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In this issue

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The *AJCN* aims to provide a forum where debate and the exchange of views can take place. We welcome papers on contemporary professional policy or practice issues of concern and interest to cancer nurses.

Notes for contributors

All correspondence relating to the journal should be directed to the editors. Guidelines for contributors to the journal can also be obtained from the editors. The *AJCN* is published twice a year.

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Editorial

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Welcome to the latest issue of the *Australian Journal of Cancer Nursing*.

Without doubt this has been an extraordinary year across the globe for people with cancer and, in turn, cancer nurses and the speciality of cancer nursing. It is becomingly increasingly clear that we will be living with the ongoing consequences of the COVID-19 pandemic for some time to come. This pandemic has, however, been the impetus for new ways of working, and the provision of innovative nursing care. Support for people affected by cancer has developed, and we anticipate seeing more evidence of the outcomes of this finding its way into cancer nursing journals. Cancer nurses have risen to the challenge, and adapted to the many challenges that COVID-19 has presented.

Similarly, the journal has experienced quite an extraordinary year, and we have seen a considerable increase in manuscript submissions. This is incredibly exciting to see and demonstrates that cancer nurses across Australia are increasingly engaging in research to improve the lives of people with cancer, and to advance the practice of cancer nursing. In this issue we are delighted to present a range of high quality and interesting articles that focus on improving patient care, and supporting cancer nurses and the practice of cancer nursing care provision.

As editors we have been very encouraged to see the journal going from strength to strength, and the increase in manuscript submissions has highlighted the need for more peer reviewers. In response to our call for new peer reviewers we are very pleased to report that we received an overwhelming number of applications. Subsequently, in October we welcomed 18 new keen reviewers, all of whom are all specialist cancer nurses from across Australia. Again, this demonstrates the development of scholarship and research in cancer nursing in Australia. As editors of this journal we aim to provide a supportive and collegial experience for both our authors and our reviewers, and in particular are committed to supporting cancer nurses making their first steps in the publishing foray. As such, we recently formally welcomed our new reviewers by hosting a webinar focused on developing the skills of peer review. It was certainly a well-attended and engaging event, and a valuable opportunity for ongoing professional development.

In November we will be supporting the development of new (and experienced) authors in writing for publication through the provision of a series of webinars #CanWrite. #CanWrite comprises a series of three webinars presented at fortnightly intervals during which participants can develop their understanding of the publication process. This will include the steps involved in drafting an initial manuscript through to how to respond to reviewers' comments, the importance of proofing, and hints for disseminating a published article. We strongly encourage all of our readers who might be considering writing up a project for publication to join in these webinars.

We hope our readers find the new initiatives linked to the journal both interesting and useful and we look forward to creating more opportunities to engage directly with our authors and readers in the future.

Finally, as this is the last issue for 2020, we wish to thank all our peer reviewers who have volunteered their time and expertise in reviewing manuscripts:

- Kylie Ash
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What registered nurses consider important when educating and supporting patients receiving oral capecitabine for cancer

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Abstract

Introduction Capecitabine is an oral chemotherapy agent prescribed to treat cancers, replacing traditional intravenous treatment and shifting the responsibility for its administration from health professionals to patients.

Objectives Oncology registered nurses (RNs) were asked what they considered important when providing education and follow-up care for patients receiving capecitabine.

Methodology Ten RNs employed in oncology healthcare settings involved in the education and follow-up care of patients prescribed capecitabine were interviewed.

Results RNs viewed their role as being mainly educational, emphasising the importance of explaining potential side effects of capecitabine, the need for patients to self-report side effects, and steps to take if side effects are experienced. The timing for patient education and provisions for follow-up care were also considered.

Conclusion The increased prevalence of oral chemotherapy drugs, capecitabine specifically, means that nursing care of patients receiving this drug for cancer therapy must optimise opportunities for timely education and systematic follow-up care.

Introduction

Oral therapy is increasingly replacing traditional intravenous methods of treatment for cancer. This shifts the responsibility for the administration of treatment such as chemotherapy from health professionals in a medical environment to patients or their caregivers at home. Both intravenous and oral chemotherapy have potential side effects, making it important that patients receive thorough education about the drug prior to commencing therapy. Oral chemotherapy requires considerable input from registered nurses (RNs) for educating and monitoring patients who are increasingly being expected to self-administer potentially toxic medications[1].

Capecitabine is an oral chemotherapy agent prescribed to treat gastrointestinal and colorectal cancers as well as metastatic breast cancer. New Zealand has one of the highest rates of bowel cancer worldwide[2] and capecitabine is widely used. It is regarded as having a complex administration schedule[3] and patients may also be required to take supportive medications to treat occurring side effects. If left untreated, side effects from capecitabine can quickly escalate to become serious and/or life threatening, requiring hospital admissions[4].

This paper reports findings from research motivated by the lead researcher's concerns about patients requiring admission to oncology wards due to serious side effects and toxicities. From her experience working in an oncology inpatient ward, she noted that capecitabine seemed to be the oral chemotherapy drug that most commonly resulted in patient admissions to hospital.

Effective education of patients receiving oral chemotherapy is the cornerstone to successful treatment[5] and it is recognised that patients receiving this form of treatment require as much educational input as those receiving intravenous chemotherapy[6]. This research sought to gain a better understanding of what nurses perceived to be important when providing education and follow-up care for patients receiving capecitabine. It follows the work of Johnson and Adler[7] who surveyed nurses throughout Australia, focusing on 22 listed oral anti-cancer treatments, and found that the shift to this mode of therapy had "reduced the opportunity for contact with patients to monitor toxicities and provide education via traditional avenues" (p. 4).

Method

Study design

The research question asked, how do nurses working in oncology educate and provide follow-up support to patients who are prescribed the oral anti-cancer drug, capecitabine, and what are their perceptions of this process? Qualitative data were gathered via in-depth, semi-structured, telephone interviews with 10 RNs employed in oncology healthcare settings throughout New Zealand. All were senior RNs involved in the education and follow-up care of patients receiving capecitabine.

The interviews took place in 2016 and were all conducted by the lead author. They averaged 50 minutes in length and followed an interview guide incorporating mostly open-ended questions which focused the RNs' responses on their current practice. They were recorded with the RNs' informed consent and were fully transcribed. A general inductive approach to thematic analysis[8] was undertaken to identify, code and analyse emerging themes within the data. Cross-checking of key themes was done within the research team, with one member, not an RN, providing independent critique to ameliorate bias. Data saturation was deemed reached by the ninth interview, meaning no new insights were forthcoming, an indication of data trustworthiness.

Participants

The New Zealand Nurses Organisation Cancer Nurses College, CancerNet, was approached for assistance to recruit participants. An invitation to participate in the study was sent to all RNs on CancerNet's database. The participants were purposefully recruited this way, acknowledging that RNs working with patients prescribed capecitabine had the relevant experience and knowledge required to address the research question[9]. The healthcare settings in which the RN participants worked were geographically spread, located in large cities and small regional and rural centres. Seven of the 10 RNs described their roles as clinical nurse specialists, two as chemotherapy co-ordinators and one as an oncology outreach nurse. Their years spent in these roles ranged from 2–10, with the average being 5.7 years. All the RNs had either obtained or were working towards post-graduate qualifications and two were in the process of becoming nurse practitioners.

Ethics

Approval for this study was granted by the Eastern Institute of Technology Research Ethics and Approvals committee (Ref. 4/15).

Results and discussion

The research results showed that the interviewed RNs viewed their role of caring for patients taking capecitabine as being mainly educational. They had extensive experience with and knowledge of the drug and were endeavouring to be effective educators. The main findings of the research are reported under the following themes – what RNs consider is important to tell patients about capecitabine, when is the best time to do this and how it should be done, and what provisions there are for follow-up support.

What is important to tell patients about capecitabine?

The interviewed RNs were asked what information they gave to patients. The educational topics they considered to be important were patient safety considerations, including management of the complex schedule, safe storage and handling of the medication, and safe handling of patient body fluids. Most important, however, was information about the common potential side effects of the drug, the need for patients to self-report side effects, and what steps to take if side effects were experienced. Additionally, because the management of side effects often required patients to alter their drug regime, the RNs stressed that patients needed to be told that reductions in drug doses would not impact on the efficacy of their treatment.

The capecitabine medication schedule is complex[10] and therefore patients are at risk of making errors. Winklejohn[6] asserts that educating patients about recognising and managing side effects is a vital role for oncology nurses. All the interviewed RNs discussed side effects with their patients but they typically noted that the amount of detail they gave depended on the individual patient and the situation. On occasion they would only briefly outline common side effects, and emphasised the importance of recognising and reporting any toxicities when they first occurred, providing patients with contact information should they have concerns.

Although one RN commented that "Nausea's not incredibly common with capecitabine" [Nurse I], nausea was commonly discussed in education sessions and nine RNs reported that their patients were routinely given antiemetic prescriptions to prevent or treat nausea and vomiting. The RNs considered the most common potential side effects of this medication to be diarrhoea, mouth ulcers, palmer plantar erythrodysesthesia (PPE) and an increased risk of infection. The majority of the RNs discussed the risk of infection as part of their education sessions, and six gave neutropenic cards to patients to present at an emergency department if they became unwell. Bruising and/or bleeding (resulting from low platelets) and anaemia (referring to decreased red blood cells) were also discussed. Two RNs reported discussing tiredness as a side effect with their patients, one mentioned taste changes, and another discussed constipation as a possible, but not common, side effect. Chau et al.[11] described cardiac complications as a potentially serious but rare adverse event. This was included by only two of the interviewed RNs as part of the education sessions they gave their patients. Both did so because they had previously dealt with patients who had experienced cardiac toxicities. Dihydropyrimidine dehydrogenase deficiency (DPD), which is a rare autosomal recessive metabolic disorder with the potential to worsen the side effects of capecitabine, was a topic included in education sessions by only two RNs.

It is commonly believed that patients do not report side effects when taking capecitabine as they fear the disease more than the side effects[4]. Two RNs reported that, to allay fears and assist with understanding, it must be emphasised to patients prior to commencing capecitabine that dose delays or interruptions do not reduce the efficacy of the drug[12]. Empowering patients through education, with the assurance that capecitabine dose modifications do not decrease the drug's efficacy, may support patients to report side effects and accept changes in their treatment schedule.

