading to initial licensure as a registered nurse. However, because these programmes are at postgraduate level, students cannot access student allowances (StudyLink, 2023). Further, they are not eligible for social security benefits because of their full-time student status. Students with dependent children, working 20 hours per week on top of full-time study, are eligible for Working with Families tax credits (Inland Revenue, 2023), but these are removed if the weekly work total drops below 20 hours, as is common during clinical placement weeks. Graduate-entry nurses enter the workforce on the same pay and conditions as those coming via an undergraduate pathway and yet they cannot access support during study. The irony is that undertaking a three-year undergraduate nursing degree would qualify them for a student allowance. Choosing an expedited two-year graduate-entry pathway excludes them from this benefit.

- **Disparity of outcomes for Māori and Pacific nursing students:** Māori and Pacific nurses play a pivotal role in the New Zealand health-care system. Their cultural competence and understanding of the unique health needs of their communities make them invaluable assets in providing culturally responsive care (Komene et al., 2023; Wilson et al., 2022). Here, too, data is fragmented and siloed, although evidence provided via OIA by Te Pūkenga (Te Pūkenga, 2023) shows that 2022 attrition rates[2] for Māori bachelor of nursing students, averaged across the 13 providers in the network, were 24.4 per cent from first year, 21.0 per cent from second year, and 13.9 per cent from third year. For Pacific students, averaged attrition rates were 33.4 per cent from first year, 34.8 per cent from second year, and 13.5 per cent from third year (Te Pūkenga, 2023). These rates are considerably higher than those for all learners. A continued failure to address this issue will ensure continued under-representation of Māori and Pacific nurses and hinder efforts towards a more inclusive and equitable health-care system.

- **The unrecognised value of nurse educators:** Nurse education programmes have traditionally grappled with wage disparities between practice and education and between the university and vocational education sectors, with the latter being more poorly remunerated (Ministry of Health, 2016). In July 2023, Te Whatu Ora proudly announced a 6.5 per cent pay equity adjustment for eligible nurses (Te Whatu Ora, 2023). While good news for nurses in practice, the adjustment illustrates typically siloed action in this area, further increasing the pay gap between practice and education and challenging education providers. A parliamentary question to the Minister of Education revealed that the minister had not received advice from Te Pūkenga on pay parity for nurse educators but that it would be considered as part of the network's broader pay parity work in due course (Tinetti, 2023d). Meanwhile, the retention, since 2019, of heads of nursing across the network is 38 per cent at best (Tinetti, 2023b), with further departures since the June 2023 parliamentary question. Nurse educator turnover rates are equally poor, with at least 69 having departed in 2023 (Te Pūkenga, 2023).

In short, the lack of available data points to a mismatched and systemically fragmented system for this critical group within New Zealand's health system – a system devoid of a single point of governance, funding, data and performance monitoring, or accountability. Our rapidly increasing reliance on IQNs points to a national nursing workforce crisis. New Zealand relies on an internationally-qualified workforce and there is no doubt that these nurses should be valued, welcomed, and appropriately supported. However, the transition for many is difficult as they enter a fragmented and uncoordinated system no more capable of looking after them than it is of looking after its own. Better system coordination is needed for all nurses. A key question is – at what point will New Zealand policy-makers appropriately coordinate data, note trends, and improve support for the growth, retention, and ongoing development of NZQNs – including support for both educators and learners within the system?

Ultimately, the picture we paint here points to fundamental shortcomings in New Zealand's labour market and workforce policies. What is the national position with respect to coordinated governance, funding, monitoring and support for the domestic nursing workforce at this time of critical workforce shortage? Do core aspects of current policy adequately support the contributions that the university and vocational education sector must make to ensure a sustainable nursing workforce? Or will the national reality of financial stress and demand for fiscal austerity continue to challenge an under-resourced tertiary education sector and further strain the domestic nursing pipeline? The current approach, effectively "poaching" people with employable skills from other nations has rightly been described as a "free rider" labour market policy (Rankin, 2023). Whole-of-government coordination towards fixing New Zealand's domestic nursing pipeline is urgently needed.

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[2] Attrition rates are defined as the percentage of learners with no qualification completion or future year enrolment recorded (ie these numbers are for 2022 BN students in the given year of their degree who neither completed nor enrolled in the degree in 2023). Ethnicities are as indicated by learners at the time of enrolment. Here, percentage attrition rates for each institution are summed and averaged across the number of Te Pūkenga bachelor of nursing providers providing data (ie those with four or more learners in each year and ethnic group).

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Trauma-informed care: Can education help develop a more trauma-informed workforce?

ABSTRACT

Aim: The aim of the study was to measure the effectiveness of an eight-week trauma-informed care credentialled course on the attitudes of health-care professionals towards being trauma-informed in their practice.

Background: People engaged with mental health and addictions services are more likely to have experienced trauma than the general population. At the same time, health-care professionals working in these services are at risk of experiencing secondary or vicarious trauma as a result of working with people who have experienced trauma. Service providers need to ensure their workforce is equipped to recognise the multidimensional impact of traumatic experiences. Achieving this goal requires understanding service users' experiences through a trauma-informed lens.

Method: A quantitative quasi-experimental pre-and-post teaching study was undertaken, using purposive sampling. Data were collected pre- and post-course using the ARTIC-35, a reliable and validated tool.

Results: Results indicate a significant difference in pre- and post-scores.

Discussion: The findings suggest that participation in the course had positive outcomes for participants regarding their attitudes towards trauma-informed care.

Conclusion: Trauma-informed care is considered best practice. Professional development in trauma-informed care for health-care professionals, including undergraduate and registered nurses (RNs), may improve care and outcomes across the health sector for those who have experienced trauma. Trauma-informed care not only benefits those receiving care, but also those delivering care by enhancing self-efficacy. As the largest professional health-care workforce, RNs are in a unique position to provide trauma-Informed care and influence the quality of care patients receive.

KEYWORDS

Health-care professionals, mental health and addictions, registered nurses, trauma-informed care, professional development

INTRODUCTION

The need to provide trauma-informed care across a range of social services is increasingly recognised because of the prevalence of trauma experiences (Baker et al., 2015; Isobel et al., 2021; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014a; Sundborg, 2019). Such services include mental health and addictions, education, public health, criminal justice and social services (SAMHSA, 2014a; SAMHSA, 2014b; Ministry of Health [MOH], 2017). People who experience mental health and addiction challenges are more likely to have experienced trauma (Isobel, 2021; Muskett, 2014; SAMHSA, 2014a; Sweeney et al., 2018) which is often complex in nature (Cloitre et al., 2019). To provide trauma-informed care, health-care professionals need to understand and be responsive to the multidimensional impact of trauma on the person, their family/whānau and the wider community (Champine et al., 2018; MOH, 2017; Pihama & Smith, 2023).

Trauma-informed care is grounded in and directed by a thorough

Table 1. The 10 ACEs originally identified by Felitti et al. (1998)

Abuse	Neglect	Household dysfunction
1 Physical	4 Physical	6 Mental illness
2 Emotional	5 Emotional	7 Violence towards mother
3 Sexual		8 Divorce
		9 Substance abuse
		10 Incarcerated family member

understanding of the neurological, biological, psychological and social effects of trauma and the prevalence of these experiences in persons who seek and receive mental health and addiction services (SAMHSA, 2014a). The importance of providing trauma-informed care is recognised internationally across health and social services (SAMHSA, 2014b; Niimura et al., 2019) because of its potential to help people with trauma experiences feel safe, heal from trauma and regain their personal developmental trajectories (SAMHSA, 2014b). Creating a more trauma-informed workforce, as well as maintaining that change, requires organisations to be interested in and committed to making the necessary changes to workplace culture (Yatchmenoff et al., 2017).

A trauma-informed workforce is one that assumes all those seeking care may have experiences of trauma; is aware the person seeking care risks being traumatised again by seeking care; and understands that care should be delivered using trauma-informed practices that are trauma-sensitive and minimise further harm (Royal Australian and New Zealand College of Psychiatrists [RANZCP], 2020). However the implementation of trauma-informed care across social services continues to be challenging (Berg-Poppe et al., 2022; Sundborg, 2019). One of the factors influencing the development a trauma-informed system is whether those working in the system have favourable attitudes towards trauma-informed care (Baker et al., 2015). Where attitudes are less favourable, interventions are needed to support attitudinal change.

BACKGROUND

Conceptualising trauma can be challenging, as definitions and experiences of trauma are both extensive and narrow, as well as complex and diverse (McChesney, 2022). There are several definitions of trauma and trauma-informed care in the literature (Champine et al., 2022; Guest, 2020; Hopper et al., 2010; Pihama et al., 2020; SAMHSA, 2014a). For the purposes of this article, the predominantly Western world view from the United States Substance Abuse and Mental Health Services Administration (SAMHSA) will be used.

Trauma has been described as an event or series of events experienced by a person or persons that are perceived as physically, or emotionally harmful, or life threatening, which has lasting adverse effects on the individual's ability to function mentally, physically, socially, emotionally and spiritually (SAMHSA, 2014b). This includes, but is not limited to: trauma that occurs as a single event to a single person (SAMHSA, 2014b); in communities, such as the immediate experiences of terrorism; or intergenerationally, such as the experience of colonisation in Aotearoa, New Zealand (Fortuna et al. 2022); or vicariously, through hearing about or witnessing another's experience (SAMHSA, 2014b). Experiences of trauma are not uncommon, with the World Health Organization gauging that approximately 70 per cent of people will experience a traumatic event in their lifetime (Kessler, 2017).

It is essential to understand the particular impact of developmental trauma and adverse childhood experiences (ACEs) -- studies report the affect of such events on brain architecture in the first 1000 days from conception is critical (Felitti et al., 1998; Hambrick et al., 2019; Linnér & Almgren, 2020; Woo Baidal et al., 2016). Influential factors such as environment, genetics, epigenetics and social determinants profoundly affect brain development (Hambrick et al. 2019). Brain development is over-sensitised by prolonged activation of the stress response (Avery et al. 2020), sensitising future neural responses to even minor occasions of perceived stress (Van der Kolk, 2005). It is important to expand the definition of ACEs to include experiences outside the home to ensure that solutions include macro community and society-focused interventions, rather than only that of the individual or family/whānau (Metzler, 2017). Expanded ACEs include experiences such as poverty, discrimination, bullying and community violence caused by structural racism, and structural violence often experienced by minority populations (Bernard et al., 2021). The 10 ACEs originally described by Felitti et al. (1998) are displayed in Table 1 (above).

Since the original ACE study undertaken by Felitti et al. (1998), there has been a growing consensus that ACEs increase the risk of an individual experiencing mental health and addiction issues later in life, as well as the likelihood of involvement with the criminal justice system (Moffitt et al., 2013; Skarupski et al., 2016). Trauma experiences correlate negatively with mental, physical and social wellbeing (Siegel, 2012), resulting in costly public health problems (Isobel & Edwards, 2017), health inequality, poorer long-term health outcomes and reduced quality of life (Reid et al., 2023). Services need to be equipped to improve users' experience of them, as well as the experiences of those working in them. A service practising trauma-informed care can be enabled by developing a workforce which asks: "What has happened to you?" rather than "What is wrong with you?" (Sweeney et al. 2018)

In contemporary society, events such as ongoing intergenerational and historical trauma (Smallwood et al., 2021), natural disasters (Fergusson et al., 2015) and the global trauma of the COVID-19 pandemic (Masiero et al., 2020) have further perpetuated or exposed people to mass trauma experiences. Recent literature suggests that the impact of the global mass trauma experienced from COVID-19 has resulted in a second "trauma" pandemic, occurring due to the distress and psychological harm caused by the original pandemic (Goddard et al., 2021). Addressing historical and intergenerational trauma is a priority for services in countries where the colonisation of the indigenous people (for example Aotearoa, New Zealand) has occurred (Darwin et al., 2023; McClintock et al., 2018; Patterson et al., 2018). The ongoing effects of the trauma experienced through loss of land, forceable removal of children and acculturation are seen internationally among indigenous communities such as Māori, Aboriginal and Torres Strait Islanders and Canadian First Nations peoples (Menzies, 2019). In Aotearoa New Zealand, for instance, nearly two-thirds of adults who identify as Māori have experienced one or more traumatic events, compared to half of adults in the general population (Hirini et al., 2005). Statistically, Māori continue to be over-represented across health and trauma-based statistics due to the impacts of ongoing historical, intergenerational, situational and cumulative trauma (McClintock et al., 2018). The benefits of a trauma-informed approach to care for those receiving and delivering services are widely recognised and supported in the literature (Morrissey et al. 2005; Mental Health Coordinating Council, 2018; Sweeney et al., 2016), but this care must be carried out in a culturally appropriate way (Pihama et al., 2020; Pihama & Smith, 2023; Wirihana & Smith, 2014).

There are two important requirements for the provision of trauma-informed care: firstly, the delivery of care must be sensitive to a person's experiences of trauma; secondly, iatrogenic trauma should not occur while the person is receiving care (Isobel, 2021; Pfeiffer & Grabbe, 2022). Iatrogenic trauma refers to the trauma or re-traumatisation which can be experienced by a person in the process of seeking care, where their behaviours are viewed as symptoms of illness (What is wrong with you?), rather than as coping adaptations to trauma experiences (What has happened to you?) (Sweeney et al., 2018). Non-trauma-informed responses to such behaviours may result in power imbalances, intrusive procedures, insensitive or humiliating interactions (Pfeiffer & Grabbe, 2022), coercive practices such as forced medication or restraint (Gooding et al., 2020), and culturally unsafe care (Pihama et al., 2017).

The principles of trauma-informed care focus on the individual's strengths and competencies, and require those delivering care to work compassionately and responsively to ensure safety, promote integrity, and support and empower people who have experienced trauma. A strengths-based service creates opportunities for those seeking care to rebuild a sense of control and empowerment (SAMHSA, 2014a: Te Rau Ora et al., 2021). Figure 1 (below) displays SAMHSA's (2014a) concept of trauma-informed care.

Without an understanding of the principles of trauma-informed care, professionals may feel that they are not equipped to support those who have experienced trauma, often perceiving listening to a trauma narrative as being outside their scope of practice (Palfrey et al., 2018). It is also important to note that hearing a trauma narrative may not actually be helpful to the person telling their story, as re-traumatisation may occur for the narrator at each retelling (Sweeney et al., 2018). Implementing trauma-informed principles across all domains of a service aims to reduce this risk (SAMHSA, 2014b). There is also the potential risk of harm from vicarious trauma for the listener (Devilly et al., 2009). The very nature of professions such as nursing places nurses at a high risk of vicarious trauma through clinical exposure (Pfeiffer & Grabbe, 2022).

Vicarious trauma was originally coined by McCann and Pearlman (1990) as a specific and limited term to describe the unique, adverse, and accumulative changes that can occur to health-care professionals who engage in an empathetic relationship with those they care for. This places the health-care professional in a difficult position as trauma-informed care requires them to provide care that is empathic. Empathic engagement, however, has been associated with vicarious trauma (Gerace, 2018), specifically through the sharing of often detailed and graphic narratives during therapeutic engagement (Branson, 2019). Vicarious trauma may result in the health-care professional experiencing diminished emotional states, symptoms of traumatic stress or even re-traumatisation (Pfeiffer & Grabbe, 2022).

3 Es of trauma

1. Events
2. Experience
3. Effects

4 Rs – key assumptions

1. Realise
2. Recognise
3. Respond
4. Resist retraumatising

6 key principles

1. Safety
2. Trustworthiness and transparency
3. Peer support
4. Collaboration and mutuality
5. Empowerment, voice, choice
6. Consider culture, history, gender

10 implementation domains

1. Governance and leadership
2. Policy
3. Physical environment
4. Engagement and involvement
5. Cross-sector collaboration
6. Screening, assessment, and treatment services
7. Training and workforce development
8. Progress monitoring and quality assurance
9. Financing
10. Evaluation

Figure 1. SAMHSA's (2014a) conceptualisation of trauma-informed care

Table 2. Course learning outcomes

No.	Learning outcome
1	Critically analyse the widespread impact of multidimensional trauma on the person holistically.
2	Use a range of indepth sciences to inform clinical judgments and decision-making using a trauma-informed approach.
3	Critically examine and reflect on own practice and knowledge using trauma-informed principles to deliver care of self and others.

THE PRESENT STUDY

The course

This study explores the effectiveness of an eight-week trauma-informed care course on the attitudes of health-care professionals, including RNs, towards the use of trauma-informed care in their practice. The course was developed by two nurse lecturers employed at an Aotearoa, New Zealand polytechnic (the study site) and was approved by the relevant qualifications authority as a level 7, 15-credit micro-credential. The course aims to develop the proficiency of those working in health care in the principles, knowledge and practice of trauma-informed care, when caring for people with multidimensional experiences of trauma. The course learning outcomes are displayed in Table 2 (left).

The course was developed as a hybrid learning experience, which comprised 150 hours of learning. Week one and week eight included an eight-hour face-to-face workshop. Learning was delivered asynchronously, online, over a period of eight weeks (see Figure 2, below). This style of learning was chosen to meet the needs of those who are currently in employment. Teaching and learning material drew on work undertaken by SAMHSA, along with a wide range of evidence-based material, both national and international, to enable participants to meet the course learning outcomes. There were four assessments, with participants required to gain a 50 per cent pass rate to gain this formal qualification.