Although providing appropriate and effective education about treatment is fundamental to empowering patients to make positive decisions and manage their treatment, Chau et al.[11] acknowledged the challenges in achieving a balance between under-informing and overloading a patient with information. Gerbrecht and Kangas[13] outlined six important factors patients should be aware of when taking capecitabine. These included: whom to contact for advice; correct drug schedule details; how to recognise side effects; how to treat side effects; understanding that the efficacy of capecitabine is not reduced by delay or reduction of the dose; and the benefits of using a diary. Diaries or calendars are seen as useful tools for patients to assist with the complex capecitabine schedule[7]. Six of the RNs discussed the use of diaries with their patients and felt these were beneficial. Nurse G explained:

> *One of the things we always do is give them a capecitabine diary, and I always get them to write down when they have their tablets… There is also a page on the other side to put down any problems you have got, and questions, and to use the other side to write down all the fluids you have in the day* [Nurse G].

Diaries produced by the manufacturer of capecitabine were considered useful because they contained information and advice specific to the drug, but these were not made available to all patients in the RNs' care. Four were not permitted by their District Health Boards (DHB) to supply patients with information produced by a pharmaceutical company, and another two were not aware of them. These RNs, however, gave patients a generic diary to use. Moore[12] and Griffiths and Pascoe[14] suggested that patients' literacy levels needed to be taken into consideration to assess whether a diary or calendar would be beneficial, and patients' levels of motivation also needed to be assessed[6]. During her interview, Nurse J commented:

> *… people are either diary writers or they are not, and having cancer does not make them a diary writer* [Nurse J].

Commonly, the RNs provided patients with written information which included immune-suppression/neutropaenia cards, capecitabine dose information, DHB specific information, Cancer Society information, drug company booklets and diaries, and a letter for the patient's GP. Websites such as MacMillan and eviQ websites were used and shared with patients by seven of the RNs interviewed.

When is the best time to provide education to patients and how should this be done?

The timing of patient education is important, both to allow them time to process their diagnosis and be receptive to education, and to provide sufficient time for patients to ask questions to help them understand the capecitabine schedule prior to commencing treatment. A key finding from the interviews was that all the RNs said they preferred not to educate patients about capecitabine on the day of the first specialist appointment (FSA), when a patient first meets the oncologist or nurse practitioner. This was because they felt patients had already received a considerable amount of weighty information about their cancer that they needed to process first. Nurse C explained:

> *Some people just can't take in too much, and you just have to go over your emergency action plans rather than go over everything* [Nurse C].

Dalby et al.[15] suggest that education should not be provided on the day of diagnosis as patients may have high levels of anxiety. An education session should be booked within a few days of the FSA, when patients and their families were more likely to be receptive to receiving new information[12]. Nurse G explained how she endeavoured to hold the education session the same day as a patient would start capecitabine, as she felt the patient would be more focused on receiving information about it on the day they commenced the therapy. The hospital in which Nurse G is employed dispenses capecitabine, and patients usually receive the drug on the same day of the education appointment to minimise repeat visits to the centre. Other RNs described having scheduled times during the week when they were available to provide patient education, although they tried to be flexible to meet the needs of their patients.

The amount of time devoted to providing education was an important consideration to ensure patients were able to understand the information they were given and ask questions[11].

One hour appeared to be the ideal timeframe for educating patients[15], and seven of the RNs indicated that they allowed this amount of time. Others commented, however, that this was not always appropriate or achievable. For example, Nurse H said:

> *An hour is allowed for [education], one hour. But then again it's up to the skill of the nurse, isn't it? It's good if they [patients] come accompanied by a relative, but often an hour is too long, because people have switched off, you can see that* [Nurse H].

Three RNs referred to having patients who lived in rural communities 2 or more hours from the oncology centre, who found it difficult to get back to the hospital for a 1-hour education session. While none of the RNs recommended trying to educate patients about capecitabine on the day of their FSA when the diagnosis and treatment options were also discussed, exceptions would sometimes be made if a patient lived some distance away and was unable to easily return. In these cases, RNs found they needed to give some form of education on the same day as the FSA. As Nurse A explained:

> *I make sure they've got drugs at least, got diaries and have some debrief, but then you would be doing a lot more phone work after that, to sort of complete the exercise* [Nurse A].

One RN, working in a main metropolitan centre, described holding group generic education sessions which involved up to 20 patients at a time for 30 minutes. These sessions were followed by 20-minute long meetings between the RN and individual patients and family members who also met with the pharmacist when the capecitabine was dispensed. The RN explained that patient education was given in this format because the number of patients being prescribed capecitabine had become too large to manage individualised education sessions.

What follow-up support is provided?

Capecitabine may be taken over several months and side effects can occur at any time during the treatment[4]. By maintaining regular contact with patients for the duration of treatment, nurses are able to give advice regarding side effects as well as be a resource or contact person. Patients need to be able to contact a health provider at any time to discuss their treatment and side effects[3,6,12,16]. If side effects from capecitabine occur, they are easier to manage in the home environment when they are mild and before they escalate to more serious issues[17].

All RNs provided patients with telephone contact numbers, including for after-hours, pubic holidays and weekends. Nurse D explained of her practice:

> *All capecitabine patients get a visit on the first week of treatment, they get a phone call on the second week of treatment and from then on it's negotiated* [Nurse D].

It was common for the RNs to report on the importance of telling their patients to make contact to discuss any concerns. Eight RNs said they emphasised to their patients the importance of phoning them or the triage unit, even if the concerns appeared minor. Nurse E's was a typical comment:

> *We would rather they ring than struggle at home and not want to bother us and not ring us* [Nurse E].

Nurse G said she would reassure patients that they would be unlikely to remember all the information they had been given initially and added:

> *We realise that they can't possibly remember everything that we tell them, so if they have any queries, they need to ring in* [Nurse G].

RNs working in rural areas dealt with patients' telephone calls during their working hours, whilst larger urban areas had triage clinics with experienced oncology nurses receiving these calls. Nurse F explained:

> *We are a small area and we are not far from town… if they ring up and say they are not well, I will get them to come in and I will do an assessment; they will either be admitted or we will sort something out* [Nurse F].

RNs working in the smaller populated centres of the country usually advised their patients that, if they became unwell outside of business hours, to present at their emergency department as usually these centres did not have an impatient oncology ward to access for advice. Some, however, gave patients telephone numbers which linked them to the oncology inpatient ward at their nearest DHB. In larger centres, after-hour telephone calls made by patients seeking assistance were either directed to inpatient wards or outsourced to a New Zealand 0800 Healthline. Nine of the interviewed RNs mentioned this, and spoke positively of this service, describing it as employing trained nurses, having an electronic decision-making system and database in place, and having access to appropriate information about capecitabine.

All the RNs interviewed confirmed that follow-up support was provided for patients taking capecitabine but how this was done was not consistent throughout the country. Nurse G, employed at a main centre, did not provide the follow-up telephone support herself but explained:

> *Twice a week they (patients) get a call from the assessment (triage) unit, touching base and running through the side effects which they may or may not have, and just making sure they are on the right track with everything. That's every cycle* [Nurse G].

Not all RNs phoned patients weekly to provide follow-up support. Some tailored phone calls based on their initial assessment, as Nurse A explained:

> *I don't have a policy of regular set calls, I base it on my assessment of the patient, from when I saw them, as on their ability to 'get it', and comply, and contact me if there are problems. And so most of the time I wouldn't put them on regular follow-up unless I thought 'no, you don't get this', and I make some regular contact* [Nurse A].

Nurse A continued, saying she would expect independent patients to telephone if side effects occurred and, if patients started getting into difficulties such as not understanding when to take supportive medication, she would increase the amount of follow-up support. Three of the rural nurses spoke of tailoring the follow-up phone calls to meet patient's needs. If no problems were occurring, for example, they would not necessarily phone patients weekly.

Nurse C was the only RN who reported being able to choose between telephoning or visiting patients in their own homes to provide both education and follow-up support. She felt that, while providing home visits can stretch nursing resources, some patients were more comfortable meeting her in their home environment and would more readily phone her afterwards with any concerns. Rapport is evident when patients feel comfortable enough to ask questions[18]. The convenience of home visits can also contribute to patient satisfaction, and reduce their need to travel to treatment centres and disrupt their daily routines[5].

Five RNs made the follow-up phone calls to their patients themselves. These calls are a way of assessing patients, monitoring medication schedule adherence, and providing a supportive link between patients and the treatment centre[19]. The RNs who work at main centres where oncology triage units provided patient telephone support all felt that this form of follow-up care was effective, with two describing how the oncology nurses working in these triage units had undertaken post-graduate advanced assessment and diagnostic reasoning courses in preparation for this role.

The practice of following up with patients allowed RNs the opportunity to reinforce education in response to patient questions, to give advice when required, and to ensure patients are taking the correct dose of capecitabine to get the optimal benefits while also understanding the importance of reporting side effects[20]. One interviewed RN worked in a clinic in a large urban centre where follow-up care for patients prescribed capecitabine was outsourced to RNs employed through the Cancer Society. Outsourcing patient management to specialist services such as the Cancer Society allows hospitals to reduce costs and to free up nursing time for direct patient care[13]. The RN who described this scenario at her workplace felt that the outsourcing of follow-up support worked well. She commented that patients were still able to access the after-hour contact numbers, or the triage unit directly during office hours, should they become unwell. RNs from the Cancer Society made home visits to patients within the first week of their commencing capecitabine and telephoned during the second week. After that, the RN and patient then negotiated whether further follow-up support would continue. Chau et al.[11] suggest that patients require more support in the first treatment cycle as they tend to be more independent with subsequent cycles. In contrast, Craven et al.[16] assert that the most crucial time to provide supportive intervention is during the first two cycles of capecitabine treatment as it is during this time that effective intervention to manage side effects is most evident. As there appears to be wide variability in when side effects may occur[4], from weeks to months after commencing treatment, it would seem appropriate to suggest that follow-up support needs to be maintained throughout the duration of treatment.

Conclusion

For patients taking oral chemotherapy, thorough education about the drug, provided by oncology nurses, is regarded as being essential for ensuring patients understand the risks and benefits associated with this therapy[21]. The RNs who took part in this research described their role caring for patients taking capecitabine as mainly educational, citing the need to explain patient safety considerations and potential side effects of the drug, and to emphasise the importance of patients self-reporting side effects.

Capecitabine education requires a large quantity of information be given to patients who have become responsible for their own drug administration. The recommendation of providing two education sessions could give nurses the opportunity to break down the amount of information and cover different topics at each session. It would also reinforce education by allowing for repetition of information given in an initial session[20], and provide more time to ensure patients receive effective education without becoming overwhelmed by the sheer quantity of information given. Of particular concern regarding patients prescribed capecitabine is the potential for serious side effects which, without early intervention, may require the patient to be hospitalised.

The increased use of oral chemotherapy drugs, and capecitabine specifically, means that nursing care of patients receiving this drug for cancer therapy must be managed in ways that optimise opportunities for timely education and systematic follow-up care.

Conflict of interest

The authors declare no conflicts of interest.

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Complementary medicines and chemotherapy: if you can’t beat them, join them

Increasing patient safety and trust in clinicians with a collaborative care approach

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Abstract

Current research shows that many oncology patients will use complementary and alternative medicines (CAMs) despite the lack of strong evidence regarding their efficacy[1]. The priority of the oncology clinician should be to facilitate patient-centred care and to ensure patient safety[2]. Evidence-based, carefully considered integration of CAMs with conventional medicine may improve patient outcomes by decreasing the likelihood that patients will employ unsafe CAM practitioners without informing their clinician[3].

Empowering patients to make decisions and be involved in their own care can improve health literacy[4], patient satisfaction and physical health[5]. At the same time, the safe integration of CAMs with conventional treatment can lessen the risk of CAM/drug interactions, minimise financial stress, and lower the chance of patients refusing conventional treatment[3,6].

Introduction

Oncology patients use complementary and alternative medicines (CAMs) for a range of reasons, from symptom management to alleviating side effects and, for some, instead of conventional medicine[7]. Patients receive health information from many sources and the levels of health literacy and understanding vary[4]. There may be reliable evidence to support the efficacy of some CAMs – depending on the intended use – and some patient populations have been found to be more likely to use CAMs than others[7]. Clinicians, oncologists and oncology nurses alike, should ensure they know which patients are the most at risk for CAM use, when/if CAMs can be used safely, and if the intended CAMs can be integrated with conventional medicine. Additionally, clinicians should ensure they continually seek up-to-date and relevant education on CAMs to ensure they are able to have evidence-based CAM discussions with patients when required[8]. Importantly, patients may not view CAMs as ‘medicine’ and may not be forthcoming with information[8]; clinicians must be aware of this and facilitate education and discussion where possible[3,6].

Conventional treatments: the facts

Clinicians in Australia are bound by the Australian Health Practitioner Regulation Agency (AHPRA) to work according to evidence-based practice:

> *… the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient… integrating individual clinical expertise with the best available external clinical evidence from systematic research*[9(p.2)].

Cancer-related surgery, chemotherapy and/or radiation treatments are thoroughly studied and tested before being prescribed to patients[10]. However, surgery, chemotherapy and radiation all have potential side effects that may affect patients in different ways, and these side effects may be acute, chronic or permanent[11]. Despite the strong evidence that these treatments work to treat and/or cure cancer, some patients report feeling these treatments are “harmful” and that they “destroy” their overall quality of life[1]. The side effects of standard treatment can include depression, anxiety, fatigue, pain, nausea and vomiting, and some side effects may continue after treatment has ended[12,13]. Many patients also report experiencing a loss of control and fears of long-term morbidities, in addition to concerns about cancer recurrence[14].

For some patients, these potential risks of conventional treatment are considered too great, and one study reported that up to 70% of patients who use CAMs do so as first-line treatment due to their concerns regarding standard treatment[1,13]. Adherence to standard medical treatments can be influenced by several factors including access to health services, financial concerns, beliefs and values, lifestyle, and previous experience with conventional medicine[15].

What are CAMs?

CAMs are often grouped together but there can be significant differences between the meaning of each of the two terms. There is no definitive classification of CAMs[6]. However, generally, complementary medicines are used *alongside* conventional medicine, and alternative medicines are used *in place of* conventional or proven treatments[5,16].

CAMs, as an umbrella term, are practices, disciplines, therapies, interventions or products which are:

- Unproven[17].
- Not considered to be associated with conventional medicine[6,18].
- Originating from non-medical sources[7].
- Used alongside conventional medicine, but are not standard treatment nor included in usual medical teaching[9].

CAMs can be categorised into medicines and treatments considered to be complementary or alternative to conventional medical treatment (Table 1). They come in many different forms and are classified as complementary or alternative depending on the intended use. This distinction is often not clear to patients nor to clinicians[16].

CAMs have been used for thousands of years and in almost every culture, pre-dating the development of conventional medicines[16]. It is important to note that some CAMs have been studied and found to be effective in relieving some symptoms[18]. In addition, in some countries, patients are unable to afford access to conventional medicine and may only be able to access traditional healers[19].

Why do patients decide to use CAMs?

Despite the evidence of efficacy, conventional cancer treatment is not without its problems[8,20]. Many patients report struggling with the side effects that accompany surgery, chemotherapy and radiation treatment as both healthy cells and cancer cells are damaged[18]. Oncology patients report using CAMs for symptom relief, to meet unmet needs, "in desperation", and due to being influenced by family, friends or the media[7,8].

Symptom and side effect relief

Oncology patients report using CAMs for symptom relief and side effect management. These symptoms can include pain[9,11,21], anxiety[11], nausea/vomiting[9,11,18,20], decreased physical ability[11] and insomnia/fatigue[8,20]. Additionally, patients may use CAMs to improve their emotional wellbeing[8,18,20], physical health[8,18,20], immune system[7,8,20], side effects from conventional treatments[8,9,20], and perceived ability to fight cancer[7].

Meeting unmet needs

"Meeting unmet needs" is often cited as one of the reasons oncology patients visit CAM providers, and one study reported that the prevalence of CAM use shows that there are a significant number of needs not being met by conventional medicine[7]. Using CAMs can help patients feel empowered and can assist in the management of side effects that may result from treatment or from the disease process[20]. Using CAMs can give patients a feeling of control and enhance their wellbeing[7,20]. For many patients who use CAMs, the decision is made because it seems 'easier' – CAMs are often perceived to be non-invasive and uncomplicated[1]. Many patients fear the potential side effects of conventional cancer treatment, and mistakenly assume that natural products are safe with no side effects[1]. In one study – in which patients were given a questionnaire to self-report CAM use – 51.6% of patients reported using CAMs because they were "trying to do everything that might help"[8].

Social support and influences

Lifestyle, religious beliefs and cultural influences affect the choices patients make[8], and the patients' psychological health and personal history with conventional medicine are also important factors[22]. At the beginning of the cancer journey, health professionals tend to play the largest role in providing treatment information[1] but, for many patients, there are gaps of time between first noticing symptoms and seeking medical assistance, and their eventual diagnosis and treatment[17]. During

Table 1. Categories of CAMs

Mind / body	Traditional	Natural
Exercise (yoga, pilates)[10]	Chinese medicine[11]	Vitamins[9]
Massage[15]	Homeopathy[12]	Herbs / botanicals[15]
Chiropractic[14]	Prayer[15]	Minerals[12]
Acupuncture[11]	Naturopathy[10]	Probiotics[10]
Meditation[10]		
Nutrition/diets/food supplements[15]		
Self-help techniques[9]		
Hypnotherapy[11]		
Mind-body techniques[12]		

these periods, patients often turn to friends and family members for support and advice while they wait for medical appointments[1].

Several studies have explored the main factors that influence the choices made by cancer patients. Family or friends endorsing CAM use was found to be one of the main predictive factors of patients' eventual use[1,3,7,8]. A cross-sectional study found that 60% of women surveyed did not decide to use CAMs independently; rather the decision was heavily influenced by their mothers, husbands, other family members, and their friends[1]. A questionnaire/survey study showed that many patients relied solely on family/friend recommendations prior to commencing CAM use and did not seek any CAM-related information from their clinician/s[7]. Importantly, CAMs are often linked to cultural/traditional healing methods and therefore using them may have significant personal meaning for patients[3].

One cross-sectional study found that patients made the choice to commence using CAMs after they were encouraged to do so by their oncologist or GP[18]. Research indicates that between 10–32% of CAM use is initiated on the recommendation of clinicians[1,7,8], although another paper found that clinicians were reluctant to discuss CAMs with patients at all, either positively or negatively[6].

For many patients, particularly those in rural/remote settings or who may be socially isolated, CAM information is often sourced from social media[3] and the internet[8]. Just 17% of patients reported that their information came directly from a CAM practitioner[7].

Understanding health

Patient health knowledge

In-depth studies have found that cancer patients – and often clinicians – tend to see CAMs as 'safe' options, with many patients believing CAMs are safer than conventional medicine[2,3,6,16]. This misunderstanding can be perpetuated by well-meaning family members who may endorse CAMs based on unproven anecdotes that suggest CAMs will assist with relaxation, general wellness, and even give hope for cure[3]. The influence of family and friends, and the information they provide, has been found to surpass the influence of the internet, books or clinicians[3] and patients who are fatigued, overwhelmed or suffering debilitating symptoms may fail to do their own research, relying instead on their support network[3]. Clinicians often focus solely on the disease process and cure/symptom management, which can leave patients feeling as though their overall wellbeing is not important[6] and lead them to seek information elsewhere[1]. In one narrative literature synthesis, the researchers found that patients had better relationships and better communication with CAM providers than clinicians and were willing to travel long distances for consultations with 'healers' or other traditional CAM providers[1].

The current evidence shows many oncology patients are uninformed regarding their CAM choices, and do not discuss their CAM use with their clinicians[7]. Studies have found that many cancer patients do not consider their clinicians to be well-informed about CAMs[9], and patients were reluctant to initiate the conversation due to fear of negative reactions[3,8,18]. This makes it difficult for clinicians to know whether patients have received accurate information, and to assess a patient's understanding of CAMs[8]. Importantly, these unrealistic expectations of CAM benefits may cause patients to suffer adverse effects due to CAM use, to potentially lead to life-threatening interactions between CAMs and conventional treatments[8], or even prompt patients to refuse conventional care[3]. This shows that it is critical for clinicians to be made aware of CAM use, and that patients should be involved in both education and decision-making processes – and family members where appropriate[8]. This can give clinicians the opportunity to direct patients towards safer, more evidence-based CAMs, and away from those with a potential for negative outcomes, improving the patient's cancer experience and simultaneously minimising harm[3].