METHODS

Study design and participants

This study used an exploratory, quantitative quasi-experimental pretest-posttest design. Convenience sampling (Cohen et al., 2017) was used to recruit participants. Twenty-seven participants on the course volunteered to participate in the research. An information sheet outlining the research and inviting participation was distributed to all enrollees. Participants were from a broad and diverse demographic, including age, gender, profession, years in profession and ethnicity.

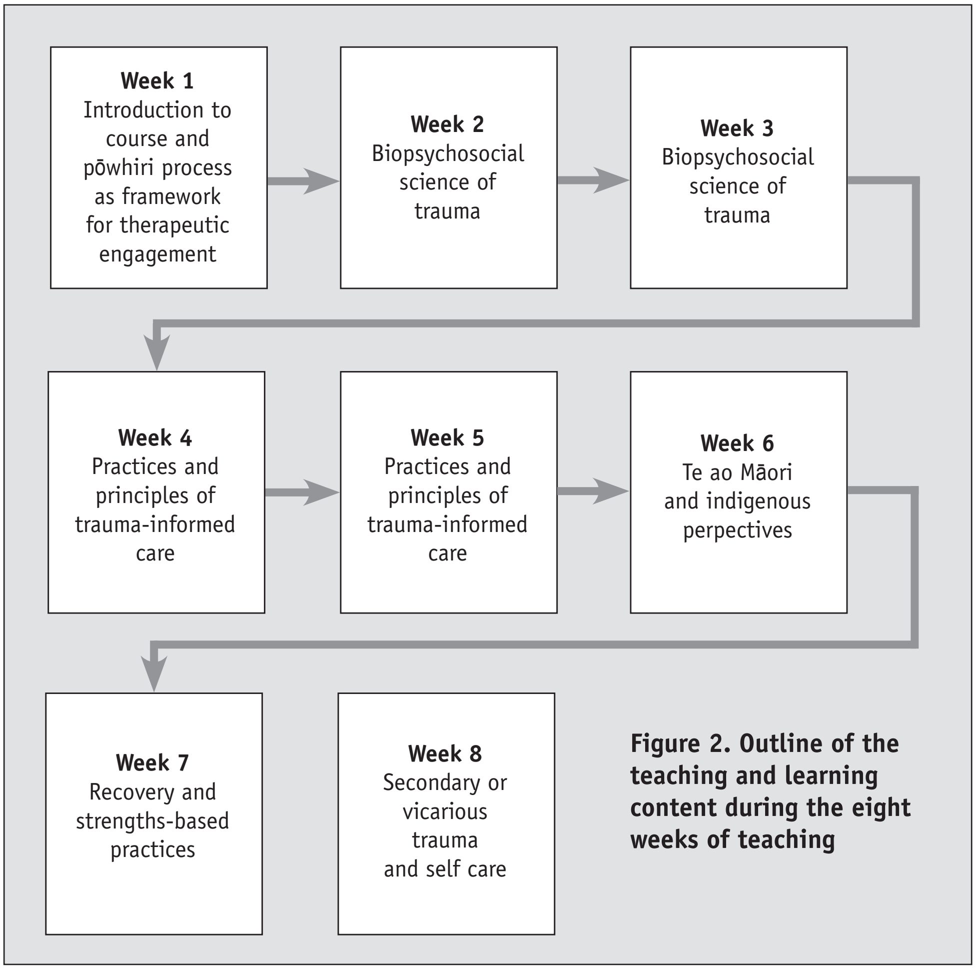

Figure 2. Outline of the teaching and learning content during the eight weeks of teaching

Data collection and instruments

Data were collected pre- and post-course, using the Attitudes Related to Trauma-Informed Care-35 (ARTIC) scale (Baker et al. 2015). The ARTIC-35 is designed to be used in settings that have not yet begun implementation of trauma-informed care and has previously shown good internal consistency, at 0.91, and good test–retest reliability, at 0.75 (Niimura et al., 2019). The ARTIC-35 is a 35-item self-report scale which uses a bipolar seven-point Likert scale to measure the participants' personal attitudes, with higher scores indicating a more favourable attitude. An example of a more favourable attitude, in the context of this study, is: "Clients' learning and behaviour problems are rooted in their history of difficult life events", whereas the less favourable attitude is: "Clients' learning and behaviour problems are rooted in their behavioural or mental health conditions." Attitudes are measured across five sub-scales in relation to the participant's current work (see Table 3, above, right).

Table 3. The five ARTIC sub-scales and an explanation of each attitude

1	Underlying causes of problem behaviour and symptoms. Behaviour and symptoms are adaptations and malleable, as oppposed to being intentional and fixed.
2	Responses to problem behaviour and symptoms. Emphasises relationships, kindness, flexibility and safety as agents of behaviour and symptom change as opposed to rules, consequences and accountability.
3	On-the-job behaviour. This endorses empathy-focused staff behaviour as opposed to control-focused staff behaviour.
4	Self-efficacy at work: Endorses feeling able to meet the demands of working with traumatised people, as opposed to feeling unable to meet the demands.
5	Reactions to work. This endorses appreciating the effects of secondary trauma and vicarious traumatisation, as opposed to coping by ignoring or hiding the impact.

The instrument is scored by inputting the exact responses of the participants into a predetermined ARTIC scoring Excel spreadsheet (Baker et al., 2015). STROBE guidelines for reporting were followed when reporting this study.

Ethics

Ethical approval to undertake the study was granted by the research study site (20/TLC09/06). The participants signed informed consent forms when agreeing to participate in the study and were advised they could leave the study at any stage as participation was voluntary. The researchers acknowledge an existing professional relationship with some of the participants who voluntarily took part in the study. Opportunity to participate in the study was invited by a third party. Data were collected anonymously to protect the identity of the participants.

ANALYSIS

Participant characteristics were summarised and included gender, age and, for the nurses involved, years in the nursing profession. Participants' data were entered directly into an ARTIC Excel scoring tool which calculated overall results, including those for each of the five sub-scales. The same process was followed for the data sets which were collected at pre-training (P1) and immediately post-training (P2). Standard deviations (SD) for each data collection point were obtained and confidence intervals (CI) for the average scores between time points were estimated. Scores were calculated to 3 significant figures (3sf). The t-test was used for each data set.

RESULTS

Participant characteristics

A total of 27 participants took part in this study, with data collected for all 27 at P1, and for 24 at P2. All 27 participants successfully completed the course. Participant demographic characteristics are displayed in Table 4 (below). The study participants consisted of 66 per cent RNs (n=18) from mental health and addiction services, but also included participants from social services, drug and alcohol services, psychological services and Corrections. Ages ranged from 25 to 64 years; three identified as male and 24 as female. The average years employed in mental health and addiction services were calculated as 18.

Effectiveness of the course

Table 5 represents the average scores for the ARTIC instrument at each of the two data collection points, the number of respondents and the standard deviation between scores. The scores for each of the five subscales are shown in Table 6 (see p...) and represent data collection during pre-training (P1) and immediately post-training (P2). Scores for each subscale were calculated by summing up the items within the subscale. Items for each subscale are written to characterise an attitude favourable to trauma-informed care, and are then paired with the opposite attitude. The scores indicate that participants increased their favourable attitudes to trauma-informed care across all five subscales during the teaching phase (Table 6). A change in scale scores between data collection P1 and P2 is noted (Table 7, see p....), with the confidence interval (CI) for difference in mean scores (0.098, 0.789) at *p* = .013. The average score increased by 0.444 between these time periods. The CI and

Table 4. Participant demographics

Characteristics		**n**
Gender	Male	3
	Female	24
Age groups in years	18-24	0
	25-34	2
	35-44	5
	45-54	13
	55-64	7
	65+	0
Mean years in profession		18
Number of registered nurses		18
Total participants		27

Table 5. Average scores, no of respondents and SD between scores

	Point 1 Pre-training	**Point 2 Post-training**
n	28	24
Average score	5.46	5.90
SD	0.64	0.59

Table 6. ARTIC sub-scale scores at each of the data collection points, and SD

Data collection point	Underlying causes of problem behaviour and symptoms	Responses to problem behaviour and symptoms	On-the-job behaviour	Self-efficacy at work	Reactions to work	n=	Total	SD
P1	5.44	5.72	5.67	5.07	5.40	28.00	5.46	0.64
P2	6.05	6.38	6.25	5.10	5.74	24.00	5.90	0.58

Table 7. Mean change, confidence interval, *p*-value and statistical difference between data collection points

Data collection points	Mean change	Lower CI limit	Upper CI limit	*p*-value	Significance
P1 vs P2	0.443	0.097	0.789	.013	sig*

p-value provide evidence against the null hypothesis, indicating that the observed increase in the average score was statistically significant.

DISCUSSION

This study evaluated the effectiveness of an eight-week credentialled course on the attitudes of health professionals towards using a trauma-informed approach to care. The findings suggested that participation in the course resulted in positive attitudinal change in those working in the mental health sector, towards using a trauma-informed care approach. A review of the literature revealed that to the best of our knowledge this is the first study of its kind in Australasia.

Participants completed the online course as part of their professional development. Significant changes in attitude towards trauma-informed care between P1 (pre-training) and P2 (immediately post-training) indicated that the change mostly occurred during the teaching and learning phase of the study. This finding is consistent with other studies (Lotzin et al., 2018; Niimura et al., 2019; Palfray et al., 2018) and proposes that attitudinal change was transferred to the workplace setting, with course participants showing more sensitivity to those who have experienced trauma.

The increase in favourable attitudes towards trauma-informed care for subcategories “underlying causes of problem behaviour and symptoms” and “responses to problem behaviour and symptoms” suggests that participants were able to use the knowledge learned in the course in their work. They were able to use this new knowledge to underpin how they interpreted and responded to the behaviours of those who had experienced trauma, shifting from asking “What is wrong with you?” to “What has happened to you?”

Stokes et al. (2017) purport that it is essential for staff to understand the impact of trauma in order to provide supportive strategies to manage the impact of trauma experiences. Providing a supportive and safe environment demonstrates the trauma-informed principles of safety, trustworthiness, collaboration, empowerment and choice (SAMHSA, 2014b), thereby reducing the risk of re-traumatisation for the person receiving care.

Providing care that encompasses the core principles of trauma-informed care reduces the risk of a “power over” relationship between the health-care professional and person seeking care (SAMHSA, 2014; Sweeney et al., 2018) and may therefore reduce re-traumatisation. Favourable results for these two subcategories, as well as “on the job behaviour”, also suggest that the participants may have considered opting for less restrictive practices, such as sensory modulation, rather than traditional restrictive practices, such as seclusion, when providing care (Meredith et al., 2018). A health-care professional who asks the person about their sensory preferences and sensory needs during trauma-informed assessment and care planning, is supporting the person’s self-regulation, which results in a collaborative and mutual approach to care (Brown & Knowles, 2021). Additional investigation is warranted to further test this hypothesis.

An increase in favourable attitudes between P1 and P2 for subcategories “on the job behaviour”, “self-efficacy at work” and “reactions to work” suggests that putting the learning into practice helped to further embed a change in attitude for the participants. Having the confidence to undertake a task correlates with successful completion of the task (Bandura, 1977) which enhances self-efficacy. Self-efficacy has been defined as believing in one’s capability to succeed when faced with unique situations and activities (Berg-Poppe, 2022). The use of education (Hough et al., 2019; Kerig, 2019; Sweeney et al., 2016) and personal and vicarious experiences (Gavriel, 2016) as a means of developing self-efficacy is well-supported in the literature. If the workforce holds positive attitudes and beliefs towards their ability to implement trauma-informed care principles and practices, there is a higher likelihood of successful implementation (Berg-Poppe, 2021). Health-care professionals must recognise their workforce’s personal experiences when supporting trauma survivors. This acknowledgment helps prevent vicarious trauma, burnout, job dissatisfaction and high attrition rates (Isobel & Thomas, 2022; Slayter et al., 2018).

A previous study by Kerns et al. (2016) suggests positive shifts in attitudes towards trauma-informed care are higher among those who have less experience in the workforce, as opposed to those with longer experience. In the current study, positive changes in attitude were identified despite the mean years of professional practice among participants being 18 years.

Consideration of when trauma-informed knowledge should be introduced to the workforce is important. Pfeiffer and Grabbe (2022) propose that incorporating trauma-informed care into undergraduate nursing curricula may develop undergraduates' self-knowledge, helping them to identify strategies for self-care and to build their resilience, thus enhancing their ability to work with those who have trauma experiences. New graduates would enter the workforce with some knowledge and skills of the practice, their self-efficacy enhanced through education (Hough et al., 2019; Kerig, 2019; Sweeney et al., 2016) and providing a protective factor against vicarious trauma (Zhang et al., 2022). Goddard et al. (2021) believe teaching these skills at undergraduate level is imperative, given the global impact of the trauma associated with COVID-19 on the health-care workforce (Choi et al., 2020). A systematic review undertaken by Nizum et al. (2020) highlights the benefits of all RNs undergoing professional development training in trauma-informed care to ensure a common understanding and approach to the provision of trauma-informed services.

One of the barriers to implementing trauma-informed care is workplace culture (Happel & Harrow, 2010). Workplace culture has been defined by Long and Helms Mills (2010) as the types of attitudes and ways of working shared by employees of an organisation, including how employees value their work, support each other and feel supported by their organisation. A study by Isobel et al. (2021) highlighted the need for organisational leadership that is accountable, and provides direction and commitment to implementing trauma-informed practices and principles. These findings are further supported in a literature review undertaken by Huo et al. (2023). Although our study showed significant positive change in participants' attitudes, there is scope for additional investigation into the role organisational leadership has in supporting trauma-informed practices in the workplace.

LIMITATIONS

The sample size was small, which limits the generalisability of the results. Using a paired t-test during analysis would have added further rigour to the study. A mixed-methods approach could have allowed for the collection of rich qualitative data, enabling a deeper understanding of the phenomena. Future iterations of this study will consider using a mixed-methods approach.

This research was conducted using predominantly Western world views of trauma and trauma-informed practices and principles. Future versions of the study should include needs, preferences and approaches to trauma and trauma-informed care from a te ao Māori perspective, with a particular focus on Māori practices of healing. The use of mātauranga Māori and tikanga practices are acknowledged as essential to reduce the risk of iatrogenic traumatisation from culturally unsafe care.

CONCLUSION

This study addresses a gap in the literature and reports on the significant changes in attitudes experienced by participants in an eight-week course on trauma-informed care, designed to help them incorporate it into their professional practice. Becoming trauma-informed is not a "ticking off a list of actions" style of learning. To be trauma-informed requires a shift in the thinking, attitude, behaviour and ideology that underpins the health professional's approach to care. For the introduction of trauma-informed care to be truly successful in a health service, there need to be system-wide trauma-informed policies, procedures and practices. The positive findings of this study show how heath providers can meet expectations that their services be trauma-informed and how trauma-informed care might be embedded across all health and social services.

RELEVANCE FOR CLINICAL PRACTICE

Staff acquiring knowledge about the neurobiological effects of trauma experiences is imperative as the first step towards developing a trauma-informed workforce (Isobel et al., 2021; Sweeney et al., 2018). The positive outcomes of this study suggest that the micro-credential course used here could be delivered both locally and nationally, and that training in trauma-informed care should be made mandatory across all health-care setting and beyond.

Trauma-informed care is considered best practice (SAMHSA, 2014a, b). This is supported by Aotearoa, New Zealand national organisations such as Te Pou (2018) (New Zealand's workforce development centre for mental health, addictions and disability staff), and the recommendations of government reports on the provision of care in the mental health and addictions sector (Patterson et al., 2018). To the best of our knowledge, there is currently no national approach to embedding this knowledge into practice in Aotearoa, New Zealand.

We recommend implementing mandatory trauma-informed care training as part of national nursing workforce professional development, as well as embedding this knowledge throughout nursing curricula.

Using education to develop a trauma-informed workforce not only benefits those receiving care, but also those delivering care by enhancing self-efficacy. Through the provision of care underpinned by the six key principles of trauma-informed care (SAMHSA, 2014a), a health-care workforce will ask people they care for "What has happened to you?" rather than "What is wrong with you?" As the largest professional health-care workforce, providing care across all health-care contexts to patients across the lifespan, RNs are in a unique position to provide trauma-informed care and influence the quality of care patients receive (Fleishman et al., 2019). Trauma-informed care must also include culturally appropriate practices when caring for Māori. It is imperative that trauma-informed care acknowledges trauma and healing as it is understood from a te ao Māori perspective, due to ongoing trauma and marginalisation associated with colonisation (Pihama et al., 2020; Pihama & Smith, 2023).

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Statements

Authorship: All authors listed meet the authorship criteria according to the latest guidelines of the International Committee of Medical Journal Editors, and all authors agree with the manuscript.

The authors confirm contribution to the paper as follows:
Study conception and design: Malone, Bingham.
Data collection: Bingham.
Analysis and interpretation of results: Malone.
Draft manuscript preparation: Malone, Bingham.

Both authors reviewed the results and approved the final version of the manuscript.