Health literacy: levels of evidence

Health literacy plays a significant role in the ability of patients to make evidence-based decisions. Most clinicians understand that the gold standard of research is a randomised controlled trial and/or a systematic review of randomised controlled trials[15]. Randomised controlled trials are rigorous scientific studies with strict standards and controls to ensure the validity of their results, but this may not be understood by all patients[12]. In Australia, many individuals have low health literacy; population studies have found that almost 60% of adult Australians do not have the necessary health literacy skills to make good medical decisions[4]. Anecdotal data can be viewed by patients as more valuable or relevant to their experience than hard-to-understand scientific reports[12]. To complicate this, there is limited scientific data regarding the efficacy and potential interactions of most CAMs[8], which means patients are often unknowingly making decisions based on non-scientific, low-level evidence[5]. Additionally, many CAM types are customised and individualised to each patient, or may be activities such as yoga/massage with no potential for placebo; this makes it difficult to conduct randomised controlled trials[19,23].

Who is at risk for CAM use?

Health literacy and education level/intelligence are not necessarily linked. Several studies have shown that the patients at highest risk for CAM use are highly educated with a college/university degree or greater[3,17]. Other risk factors for CAM use include being female[18], young (less than 55 years old)[7], high income[17], otherwise healthy, and having been diagnosed for 12 or more months[3]. Breast cancer alone increases the risk of CAM use[1,3,7], with some studies reporting CAM use in 58–75% of breast cancer patients[1,3,7]. These patients were found to have higher expectations of benefit from CAM use, and higher rates of use than other cancer patients[1,3,7]. CAM use was found to be lowest among patients with prostate cancer and lung cancers[7].

How many patients use CAMs?

A questionnaire study performed at the Peter MacCallum Cancer Centre published in 2014 found that patients visited CAM practitioners with about the same frequency as they visited clinicians[7]. Several studies have reported that 45–65% of Australian patients use CAMs as well as conventional treatment[8,20], although this number varies from as low as 17%[1] to as many as 94%[1,18]. There was no significant variation between rural and metropolitan populations[8]. Around 22% of patients reported using CAMs with medical supervision alongside conventional treatment, and private health insurance often supports this use by covering the cost of CAMs[18]. Less than 0.02% of patients reported using CAMs *instead of* conventional treatment[17], but the true numbers of these patients may not be represented in clinical studies as these studies are usually performed by cancer treatment institutes or by conventional clinicians/researchers.

The evidence shows that patients decide to use CAMs for a range of reasons and with varied influences, often without scientific reasoning[7]. Clinicians must be respectful of patients' decisions and understand where information is sourced from in order to avoid causing offence and risk isolating the patient from conventional medicine or from their social/cultural support networks[24]. In addition, clinicians should be willing to work alongside patients to ensure intentions for CAM use are known and considered when making conventional treatment decisions[10].

Does it matter if patients use CAMs?

What is the evidence?

Some CAMs have evidence of effectiveness regarding symptom management, although none have been shown to independently manage or cure cancer[17,19,25]. Most CAM evidence is inconclusive, and oncologists are not able to make recommendations for CAM use based on weak research results[6], but some strong evidence suggests the following benefits:

- Exercise has been shown to be effective in reducing pain and fatigue, and improving physical function[26].
- Ginger root powder was found to be as effective as metoclopramide for managing chemotherapy-induced nausea and vomiting[20].
- Clinical massage improves chemotherapy-induced peripheral neuropathy[11].
- Acupuncture significantly improved fatigue for cancer patients[27].
- Prayer was found to be effective in reducing anxiety for some patients[8].

For patients with slow growing cancers, such as some early stage prostate cancers, it may be safe to use CAMs as a 'first-line' treatment[17]; this was shown to be the case for some men with prostate cancer who lived a long time after receiving only active surveillance rather than immediate conventional treatment[17].

Interaction with conventional treatment

Clinicians are often concerned about patients using CAMs as some CAMs have been found to negatively interact with conventional treatments[8]. Some patients believe that combining CAMs with cancer treatment will "help" or "improve my chances" and most are unaware of the potential dangers[8]. This is particularly true of vitamins, minerals and herbs/plants as it is often assumed that 'natural' products are also inherently safe[2,3,6,16]; unfortunately, many of these products can render chemotherapy drugs less effective[8,11]. There have been numerous studies to research the interactions, and more in-depth information on particular CAM types can be sourced in the reference list of this article. As an example:

- St John's wort can make imatinib less effective, requiring a higher dose[16].
- Cancer patients with decreased platelet and/or white blood cell counts should not receive acupuncture[11,27].
- Head/neck cancer patients undergoing radiation should not have facials due to increased skin sensitivity[11].
- Grapefruit/grapefruit juice can interact with the body's ability to process Taxol drugs and can increase the negative side effects[8,28].
- Some studies on vitamin use were interrupted when tumours were found to grow faster after high-dose vitamin administration[25].
- Fish oil supplements can cause some chemotherapies to stop working[6].

Many patients are unaware of these risks and the potentially irreversible negative side effects or interactions that these drugs may cause when used alongside conventional treatments[1]. Further to this, studies have found that around 60% of patients who do use CAMs do not inform their clinician of their CAM use; many reported that this was due to fear of disapproval[8], and some did not report CAM use simply because no one asked[8], increasing their risk of adverse event[7,17].

Risks of refusing proven treatment

Alongside the risk of negative interactions between conventional treatment and CAMs is the risk of patients refusing proven treatment in favour of alternative therapies alone[1,3]. Having a strong preference for CAM use over conventional medicine has been found to lead to patients delaying their presentation to medical services, with both diagnosis and treatment[1]. This increases the risk of adverse outcome and leads to significantly worse rates of survival[17]. Patients who have breast or bowel cancer and choose to use only alternative medicines have been found to have five times greater risk of death after 5 years[17].

Some patients reported refusing conventional treatment due to feeling pressured to make decisions quickly and felt that CAMs allowed a less stressful and more friendly approach[1]. This shows the importance of clinicians recognising which patients are at a higher risk of refusing conventional treatments[3], then using this understanding to counsel and educate the patient/family on shared decision-making with a patient-centred approach.

Exacerbating financial stress

For many patients, a cancer diagnosis also has financial implications resulting from time off work and the out-of-pocket expenses of specialist appointments and tests[20]. This financial stress can be exacerbated by the costs of CAM use[20]. A qualitative analysis of oncologists' experiences of discussing CAM use with their patients found that physicians report their patients are often exploited by false promises[6] and feelings of insecurity regarding their health[7,20], and that some CAM practitioners "just squeeze money out of patients"[6].

To avoid this, clinicians should encourage patients to consider the cost of CAMs with regard to the evidence of benefit[22]. In Australia, many patients can access evidence-based medicine free of charge through public hospitals[8]; this is often not the case in America, and it is interesting to note that CAM use in the US is reported to be higher than in Australia[8]. However, patients who use CAMs in Australia incur costs which are largely not subsidised by Medicare rebates, or are only minimally subsidised by private health insurance companies[20]. Several cancer centres provide some CAMs to patients free of charge[10,11], and evaluation of the cost effectiveness of this alongside measurable positive patient outcomes would be valuable[20]. At a time when government health budgets are stretched by simply providing the necessary evidence-based treatments and social assistance, there are important ethical considerations to deliberate before contemplating the use of government funding to provide CAMs to patients without evidence of benefit.

Using CAMs safely with conventional treatment

Should clinicians be willing to discuss CAMs?

The Clinical Oncology Society of Australia released a Position Statement on the use of CAMs recommending that clinicians make themselves aware of the benefits and risks of the CAM therapies their patients frequently use[22]. Many nurses and doctors have minimal CAM-specific training and avoid discussing CAM use with their patients[8] and would benefit from detailed education[6]. In one study, clinicians reported that they demonstrated willingness to discuss CAMs with patients – despite the clinicians' scepticism – as they wanted to ensure they gained the patients' trust[6]. However, in another qualitative study regarding the integration of CAMs with conventional cancer treatment, clinicians stated that "all staff should avoid open support for CAMs" as they felt the potential interaction risk was too great[20]. Many patients do not admit to CAM use due to fear of ridicule or concerns that concurrent conventional treatment will be withheld[18]. However, patients usually trust their clinicians and it is important that clinicians are open to discussing CAM use[5,17]; this provides an opportunity to offer guidance on appropriate CAM use and for adverse outcomes to be managed safely[18]. It would be beneficial for patients and clinicians if CAM use were routinely discussed from diagnosis, through treatment, and into survivorship in order to anticipate and manage potential interactions or toxicities[5].

Patients prefer CAM discussions to be initiated by the clinician[5], and it is important that patients do not feel judged nor have their questions or concerns dismissed[17]. This is particularly important when patients intend to use CAMs that are likely to have negative interactions with conventional treatment[17]. Patients often have justified concerns regarding the side effects of oncology treatments and cancer symptoms[17] and may feel they have time to try CAMs before conventional treatments, without being aware this may increase their risk of death[5]. Clinicians should openly discuss the expected side effects of conventional treatment and ensure that patients understand how they intend to manage these[17].

How do clinicians educate patients on using CAMs safely?

Educating patients on the benefits and risks of conventional treatment is a standard requirement of clinicians[5]. Extending this education to include the benefits and risks of CAMs can improve the clinician/patient relationship and enhance the patients' understanding, their autonomy and their satisfaction with decisions[5]. Many clinicians report being asked to discuss CAMs with patients and would like to provide information but find this difficult when there are no formal standards, training nor advice[6], particularly as CAMs are often viewed as belonging to "another world"[6].

The Cancer Council has released a booklet entitled *Understanding complementary therapies: a guide for people with cancer, their families and friends* which aims to provide easily understood patient information regarding CAM use[29]. This resource can be a non-judgemental way to start a discussion or provide further reading for patients who may be interested in CAMs. It is necessary for clinicians to understand their own attitude and preconceptions of CAMs[18] as the research shows many patients will use CAMs anyway[8]; clinician disapproval is unlikely to have any effect[18]. Clinicians can be instrumental in using patient-friendly language to communicate the evidence regarding advantages and disadvantages of CAMs[24] and can educate patients on which CAMs are more likely to provide benefit[11].

Integrating CAMs with conventional medicine

Some hospitals in Australia and around the world are beginning to use an integrative medicine model of care[20], in which conventional oncology clinicians work alongside CAM practitioners to ensure patients are not prescribed contraindicated conventional treatments or CAMs[11]. Patients who have experienced this model reported feeling cared for "as a whole person" and that they felt the overall quality of care was higher[20]. The integration of CAM therapies with conventional medicine enables clinicians and patients to balance the desire for patient-centred care with evidence-based medicine[11], ensuring patients can make choices and decisions regarding their care[20] whilst simultaneously ensuring their safety[8,10].

For some hospitals/oncology services, a full collaboration of in-house CAM practitioners is unnecessary[11]. Training oncology nurses to understand and refer to local CAM practitioners and building relationships while guiding access to services can promote patient wellbeing and overall health[2]. Healthcare teams work with a multidisciplinary approach, and helping patients to safely access supportive therapies can assist to treat the symptoms of cancer and treatment side effects[10]. There is evidence that some CAMs do improve emotional and physical health and can be integrated into conventional treatment with minimal risk[11]. Research has found that many patients who want to use CAMs wish to use conventional treatments concurrently[17] and they want non-judgemental advice on CAMs from clinicians[6]. This approach can also enable family members to be involved[9] and reduces the burden on patients and their families to evaluate the effectiveness of CAMs independently[20].

By using an integrative approach, clinicians can ensure that patients use CAMs that have evidence of benefit and can help to minimise high-risk CAM use[9]. Treatment plans could be shared between CAM practitioners and the oncology team[10,11,20], increasing the chance that patients will have better health outcomes, good quality of life, and experience safe, patient-centred care[2,6].

Conclusion: recommendation for practice

Conventional cancer treatments, and CAMs, have both benefits and risks to consider, with varying levels of evidence to support their use[5,12]. Patients may choose to use different CAMs for a multitude of reasons and due to influences ranging from family and friends to medical staff[7,8], and the research shows that patients are likely to use CAMs without strong evidence of benefit and without discussing it with their clinician. A patient's level of health literacy and their ability to read scientific research plays a large role in their understanding and sourcing of medical information[3,17,18]; clinicians should keep this in mind when assisting patients to make decisions about their medical care[20]. Clinicians should also be educated on the risk factors and dangers of CAM use[22], and how to counsel patients on safe CAM use to minimise negative interactions or refusal of conventional treatment[1,3]. For some patients, CAMs may be able to be safely integrated into care once the patient and clinician have a trusting relationship[11,20] and, at all stages of the cancer journey, clinicians should be open to discussing CAMs respectfully and educating patients appropriately[6].

Oncology clinicians should encourage safe[2], high-level research[3] on CAMs so that the evidence for or against can be developed to the same standard as research for conventional treatments[15]. In addition, consideration should be given to the possibility of public awareness campaigns on CAM safety, and potential collaboration between conventional clinicians and CAM practitioners to ensure patients receive evidence-based, safe, patient-centred care[10].

Conflict of interest

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Do subcutaneously engineered stabilisation devices reduce PICC migration? A product evaluation report

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Abstract

Background Subcutaneous engineered stabilisation devices (SESD) are promoted as a strategy to reduce peripherally inserted central catheter (PICCs) migration and associated complications.

Method During a 4-month product evaluation period, a total of 51 PICCs were stabilised using a SESD from two clinical groups. These patients were evaluated weekly using multi-criteria, the Macklin and Blackburn framework.

Results Zero PICC migrations and two dislodgements – of the 51 insertions – were observed during the evaluation period. Ease of use and the ability to effectively clean the PICC exit site and safely remove the PICC site dressing were reported as additional benefits.

Conclusion The SESD used in this product evaluation proved a successful measure to reduce PICC migration. It was embedded into PICC care bundles for all adult patients in our service.

Introduction

Peripherally inserted central catheters (PICCs) have been used for over 4 decades to deliver intravenous (IV) infusions and medications and to allow blood sampling when frequent venepuncture may be problematic[1]. While there are advantages to using a PICC, this has to be weighed against potential risks such as catheter-related blood stream infection (CR-BSI), thrombus, occlusion and migration[2]. These complications are associated with significant social cost to the patient as well as having financial implications for the healthcare facility[3].

Frequently, complications arise due to catheter movement. Traditional methods for securing PICCs – such as transparent adhesive dressings, sutureless securement devices or sutures – do not completely eliminate movement of the PICC[4]. During PICC dressing changes, there is a potential risk of migration or dislodgement if the PICC is secured with adhesive dressings. PICC movement can result in skin irritation, exit site infection, migration or dislodgement, and can lead to more serious complications such as CR-BSI or thrombosis[4,5]. These complications can cause delays in treatment or be life threatening[5,6].

The use of a subcutaneous engineered stabilisation device (SESD) has been endorsed by two international groups that influence catheter management and best practice. The Infusion Therapy Standards of Practice recommends the use of an engineered stabilisation device to secure vascular access devices to prevent unintentional dislodgement and associated complications[7]. A review by the National Institute for Health and Care Excellence found that the adoption of the SESD to secure PICCs should be considered for any PICC whose dwell time will be 15 days or longer[8]. Hughes (2014)[6] reported only one PICC migration out of 31 patients, while Zerla et al. (2017)[9] described the SESD as a cost effective product and reduced catheter migration, particularly in 25 PICCs with a dwell time of greater than 30 days. In a paediatric setting, the use of the device significantly reduced the incidence of complications, particularly dislodgement during the first 30 postoperative days[10]. SESD have the potential to reduce PICC migration.

Background

The product evaluation was undertaken in an acute tertiary teaching hospital in the South Island of New Zealand which provides services to a regional population of approximately 600,000. The Interventional Radiology Department at this hospital has the only New Zealand team of registered nurses (n=10) who are credentialled PICC inserters[11], placing between 1500–1711 PICCs annually, with an estimated annual cost of NZ$599,215).

In 2013, a concerning trend in PICC migration complications and re-insertions related to catheter movement was identified. This problem was initially addressed through the introduction of a trimmable PICC and a transparent adhesive dressing with an integrated reinforcement. Although this dressing provided a partial solution using additional reinforcement, it was reliant on good skin integrity for successful securement. Nevertheless, reasons for migration such as inadequate securement further challenged by skin integrity factors drove the product evaluation initiative. In 2014, 150 (11%) PICCs required reinsertion due to migration. This had both social costs in terms of patient suffering and delays in therapy, as well as financial implications in terms of associated additional costs, calculated to a value of NZ$54,750. Furthermore, in one of these cases of PICC migration, a fatality occurred that was linked to inadequate PICC securement which led to a quality review. This paper describes the implementation and outcomes of a product evaluation of an SESD. The aim was to evaluate the impact of a change of PICC securement on PICC migration events.

Methods

This product evaluation was underpinned by the Plan-Do-Check-Act (PDCA) tool[12]. This well-established tool has particular value in testing quality measures on a small scale in a continuous loop of planning (P), doing (D), checking (C) and acting (A) before updating procedures or working methods on a more widespread scale. This product evaluation was focused on impact of a change of PICC securement on PICC migration events. For the purposes of this product evaluation, catheter dislodgement was defined as an accidental removal that resulted in loss of function, whereas catheter migration was defined as movement greater than 2cm without loss of function even if the catheter tip was no longer at the cavo-atrial junction. Length of dwell time to removal was defined as successful completion of the intended course of therapy for which the PICC was inserted based on organisational policy.

Clinical product training

Before the product evaluation commenced, all staff who would be involved in the insertion, ongoing management and removal of the SESD received training by product experts. A transparent adhesive dressing in use at the time continued to be used as it was part of the 'PICC dressing bundle'.

PICC insertion procedure

Each PICC was inserted using ultrasound guidance with fluoroscopy tip placement verification. A small 'nick' was made in the skin to allow the folded SESD nitinol anchors to be placed into the subcutaneous layer. Once deployed, the securing anchors remained stable. The PICC site was dressed using a transparent adhesive dressing (Figure 1). Cyanoacrylate was not used to provide haemostasis at the insertion site by this organisation before or during this product evaluation.

Setting

Data collection took place during a 4-month period between June and October 2015. Two clinical areas were targeted for the product evaluation. Group A, a haematology unit, was selected as a speciality service. Group B, a general surgical ward, was selected due to the high rate of PICC migration incidents. Baseline data for Group A and Group B were obtained from a retrospective analysis of number of PICC reinsertions due to migration over two 4-month periods from January–May 2014 and June–October 2015.

Evaluation measures

The product evaluation framework was based on criteria proposed by Macklin and Blackburn[4] and further developed as the Health and Technology Synergy (HATS) framework by Chernecky et al.[13] was used to assess effectiveness of PICC securement. The evaluation framework included three criteria – patient, practice and product. For each SESD inserted, PICCs were monitored for 4 months or until removal, whichever occurred first.

Data collection

The PICC nurse inserters completed an initial evaluation form for each SESD placed at the time of PICC insertion. Nursing staff from Groups A and B completed evaluations of PICC management weekly during the product evaluation. This was documented on a specific form developed for this project. Data collected was based on the Numerical Rating Scale (NRS)[14] – similar to a Likert

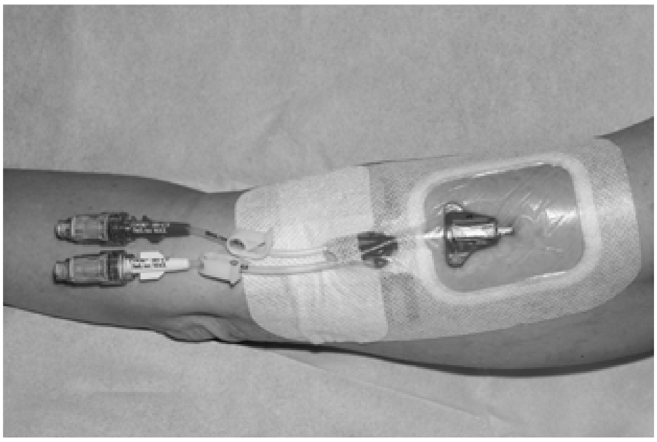

Figure 1. Dressed PICC site

scale – on the evaluation forms. Completed forms were stored securely in the unit by the charge nurse managers and collected daily by the project team leads.

Data analysis

At the end of the 4-month product evaluation period, 52 completed evaluation forms were available for analysis in hard copy. Data were collated and descriptive statistics analysis was undertaken by the project team leads.

Ethical considerations

The product evaluation of a change of securement for PICCs using an SESD was approved by the Central Venous Access Device Governance Group of the regional health authority as a quality improvement initiative and, in addition, its Research Office reviewed and approved this project (RO 19233). Institutional Review Board and Ethics Committee approval was waived. Informed patient consent was obtained prior to PICC insertion as per local hospital policy.