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Conflict of interest: The researchers acknowledge an existing professional relationship with some of the participants who voluntarily took part in the study. Opportunity to participate in the study was invited by a third party. Data were collected anonymously to protect the identity of the participants.

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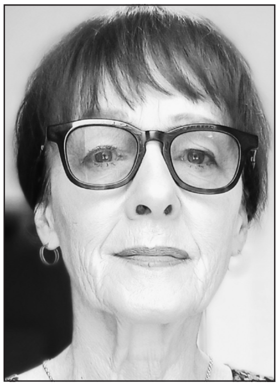

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INTEGRATIVE REVIEW:
Does behaviour therapy improve well-being in adults living with epilepsy?

ABSTRACT

Background: Epilepsy poses challenges in both treatment and daily life due to unpredictable seizures and the side effects of associated treatment. Adversities and comorbidities have a negative effect on well-being. Behaviour therapy has shown promise in enhancing self-management and well-being across various long-term conditions.

Aim: This integrative review aimed to identify whether behaviour therapy improves well-being in adults living with epilepsy.

Methods: An integrative review was undertaken using databases including MEDLINE Complete, Pubmed, CINAHL Complete, Science Direct, Clinical Key, PsycINFO, GALE Health & Wellness and GALE Academic. Studies published in English, using quantitative and qualitative methodologies, and presenting primary data analysis on the impact of behaviour therapy on the well-being of adults living with epilepsy were included in the review.

Findings: Sixteen studies were included in the review. Three themes emerged from the synthesis. Quantitative data from all studies demonstrated improvements in well-being. Barriers to adults living with epilepsy participating in and completing behaviour therapy varied, including transportation challenges, memory problems, and issues with technology literacy.

Conclusion: Although behaviour therapy was found to improve well-being in some people living with epilepsy, there are significant limitations in generalising the findings of this review to people living with epilepsy in New Zealand.

KEYWORDS

Epilepsy, behaviour therapy, well-being, quality of life

INTRODUCTION

Epilepsy is a common long-term neurological condition that can be challenging to treat and even more challenging to live with. Seizures can be unpredictable, and treatment is often associated with side effects. The adversities and comorbidities associated with epilepsy are well known to affect well-being negatively. Various behaviour therapy interventions help improve self-management and well-being in people living with various long-term conditions. This integrative review aimed to identify whether behaviour therapy improves well-being in adults living with epilepsy.

BACKGROUND

The World Health Organization estimates there are 50 million global cases of epilepsy, predominantly in low- to middle-income countries. In New Zealand, 45,000 to 50,000 individuals live with epilepsy, with 2000 new diagnoses annually. Characterised by “an enduring predisposition to generate epileptic seizures” (Fisher, 2014, p. 476), epilepsy involves brief, involuntary episodes from abnormal neuronal activity, impacting daily life. Seizures can compromise well-being, affecting employment, education, and daily activities. Due to the nature of epilepsy, self-management is an essential component in achieving and maintaining well-being (Banks, 2021), but well-being affects the ability of a person to be able to self-manage.

Behaviour therapy is effective in managing long-term conditions, and enhancing well-being, especially with comorbidities like depression and anxiety (Hofmann, 2021; Chan et al., 2016; Egan et al., 2015). It employs a client-centred, problem-focused approach, actively engaging individuals in goal-setting and behaviour change, with therapists providing education and support (Spiegler, 2016). With a diverse history since the 1920s, including variations like cognitive behavioural therapy and mindfulness, behaviour therapy offers a structured approach addressing cognitive processes, emotions, and behaviour modification (Blackwell & Heidenreich, 2021). Its evidence-based nature aligns with factors influencing well-being, suggesting its potential to improve well-being, especially in conditions like epilepsy (Cuijpers et al., 2008; Centers for Disease Control and Prevention, 2018).

Given the prevalence and long-term nature of epilepsy, along with its complex management, the objective of this integrative review was to report the impact of behavioural therapy interventions on the well-being of adults with epilepsy. This review will enable us to make recommendations to inform decision-making in current health practices and policies. The review question was: “In adults living with epilepsy, does behaviour therapy improve well-being?”

Table 1. PICo

Population	Adults living with epilepsy	Adults living with epilepsy, either self-reported, as per the International League Against Epilepsy (ILAE) definition or as diagnosed by a neurologist.
Intervention	Behaviour therapy	Studies which used behaviour therapy interventions. There are a range of interventions that fall under the behaviour therapy umbrella so descriptions of interventions needed to be based on behaviour therapy.
Comparison and outcome	Well-being	Well-being needed to be assessed before and after the intervention to identify any changes. The term well-being is used synonymously with quality of life in this review.

METHODOLOGY

Study design

This study followed Toronto’s (2020) methodology for integrative review. An integrative review systematically and rigorously explores a phenomenon of interest in published literature, and can be used to guide evidence-based practice. There are six steps when conducting an integrative review (Toronto, 2020):

1) Formulate purpose and/or review question(s)
2) Systematically search and select literature
3) Quality appraisal
4) Analysis and synthesis
5) Discussion and conclusion
6) Dissemination of findings

Formulate purpose and/or review questions

A review question was developed based on PICo (population, intervention, comparative outcome). Elements of PICo were identified, and the population was viewed as adults living with epilepsy; the intervention was behaviour therapy, and the comparative outcome was well-being. The PICO is presented in Table 1 (above right).

Table 2. Study search eligibility criteria

	Inclusion	**Exclusion**
Population	Adults living with epilepsy	Children
Intervention	Behaviour therapy	
Outcomes	Well-being or quality of life	
Types of studies	Primary research which included well-being or quality of life data in the outcomes	
Quality assessment	JBI checklists for randomised controlled trials and quasi-experimental studies	
Date limits	2012-2022	Prior to 2012

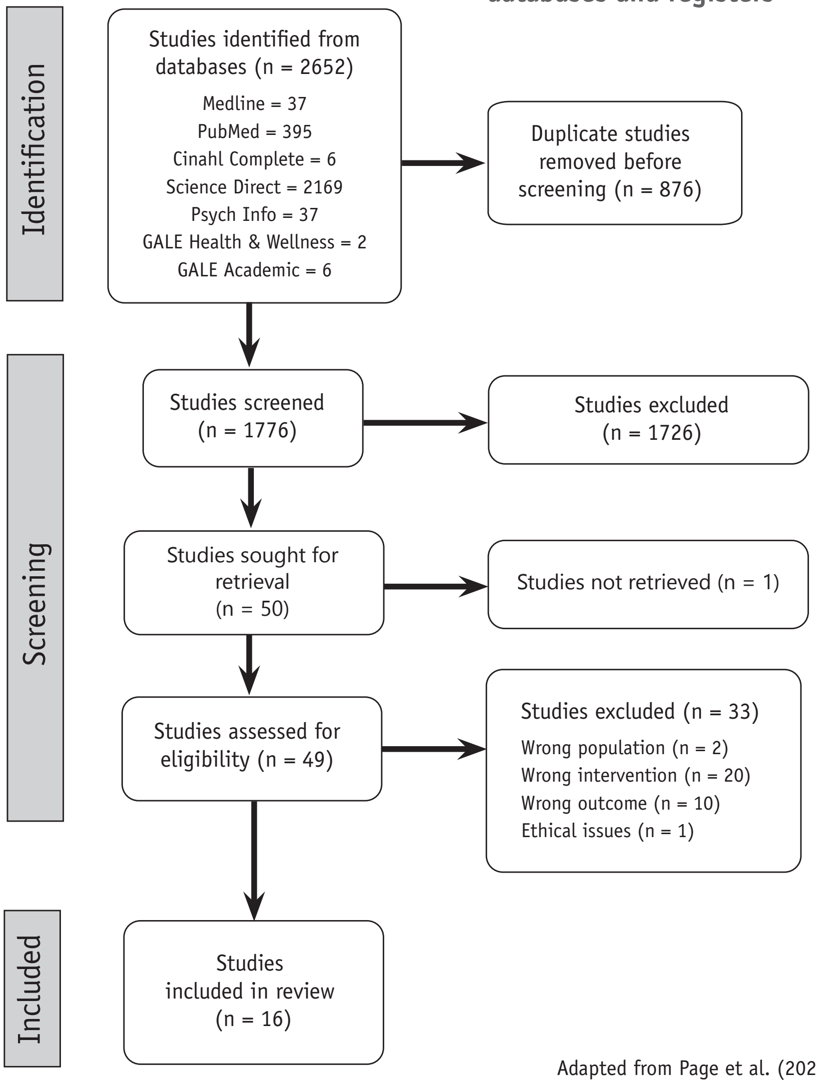
The inclusion and exclusion criteria for the review are shown (above) in Table 2.

Literature search

A systematic search was carried out using the terms derived from the PICo. This search was undertaken using the following databases: MEDLINE Complete, Pubmed, CINAHL Complete, Science Direct, Clinical Key, PsycINFO, GALE Health & Wellness and GALE

Academic. The inclusion criteria for this integrative review included: primary research studies where participants were exposed to behaviour therapy, research published from 2012-2022, and well-being assessed at baseline and following the intervention. Additional relevant articles were handpicked from the reference lists of secondary research studies. The PRISMA process diagram (Figure 1, right) identifies the studies selected at each stage.

FIGURE 1. PRISMA FLOW DIAGRAM – Identification of studies via databases and registers



Adapted from Page et al. (2021).

Search results

The search yielded 2652 records, of which 876 were removed, some being duplicates and some deemed irrelevant by title alone. The titles and abstracts of 1776 studies were screened, and full texts were obtained for 51 studies. These were loaded in the Covidence systematic review manager to review against the inclusion and exclusion criteria. The screening process led to 17 studies being identified as relevant for this review and to be assessed for quality. Two studies were excluded based on population criteria, 20 studies were excluded based on intervention criteria and 10 studies were excluded based on insufficient information on the effect of the intervention on well-being. This process is summarised in the PRISMA flow chart in Figure 1.

Quality appraisal

Each study was critically appraised for methodological quality, using the relevant Joanna Briggs Institute (JBI, 2020) critical appraisal tools for primary research studies. One study by Dewhurst et al. (2015) met all the inclusion criteria and so was initially included in this review but was later excluded based on the lack of ethical considerations reported in the study. This appraisal led to 16 studies being included for analysis.

ANALYSIS AND SYNTHESIS

Qualitative and quantitative data were extracted from each study and collated into tables. The studies used in this review did not examine well-being in isolation but also examined other aspects of quality of life, such as insomnia and depression. Review matrixes were created to organise the data into tables. This process allows the reviewer to assimilate information, compare findings from all sources, and identify patterns and themes (Dwyer, 2020).

Characteristics of the studies

The characteristics of the studies are shown in Table 3 (pp22-26). Studies were carried out globally, but none were conducted in New Zealand. Most studies were conducted in Germany (n=3), and the remainder were from Iran (n=2), Mexico (n=2), USA (n=2), Australia (n=2), China (n=1), Canada (n=1), Malaysia (n=1) and The Netherlands (n=1). The interventions varied between studies, with some studies using cognitive behaviour therapy, some using multicomponent self-management education with behaviour modification strategies, one using mindfulness alone, and one using behaviour change with a psychotherapist. The duration of interventions varied greatly, ranging from three weeks to one year. There were a variety of settings, with some studies providing interventions virtually and some being carried out in person. Some interventions were carried out in group settings, and others were one-on-one. All of the studies used questionnaires before and after interventions, and some studies also provided qualitative data. The participants' mean ages ranged from 28.69 years to 49.3 years. All of the studies had more female than male participants except for Gandy et al. (2014), where 50 per cent of participants were female; Leenen et al. (2018), where 46.2 per cent were female; and Pakpour et al. (2015), where 32.8 per cent were female.

Table 3. Characteristics of studies

Authors	Title	Journal	Country	Setting	Study design	Objectives	Inclusion criteria
Ahorsu et al. (2020)	Testing an app-based intervention to improve insomnia in patients with epilepsy: A randomized controlled trial	Epilepsy & Behaviour	Iran	App-based	Double-blinded randomised controlled trial	To assess the effect of an app-based cognitive behavioural therapy on insomnia symptoms and social psychological factors in people with epilepsy.	1) A diagnosis of epilepsy according to the International League Against Epilepsy criteria. 2) Aged 18 years or older. 3) Moderate or severe insomnia as indicated by a score of 15 or higher on the Insomnia Severity Index (ISI). 4) Speak, understand and write in Persian. 5) No surgery planned in the next six months. 6) Access to an Android smartphone or a desktop computer with internet access.
Brandalise et al. (2019)	Effects of a brief psychotherapeutic intervention on resilience and behaviour in patients with drug-resisitant mesial temporal lobe epilepsy	Epilepsy & Behaviour	Brazil	One-on-one in-person weekly meetings for four weeks with the same psychotherapist	Clinical trial	To evaluate the impact of a psychotherapeutic intervention on levels of resilience, behavioural symptoms and quality of life.	1) Aged 18-65 years. 2) Presurgical diagnoses of TLE-MTS[1] confirmed through video-electroencephalography (VEEG). The diagnosis of TLE was performed in accordance with the International League Against Epilepsy (ILAE) classification. 3) Clear magnetic resonance imaging (MRI) findings consistent with MTS. 4) Follow-up for at least one year.
Caller et al. (2016)	A cognitive behavioural intervention (HOBSCOTCH) improves quality of life and attention in epilepsy	Epilepsy & Behaviour	USA	Conducted at Dartmouth-Hitchcock Epilepsy Center. The programme involved a group session followed by eight 45- to 60-minute telephone sessions conducted by nurses. A commercial gaming device was used for participants in one arm of the study.	Randomised controlled trial	To assess whether a cognitive behavioural intervention improves quality of life and attention in epilepsy.	1) Age 18-65 years. 2) Diagnosis of epilepsy. 3) With or without controlled seizures. 4) Subjective memory conmplaints.
Crail-Melendez et al. (2012)	Cognitive behavioural therapy for depression in patients with temporal lobe epilepsy: A pilot study	Epilesy & Behaviour	Mexico	Conducted at Mexico City's National Institute of Neurology and Neurosurgery. Cognitive behavioural therapy given by two certified CBT therapists over 16 weeks in group format.	Clinical trial	To evaluate if group cognitive behavioural therapy improves depression severity and quality of life.	1) Age 18-60 years 2) Diagnosis of temporal lobe epilepsy 3) Diagnosis of major depressive disorder 4) Not taking antidepressant therapy

Table 3. Characteristics of studies, continued

Authors	Title	Journal	Country	Setting	Study design	Objectives	Inclusion criteria
Gandy et al. (2014)	Cognitive behaviour therapy to improve mood in people with epilepsy: A randomised controlled trial	Cognitive Behaviour Therapy	Australia	The intervention was carried out at the University of Sydney Psychology Clinic. The intervention was one-on-one weekly sessions with a psychologist over 8 weeks.	Randomised controlled trial	To develop and assess the efficacy of a CBT programme for treating mood-related symptoms in adults with epilepsy.	1) Aged 18-65 years 2) Diagnosed with epilepsy 3) Provide written informed consent 4) Be of at least average range IQ 5) Be fluent in English
Gilliam et al. (2019)	A trial of Sertraline or cognitive behavioural therapy for depression in epilepsy	Annals of Neurology	USA	One-on-one in-person CBT sessions with a licensed therapist for 1 hour a week over 16 weeks vs Sertraline.	Clinical trial	To compare the effectiveness of Sertraline vs CBT for depression	1) Aged 21-75 years 2) Diagnosis of epilepsy 3) Occurrence of an absence, focal with impaired awareness, or generalized motor seizure within the past 12 months while taking a recommended dose of an approved anti-seizure medication 4) Score of >14 on the Centers for Epidemiological Studies Depression Scale 5) Diagnosis of current major depressive episode on the Mini International Neuropsychiatric Interview 6) Be able to read and understand study documents based on investigators' assessment
Hu et al. (2020)	Effect of intensive self-management education on seizure frequency and quality of life in epilepsy patients with prodromes or precipitating factors	Seizure: European Journal of Epilepsy	China	The intervention took place in the Department of Neurology at Sichuan Provincial Peoples Hospital. All participants received a single face-to-face self-management education session at the time.	Clinical trial	To explore the impact of intensive self-management education vs regular education on seizure frequency, quality of life and drug adherence.	1) Aged at least 18 years 2) At least a 1-year history of epilepsy 3) Prodromes or precipitating factors during the pre-seizure state reported 4) The types and doses of antiepileptic drugs remained unchanged for 6 months and did not change during follow-up.