Results

A total of 51 PICCs were inserted between June and October 2015; 16 patients were in Group A and 35 were in Group B. A total of 23 female and 28 male patients had PICCs inserted that were stabilised with SESD. The median age for patients in Group A was 65 years and in Group B was 57 years.

Patient variables

The overall experience of patients was positive, with few complications in PICC management or the SESD.

Skin quality/integrity: Breaches in skin integrity were not observed. There were no reported skin-related issues such as skin tear associated with the nitinol anchors nor irritation from the body of the SESD against the skin surface either at the time of insertion or during the PICC dwell time. Skin irritation related to the dressing itself was not observed either.

Pain: The NRS[14] was used to measure pain levels on a scale of 1–10, with 10 being the worst. No patients reported pain during insertion probably due to the use of local anaesthetic. On PICC removal, 30 patients (58.8%) experienced no pain on removal of the device, 14 patients (27%) reported a score of 2, five patients (9.8%) reported a score of 4, and two patients (3.9%) reported a score of 5 on a scale of 1–10.

Bleeding: Bleeding post-PICC and SESD insertion was more evident than when inserting a PICC without an SESD. This was due in part to the method of inserting the SESD to allow placement of the nitinol anchors. PICC exit site bleeding at insertion and immediately post-insertion was observed in all 16 (100%) patients in Group A, likely related to thrombocytopenia and the myelosuppressive nature of patients. Bleeding gradually eased by day 2 post-insertion. There was slight bleeding during the insertion of the SESD but no reported ongoing bleeding in all 35 (86%) Group B patients. There was no report of bleeding on removal of the SESD in either group.

Practice variables

The overall experience of the staff using the SESD was positive, which also increased when patients reported fewer or no problems with the SESD.

*Table 1. Multi-criteria evaluation based on the Macklin and Blackburn framework**

	Criteria	Group A	Group B
Patient	Age	Median age 65	Median age 57
	Skin quality	No skin-related issues	No skin-related issues
	Pain during dwell**	None	None
	Pain score on removal**	A four out of ten	A four out of ten
	Bleeding	Slight to moderate	Slight
Practice	Dressing change	Staff confidence increased	Staff confidence increased
	PICC stability	Reduction in migration rates	Reduction in migration rates
	Device removal	Good acceptance following initial training	Good acceptance following initial training
Product	Migration	Nil	Nil
	Dislodgement	Nil	2 cases
	Pinching in device	Nil	2 cases
	Kinking PICC	Nil	4 cases
	Exit site infection	Nil	Nil
	Nickel allergy	Nil	Nil
	PICC dwell time	Elective removal (27.8 days)	Elective removal (23 days)

* The Macklin and Blackburn HealthCare and Technology Framework (2015)[4] represents synergy among conceptual variables of patient, practice and product components, with each affecting and being affected by the other.

** Pain score: The NRS from 0–10 (10 being worst) was used to assess pain levels whilst the Securacath® was in place and upon removal. Patients were verbally asked to score the level of pain experienced. This was recorded on the datasheet.

Device insertion: The PICC insertion team found the change of PICC securement to an SESD beneficial and reported that it was easy to place; during the initial 'learning curve' period, it took the expert PICC insertion team between 1–2 weeks to master the technique. They found that leaving the external length of the PICC at 4cms allowed both the device and the PICC to be positioned most effectively.

Dressing change: All staff reported that they felt more confident during dressing removal, site cleaning and dressing replacement with PICCs that had changed securement to an SESD. It also allowed for a 360° cleaning of the PICC exit site without dislodgement.

Device removal: Initially, removal of the SESD was identified as the main area of concern for staff. Removing a PICC required the additional step of removing the SESD nitinol anchors. Once staff gained confidence, they reported that removal became easier. By cutting the SESD into two parts, the nitinol anchors separated easily, aiding removal. It was noted that staff with more expert clinical practice skills found the SESD relatively easy to remove. Those with less clinical expertise found the removal process initially challenging.

A total of 31 staff commented on the ease or difficulty experienced when removing the device. Three staff (9.6%) found the device removal easy, 24 (77.4%) found removal manageable with practice, four (12.9%) found removal difficult. However, all agreed that once they gained confidence, removal became easier. If the device removal proved painful for the patient, administration of local anaesthetic provided a pain free removal.

Product variables

PICC migration/dislodgement: There were zero PICC migrations, two dislodgements, four events relating to PICC kinking, and two events relating to difficulty in flushing the PICC. The two dislodgements occurred in the first week of the product evaluation, whereby two patients in Group B inadvertently caught the external IV tubing attached to the PICC on the bedrail, dislodging the PICC back through the SESD by 2cms. Four PICCs in Group B became kinked external to the SESD. On investigation, the position of the PICC to SESD with incorrect dressing application was responsible; repositioning the dressing resolved the problem. Two PICCs in Group B were difficult to flush post-placement. On investigation, it was discovered that the coupling of the device was pinching the PICC; repositioning the PICC in the SESD channel resolved the problem. There were no further similar events in either Group A or Group B reported during the 4-month product evaluation.

Exit site infection: There were no PICC exit site infections identified in either group during the product evaluation.

Nickel allergy: Allergic reaction to the nitinol anchors was not observed during the product evaluation.

Length of dwell time: In Group A, 13 PICCs were electively removed at end of treatment, with the overall average dwell time being 27.8 days. Three PICCs were electively removed prior to end of planned IV therapy for clinical reasons. In Group B, all 35 PICCs were electively removed once IV therapy was completed, with the overall average dwell time being 23 days.

Impact of process change

Implementation of a change in securement resulted in reduced PICC migrations. Increased staff confidence was reported for dressing changes and general management of PICCs. Staff reported that, due to the stability of the SESD, they were able to lift the PICC to enable effective cleaning of the exit site and surrounding skin without the risk of the PICC migrating. In addition, a reduction of excess costs related to PICC reinsertion occurred. In a similar timeframe in the year previous to the SESD product evaluation, there were four PICC migrations in Group A (best estimate cost of NZ$395 per PICC reinsertion totalling NZ$1580). There were seven PICC migrations in Group B (best estimate cost of NZ$395 per PICC reinsertion totalling NZ$2765). This is in contrast to the absence of migration events – and therefore reinsertions – during the product evaluation. Therefore, the reduction in excess costs associated with PICC migration/dislodgement for 2015 was estimated at approximately NZ$4345. These results led to the organisational decision to embed the SESD as the preferred securement method in PICC care bundles for adult patients.

The findings described here are summarised in Table 1.

Discussion

Our findings showed that implementation of a SESD had benefits for both patients and staff. The aim to reduce PICC migration rates and associated complications was achieved. This is primarily attributed to the SESD; however, notable influences in improvements may also be attributed to patient education and staff training and education.

Patient variables form one core area of evaluation. Skin quality impacted by the ageing process slows epidermal cell regeneration in people over 50 years, negatively affecting skin elasticity and integrity. This has been implicated in the development of PICC-related contact dermatitis at the PICC exit site[15,16]. Although there was a potential for skin trauma, and given the median age of participants, there were no reported breaches in skin integrity during the product evaluation. However, research is limited in this area. Hughes[6] reported an exacerbation of eczema in one participant but it was not suggested that this was directly related to the SESD.

Pain associated with the device has been evaluated[5–7] at three stages – insertion, during the dwell time and at removal. Not all studies evaluated pain on insertion of the device, which is likely to reflect the use of local anaesthetic. The findings of this product evaluation concur with Hughes[6], where no participants experienced pain during the PICC insertion procedure. Over 75% of participants in the study by Zerla et al.[9] experienced either no pain or a pain score of one (1) during the insertion procedure.

Pain during dwell time has been evaluated[5–7]. Egan et al.[5] reported (7.4%) participants experienced pain during the dwell time of the catheter. In this group, two PICCs were removed because of significant pain that resulted from the SESD being rotated or needing manipulation post-insertion. The three remaining participants reported intermittent pain only, which did not impact on dwell time. These results were also reflected in the paper by Hughes[6] who found that, while most people reported a pain score of 0, a small number of patients had the device removed because of ongoing pain above a pain score of 5. While Zerla et al.[9] reported similar results, they did not state if the SESD was removed prematurely due to unresolved pain. These results contrast with this product evaluation, in which none of the participants experienced pain during the dwell time.

Other papers[5–7] found that approximately half of the participants experienced very little pain (pain score 0–3) on removal of the device, while the remaining participants experienced significant amounts of pain (pain score 4–10) on removal of the device. The results of this product evaluation were more encouraging, with 59% of participants experiencing no pain on device removal, 27% participants reporting a score of 2, 9.8% participants reporting a score of 4 and 3.9% participants reporting a score of 5.

Bleeding post-SESD insertion has been reported as being more prolonged and extensive than when inserting a PICC alone.[6] Bleeding at the PICC exit site post-insertion was evident in all 16 (100%) in Group A during this product evaluation. This could be attributed to their haematological status, and the more invasive technique required to place the SESD. However, it was not a significant issue overall.

Practice variables form another core area of evaluation. Papers by Egan et al.[5], and Hughes[6] noted that the device placement could be problematic but all SESD in this project were placed successfully. During the product evaluation, the PICC nurse inserters reported that, with practice, insertion of the device got easier. This has been confirmed by Egan et al.[5] who reported that the more familiar the insertion team become with the device, the more proficient they became. Both Zerla et al.[9] and Goossen et al.[17] noted that using the SESD reduced the number of steps taken during a dressing change which resulted in time saving by the nurse. While this was not specifically addressed in the product evaluation, ease of performing the dressing procedure was. The SESD stabilised the PICC, which reduced the risk of catheter migration or dislodgement during a dressing change, therefore increasing the nurses' confidence during the procedure. This made dressings straightforward to complete.

The main concern expressed by the nurses was the challenge in removing an SESD compared to the uncomplicated removal of a PICC alone. With practice and familiarity, the nurses developed the removal technique with confidence. The SESD was easier to remove in two parts and, for those devices that were difficult to remove, the use of local anaesthetic was effective. Hughes[6] also found this an area of concern amongst staff, who reported difficulty with device removal; this happened quite frequently and was particularly stressful when the patient found it painful. Sometimes the anchors became stuck during the removal process or skin had granulated over the pins, making removal challenging. Local anaesthetic was used in these instances to ensure patient comfort. Therefore, training in device removal and supporting beginners was determined to be imperative for practice quality and patient comfort[6].