Table 3. Characteristics of studies, continued

Authors	Title	Journal	Country	Setting	Study design	Objectives	Inclusion criteria
Hum et al. (2019)	Do distance delivery group interventions improve depression in people with epilepsy?	Epilepsy & Behaviour	Canada	The programmes were delivered in small groups over the telephone for 1-hour sessions once a week for 8 weeks.	Randomised controlled trial	The study examined the effect of distance-delivery programmes on depression and quality of life.	1) Older than 18 years. 2) Diagnosis of epilepsy for minimum of 1 year. 3) Resided in the province of Onatario. 4) Had access to a computer, internet and phone. 5) Experienced some depressive symptoms as reflected by a minimum score of 12 on the Center for Epidemiologic Studies Depression Scale Revised. 6) Had a reading comprehension score greater than 7 on an Education Quality and Accountability Office Junior Division Assesssment of Reading or a listening comprehension assessment score greater than 18 on the Wechsler Individual Achievement Test.
Lai et al. (2021)	Mindfulness-based intervention to promote psychological well-being in people with epilepsy: A randomised controlled trial	Epilepsy & Behaviour	Malaysia	The intervention was conducted at the University of Malaysia Medical Center neurology clinic and involved six 2.5-hour sessions per week for six weeks in a group setting. This was led by a PhD candidate with a master's degree in health psychology.	Randomised controlled trial	The study investigated the efficacy of a mindfulness-based intervention on psychological well-being.	1) Older than 16 years. 2) Diagnosis of epilepsy. 3) Able to read and write English.
Leenen et al. (2018)	Effectiveness of a multi-component self-management intervention for adults with epilepsy (ZMILE study): A randomized controlled trial	Epilepsy & Behaviour	The Netherlands	The intervention was led by two nurse practitioners at several locations in the southern part of the Netherlands. There were five weekly group sessions of two hours each.	Randomised controlled trial	The aim was to compare the effectiveness of a multi-component self-management intervention to care as usual.	1) Older than 18 years. 2) Diagnosed with epilepsy. 3) Living at home. 4) Using anti-seizure medication 5) Understood the Dutch language 6) Willing and able to use e-Health devices belonging to the MCI
Meyer et al. (2019)	Effects of an epilepsy-specific internet intervention (Emyna) on depression: Results of the ENCODE randomized controlled trial	Epilepsia	Germany	Internet intervention with CBT techniques and exercises which could be accessed over 180 days.	Randomised controlled trial	The aim of the study was to evaluate whether an internet-based CBT intervention could reduce depression symptoms and other issues such as anxiety.	1) Older than 18 years 2) Diagnosis of active epilepsy as defined by having taken antiepileptic drugs within the past five years or having experienced seizures within the past 10 years 3) Diagnosis of a current depressive disorder 4) At least moderate depression severity 5) Ability to read and speak German. 6) Internet access

Table 3. Characteristics of studies, continued

Authors	Title	Journal	Country	Setting	Study design	Objectives	Inclusion criteria
Hum et al. (2019)	Do distance delivery group interventions improve depression in people with epilepsy?	Epilepsy & Behaviour	Canada	The programmes were delivered in small groups over the telephone for 1-hour sessions once a week for 8 weeks.	Randomised controlled trial	The study examined the effect of distance-delivery programmes on depression and quality of life.	1) Older than 18 years. 2) Diagnosis of epilepsy for minimum of 1 year. 3) Resided in the province of Onatario. 4) Had access to a computer, internet and phone. 5) Experienced some depressive symptoms as reflected by a minimum score of 12 on the Center for Epidemiologic Studies Depression Scale Revised. 6) Had a reading comprehension score greater than 7 on an Education Quality and Accountability Office Junior Division Assesssment of Reading or a listening comprehension assessment score greater than 18 on the Wechsler Individual Achievement Test.
Lai et al. (2021)	Mindfulness-based intervention to promote psychological well-being in people with epilepsy: A randomised controlled trial	Epilepsy & Behaviour	Malaysia	The intervention was conducted at the University of Malaysia Medical Center neurology clinic and involved six 2.5-hour sessions per week for six weeks in a group setting. This was led by a PhD candidate with a master's degree in health psychology.	Randomised controlled trial	The study investigated the efficacy of a mindfulness-based intervention on psychological well-being.	1) Older than 16 years. 2) Diagnosis of epilepsy. 3) Able to read and write English.
Leenen et al. (2018)	Effectiveness of a multi-component self-management intervention for adults with epilepsy (ZMILE study): A randomized controlled trial	Epilepsy & Behaviour	The Netherlands	The intervention was led by two nurse practitioners at several locations in the southern part of the Netherlands. There were five weekly group sessions of two hours each.	Randomised controlled trial	The aim was to compare the effectiveness of a multi-component self-management intervention to care as usual.	1) Older than 18 years. 2) Diagnosed with epilepsy. 3) Living at home. 4) Using anti-seizure medication 5) Understood the Dutch language 6) Willing and able to use e-Health devices belonging to the MCI
Meyer et al. (2019)	Effects of an epilepsy-specific internet intervention (Emyna) on depression: Results of the ENCODE randomized controlled trial	Epilepsia	Germany	Internet intervention with CBT techniques and exercises which could be accessed over 180 days.	Randomised controlled trial	The aim of the study was to evaluate whether an internet-based CBT intervention could reduce depression symptoms and other issues such as anxiety.	1) Older than 18 years 2) Diagnosis of active epilepsy as defined by having taken antiepileptic drugs within the past five years or having experienced seizures within the past 10 years 3) Diagnosis of a current depressive disorder 4) At least moderate depression severity 5) Ability to read and speak German. 6) Internet access

Table 3. Characteristics of studies, continued

Authors	Title	Journal	Country	Setting	Study design	Objectives	Inclusion criteria
Michaelis et al. (2021)	Process oriented and personalized psychotherapeutic care for epilepsy: Interim results of a feasibility study	Epilepsy & Behaviour	Germany	Conducted in the outpatient clinic of the neurology department of a community hospital in Germany. 60-minute individual sessions with a therapist were provided over 12 weeks.	Feasibility study	The aim of this study was to evaluate the effect of psychotherapeutic care on health-related quality of life and psychiatric comorbidity. The relationship between outcome socres, the number of attended sessions and history of childhood trauma were also assessed.	1) Older than 18 years 2) Diagnosis of epilepsy 3) Interest in taking part in psychotherapeutic treatment
Orjuela-Rojas et al. (2015)	Treatment of depression in patients with temporal lobe epilepsy: A pilot study of cognitive behavioural therapy vs. selective serotonin reuptake inhibitors	Epilepsy & Behaviour	Mexico	The study was conducted at the National Institute of Neurology and Neurosurgery in Mexico City. There were 2 arms to the study with 1 group receiving SSRI and the other group receiving CBT in group format for 90 minutes a week over 12 weeks.	Pilot study	The aim of the study was to evaluate the effect of both interventions on quality of life, symptoms of depression, anxiety, suicide risk and frequency of seizures.	1) Older than 18 years 2) Diagnosed with temporal lobe epilepsy 3) Diagnosed with major depressive disorder 4) Literate
Paardekooper et al. (2015)	A randomized controlled multimodal behavioural intervention trial for improving antiepileptic drug adherence	Epilepsy & Behaviour	Australia	A condensed version of CBT for insomnia was provided in group format over four 2-hour sessions.	Randomised controlled trial	The aim of this study was to evaluate the effectiveness of CBT on quality of sleep and quality of life.	1) Aged 18-65 years 2) Diagnosis of epilepsy 3) Fluency in English 4) Poor sleep quality
Pakpour et al. (2015)	A randomized controlled multimodal behavioural intervention trial for improving antiepileptic drug adherence	Epilepsy & Behaviour	Iran	Three weekly face-to-face meetings were held within a neurologic clinic and lasted 40-60 minutes. The facilitator was a male health psychologist.	Randomised controlled trial	The aim of this study was to assess the effectiveness of a multicomponent intervention on adherence to antiseizure medication. Quality of life was also assessed.	1) Older than 18 years 2) Diagnosis of epilepsy 3) Be prescribed anti-seizure medication 4) Have independence in daily living activities or be responsible for taking their medications
Schroder et al. (2014)	Efficacy of a psychological online intervention for depression in people with epilepsy: A randomized controlled trial	Epilepsia	Germany	Internet-based CBT intervention over 9 weeks.	Randomised controlled trial	This study aimed to evaluate the effect of an internet-based CBT intervention on depressive symptoms and quality of life.	1) Adults 2) Self-reported epilepsy 3) Self-reported depression

Before and after well-being test scores were assessed to identify which studies achieved a statistically significant improvement in well-being following behaviour therapy. A review matrix was created to identify any themes that may characterise statistically significant or statistically insignificant studies (see Appendix 1, p34). Qualitative and quantitative data related to well-being or quality of life were used in this review and are shown in Appendix 2 (p36). This table also includes limitations to identify any similarities between limitations. Each review matrix was analysed to identify themes, and this process was guided by three questions that were closely aligned with the review purpose:

1) What was the effect of behaviour therapy on well-being in adults living with epilepsy?
    - Identify any participant feedback/qualitative data on how the intervention affected well-being.
    - Identify which studies showed a statistically significant improvement in well-being.
2) Were there any similar characteristics between studies deemed to improve well-being?
    - Type of behavioural intervention
    - Duration of intervention
    - Mode and delivery of the intervention
    - Characteristics of the participants
3) Was behaviour therapy an acceptable intervention?
    - Identify any characteristics that were considered acceptable or unacceptable.
    - Consider participation and/or completion of the intervention

FINDINGS

Three primary themes emerged from the synthesis: 1) the effects of behaviour therapy interventions on well-being, 2) common characteristics between studies deemed to improve well-being, and 3) the acceptability of the interventions.

Theme 1: Effect of behaviour therapy interventions on well-being

There were no qualitative data available on the effect of behaviour therapy on well-being in adults living with epilepsy. Quantitative data on the effect of behaviour therapy on well-being in adults living with epilepsy were available for every study included in this review. Nurses need to have an understanding of quantitative data but do not usually need to be fluent in statistics (Schroeder et al., 2022). Nurses usually either work with a statistician or receive formal training in statistics to avoid analytic errors (Grove & Cipher, 2017). The values used to examine statistical significance and change in well-being before and after interventions are *p*-values and t-tests. *P*-values indicate whether data is statistically significant or occurred by chance, and are important when measuring the quantitative outcome of research. A *p*-value of 0.05 or less means that there is a 5 per cent or less probability that the results may have occurred by chance and *p*-values of 0.05 or less are deemed statistically significant (Harvey & Land, 2022). T-tests are used to investigate the difference between samples with a distance from 0, whether positive or negative, providing a value to the difference (Grove & Cipher, 2017). Some t-test calculating tools are available online and were used in this review. Using t-tests and *p*-values, it was possible to calculate which studies produced statistically significant improvements in well-being.

The studies included in this review used a variety of tools to assess well-being, with the Quality of Life in Epilepsy (QOLIE) inventories being the tools most commonly used. The QOLIE Development Group (1993) developed the QOLIE-89, QOLIE-31 and QOLIE-10, based on analysis of data obtained from people living with epilepsy in the United States. The QOLIE-89 contains 17 multi-item measures, while the QOLIE-31 and QOLIE-10 are shorter forms of the QOLIE-89. The QOLIE-89 takes up to 45 minutes to complete, the QOLIE-31 about 10 minutes to complete and the QOLIE-10 takes about two to three minutes (Jones et al., 2020). These questionnaires cover several domains, including emotional well-being, social functioning, energy/fatigue, cognitive functioning, seizure worry, medication effects and overall quality of life (Vickrey et al., 1993). Overall scores are obtained using a weighted average; overall score values can range from 0 to 100, with higher values reflecting better quality of life. Thirteen studies used the QOLIE-31, one study used QOLIE-89 and one study used QOLIE-10. Meyer et al. (2019) used the QOLIE-10 and found a statistically significant improvement in QOLIE-10 scores after the intervention. Gilliam et al. (2019) used the QOLIE-89 and also found a statistically significant improvement in quality of life after the intervention.

Although Brandalise et al. (2019) used the QOLIE-31 inventory, the overall scores differed considerably from the other studies that used the same tool and were also higher than the scores the QOLIE-31 can achieve. The overall QOLIE-31 score is meant to range from 0 to 100; however Brandalise et al's pre-intervention mean overall QOLIE-31 score was 181.29 and the mean overall post-intervention score 191.12. The authors do not discuss why the overall QOLIE-31 scores do not fall between 0 and 100 but it is possible that they used raw scores rather than the recommended weighted scoring.

WHOQOL-BREF was used by Hum et al. (2019) and Schroder et al. (2014), who used this tool as well as QOLIE-31. WHOQOL-BREF is an abbreviated version of the World Health Organization Quality of Life assessment tool which was developed to increase focus on quality of life and well-being (Programme on Mental Health World Health Organization, 1996). This tool covers four domains, including physical health, psychological, social relationships and environment, and was developed through research in centres around the world. Higher scores are associated with a better quality of life. Hum et al. (2019) identified a significant improvement in WHOQOL-BREF scores following the behavioural change intervention. While both Hum et al. (2019) and Schroder et al. (2014) identified improvements in WHOQOL-BREF scores after the intervention, the improvement was not enough to achieve statistical significance.

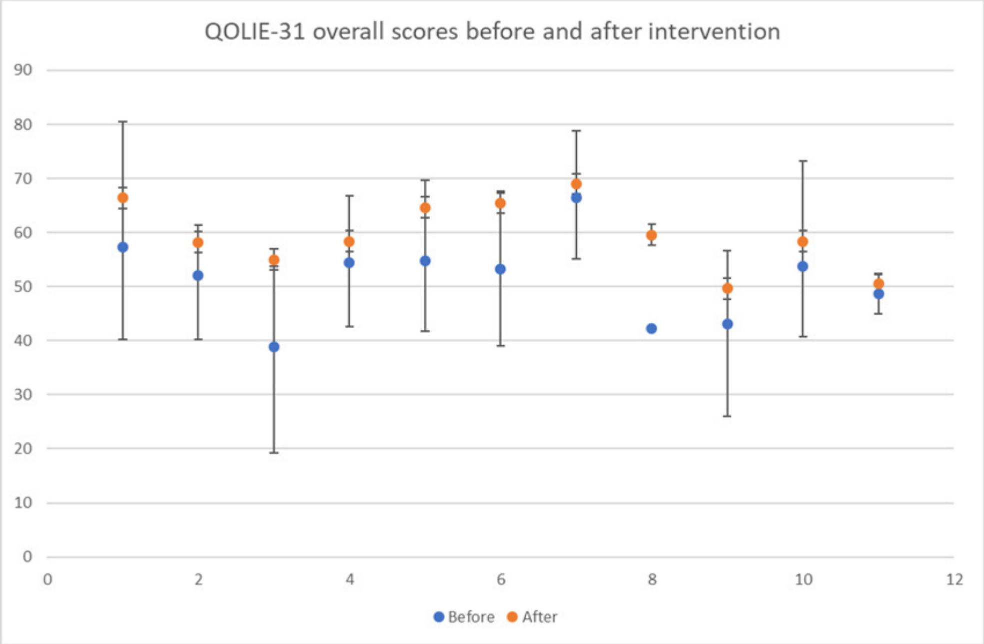
In studies with small sample sizes, there needs to be a greater improvement in pre- and post-intervention scores for results to be statistically significant (Peacock & Peacock, 2011). Due to the small sample sizes of the studies used in this review, statistically significant results were difficult to achieve. Ten of the 16 studies found a statistically significant improvement in well-being in people living with epilepsy following behaviour therapy. The t-tests comparing pre- and post-intervention well-being scores showed a statistically significant improvement, with the *p*-value for the t-test scores being less than or equal to 0.05. Overall, more studies showed a statistically significant improvement in well-being than studies where the improvement was not statistically significant. Although some studies did not achieve a statistically significant improvement in well-being, all showed a trend of improved well-being following the intervention. The graph below shows the trends of QOLIE-31 scores before and after the intervention. Brandalise et al. (2019) scores were not included in this graph due to the scores being outside the accepted range for QOLIE-31 scoring.

Theme 2: Were there any similar characteristics between studies that improved well-being?

The only common characteristics between the studies that improved well-being were that the participants were adults living with epilepsy who were exposed to behaviour therapy. There was a trend for well-being to improve in all the studies, with statistically significant improvements in 10 of the 16 studies (See Appendix 1). No common characteristics were found between studies deemed to have statistically significant results compared to those with statistically insignificant results. The type of behavioural intervention, the mode of delivery, the age and gender of participants, the type of facilitator and the duration of intervention did not appear to affect whether an intervention achieved statistically significant improvements in well-being.

Theme 3: Acceptability of the interventions

All of the studies in this review required the voluntary participation of people living with epilepsy, and that the participants be motivated to engage in the interventions, but very little feedback from participants was published. Qualitative data was included alongside quantitative data in Appendix 2. Of the seven studies which included qualitative data, five discussed positive user satisfaction. Leenen et al. (2018) received positive feedback from neurologists who reported that participants were better prepared for consultations and consultations were more effective. Pakpour et al. (2015) identified an improvement in the relationships between participants and their doctors.



Participants in Hum et al's (2019) study valued connecting with other people living with epilepsy. Hum et al. (2019) and Schroder et al. (2014) participants offered suggestions on how the interventions might be improved.

While most of the feedback was positive, Caller et al. (2016) and Leenen et al. (2018) participants struggled with the technology used in the interventions. Some participants in Meyer et al.'s (2018) study were concerned about data protection, felt pressured to undertake therapeutic exercises and were anxious about becoming too dependent on the intervention. Not all studies provided data on the number of people who did not meet inclusion criteria or who declined to participate. However, all studies provided data on drop-out rates. The number of people who did not meet exclusion criteria ranged from 0 per cent to 86 per cent, those who declined to participate ranged from 0 per cent to 85 per cent, and drop-out rates ranged from 0 per cent to 39 per cent. Only two studies identified barriers to participants enrolling and engaging fully with the interventions. Participation was negatively affected by transportation challenges, memory problems, poor internet/device literacy, low motivation, lack of support and health problems. The barriers that contributed to participating or completing the interventions are identified in Table 4 (pp29-30).

DISCUSSION

Quantitative data analysis revealed a trend for improvement in well-being following participation in behavioural interventions. Feedback from participants, where available, was mostly favourable. Superficially, the qualitative and quantitative data appear to identify an improvement in well-being in people living with epilepsy following the use of behaviour therapy. This could imply that behaviour therapy is useful in improving the well-being of people living with epilepsy, but there are many limitations to consider.

It can be challenging to achieve robust, valid results in hard-to-reach populations such as those affected by stigma. McLaughlin et al. (2019) call these groups "hidden populations" and report that research results on participants recruited from these populations may differ from people of the same population who did not participate in the research. This makes it difficult to estimate the size of the population as well as to identify the characteristics and needs of the population (National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Division of Behavioural and Social Sciences and Education; Committee on National Statistics., 2018). Epilepsy is commonly associated with stigma, and the populations in the studies used for this review seem to reflect a similar phenomenon to McLaughlin's

Table 4. Barriers to participating or completing intervention

Study	Did not meet inclusion criteria	Declined to participate	Dropout rate	Barriers to participating or completing intervention
Ahorsu et al.	58%	9%	4%	• Participants needed to have access to the internet and a smartphone or computer, as well as have an understanding of how to use the app. Reasons for discontinuing intervention not disclosed.
Brandalise et al.	47%	0%	0%	• Inability to attend all meetings resulted in many participants being excluded from the study. Other reasons for exclusion included transportation costs and/or lack of availability of caregivers and cognitive issues affecting the ability to complete questionnaires.
Caller et al.	9%	32%	34%	• People were excluded if they lacked reliable phone access. • Driving restrictions and transportation difficulties affected ability to complete the in-person follow-up visit. • Intervention required significant patient motivation. • Forgetting appointments. • Communication barriers where some participants were difficult to reach by phone. • Reasons for withdrawing from the intervention not disclosed. Some participants missed the follow-up visit and reasons for this were not disclosed.
Crail-Melendez et al.	0%	Not disclosed	30%	• Lack of family support to attend sessions. Lack of seizure control.
Gandy et al.	11%	Not disclosed	39%	• Work hours • Travel difficulties • Health problems • Not contactable • Not motivated • Poor memory Those who dropped out of the intervention had significantly poorer quality of life at baseline to those who completetd the intervention.
Gilliam et al.	86%	11%	28%	• Some eligible participants declined to participate due to time and travel restrictions. • Some declined to participate because they didn't want to take sertraline. • Some declined but did not give a reason. • Reasons for dropping out of the intervention included: * Lost to follow-up * Switched to sertraline * Withdrew consent * Worsening depression * Discontinued but no reason provided Death likely due to SUDEP
Hu et al.	Not disclosed	12%	8%	None disclosed.

Hum et al.	32%	6%	34%	• Forgetting to call in on time. • Forgetting to complete skill-building activities. • Struggling to remember some CBD concepts. Some participants were lost to follow-up, some did not attend all sessions and one discontinued the intervention. Reasons for this were not disclosed.
Lai et al.	81%	85%	21%	• Participants were given the opportunity to discuss barriers but these barriers were not published. • The majority of people who declined to participate said they were either not interested or had competing priorities. • Other reasons for not wanting to participate included seizure freedom, distant geographical location, pregnancy or epilepsy-related concerns. Two participants discontinued the intervention and one was lost to follow-up but reasons for this were not disclosed.
Leenen et al.	1%	57%	10%	• The app used in the intervention was not maintained and updated which meant that many of the participants experienced problems using the app. • Reasons for drop-out included: * Questionnaire too complex * Intervention did not meet expectations * Health problems Lost to follow-up
Meyer et al.	59%	Not disclosed	27%	• After providing consent and starting baseline questionnaires, 4% of individuals could not be reached for interview. • Participants needed to be motivated and be able to use the internet. • Some participants had concerns about data protection. • Some participants felt pressured to undertake therapeutic exercises. Some participants felt anxious about becoming too dependent on the programme.
Michaelis et al.	Not disclosed	Not disclosed	0%	The authors felt that low attrition rates in their study were due to the naturalistic setting and participants being involved in the scheduling of therapy sessions.
Orjuela-Rojas et al.	Not disclosed	Not disclosed	29%	• Not all participants who met the inclusion criteria were able to attend the weekly sessions due to either living far away or financial constraints so were allocated to the SSRI arm of the study. • Two participants dropped out of the CBT intervention due to health problems. • Memory issues were identified as a contributing factor to the ability to participate fully in sessions. 40% of people eligible to participate were unable to be reached by phone.
Paardekooper et al.	Not disclosed	Not disclosed	0%	One eligible participant was excluded as they were unable to commit to all group sessions.
Pakpour et al.	7%	1%	2%	• Participants were encouraged to identify potential barriers and identify ways to overcome them. Reasons for drop out were not disclosed.

"hidden populations". In the studies where data on refusal to participate was included, there were high numbers of people living with epilepsy who declined to participate in the studies for various reasons. People with poorer well-being are less likely to participate and more likely to have less motivation. People with better well-being and who are more able to participate may not have as much room for improvement in well-being as people who are less able to participate.

Gandy et al. (2014) identified that participants with lower quality-of-life scores, particularly the cognitive function subscale, were more likely to drop out of the intervention, indicating that the intervention may be less suitable for people with cognitive difficulties. It may be that behavioural interventions are not desirable or practicable for many people living with epilepsy. It is recommended that attention is paid not only to the populations who are invited to and engage with the research, but also to those who are missing (Baumann & Cabassa, 2020). Many of the studies required people interested in participating in research to contact the authors to participate. In these studies, it can be assumed that disenfranchised and less motivated people would be harder to reach and, therefore, less likely to participate. The limited qualitative data in the studies may indicate that measurable, quantitative data was valued more highly than participation and feedback on the interventions. As well, this lack of qualitative information on people's experience of living with epilepsy may increase the gap between what they value and desire and what is available to them.

While it seems that behaviour therapy improves well-being among some people living with epilepsy, it is important to consider other factors that may have improved well-being among the participants. Paardekooper et al. (2020) found that monitoring alone may act as a mediator for therapeutic change. Self-monitoring is a core component of behaviour therapy to identify where behaviour change is necessary (Psychology Tools, 2022). Completing the surveys and questionnaires required for participation in the studies may have contributed as mediators for change. Pakpour et al. (2015) had a multidisciplinary approach to the intervention whereby others involved in the participant's care, including GPs, nurses and family members, also received a motivational interviewing intervention session. The improvement in the well-being of people living with epilepsy will likely have been affected by the health-care team and family members having a better understanding of epilepsy and management. Social interaction has a considerable effect on well-being (Szemere & Jokeit, 2014), and increased social interaction related to most of the interventions may have positively affected participants' well-being.

Epilepsy affects slightly more males than females and is most prevalent in the 45 to 54-year age bracket. The mean ages of participants ranged from 28.69 to 49.3 years, and most were female. Epilepsy is more prevalent in lower socioeconomic groups, but it was not possible to identify the socioeconomic background of study participants from the available data. Ethnicity was also not identified in most of the studies, so it was impossible to determine if ethnic minorities were included. The exclusion of underserved populations is a common problem and creates "blind spots" in treatment and practice (Baumann & Cabassa, 2020). The studies in this review seem to have hefty "blind spots" due to the study populations varying considerably from general epilepsy populations. The difference between study population demographics and epilepsy population demographics also indicates "blind spots" and suggests that the study populations do not represent the general epilepsy population. This means that the results from the studies may not be transferable to the general epilepsy population. Also, these results indicate that behaviour therapy improves well-being in only some people living with epilepsy.

This review has revealed how little is known about people living with epilepsy in New Zealand and how little is known about their needs. None of the studies were performed in New Zealand, so differences in health-care systems and cultures are likely. There is no data on the epidemiology or demographics of epilepsy in New Zealand, which makes it difficult to compare our epilepsy population with other populations. The absence of epilepsy demographics in New Zealand suggests that the impact of this relatively common condition is undervalued in this country. New Zealand's "hidden population" of people living with epilepsy would be a challenging group to engage with, creating large gaps between people able and willing to participate in research and this disenfranchised population. This means that the information gathered from this review may not be able to be generalised to New Zealand's epilepsy population.

RECOMMENDATIONS

The results of this review imply that behaviour therapy can improve well-being and that it is an acceptable intervention in some people living with epilepsy. To identify the usefulness of behaviour interventions in people living with epilepsy in New Zealand, further research is needed. The starting point of any future research is identifying the demographics of this population. The stigma associated with epilepsy and the isolation which commonly occurs as a result of this makes this a challenging group of people to reach, so considerable effort is required in gathering accurate data. New Zealand is currently incorporating SNOMED CT clinical terminology, which will be used in all areas of health (Ministry of Health, 2022). Once the demographics of epilepsy in New Zealand have been established, it would then be possible to identify the needs of people living with epilepsy as well as the needs of people working with this population.

This review has shown that behaviour therapy improves well-being in some people living with epilepsy but was unable to identify the needs of harder-to-reach people living with epilepsy. Building trust in this community would be necessary as it would be challenging to identify the demographics and needs of people who are "hidden". There is no simple way to identify the needs of "hidden populations" but specialised sampling methods such as targeted sampling, time-location sampling, respondent-driven sampling and snowball sampling have been developed to target hard-to-reach populations. Education of health-care workers and the New Zealand public may help in raising awareness and reducing the stigma associated with epilepsy which may help reveal the needs of those living with epilepsy as well as those who care for them.

Further research into the needs of people living with epilepsy in New Zealand should be considered. Rather than investigate the effectiveness of behaviour therapies on the well-being of people living with epilepsy, research into what are the wants and needs of people living with epilepsy and those who care for them should be performed. Once these needs have been identified, feasibility studies should be performed to assess the effectiveness and practicality of any interventions. Specialised sampling methods would enhance participation. While quantitative data helps present data in a way that is meaningful for policymakers, qualitative data would be essential if wishing to identify data that is meaningful for people living with epilepsy, their whānau and health-care workers.

Any further research or plans to change practice should acknowledge the barriers to participation. Because transport was an issue that affected many study participants, it would be necessary to facilitate access to any interventions by using virtual and face-to-face delivery modes. Some participants struggled with technology, so appropriate support with any virtual interventions is essential. Memory and cognitive difficulties were also common problems and would need to be considered when creating any interventions or plans for further research. Many people living with epilepsy are socially isolated, and participants in these studies valued the opportunity to connect with other people living with epilepsy, so group interventions should be considered.

This review identifies that many people living with epilepsy have coexisting depression, memory concerns and poor motivation, yet these issues are rarely detected or acknowledged when managing epilepsy in New Zealand. These issues affect an individual's ability to attend appointments, take appropriate treatment and participate in self-management. The well-being assessments identified in this review were useful in recognising overall concerns with well-being and some more specific areas such as physical, psychological and social well-being. It may be helpful to use similar assessment tools in everyday practice to place more of a focus on well-being, rather than epilepsy or "illbeing". While this approach is unlikely to affect epilepsy management on a systemic level, it may lead to a better understanding of individual needs and improve an individual's health-care experience.

LIMITATIONS

The limitations of the included studies are set out in Appendix 2. There are challenges in applying research findings conducted in other countries to the New Zealand context. Cultural differences are also likely present in the countries of origin, which may not be representative of the cultural diversity within their populations (Ahorsu et al., 2020; Gilliam et al., 2019; Lai et al., 2021; Leenan et al., 2018). The allocation of participants to interventions in some studies was not able to be blinded (Gilliam et al., 2019; Hu et al., 2020), and some studies had a small sample size (Hum et al., 2019; Michaelis et al., 2021; Orjuela-Rojas et al., 2015; Paardekoop et al., 2015) or a high participant dropout rate (Caller et al., 2016; Crail-Menendez et al., 2012; Gandy et al., 2014; Meyer et al., 2019). The interventions in some studies required internet access or visits to clinics which may have excluded some participants (Caller et al., 2016; Brandalise et al., 2019; Gandy et al., 2014; Orjuela-Rojas et al., 2015; Meyer et al., 2019).

CONCLUSION

This review identifies the characteristics of behavioural interventions that successfully improve the well-being of people living with epilepsy. Considerable effort is required to identify New Zealand's epilepsy demographics and how to meet the needs of these people. This review has shown that behaviour therapy does improve well-being in some people living with epilepsy, but it is not possible to generalise these findings to New Zealand's population. The participants of the studies in this review are a small sample of people living with epilepsy in countries with different health systems and different cultures. The first step in improving the well-being of people living with epilepsy in New Zealand is to identify who they are and how their condition burdens them, their whānau and the country. This will be a massive undertaking but will make it possible to identify the needs of this population and the health-care system. Only once this has been achieved can change be made at a systemic level.

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APPENDIX 1 – Characteristics of statistically significant and statistically insignificant interventions

Study	Intervention	Delivery	Timeframe	Facilitators	Participants
Statistically significant studies					
Ahorsu et al.	CBT and education via mobile map	Individual, virtual	6 weeks	Online with support assistant for help with the online programme	Adults aged 38.37 ± 13.45 60.6% female
Caller et al.	Cognitive training, behaviour modification strategies & multidimensional self-management intervention	Group, telephone	8 weeks	Epilepsy specialised advanced registered nurse practitioner or registered nurse trained as memory coach	Adults aged 49.3 ± 9.2 66% female
Crail-Melendez et al.	CBT psychotherapy	Group, in person	16 weeks	CBT therapists	Adults aged 34.1 ± 8.9 98% female
Gilliam et al.	CBT	Individual, in-person where possible	16 weeks	Licensed therapist	Adults aged 39.1 ± 12.1 60% female
Hu et al.	CBT and emotional therapy and intensive self-management education	Individual,mostly telephone (single in-person session)	1 year	Epileptologists	Adults aged 28.69 ± 7.29 60% female
Lai et al.	Mindfulness-based CBT	Group, in-person	6 weeks	PhD candidate with master's degree in health psychology	Adults aged 34.1 ± 14.3 71.4% female
Meyer et al.	CBT	Individual, virtual	3 months	Online only	Adults aged 40.53 ± 12.90 65% female
Michaelis et al.	CBT	Individual, in-person or virtual	12 weeks	Neurologist and psychotherapist	Adults aged 48 75% female
Orjuela-Roja et al.	CBT	Group, in-person	12 weeks	A licensed therapist and a companion therapist	Adults aged 33.8 86% female

Pakpour et al.	Multicomponent intervention involving motivational interviewing targeting behaviour change	Individual, in-person	3 weeks	Male health psychologist	Adults aged 41.37 ± 16.25 32.8% female

Statistically insignificant studies

Study	Intervention	Delivery	Timeframe	Facilitators	Participants
Brandalise et al.	Highly encouraged to change behaviour	Individual, in-person	4 weeks	Psychotherapist	Adults aged 40.9 ± 10.4 82.0% female
Gandy et al.	CBT	Individual, in-person	9 weeks	Psychologists	Adults aged 41 ± 12 50% female
Hum et al.	Mindfulness-based CBT	Group, telephone	8 weeks	A licensed mental health professional and a person living with epilepsy	Adults aged 36.90 ± 2.9 80% female
Leenen et al.	Multicomponent self-management education[1]	Group, in-person and e-health tools	8 weeks	Nurse practitioners	Adults aged 40.0 ± 13.1 46.2% female
Paardekooper et al.	CBT	Group, virtual	4 weeks	Not disclosed	Adults aged 39.18 ± 10.87 82% female
Schroder et al.	CBT	Individual, virtual	9 weeks	Online only	Adults aged 35.03 ± 9.99 80% female

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[1] This included education and goal-setting skills covering self-monitoring, risk evaluation and management, shared decision making/concordance, and Aspinwall and Taylor's five stages of proactive coping.