Product variables form a third core area of evaluation. The primary reason for introducing a SESD was to reduce PICC migration. During the product evaluation, this aim was successfully achieved, with only two PICCs dislodging by 2cm with no negative effect on overall dwell time. This has been identified in other papers[5–7] where minimal catheter migrations or dislodgements have been reported when using SESD. Previous reports have also found the device not coupling together correctly which resulted in catheter migration and dislodgement. The device has since been modified to improve the locking mechanism[5].

PICC kinking is a further factor that can be affected by the SESD. In both this product evaluation and another paper[6], kinking led to occlusion due to incorrect coupling of the SESD. To remedy this, the lid was removed to ensure that the catheter was not being pinched then replaced. Currently, recommendations indicate that the catheter should be flushed immediately post-insertion to ensure that the SESD has been coupled successfully.[6] Kinking of the PICC occurred four times during this product evaluation as a result of incorrect dressing placement. This was resolved by replacing the dressing. Both Egan et al.[5] and Zerla et al.[9] reported removal of a PICC due to kinking or occlusion.

While no participants in this product evaluation experienced PICC exit site infections, this finding contrasted with other papers. Skin was evaluated by Zerla et al.[9] using a visual exit site score. Using this score, over 97% of their participants scored either 0 or 1. However, Hughes[6] reported that 13% of participants developed an exit site infection and 6% patients developed tissue granulation around the nitinol pins[6]. Egan et al.[5] found that 1.5% of their subjects developed exit site cellulitis. There was little evidence on PICC exit site infections without the use of an SESD prior to this product evaluation and no concern emerged during this evaluation period.

Nickel allergy was not observed in either group of participants during the product evaluation. This is reflective of the literature where nickel allergy was not identified[6].

Dwell time is hard to evaluate as this data has been presented in different ways, over different timeframes. In two papers[5,6], approximately 30% of participants and 77.9% of participants respectively had a catheter dwell time of less than 30 days. This is in keeping with this product evaluation where overall catheter dwell days were less than 30 days in the evaluation period of 4 months. However, Zerla et al.[9] found over a 12-month period the average catheter dwell time was 45 days. This supports the longer-term use of this device.

Finally, another benefit of the SESD resulting from improved stabilisation over the 4 months of the product evaluation was a reduction in costs related to PICC migration or dislodgement. This is supported by Zerla et al.[9] where cost savings were identified as a critical point of evaluation.

Conclusion

The SESD used in this product evaluation proved a successful measure to reduce PICC migration events. An organisational decision was made to embed SESD as the preferred securement method in PICC care bundles for adult patients.

Disclosures

No grants or funding were received for this quality improvement initiative. The Regional Health Authority initiated contact with the supplier to source the SESD SecurAcath® (see Supplementary Material 2 and 3). The product was not available in Australasia at the time. A formal product evaluation was undertaken in 2015 and the SESD SecurAcath® was donated by the supplier for this purpose.

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Conflict of interest

The authors declare no conflicts of interest.

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Australian specialist and advanced practice cancer nurses' engagement in clinical supervision – a mixed methods study

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Abstract

Introduction Research suggests that clinical supervision (CS) has multiple benefits for supervisees' professional and personal lives. However, it remains a novel approach in nursing practice.

Aim This study aims to explore specialist and advanced cancer nurses' engagement with CS.

Method A mixed methods design was employed including a cross-sectional survey and qualitative interviews.

Results Of the 80 survey and 25 interview participants, 25% and 20% respectively were engaged in CS. Participants engaged in CS reported more personal accomplishment, less depersonalisation, and higher job satisfaction. Most were satisfied with their CS arrangement.

Practice implications CS may be an effective way for employers to support nurses employed in specialist and advanced practice cancer roles.

Conclusion A low proportion of advanced practice cancer nurses were engaged in CS. Further interventional research engaging larger numbers of nurses in CS is recommended to identify the most effective forms of CS and constraints to workplace implementation.

Introduction

Clinical supervision (CS) has increasingly been used by nurses to guide and support professional practice over recent decades[1,2]. It has been defined as a formally structured meeting between a supervisor and supervisee to reflect on professional issues that may be case-related or operational in nature[3,4]. Evidence indicates that CS has positive effects on professional development by enhancing supervisees' knowledge, competence and empowerment, leading to improved quality of care in various areas of practice[4]. Research into the effects of CS for nurses has shown varied results[5,6]. As a recent systematic review showed, 28 studies evaluating CS in nurse populations have been conducted[1], yet many gaps remain in our understanding of its value for nurses.

Specialist and advanced practice cancer nurses are critical in delivering supportive care to cancer patients. They are key members of the multidisciplinary team responsible for providing information and education to patients and families, holistic and expert clinical care, assessment and referral, care coordination, advocacy, and providing a link between organisations and healthcare professionals[7–11]. However, as reported by specialist gynaecological cancer nurses in a qualitative study, these roles are relatively new, and role boundaries are not clear nor formalised, contributing to high workloads and work-related stress[10]. This is problematic as cancer nurses are generally considered a high-risk group for occupational stress[12].

The wellbeing of nurses working in specialist and advanced practice cancer roles is paramount to the retention of these highly skilled and experienced staff and ensures the continued provision of high quality cancer care. Competency standards for cancer nurses specify that nurse practitioners and specialist cancer nurses should have access to CS[14], yet the rate of participation in CS and its effectiveness in this population is unknown.

Aims

This study aimed to explore specialist and advanced practice cancer nurses' engagement with CS and how it relates to their job satisfaction and burnout. The following aims were addressed:

- To determine if specialist and advanced practice cancer nurses utilise CS, and if the CS received is effective.
- To identify the relationships between CS, job satisfaction and burnout for specialist cancer nurses.
- To explore specialist cancer nurses' experiences of CS.

Methods

Design

A convergent parallel mixed methods design was employed in this study[15]. Quantitative and qualitative data were collected concurrently in the following ways:

- An online cross-sectional analytic survey measuring job satisfaction, burnout and CS.
- Qualitative interviews to explore experiences of CS.

Participants

This study included oncology nurse practitioners and specialist and advanced practice cancer nurses working in Australia. There is no specific registration requirement for nurses in Australia engaged in advanced practice outside of nurse practitioner roles, thus participants were required to self-identify as a specialist or advanced practice cancer nurse. These roles may be titled – but not limited to – clinical nurse consultant, cancer nurse coordinator, clinical nurse specialist or cancer specialist nurse. Participants working in any tumour stream with adults, adolescents or children were eligible to participate.

Ethics approval for this study was sought and granted from the Monash University Human Ethics Committee (MUHREC) under Project ID: 18160.

Sampling and recruitment

Convenience sampling with snowballing was employed to recruit participants to the study. Permission was sought and granted for the Cancer Nurses Society of Australia (CNSA) to distribute the survey via email to its 900+ CNSA members. Participants were asked to forward the invitation email to other nurses who met the inclusion criteria but were not members of CNSA.

Sample size

The population of nurses employed in specialist and advanced practice cancer roles in Australia is unknown and the Australian Health Practitioner Regulation Agency (AHPRA) does not include a category for identification as an oncology nurse. Given this, the survey sample size was targeted at 120, approximately 10% of the CNSA membership. However, at the time of recruitment, CNSA membership was approximately 900 members.

Sample size for interview participants was based on maximal variation of demographics, state/territory of work, sector of work, and tumour stream specialisations of participants, and was estimated at approximately 15 participants.

Data collection and instruments

Survey: The survey was comprised of previously validated and reliable tools – the Measure of Job Satisfaction (MJS)[16], the Maslach Burnout Inventory (MBI)[17] and the Manchester Clinical Supervision Scale (MCSS-26)[18]. The MCSS-26 was only completed by participants who were receiving CS at the time of data collection. Demographic data was also collected from participants.

The MJS was designed specifically to measure job satisfaction among nurses; it comprises seven subscales with a total of 43 items scored on a five point Likert scale from 1 (very dissatisfied) to 5 (very satisfied). Item mean scores are calculated for each subscale and an overall satisfaction score is provided; higher scores represent greater job satisfaction. The MJS has shown good internal consistency (α=0.95).

The MBI is a standardised measure of an individual's experience of burnout. There are three subscales which assess core aspects of burnout syndrome. The nine-item emotional exhaustion (EE) scale assesses feelings of being emotionally exhausted by one's work. The five-item depersonalization (DP) scale measures an impersonal response toward recipients of one's service, care, treatment or instruction. The eight-item personal accomplishment (PA) scale assesses feelings of competence and successful achievement in one's work with people. Higher scores on each subscale correspond to greater experienced burnout or personal accomplishment. The scales have demonstrated good internal reliability[19] and strong convergent validity[20].

The MCSS is a measure of the effectiveness of CS. It contains six subscales – importance/value of CS, finding time, trust, supervisor advice or support, improved care/skills, and reflection. Response values to each shown on the questionnaire range from 0 (strongly disagree) to 4 (strongly agree). To calculate the subscale scores, negatively worded items are reversed. Subscales scores are added to calculate the domain total score where higher scores represent more satisfaction with CS. The MCSS-26 has shown good face validity. Cronbach Alpha coefficients range from 0.66–0.87, which indicates good internal consistency of the items in each subscale[18].

Interviews: The study invitation email and survey also contained an electronic link for potential participants to register their interest in a semi-structured telephone interview to discuss their experiences of CS and other professional support. The interviews were approximately 30 minutes and were conducted between February and July 2019.

Data analysis

Survey data analysis: Descriptive and inferential statistical analysis of survey responses were undertaken in SPSS v.24. Descriptive statistics were employed to describe question items and non-parametric inferential statistics including Pearson correlational analyses tested relationships between demographics, job satisfaction and burnout.

Interview data analysis: Interviews were audio recorded with the permission of participants and transcribed verbatim. Transcribed data were managed within NVivoPro v.11 and data relating to participants' experiences of CS and other professional support were subjected to an inductive content analysis.

Results

This section reports the results of the survey and interviews. As the online survey allowed for anonymous participation, the interview results cannot be linked to the participants' corresponding survey results.

Survey results

A total of 80 nurses participated in the survey; of these n=20 (25%) were currently engaged in CS – their demographic characteristics are provided in Table 1. Of the participants who received CS, 75% were 'moderately' or 'very' satisfied with the arrangement. CS was provided by supervisors from several disciplines: nurse (25%); social worker (25%); medical practitioner (20%); psychologist / psychotherapist (20%); midwife (5%); genetic counsellor (5%). A clinical supervisor was allocated to 65% of participants, with the remaining 35% having choice over their supervisor. Participants met with their clinical supervisor: weekly (20%); fortnightly (10%); monthly (30%); every 2–3 months (20%); over 3 months apart (20%). Most of these meetings (80%) took place in the participants' workplaces. A mixture of group (25%) and one-on-one CS (35%) was reported by participants, with 40% receiving both. The nurses most frequently used their CS sessions to discuss client-related and self-related issues. Table 2 presents the descriptive statistics for participants who were engaged in CS for each of the scales measured.