APPENDIX 2 – Findings and limitations

Authors	Sample	Demographics	Data collection	Types of analysis	Findings	Limitations
Ahorsu et al.	320 I[1] = 160 C[1] = 160	I: Age 38.37 ± 13.45; 60.6% female; 82.5% married; 68.1% unemployed; 8.75 ± 5.06 years of education C: Age 37.99 ± 9.88; 56.2% female; 78.5% married; 65.6% unemployed; 8.31 ± 4.51 years of education	Pittsburgh Sleep quality Index, Insomnia Severity Index, Self-report Behavioural Automaticity Index, Hospital Anxiety and Depression Scale and the Quality of Life in Epilepsy-31 Inventory. Objective and subjective data on sleep and behaviour were also collected.	CONSORT guidelines used Intention-to-treat analyses carried out Linear mixed models (PROCMIXED) performed SAS version 9.3 software used	Intervention deemed to be successful. QOLIE-31 scores improved in both groups but there was more significant improvement in intervention group. Intervention difference in QoL : T = 4.01; P = <0.0001 (considered to be extremely statistically significant)	Study acknowledges that the participants were not representative of the population of Iranian people living with epilepsy. Significant cultural differences between NZ and Iran. Both the intervention and the control group received education on insomnia so both groups received care that was different to usual care. Significant number of exclusion criteria (561 of 973 participants excluded based on exclusion criteria). Participants not able to be blinded to the intervention which could result in a placebo effect.
Brandalise et al.	50	I: Age 40.9 ± 10.4; 82.0% female; 64.0% married; 72.0% employed; 62.0% had high school or college education	Interictal Dysphoric Disorder Inventory, Neurological Disorders Depression Inventory for Epilepsy, Connor-Davidson Resilience Scale and the Quality of Life in Epilepsy Inventory-31	ANOVA Wilcoxon test for paired samples SPSS 24.0 statistical analysis software used	There were significant improvements in QoL and resilience scores, but the difference in QoL scores were not statistically significant. There was a positive correlation between resilience and QoL. There was a negative correlation between depressive symptoms and resilience and QoL. Intervention difference in QoL: T = 1.57; P = 0.12 (considered to not be statistically significant)	The population was very specific so cannot be generalised to all people with epilepsy Exclusion criteria were cognitive impairments affecting the ability to answer questionnaires, presence of other epileptic syndromes at the neurological investigation, and inability to attend all four weekly meetings. 45 out of 95 patients were excluded due to meeting exclusion criteria, mainly due to not being able to attend the sessions in person, this is likely to be a common barrier among people with epilepsy.
Caller et al.	66 I = 22 I+ = 22 C = 22	I & I+: Age 49.3 ± 9.2; 66% female; 31% employed; 59% had college education C: Age 41.4 ± 11.2; 65% female; 45% employed;	Quality of Life in Epilepsy Inventory-31, Patient Health Questionnaire-9, Repeatable Battery for the Assessment of Neuropsychological	SAS version 9.4 statistical analysis software used Chi-square test T-test Linear regression model	Significant improvement in overall QOLIE-31 scores in intervention groups No significant difference between the 2 intervention arms Significant improvement in	High drop-out rate. Participants reported dissatisfaction with the gaming device. Both interventions required internet access, high levels of motivation and compliance.

		55% had college education	Status, the Functional Assessment of Cancer Therapy-Cognitive scale, Behaviour Rating Inventory of Executive Function-Adult and a satisfaction survey.		cognitive performance No statistically significant change in depression scores Intervention difference in QoL: T = 2.48; P = 0.02 (considered to be statistically significant) User satisfaction survey showed that most of the participants found this telephone delivered intervention to be "useful, beneficial, and convenient" (p. 114), but there were frustrations with device and tasks related to improving cognitive function.	
Crail-Melendez et al.	23	Age 34.1 ± 8.9; 98% female; 38% married; 38% employed; 12 ± 0.80 years of education	Mini-International Neuropsychiatric Interview, the Beck Depression Inventory and the Quality of Life in Epilepsy-31 inventory.	PSS Version 13 statistical analysis software used Descriptive analysis ANOVA Paired-sample Student T for quantitative variables χ2 tests for categorical variables	CBT had a significant positive effect on depression symptoms and QoL Intervention difference in QoL: T = 2.92; P = 0.006 (considered to be very statistically significant) A user satisfaction survey suggested that the intervention was beneficial and useful to the majority of participants	High drop-out rate.
Gandy et al.	59 I = 31 C = 28	I: Age 41 ± 12; 50% female; 65% married; 50% employed; 60% high school education C: Age 38 ± 13; 76% female; 56% married; 76% employed; 44% high school education	Hospital Anxiety Depression Scale, Neurological Depressive Disorders Inventory-Epilepsy and Quality of Life Inventory in Epilepsy-31.	IBM SPSS Statistics Software Version 2.0 T-tests χ2 analyses ANOVA	Significant improvement in depressive symptoms No significant improvement in anxiety symptoms Greater improvement in QOLIE-31 scores in intervention group than control group, but not statistically significant Intervention difference in QoL: T = 1.11; P = 0.27 (considered to be not statistically significant)	Small sample size so underpowered High motivation needed to complete intervention Participants found work commitments, health and travel restrictions to be barriers to attending sessions High drop out rate in intervention group Extensive exclusion criteria

Gilliam et al.	140 CBT = 68 SSRI = 72	CBT: Age 39.1 ± 12.1; 60% female; 85% white; 14.1 ± 2.4 years of education SSRI: Age 40.1 ± 10.7; 50% female; 82% white; 14.3 ± 3.0 years of education	Mini-International Neuropsychiatric Interview, the Beck Depression Inventory, the Centers for the Epidemiologic Studies Depression scale, Adverse Events Profile and Quality of Life in Epilepsy Inventory-89.	Results were entered into a database and managed by a statistician Descriptive analysis	There was a statistically significant improvement in QOLIE-89 in both groups. The study showed that more than one-half of PWE and depression will experience remission of depression and improved QoL following treatment with either sertraline or CBT. There was a trend towards fewer seizures with both interventions. CBT: T = 4.42 P = <0.0001 Considered to be extremely statistically significant Sertraline: T = 5.11 P = <0.0001 Considered to be extremely statistically significant	A placebo-control group was not used as recommended by the review group based on ethical considerations so it was not possible to compare results to a control. It was not possible to blind participants and investigators, but investigators were blind to the results Employment not disclosed. Likely to be cultural differences
Hu et al.	99 I = 49 C = 50	I: Age 28.69 ± 7.29; 60% female; 69% married; 35.6% high school education C: Age 31.87 ± 9.79; 57% female; 64% married; 36.2% high school education	Quality of Life Inventory in Epilepsy-31 and Morisky Medication Adherence Scale.	SPSS 21.0 statistical analysis software used T-test U-test Chi square test Descriptive analysis	Greater improvement in QOLIE-31 scores in the intervention group Rate of accidental injuries decreased Medication adherence increased Intervention difference in QoL: T = 3.43; P = 0.0009 (considered to be extremely statistically significant)	Age and gender not representative of true epilepsy population Likely to be cultural differences Significant exclusion criteria Employment not disclosed Intervention provided by epileptologists who were not blinded so there was a risk of bias
Hum et al.	73 CBT = 29 Ed = 29 C = 15	CBT: Age 36.90 ± 2.9; 80% female; 90% Caucasian Ed: Age 37.17 ± 2.6; 63% female; 62.5% Caucasian C: Age 29 ± 2.3; 73% female; 63.6% Caucasian	Quick Inventory of Depressive Symptomatology, the Neurological Disorders Depression Inventory for Epilepsy and the World Health Organization Quality of Life questionnaire.	IBM Statistical Package for the Social Sciences software used Open-ended participant feedback coded and analysed by NVivo 11 software Descriptive analysis	QIDS, NDDIE & WHOQOL-BREF improved for both UPLIFT and EpINFO groups, but not for WLC There was an improvement in QoL but it is not possible to determine if the results were statistically significant.	Small sample size Difficult to assess whether results were statistically significant as pre- and post-treatment QoL scores not disclosed and the authors do not say if the results were statistically significant or not. Age, gender and ethnicity not an accurate representation of epilepsy population Years of education and employment not disclosed

WHOQOL-BREF change score was 6.9 ± 2.6 for UPLIFT and 5.0 ± 2.6 for EpINFO – difficult to see whether this study assesses QoL. Participants valued the opportunity to connect with other people living with epilepsy despite the intervention taking place over the telephone. Meeting other people living with epilepsy made participants feel like they weren’t alone and participants felt that they could learn from other participants’ experiences The behavioural intervention participants found that mindfulness-based strategies were a useful adjunct to management but some participants found it challenging to use mindfulness meditations without guided instruction Participants valued learning about the impact mindfulness-based strategies have on mood and concentration Overall, the participants found the skills and knowledge acquired useful and the social interaction with other people living with epilepsy valuable Participants felt the intervention could be improved by there being: * A greater focus on social-emotional functioning and coping * Longer sessions * More opportunity for discussion * Opportunities to stay connected with other participants	Because QoL improved in both groups, it’s unclear if any intervention or if just a specific intervention is needed Qualitative data covered participant feedback on the structure and content of the groups rather than whether they felt that well-being had improved

Lai et al.	28 I = 14 C = 14	I: Age 34.1 ± 14.3; 71.4% female; 21.4% married; 50% employed; 100% high school education C: Age 36.5 ± 13.1; 50% female; 42.9% married; 64.3% employed; 92.9% high school education	Beck Anxiety Inventory, Beck Depression Inventory, the Mindfulness Attention Awareness Scale, Satisfaction with Life Scale and Quality of Life in Epilepsy Inventory-31.	Statistical Package for Social Sciences version 19 used for statistical analysis ANOVA ANCOVA Chi-square test Jacobson's Reliable Change Index	The intervention was successful in reducing psychological distress, increasing levels of mindfulness and improving quality of life. Intervention difference in QoL: T = 2.12; P = 0.05 (considered to be statistically significant)	Small sample size with large number of exclusions (767 out of 953 excluded) Self-motivation needed – only 15% of eligible participants agreed to take part Cultural differences likely High numbers of people educated to at least high school level and demographics not a true representation of epilepsy population
Leenan et al.	102 I = 52 C = 50	I: Age 40.0 ± 13.1; 46.2% female; 46.1%; 46.2% employed; 86.5% high school education C: Age 43.5 ± 14.7; 56.0% female; 56.0%; 22.0% employed; 76.0% high school education	Epilepsy Self-Efficacy Scale, Medication Event Monitoring System, Medication Adherence Rating Scale, National Hospital Seizure Severity Scale, Hospital Anxiety and Depression Scale, Quality of Life in Epilepsy-31, Utrecht Proactive Coping Competence and Side-effects of antiepileptic drugs.	IBM SPSS statistics version 24 used for statistical analysis T-tests Chi-square tests Wilcoxon rank sum tests Descriptive analysis	There were improvements in side-effects and some subscales of QoL in the intervention group Intervention difference in QoL: T = 1.07; P = 0.29 (considered to be not statistically significant) Neurologists found that participants were more confident and better prepared for consultations and consultations were more effective The app used in the intervention was not maintained and updated which meant that many of the participants experienced problems using the app	Extensive exclusion criteria Demographics not a true representation of people with epilepsy Cultural differences The app used was not maintained/updated so not all participants were able to use it
Meyer et al.	200 I = 100 C = 100	I: Age 40.53 ± 12.90; 65% female; 48% employed; 92% high school education C: Age 40.07 ± 13.40; 62% female; 49% employed; 91% high school education	Patient Health Questionnaire-9, the Neurological Disorders Depression Inventory for Epilepsy, Generalised Anxiety Disorder-7, Depression Anxiety Stress Scales-21, Work and Social Adjustment Scale, and the Quality of Life in Epilepsy-10.	ANCOVA Intention to treat protocol Per-protocol analysis T-tests Descriptive analysis	82.26% of participants were satisfied with the intervention. Meaningful improvements in depression, anxiety, stress, social-occupational impairment and illness-related QoL. Intervention difference in QoL: T = 2.39; P = 0.02	Participants were recruited from hospitals, out-patient clinics, internet forums, social media and health insurance brochures so the intervention was made accessible to a range of PWE, but participants would need to be motivated to contact the study team Participants needed to be highly motivated There was some selection bias with participants needing to be able to access internet and be able to use the programme

					(considered to be statistically significant Most participants were satisfied with the programme Participants reported fewer sick days and fewer days spent in hospital Some participants had concerns about data protection Some participants felt pressured to undertake therapeutic exercises Some participants felt anxious about becoming too dependent on the programme	Demographics not true representation of epilepsy population Only 60 participants completed the intervention so there was a high drop out rate There was a higher drop out rate among men
Michaelis et al.	20	Age 48; 75% female	Quality of Life in Epilepsy-31, Beck Depression Inventory, Hospital Anxiety and Depression Scale, Brief Symptom Inventory.	Reliable change index T-tests MathWorks inc., version R2018b used for statistical analysis Descriptive analysis	Significant improvement in QoL, depression and global distress Intervention difference in QoL: T = -2.56; P = 0.03 (considered to be statistically significant) Participants were seen for follow up after the intervention and reported a high overall satisfaction with the intervention	Very small sample size but no drop-outs Participants needed to be motivated The enrolment strategy may have resulted in selection bias Education level and employment status not disclosed
Orjuela-Rojas et al.	15 CBT = 7 SSRI = 8	CBT: Age 33.8; 86% female; 49% married; 43% high school education SSRI: Age 43.1; 63% female; 63% married; 100% high school education	Beck Depression Inventory, Hospital Anxiety and Depression Scale, Quality of Life in Epilepsy-31, Mini-International Neuropsychiatric Interview	SPSS version 17.0 used for statistical analysis T-test Fisher's x2 test Linear regression analysis Descriptive analysis	Significant decreases in mean BDI scores in both groups Remission of depression symptoms in 57% of CBT participants and 87% of SSRI participants Improvement in severity of anxiety Statistically significant improvement in quality of life in both groups. CBT and	Very small sample size Participants needed to be motivated to attend all CBT sessions Not an accurate representation of epilepsy population Lack of randomisation and control affects validity

					SSRI had similar effects CBT final QOLIE-31 score - 59.6 (improved by 17.25 points ± 20.5) SSRI final QOLIE-31 score - 56.4 (improved by 11.26 points ± 3.98)	
Paardekoop et al.	20 I = 11 C = 9	I: Age 39.18 ± 10.87; 82% female; 13.22 ± 3.11 years of education C: Age 47.44 ± 12.19; 78% female; 12.00 ± 2.96 years of education	Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, Quality of Life in Epilepsy-31, Neurological Disorders Depression Inventory for Epilepsy, Dysfunctional Beliefs and Attitudes about Sleep Scale-16 and Sleep Hygiene Index.	Kolmogorov-Smirnov tests T-tests ANOVA Linear regressions Descriptive data	The intervention did not affect participants' sleep but did improve QoL. This was not statistically significant. Overall finding was that sleeping patterns can predict QoL with worse sleep associated with poorer QoL Intervention difference in QoL: T = 0.98; P = 0.33 (considered to be not statistically significant	Small sample size Researchers were not blinded Motivation required to participate in intervention Improvements occurred in control and intervention groups suggesting that sleep monitoring alone affects sleep quality and QoL Cultural differences between Australia and New Zealand Demographics not a true representation of epilepsy population
Pakpour et al.	275 I = 137 C = 138	I: Age 41.37 ± 16.25; 32.8% female; 43.1% married; 27.7% employed; 7.03 ± 4.19 years of education C: Age 39.86 ± 15.01; 35.5% female; 47.8% married; 31.2% employed; 7.12 ± 3.81 years of education	Beliefs about Medications Questionnaire, Liverpool Seizure Severity Scale, Medication Adherence Report Scale, Quality of Life in Epilepsy-31, Liverpool Seizure Severity Scale and Self-Report Behavioural Automaticity Index.	Linear mixed models (PROCMIXED) Descriptive statistics	Intervention resulted in better medication adherence, higher levels of action planning, coping planning and self-monitoring. It was felt that the intervention improved relationships between participants and their physicians. It was felt that family/significant other involvement was beneficial Intervention difference in QoL: T = 3.77; P = 0.0002 (considered to be extremely statistically significant)	Demographics quite different to other studies Male health psychologist in Iran which may have affected female participation People were excluded if there was major cognitive impairment or intellectual disability

Schroder et al.	78 I = 38 C = 40	I: Age 35.03 ± 9.99; 71% female; 58% high school education; C: Age 40.03 ± 11.85; 80% female; 58% high school education	Quality of Life in Epilepsy-31, Beck Depression Inventory, World Health Organization Quality of Life questionnaire and participant retrospective appraisal. Subjective appraisal	Intention to treat analyses Descriptive statistics	Improvement in depression symptoms in intervention group Most participants satisfied with the intervention and found it suitable for depressive symptoms in epilepsy. Most would have preferred the intervention as an adjunct to treatment rather than a substitute for psychotherapy. There was no significant group difference with QO-LIE-31 scores Intervention difference in QoL: T = 1.99; P = 0.05 (considered to be not quite statistically significant)	Small sample size with high drop out rate The recruitment process was slow which may have indicated a lack of interest in either online trials or the intervention Motivation required for intervention and intervention more likely to attract motivated participants

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LITERATURE REVIEW: Factors motivating registered nurses' movement from clinical to education roles

ABSTRACT

Aim: This literature review identified existing literature exploring the motivation for registered nurses (RNs) in clinical practice to move into nursing education.

Background: To become an RN, a person must complete a pre-registration degree. Throughout this process, nurse educators educate, assess, tutor, and guide nursing students to complete their degrees. With an increased demand for RNs, the retention of a nursing education workforce is critical.

Methods: Five electronic databases were searched – CINAHL, ProQuest, Science Direct, PubMed and nzresearch.org.nz.

Results: After applying the inclusion criteria, seven research articles were selected for review.

Findings: RNs who moved from clinical practice to nursing education identified several benefits and barriers to their decision. The increased autonomy and opportunity to give back to nursing and invest in future nurses appealed to some. Academic achievement motivated others, while dissatisfaction with the clinical practice environment pushed others towards the change in role.

Conclusion: There is pressure on schools of nursing to accept more students to alleviate workforce shortages. This means more nursing educators are needed, to teach larger and more frequent intakes. Understanding what motivates an RN to move from clinical practice to education will help improve recruitment and retention of nurse educators. More research is needed to investigate these motivations, especially in the New Zealand context.

KEYWORDS

Motivation, satisfaction, dissatisfaction, Herzberg, nursing education, clinical

INTRODUCTION

According to the Nursing Council of New Zealand (2020), to become an academic staff member and teach nursing in a tertiary institution, a registered nurse (RN) must hold a relevant master's degree or be on a path to completing a master's degree within four years of appointment to an academic teaching role. Completing a certificate in adult teaching and learning may also be required. This literature review aims to discuss what factors motivate an RN working in clinical practice to move to an education role. Herzberg's (1959) motivational hygiene theory has been used to provide a framework to analyse push or pull factors that encourage RNs to move from clinical practice into education.

BACKGROUND

To become an RN in New Zealand, a person must complete an approved three-year bachelor's degree or two-year pre-registration master's degree (Nursing Council of NZ, 2022a). As at the end of 2023, there were 75,173 RNs and nurse practitioners holding current annual practising certificates in New Zealand (Nursing Council of NZ, 2023). RNs must practise according to the competencies outlined by the Nursing Council and hold a valid practising certificate that is renewed annually (NCNZ, 2022b). RNs are employed primarily in clinical practice, where most graduates find employment through supported-entry new-graduate programmes. These programmes are nurse entry to practice (NETP) or nurse entry to specialist practice (NESP) (Te Whatu Ora Health New Zealand, 2023a). They are designed to support new graduates in their first year of nursing practice.

Herzberg's motivation-hygiene theory

In the 1950s, American clinical psychologist Fredrick Herzberg explored the attitudes of 200 engineers and accountants towards their work. His aim was to find out what prompted their work attitudes and the impact these attitudes had on their work. His seminal work on motivational theory was developed and refined and eventually referred to as the motivation-hygiene theory (Herzberg et al.,1959). Recent research using Herzberg's motivation-hygiene theory has included studies of the predictors of nursing job satisfaction and retention, the influence of job satisfaction and the intent to stay in academia, the views of Generation Y New Zealand RNs on nursing and their career, and an exploration of how mentoring and satisfaction affect retention during a faculty shortage (Derby-Davis, 2014; Haverdink, 2018; Jamieson et al., 2015; Richards & Kieffer, 2023). Herzberg's theory has been used as the framework for this literature review of factors influencing nurses to move from clinical to education roles.

'Push' and 'pull' factors

Herzberg's motivation-hygiene theory consists of two factors: motivators and hygiene factors. Motivators have a "pull" influence, drawing a person towards employment and personal growth, advancement, responsibility, the work itself, achievement, and recognition (Simon, 2022). Motivators increase satisfaction, often reflected in the person's attitude towards their work (Herzberg et al., 1959). Unlike motivators, hygiene factors only prevent dissatisfaction. Hygiene factors include employment security, personal life, relationships with peers, employment conditions, company policy and administration, supervision, relationship with their supervisor and salary. Hygiene factors are peripheral elements influencing a person's choice to pursue employment (Herzberg, 1968; Herzberg et al., 1959; Smith & Shields, 2013). A key consideration when reviewing hygiene factors is they are also considered "push" factors. Hygiene factors often influence a person to leave a job, hence the concept of being "pushed" from one employment situation into another (Herzberg, 1968). Employees tend to expect that satisfactory hygiene factors pre-exist in employment at the time they are hired. Hygiene factors will not result in employment satisfaction, but adequate hygiene factors can prevent employment dissatisfaction. Hygiene factors do, however, form a foundation from which motivators can increase satisfaction.

Understanding the factors that may "push" or "pull" a person to or from employment is vital when gaining insight into their motivation to change jobs. Consider two people applying for the same job, one of whom is "pulled" towards the role but the other "pushed" away from previous employment due to dissatisfaction. The person moving away from inadequate hygiene factors (ie "pushed") is not necessarily motivated to be elsewhere but is dissatisfied with their existing employment. By comparison, when a motivator "pulls" someone towards a different job, the person will generally experience increased satisfaction in the new position..

METHODS

A systematic database search was conducted to gather published information on factors influencing RNs to move from clinical to education roles. The search occurred between January and March 2023 with the following inclusion criteria:

Inclusion criteria

1. Primary research with full text available, written in English, and published between 2013 and 2023.

2. Related to the motivation for RNs to move from clinical to nursing education.

3. Includes a theme identifying motivation, even if the focus of the research was not.

Information sources

Five electronic databases were searched for this review: CINAHL, ProQuest, Science Direct, PubMed, and nzresearch.org.nz. There was a noticeable dearth of literature relating to this topic. Seven published articles were selected for this literature review – two from Science Direct, two from nzresearch.org.nz, one from CINAHL, one from ProQuest, and one from PubMed (see Table 1, p....).

The seven studies were analysed to identify common themes. Once the themes were identified, they were compared to Herzberg's (1968) motivation-hygiene theory to determine whether the theme focused on motivation or satisfaction.

FINDINGS

The findings of this review identified what pulled or pushed an RN to move from clinical practice to education (Alkarani & AbdElbagy, 2021; Arian et al., 2018; Blaine, 2015; Brown & Sorrell, 2017; Laari et al., 2021; Logan et al., 2016; Murray et al., 2014). Four themes were identified:

1) Benefits and barriers
2) Autonomy and altruism
3) Academic satisfaction
4) Clinical dissatisfaction

1) Benefits and barriers

Research exploring the transition experience for new academic staff moving from clinical practice, rather than motivation to move, was common (Blaine, 2015; Brown & Sorrell, 2017; Logan et al., 2016; Murray et al., 2014). Murray et al (2014) found that a motivator for new academic staff was wanting to obtain higher qualifications while being in an environment that valued research. This study also found that participants struggled with the initial transition period in academia, having moved away from the clinical role where they had gained experience and established themselves. New academic staff who had poor support, were denied tenured positions and received an inadequate salary experienced more "push" factors than "pull" factors during their transition into academia, resulting in low levels of motivation and high levels of dissatisfaction. Blaine (2015) explored the transition process from clinical practice to academia; this study focused more on the benefits and the barriers to the transition in a United States context. Workload and salary were identified as hygiene factors affecting employee satisfaction. Motivational factors included personal fulfilment, enjoying teaching, or having previous experience in an education role. These themes align with Herzberg's

Table 1. Databases searched for relevant literature

Database	Relevant studies found	Date range inclusion
Science Direct	2	2013-2023
nzresearch.org.nz	2	2013-2023
CINAHL	1	2013-2023
ProQuest	1	2013-2023
PubMed	1	2013-2023
Total number of relevant studies	**7**	2013-2023

motivators of personal growth, the work itself and recognition. While this study mentioned motivators, they were not examined in depth as the focus of the research was on the transition experience. However Blaine (2015) did say there was a need to explore the motivation of nurses transitioning from clinical practice to academia more thoroughly, and that doing so could help alleviate the nursing academic shortage and improve retention.

2) Autonomy and altruism

Logan et al (2016) compared the experience of the RN moving from clinical practice to academia in the United Kingdom to that in Australia. Previous teaching experience and the desire to pass on knowledge and skills to the next generation of nurses were common motivators in both the United Kingdom and Australian nurses. Logan et al discuss how personal growth is a factor in "pulling" nurses in clinical practice into academia. For participants in their study, personal growth included engaging in successful research and obtaining higher qualifications, which contributed to their satisfaction with their academic role.

Altruism was a theme identified in Brown and Sorrell's (2017) study by participants who wanted to "give back" to nursing. These researchers focused on exploring the challenges novice nurse educators experienced while they moved from clinical practice to nursing education. The idea of "giving back" was a recurring theme referred to by participants, who wanted to share knowledge and guide the next generation of nurses (Brown and Sorrell, 2017; Logan et al., 2016; Murray et al., 2014).

3) Academic satisfaction

Factors affecting employee satisfaction were the focus of a systematic review by Arian et al (2018). For RNs in the reviewed research, these included personal, managerial, economic, organisational, professional and academic factors. Academic factors included opportunities for promotion, to research and publish, and to gain higher educational qualifications. These factors align with Herzberg's (1968) motivators of achievement, recognition, advancement and personal growth. Arian et al included Herzberg's motivation-hygiene theory in their research, which made sense, as the focus of their research was on the satisfaction of nurse educators. Logan et al (2016) discussed how personal growth is a "pull" factor, attracting nurses in clinical practice to education. Personal growth included engagement in successful research and obtaining higher qualifications, which are considered motivators by Herzberg et al (1959).

4) Clinical dissatisfaction

Exploring the motivations for nurses in clinical practice to shift to nursing education, Laari et al (2021) identified four themes: dissatisfaction with clinical nursing, the quest for a flexible work role, a quest for autonomy, and previous teaching experience. These themes also align with Herzberg's (1968) motivation-hygiene theory. Being dissatisfied with clinical nursing included being denied the opportunity for further education, disagreements with leadership and long work hours. These clinical dissatisfaction subthemes had a "push" effect for some participants, who moved out of their clinical area without having a "pull" factor attracting them towards education. Wanting a flexible employment role and seeking autonomy align with Herzberg's motivators "the work itself" and "responsibility" (Herzberg, 1968). Frequent excessive supervision and experiences of being belittled by medical staff/senior nursing staff "pushed" nurses to seek roles with more autonomy. Participants with teaching and preceptorship experience were motivated to move into academia as part of their career pathway (Larri et al., 2021). Previous teaching experience can be closely aligned with the autonomy motivator.

Alkarani and AbdElbagy (2021) explored factors motivating clinical nurses to move to academia. Of the nine participants in their study, eight had postgraduate qualifications (master of nursing degree or a doctor of philosophy), and one had an undergraduate bachelor's degree. The satisfaction factors they identified that aligned with motivation-hygiene theory motivators included the vitality of university work, opportunities for postgraduate studies, gaining experience, and the desire for change – these aligned to Herzberg motivators "the work itself", "achievement" and "personal growth".

Literature published before 2021 (Arian et al., 2018; Blaine, 2015; Brown & Sorrell, 2017; Logan et al., 2016; Murray et al., 2014) focused on the transition experience from clinical practice to academia rather than on the motivations for the transition, although there was some information relating to participants' motivation. Literature after 2021 focused more on motivation for shifting from clinical practice to academia or broad motivations for choosing teaching as a second career (Alkarani & AbdElbagy, 2021; Laari et al., 2021). These studies mention several motivators (Alkarani &

AbdElbagy, 2021; Laari et al., 2021) that "pull" nurses from clinical practice to academia, including lifestyle, gaining higher qualifications, potential for advancement within academia, enjoying previous teaching experience or altruistic reasons such as giving back to nursing by passing knowledge on to the next generation.

IMPLICATIONS FOR THE PROFESSION

With increasing pressure on schools of nursing to educate more nursing students, there is increased demand for nursing lecturers. Te Whatu Ora – Health New Zealand (2023) has judged that nursing schools will need an additional 8000 full-time equivalent nurses by 2032. A shortage of nursing lecturers would undermine nursing schools' capacity to educate nursing students while the need for nurses continues to grow (Longmore, 2023). Nurse educators in the tertiary sector make up 1.5 per cent of the total nursing workforce in New Zealand and have been identified as an at-risk workforce (Longmore, 2023). Longmore states this is largely due to many lecturers nearing retirement and the disparity in salary with nurses in clinical practice being a barrier to recruitment and retention. In 2022, entry-level salaries for nursing educators started at around $80,000 per year or less in some tertiary providers, much less than under the Te Whatu Ora collective agreement, where am equivalent senior nurse can start at $96,000 per year (Longmore, 2023; Te Whatu Ora – Health New Zealand, 2022). The rising cost of living further exacerbates the pressure on academic salaries, increasing to 7.2 per cent in the 12 months from July 2022 to July 2023 (Statistics New Zealand, 2023).

A shortage of nursing educators in the tertiary sector also brings the risk that research and innovation opportunities will be missed. Currently, 3 per cent of nurse educators in the tertiary workforce identify as Māori or Pacifica (Longmore, 2023). Longmore suggests that increasing the number of Māori and Pacifica educators would have a flow-on effect of attracting more Māori students to apply for nursing. They could also be involved in promoting research, and influencing policy and procedural change. The Health Workforce Plan for 2023/2024 (Te Whatu Ora – Health New Zealand, 2023) identified the need for more Māori and Pacific nursing students.

Considering the dearth in literature on what motivates nurses moving from clinical practice to education, primary research on this topic in the New Zealand context is needed. Insight on these motivations could be used to improve recruitment and retentions of nursing lecturers.

CONCLUSION

Understanding what motivates an RN to move from clinical practice to nursing education has not yet been explored in New Zealand. The limited international literature cannot always be usefully transferred to the New Zealand context. Herzberg's et al (1957) motivation-hygiene theory provides a framework to identify the push and pull factors affecting individuals and the satisfaction or motivation they provide.

To fill the shortage in the nursing workforce, schools of nursing are accepting more applications than they have ever done. To ensure new graduates are prepared to be safe and competent in their clinical practice, an adequate number of nurse educators is needed. To retain nurse educators, it is important to understand their motivations. Future research should include a qualitative descriptive study exploring what motivated new nursing educators to move from clinical practice.

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Preparing nursing students to work with older adults: A stocktake of nursing curricula in the polytechnic sector

Keywords

Undergraduate nursing students, older adults, aged care, education, future workforce

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Research topic and context

AOTEAROA NEW Zealand's population is ageing rapidly. Between 2021 and 2031, the number of people over 65 will increase by 36 per cent (Stats NZ, 2020). Increasing age is highly correlated with disease, but life expectancy has continued to increase with good health-care standards and improvements in medical technologies. Prospectively, people will live longer with chronic illnesses and disabilities, increasing pressure on health services. Consequently, promoting healthy ageing and improving access to health services for older adults will increase in importance (New Zealand Government, 2019).

At the frontline, nurses are well-positioned to meet the health-care needs of an ageing population who are likely to access most specialist health services. Therefore, it is essential that the future nursing workforce be adequately prepared. The polytechnic sector, which graduates three times more nursing students than the university sector and approximately 70 per cent of all pre-registration nursing students (Brownie & Broman, 2024), is responsible for ensuring readiness to meet contemporary health-care needs.

The Nursing Council of New Zealand (NCNZ, 2002) requires polytechnics to provide curriculum content which addresses nursing care across the lifespan. Since polytechnics operated individual curricula when this research was conducted, there was no common understanding of how undergraduate programmes prepared students to care for older adults, apart from the confidential curriculum reviews by the Nursing Council. When this research was conducted, sector restructuring was underway, and a national, unified pre-registration nursing curriculum was proposed. Predictions about the rapidly ageing population and the necessity for the future nursing workforce to respond to this changing demographic, made it clear there was a need for stocktaking of how well existing curricula in New Zealand polytechnics were preparing nurses to care for older adults.

To carry out this stocktaking, an initial keyword search was undertaken, limiting citations to the last 30 years. Post-registration nursing education was excluded. The literature search identified contemporary issues beyond curriculum content alone (Boscart et al, 2017; Foster et al., 2022; McCloskey et al., 2020). Additional factors, such as the clinical examples provided for students in their undergraduate programmes (Garbrah et al., 2017, 2020; Hebditch et al., 2020); the type, timing, and appropriateness of placements; and the quality of supervision and preparation of students and their supervisors were reviewed (Leonardsen et al., 2021; Splitgerber et al., 2021). Furthermore, Francis-Cracknell et al., (2022) and Hikaka & Kerse (2021) highlighted the opportunity to increase the visibility of any intersectionalities the changing demographic might emphasise within the curriculum review.

Overview of methodology

The study replicated a cross-sectional descriptive survey by Neville et al. (2008), commissioned by the Australian Government Department of Health and Ageing, to determine core components in undergraduate nursing curricula. The research questions were:

- How do polytechnics define aged-care clinical placements?
- At what stage of pre-registration programmes are aged-care clinical placements undertaken?
- Which health services are used for aged-care clinical placements?
- What educational activities and experiences are offered students by the health services?
- What preparations are made for staff and clinical teachers to support and supervise students?
- In what ways are students prepared for undertaking aged-care clinical placements?

Ethical requirements

Ethical approval for the study was granted by the Unitec Institute of Technology ethics committee (UREC 2021-1044). Access to the head of each school of nursing was negotiated with and granted by all 13 polytechnics offering nursing programmes.

Procedures for data collection

Shared characteristics between the Australian and New Zealand nursing education systems, such as degree programme length, comprehensive qualification and clinical practice hours, indicated the suitability of the Australian survey for the New Zealand stocktake (NCNZ, 2021; ANMAC, 2019). After piloting the survey, minor terminology adjustments were made to reflect the New Zealand care context. The revised version was distributed by email from the principal investigator to the schools of nursing heads for completion during May/June 2022. Submission of the digital survey implied consent.

Precis of findings

Eleven fully completed responses were received. Completed surveys reported on the bachelor of nursing (BN), bachelor of nursing (Māori), bachelor of nursing (Pacific), diploma of enrolled nursing (DEN), and return to nursing (RTN)/internationally qualified nursing (IQN) competence programmes. Data for all programmes provided a comprehensive overview of curriculum delivery and clinical placement usage.

The definition of an "aged-care" placement most frequently reflected the facility's core business, for example, aged residential care (ARC) or clinical areas with an intentional focus on older adult healthcare. One school of nursing suggested that suitable placements for learning aged-care skills could be in any part of the health service providing health care for people over 65 years. This more open definition illustrated the potential for using a greater variety of clinical areas for clinical placements, reflecting more closely Nursing Council pre-registration education standards. Other schools of nursing (n = 3, 27%) used community facilities for aged-care clinical placements, and one used Māori and Pacific health-care providers. Rural placements were never reported. Data showed that ARC facilities accommodated clinical placements from all 11 schools of nursing, but at some risk, as sometimes norovirus outbreaks occurred, and facilities were closed to students.

Curriculum objectives for clinical experiences also varied. Where the clinical objective was the development of "foundational skills", year-one students were most frequently allocated. In contrast, where the complexity of nursing care was prioritised, bachelor of nursing students in years two, three or transition were allocated. Enrolled nurses experienced an aged-care placement in both programme years.

Three models of overarching curriculum organisation were observed. These were a lifespan approach, where the curriculum model transitioned from infancy to old age; a once-only deep dive into the particular health needs of older adults, with complementary clinical placement; and lastly, an integrated approach, where older people's health needs were considered in teaching and learning material presented across the programme.

The schools of nursing agreed on what would be desirable clinical experiences within an aged-care placement. These included exposure to palliative care, dementia care, and wound management. However, achievement of these learning goals was not guaranteed because only three schools of nursing had a memorandum of understanding with the health service providing their aged-care placements. The lack of formal arrangements between polytechnics and services providing aged-care clinical placements could suggest discrepancies between intended and actual learning opportunities.

All schools of nursing reported on placement supervision, although it was evident that the credentials required to undertake this role varied. The schools of nursing most frequently reported standard (n = 7, 64%) was a minimum of two years as a registered nurse, not necessarily including experience with older adults. It was concerning to learn that in some cases health-care assistants were directly supervising bachelor of nursing students, contrary to Nursing Council requirements for this programme (NCNZ, 2002).

Some aged-care clinical placement areas received specific preparation from schools of nursing to receive students (n = 7, 64%). Preparation consisted of face-to-face meetings or in-service sessions. One school provided weekly visits to support clinical staff, and another allocated an academic staff member to the facility for the duration of the placement. All schools of nursing specifically prepared students for an aged-care placement. Academic material included theoretical perspectives, such as the biology of ageing and the types of diseases encountered later in life, and simulation lab experiences to prepare students for using clinical skills such as using hoists, communication, and washing patients.

Implications for practice and future research

The paradox of defining older-adult health needs either by age, or by showcasing those most dependent through continued use of ARC facilities, is that it reinforces ageist stereotypes. It obscures a person-centred caring intention and recognition of how power dynamics in nursing encounters affect health and health inequalities. Using a broad range of placements for "aged care" is a welcome expansion. As life expectancy increases, nursing students are more likely to meet older adults in various health specialties, as they maintain their relative health and independence for longer than previously occurred.

The dominant use of ARC facilities as placements for aged-care experience may serve to re-emphasise Pākehā models of care, given the absence of older Māori and Pacific people, as their use of these facilities is low. Given the population of Māori over 65 years will double to around 90,000 by 2029 (Hikaka & Kerse, 2021), educators must ensure that placements adequately expose nursing students to the health needs of a changing population. The updated education programme standards (NCNZ, 2021) identify the requirement for a deeper understanding of a Māori world view of health and call for the adoption of content to address Indigenous peoples' health-care needs, which will strengthen this area of the curriculum (Doran et al., 2019).

The timing and purpose of clinical placements need reconsideration and agreement between academic and clinical partners if aged care is to be recognised as a specialist endeavour by new nurses. Using ARC placements as a proxy for learning foundational skills is unacceptable, given the complexity of care required by people who live there. Developing the most appropriate teaching and learning methods for an integrated understanding of the health-care needs of our ageing population, whose health-care needs are likely to use all available resources, would be far more pertinent in the face of New Zealand's changing demographic. Preparing a workforce ready to deliver the most appropriate nursing care for older adults, wherever they seek health care, is a desirable learning outcome.

Conclusion

The speed at which the population is ageing and the time it takes to complete a nursing programme mean that nursing curricula need urgent modification to prepare the future nursing workforce to meet forthcoming health demands. Immediate action is required if older adults are to benefit from the expertise that nurses are ideally placed to deliver.

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ResearchGate – a place to find and share research

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Heather Woods

SINCE IT was launched in 2010, *Kaitiaki Nursing Research* has generated a body of knowledge and evidence for nursing practice that reflects the interests and concerns of nurses from differing perspectives across the breadth of nursing in Aotearoa New Zealand.

The journal also serves as a medium to foster nurses as both emerging and experienced researchers, especially in publishing research that is relevant to our local context. The New Zealand Nurses Organisation (NZNO) is keen to support any initiatives which provide an avenue to publicise and promote the work being done by nurses here in New Zealand, particularly with regard to research, methodology and evidence-based practice.

Research open to all

As the publisher of *Kaitiaki Nursing Research*, NZNO is happy for authors of articles that are published in the journal to share their work, provided it is for free distribution. ResearchGate meets this criteria and provides an opportunity for these authors to share and highlight their research findings worldwide.

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* (PDF) Oral history: A rich tapestry of information [Kaitiaki Nursing Research] (researchgate.net)

* (PDF) The placement experience of nursing students in managed isolation and quarantine facilities 4 12 4 Kaitiaki Nursing Research (researchgate.net)

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Introducing Te Wāhanga Rangahau Tapuhi – NZNO's Nursing Research Section

'The section's mission is to advance nursing practice and improve patient outcomes through rigorous research and evidence-based strategies relevant to Aotearoa, New Zealand.'

The NZNO Nursing Research Section – now also known as Te Wāhanga Rangahau Tapuhi – began life almost 50 years ago, in 1975. It was one of NZNO's first sections (known then as special interest groups) for professional nursing members (Litchfield, 2009).

Mission

The section's mission is to advance nursing practice and improve patient outcomes through rigorous research and evidence-based strategies relevant to Aotearoa, New Zealand.

Membership and evolution

The Nursing Research Section has always attracted nurses interested in research, whether as active researchers themselves or as readers who wished to learn more about the research process and apply research findings to their nursing practice.

Initially, the section's members were primarily academics and educators. While this group remains, the membership is now broader and more democratic, as research is recognised as part of every nurse's role in caring for patients.

Aims

The section's aims are to:

- Promote cooperation and collaboration between nurse researchers, both nationally and internationally.
- Liaise with authorities on social, health and eductional issues relevant to nursing research in Aotearoa, New Zealand.
- Facilitate links between Te Wāhanga Rangahau Tāpuhi and other NZNO colleges and sections.
- Provide a platform to bring together nurses interested in sharing knowledge and ideas to enhance evidence-based nursing practice across Aotearoa, New Zealand.

Membership growth and stability

Te Wāhanga Rangahau Tāpuhi membership has grown over the years and now remains relatively stable at around 377 members. While the goals of valuing, promoting, and encouraging research and researchers have never changed, the way these goals are met has evolved.

Honouring Te Tiriti o Waitangi and embracing change

An example of this evolution happened in 2021 when the section was honoured with a new name, Te Wāhanga Rangahau Tāpuhi, gifted by NZNO kaumātua Keelan Ransfield. The new name was developed in consultation with the kaumātua to reflect the goals of the section, and the mana of the new name was passed on to the section's new logo. The new logo was created by design student Ying Zhou following a national public competition. It features a rito (the young shoot of the harakeke – New Zealand flax), a koru symbolising the eye of a ruru (morepork owl), and a magnifying glass in green.

NURSING
RESEARCH
SECTION
NZNO
TE WĀHANGA RANGAHAU TAPUHI

Also in 2021, the section's then-chair, Louise Chan, led a discussion on equity, kaupapa Māori research, and the section's commitment to giving effect to Te Tiriti o Waitangi through its work. This led to the section developing a partnership with Te Poari – the committee which administers the Māori wing of NZNO – and since 2023 the section committee has included a permanent representative of Te Poari.

Recent activities and future plans

Te Wāhanga Rangahau Tapuhi's committee comprises eight dedicated volunteers. A highlight of this year's work was a research forum held in Tamaki Makaurau, Auckland, in early October with the theme, *Hoki whakamuri, kia anga whakamua – "Look at the past to help forge the future."* This means understanding that older knowledge still has relevance and can evolve for use in the future. The hui attracted 50 participants who came to hear a wide variety of current nursing research from Aotearoa. The abstracts from many of these research projects are featured over the following three pages.

In keeping with the hui theme of evolving knowledge, the committee has some fresh and exciting ideas for 2025 and beyond – further hui and mentorship, among others.

Report by Te Wāhanga Rangahau Tapuhi's committee

Reference

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Featured abstracts from the forum

The following abstracts showcase the work of five researchers who presented their work at Te Wāhanga Rangahau Tapuhi's recent research forum:

• Achieving whanaungatanga-centred care in the acute mainstream hospital: A culturally informed grounded theory study

Author: Bobbie Pene

Bobbie Pene is a part-time nurse consultant in cultural safety in practice at Health NZ, Te Whatu Ora – Counties Manukau, and a PhD candidate at the University of Auckland. Her research interests are in the relational aspects of health care, where she has explored patient and whānau experiences of care, and Māori staff experiences of working in a mainstream health-care service. Her PhD focuses on reorienting relational practice with a te ao Māori lens.

Supervisors: Assoc Prof Julia Slark, Prof Merryn Gott, Prof Terryann Clark.

Abstract

Aim: To explore relational practice in an acute mainstream hospital in New Zealand from the perspective of Māori health-care professionals and recipients of care.

Background: Relational practice is an ethic of care that is often overlooked in time-limited contexts such as acute health-care settings. Local evidence suggests a relational mode of practice is needed to better meet the needs of our Māori community.

Methods: This study used a kaupapa Māori with grounded theory design. We conducted interviews with Māori staff and recipients of care. Data were analysed using Birks and Mills' (2023) essential grounded theory methods and a concept-mapping approach similar to the whakapapa analytic framework (Ware et al., 2018).

Findings: We identified four themes that lay the foundation for our culturally informed grounded theory: 1) whakapapa (origins), 2) tikanga mahi (work ethic), 3) tikanga manaakitanga (cultural and social responsibility), and 4) tikanga whanaungatanga (belonging and inclusion).

Implications for practice: The culturally-informed grounded theory sets out the aspirations and direction for achieving a culture of whanaungatanga in the acute mainstream hospital. This study has the potential to reorient patient care from being task-driven, to having a relational focus that prioritises the needs of individuals and their whānau.

• Was virtual communication technology effective in increasing the knowledge and skills of health professionals as part of continuous professional development during the COVID-19 pandemic?

Author: Audrey Gandhi

Audrey Gandhi is an RN of almost 20 years' experience, working as a surgical nurse educator for outpatients and the elective surgery centre at Counties Manukau Health.

Supervisor: Rosemary Frey was supervisor for the author's dissertation submitted as part of a masters in nursing qualification.

Abstract

Aim: The research aim was to conduct an integrative literature review on the use of video-conferencing technology during the COVID-19 pandemic by health professionals to continue education or professional development (CPD).

Background: With the need to socially distance due to restrictions during the COVID-19 pandemic, there was a shift in how education was conducted. Most education institutes and organisations switched to online learning to continue education. Health professionals also took part in online learning as part of continuing professional development. This study aimed to identify whether virtual communication technology effectively increased health professionals' knowledge and skills as part of continuing professional development during the pandemic.

Methods: Databases including CINAHL, ERIC and Medline OVID were searched for relevant articles. The studies were limited to the English language only and within the period between January 2019 and May 2022. Twelve articles were selected for inclusion in the study.

Results: Thematic analysis of the articles led to the following key findings: 1) participants increased their knowledge after online sessions, 2) the importance of the study design when planning online sessions, and 3) the relationship between health professionals' online learning and patient outcomes.

Conclusions: The evidence indicated that online learning increased participants' knowledge. However, the evidence also led to the conclusion that face-to-face teaching is required to improve skills. Incorporating the "community of inquiry" framework is also important when planning online content. With increased knowledge, there is an improvement in outcomes for health-care professionals, including job satisfaction and retention, and in patient outcomes, particularly increased quality of care.

Implications for nursing: This review revealed that online learning is not the preferred method of delivery of CPD for students, compared to face-to-face teaching, even though it has many benefits.

• Implementing the Fundamentals of Care framework in clinical practice

Authors: Kim Monteiro, clinical lead medical devices, PHARMAC

Assoc Prof Dr Julia Slark, head of the School of Nursing, University of Auckland

Assoc Prof Dr Cathleen Aspinall, Peninsular Health and Monash University

Abstract

Introduction: Since 2017, fundamental care has been audited at the selected New Zealand regional health services provider using the Fundamentals of Care audit. The Fundamentals of Care framework underpins the Fundamentals of Care audit. Furthermore, the selected regional health services provider proposed having the Fundamentals of Care framework as the conceptual framework underpinning the nursing care delivered there.

Aim: This qualitative study explores the nurses' perceptions of the Fundamentals of Care framework as the conceptual framework underpinning nursing practice at a New Zealand regional health services provider.

Methods: The study gathered data by interviewing a purposive sample of nurses working at the selected regional health services provider using individual semi-structured interviews and analysed the interview transcripts using Braun and Clarke's reflexive thematic analysis. Video and poster interventions were used during the research interviews.

Findings: The 16 study participants included bedside nurses, clinical coaches, nurse educators, specialty and specialist nurses, nurse clinicians, and senior nurse leaders. Around 30 per cent of the participants self-identified as New Zealand Māori. The study found that most participants did not know or understand the framework before the intervention. The three central themes generated were a) a useful framework to learn fundamental care delivery, b) a familiar framework, c) supporting the adaptation of the framework for practice.

Conclusion: Adaptation of the Fundamentals of Care framework for use at the studied New Zealand regional health services provider will require addressing gaps in knowledge about the framework. This will involve providing information on the definition and practical application of framework concepts and addressing gaps in the framework by incorporating culture, whānau involvement and spirituality. Integrating the Fundamentals of Care framework into the regional health delivery environment requires the organisation to support the education and practice of fundamental care delivery.

• Empowering nurses with conceptual clarity: Defining occupational distress to enhance self-assessment

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Abstract

Aims: Nursing research identified occupational distress as a major issue in the nursing workforce, encompassing various concepts and definitions. This integrative literature review explored how nursing research has applied conceptual definitions of occupational distress to assess conceptual clarity.

Background: Research on occupational distress in nursing mainly focused on six concepts: burnout, moral distress, compassion fatigue, moral injury, post-traumatic stress disorder and moral injury. These conditions harm nurses' well-being and contribute to absence, leading to staffing shortages and potentially nurses leaving their careers. Undermining nursing wellness threatens the quality of care provided to patients and undermines the entire health system.

Methods: The five-stage integrative review process included problem identification, literature searches, data evaluation, analysis and presentation of findings. The author searched for appropriate literature written in English from CINAHL, PsyInfo, Scopus, ProQuest, and Web of Science databases. The search identified 433 articles. After screening and removing duplication, 68 relevant articles were included in the review, covering six different conceptual definitions of occupational distress, from 2000 to 2023.

Findings: Sixty-eight eligible articles represented key themes of occupational distress. The first finding was that the majority of articles used six different occupational distress definitions interchangeably. They also employed signs and symptoms as conceptual definition. Lastly, inconsistent applications of concepts caused challenges in identifying occupational distress accurately.

Conclusion/Implications for nursing: More conceptual consistency is needed to improve understanding of occupational distress. Clear conceptual definitions of specific types of occupational distress can aid nurses in identifying, coping with and preventing it more effectively.

• Ōritetanga paerewa: Culturally safe communication and de-escalation practices/strategies for clinicians working with tangata whaiora Māori in acute adult mental health inpatient units

Author: Rachelle Weber

Abstract

Aims: The aim was to identify what culturally safe communication and de-escalation strategies are effective for staff working with Māori who are acutely distressed or agitated within adult mental health inpatient units.

Background: Seclusion is the process where mental health consumers who are considered high risk to others are locked in a room alone against their will. This is a traumatising practice, and Māori consumers are five times more likely to be secluded than non-Māori. Concerns have been raised as to whether unconscious bias and racism may play a part in this. The elimination of seclusion has been identified as a national priority; however there is very limited evidence regarding alternatives to seclusion for Māori, such as culturally safe de-escalation practices.

Methods: This was a kaupapa Māori, qualitative study. Nine semi-structured interviews were undertaken with experienced Māori inpatient staff across four adult mental health units. A focus group hui was then held with seven of the original participants.

Results: Five main themes were identified: mana enhancing (personal power), whakawhanaungatanga (relationships), pono (honesty), kanohi ki te kanohi (communication) and huarahi (approaches).

Discussion: Participants felt that there was a better way to work with Māori; however they are hampered by existing attitudes, ward cultures and environments that support the use of restrictive practices.

Conclusion: This study contributes new evidence on culturally safe de-escalation strategies for Māori who are experiencing agitation or distress within inpatient mental health settings. The use of such strategies may contribute to reducing the high seclusion rates for Māori.