Table 3 shows results from the correlational analyses between CS (MCSS total score and six subscales) and job satisfaction (MJS), burnout (MBI) and demographic variables (age, years of registration and years in current role). CS, job satisfaction and emotional exhaustion were not significantly associated with age, years of registration, nor years in current role. CS was significantly associated with depersonalisation (p=.006), such that increased CS was associated with reduced ratings of depersonalisation. An increased overall score for CS was significantly associated with increased ratings of personal accomplishment (p=.012). Age was also significantly associated with depersonalisation

Table 1. Demographic characteristics of survey participants

	Frequency	Percent
Age (years) (n=80)		
20–29	3	3.8
30–39	14	17.5
40–49	17	21.3
50–59	32	40.0
60–69	14	17.5
Gender (n=80)		
Female	80	100
Number of years as registered nurse (n=80)		
5–9	5	6.3
10–14	9	11.3
15–19	6	7.5
20–24	11	13.8
25–29	14	17.5
30–34	11	13.8
35–39	17	21.3
45+	7	8.8
Relationship status (n=80)		
Single	9	11.3
Married	52	65.0
Partnered	10	12.5
Divorced	8	10.0
Separated	1	1.3
Number of dependent children (n=80)		
0	42	52.5
1	9	11.3
2	20	25.0
3	6	7.5
4	3	3.8
Highest qualification (n=80)		
Bachelor's/undergraduate	9	11.3
Post-graduate certificate	20	25.0
Post-graduate diploma	13	16.3
Master's	36	45.0
Doctorate	1	1.3
Other	1	1.3
Sector of healthcare system (n=77)		
Public	61	79.2
Private	9	11.7
Private / not-for-profit	5	6.5
Other	2	2.6
Number of years in current role (n=75)		
0–4	34	45.3
5–9	15	20.0
10–14	15	20.0
15–19	5	6.7
20+	6	8.0
State (n=80)		
ACT / NT	2	2.6
NSW	23	28.7
QLD	8	10.0
SA	4	5.0
TAS	3	3.8
VIC	30	37.5
WA	10	12.5

(p=.007), such that older age was associated with reduced ratings of depersonalisation. The demographic variables, years of registration, and years in current role were not significantly associated with any of the variables. As shown in Table 4, increased job satisfaction was associated with increased perceptions of receiving high levels of advice.

Interview results

A total of 25 specialist and advanced practice cancer nurses participated in one-on-one telephone interviews, of which five (20%) were currently engaged in CS. The demographic characteristics of interview participants are included in Table 5 below. Five main categories were inductively derived following three layers of coding: characteristics and preferences for CS; perceived benefits of CS; CS not part of nursing culture; limitations of CS; other forms of professional support.

Characteristics and preferences for CS: Three participants with access to CS reported to have individual CS sessions, with another participant engaged in both individual and group supervision, and the fifth participant had access to group supervision only. For these five participants, CS was provided by a palliative care nurse practitioner, psychotherapist, genetic counsellor, psycho-oncologist or clinical psychologist:

> *... it's kind of nice to go to someone external who doesn't know any of the colleagues or the dynamics...* [IP-19, engaged in CS].
>
> *When I've had it in the past it was a Breast Clinical Psychologist who had also previously been a Registered Nurse... she was really good because I think her background as a Registered Nurse helped her to understand where I was coming from in some respects* [IP-20, not currently engaged in CS].

Perceived benefits of CS: Nurses engaged in CS reported it to be beneficial and disclosed that CS was advantageous as it provided additional support and constructive feedback from an experienced health professional. Participants without access to CS perceived similar benefits, particularly relating to clinical matters:

> *If I'm getting in my own way, she'll call me on it and go, 'Maybe it's better to look at it this way'* [IP-03, engaged in CS].
>
> *I think clinical supervision would be beneficial to anyone... dedicated time that you can go to and be like, well, can you just explain? Even from a pathophysiological sense, what actually happened and work through it in that regard* [IP-15, not currently engaged in CS].

The time set aside for CS gave the nurses involved in group supervision an opportunity to reflect and correct any misinterpretations or assumptions they had made about each other. Many participants observed that their roles were fast-paced which did not provide much opportunity to evaluate their coping mechanisms and how they interacted with patients and colleagues. Thus, the 'protected' or 'dedicated' time afforded during supervision was an opportunity to be introspective and implement changes:

> *I think because we have our own caseloads, sometimes I think we get stuck in our own bubbles and may have a perception that someone's busier than someone else... I think it's a good opportunity for us to sit and listen to each other* [IP-19, engaged in CS].

Table 2. Descriptive statistics for each scale for participants engaged in CS (n=20)

Scale	Minimum	Maximum	Mean	Standard deviation
MCSS				
Importance/value of CS	7.00	20.00	15.50	4.11
Finding time	0.00	16.00	7.10	4.23
Trust	11.00	20.00	16.30	2.96
Supervisor advice or support	1.00	20.00	15.45	5.17
Improved care/skills	6.00	16.00	12.60	3.12
Reflection	5.00	12.00	9.85	1.98
Total score	37.00	102.00	76.80	18.48
MJS				
Total score	3	5	4.00	0.46
MBI				
Burnout – emotional exhaustion	0.78	4.33	2.63	1.08
Burnout – depersonalisation	0.00	2.60	0.80	0.74
Burnout – personal accomplishment	2.88	6.00	5.15	0.72

> *I think we all have times when you reflect on career or career progression… how you could improve or have managed something better… when the role is so busy and you're just getting the job done, sometimes to have some protected time to be able to reflect on those things* [IP-08, not currently engaged in CS].

Participants perceived that CS was protective against 'burnout', helping to alleviate the emotional burden of their work:

> *I hadn't actually identified at the time that I was near burnout. So I did clinical supervision… it was only so many sessions, but that was enough then to… be… more self aware and think about self care* [IP-08, not currently engaged in CS].
>
> *I worked in day unit and as a cancer care coordinator for eight, nearly nine years, and there was no clinical supervision at all through that whole time… I saw a lot of burnout and sick leave and stuff from nurses not feeling supported* [IP-19, engaged in CS].

CS not part of nursing culture: Many participants observed that CS was not mandated nor embedded in nursing culture. Some participants admitted that they were formerly not aware of CS nor its potential benefits.

> *When I came into this role, I had no idea what supervision was. And I think that's true of most nurses… it's often mandated for psychologists and social workers… I learned more about it and the allied health people in our team were saying to me, you should be getting supervision* [IP-03, engaged in CS].
>
> *I was not even aware of it, but apparently there is a clinical supervision contact person in the hospital, that we could contact* [IP-09, not currently engaged in CS].

CS not being a part of nursing culture was also evident in some nurses' hesitation to access the support available to them, even though it was indicated:

> *At the end of last year they [employer] sent out an email to say, here's a number for us to use… I have been thinking about it… I think after many years of nursing and some*

Table 3. Pearson correlations between CS, job satisfaction, burnout and demographic variables

	Clinical supervision (total score)	Age	Years of registration	Years in current role
MCSS				
Importance/value of CS	–	-.08	.03	-.31
Finding time	–	-.23	-.18	-.18
Trust	–	<.01	-.01	.01
Supervisor advice or support	–	-.01	.09	-.20
Improved care/skills	–	.11	.20	-.11
Reflection	–	<-.01	.07	.07
CS total score	–	-.05	.03	-.17
MJS				
Total score	.30	-.07	-.08	-.02
MBI				
Burnout – emotional exhaustion	-.23	-.11	-.11	-.07
Burnout – depersonalisation	-.59**	-.38**	-.22	-.06
Burnout – personal accomplishment	.55*	.07	.08	-.04

*Note: *p<.05 and **p<.01.*

Table 4. Pearson correlations between CS, subscales of MBI and overall job satisfaction

	MBI			MJS
	Emotional exhaustion	Depersonalisation	Personal accomplishments	
MCSS				
Importance/value of CS	-.14	-.53*	.54*	.24
Finding time	-.20	-.31	.34	-.01
Trust	-.14	-.52*	.37	.24
Supervisor advice or support	-.22	-.63**	.60**	.48*
Improved care/skills	-.17	-.55*	.55*	.30
Reflection	-.31	-.49*	.30	.24
Total	-.23	-.59**	.55*	.30

Note. *p<.05 **p<.01

> *tragic clinical situations… I think it's taking a toll… I wasn't sure I going to nurse anymore and quite at the end of my tether* [IP-10, not currently engaged in CS].

Table 5. Demographic characteristics of interview participants (n=25)

	Frequency	Percent	Mean	SD
Age				
	–	–	49.08	10.83
Number of years as RN				
	–	–	23.86	10.00
Relationship status				
De-facto	2	8.00	–	–
Divorced	3	12.00	–	–
Married	15	60.00	–	–
Partnered	2	8.00	–	–
Separated	1	4.00	–	–
Single	2	8.00	–	–
Number of dependent children				
0	12	48.00	–	–
1	3	12.00	–	–
2	7	28.00	–	–
3	2	8.00	–	–
Unknown	1	4.00	–	–
Highest qualification				
Bachelor	1	4.00	–	–
Bachelor degree with Honours	1	4.00	–	–
Graduate certificate	7	28.00	–	–
Graduate diploma	7	28.00	–	–
Master's	9	36.00	–	–
Number of years in current role				
<1	3	12.00	–	–
1–5	10	40.00	–	–
6–10	7	28.00	–	–
11–15	3	12.00	–	–
16–20	2	8.00	–	–
State				
NSW	3	12.00	–	–
QLD	3	12.00	–	–
SA	2	8.00	–	–
TAS/ACT/NT	1	4.00	–	–
VIC	10	40.00	–	–
WA	5	20.00	–	–
Not specified	1	4.00	–	–
Regional or metro				
Metro	16	64.00	–	–
Retro	7	28.00	–	–
Metro and regional	1	4.00	–	–
N/A	1	4.00	–	–

Limitations of CS: The nurses with access to CS also discussed limitations related to the mode of supervision, the focus of the session, and the quality of the relationship with their supervisor:

> *… it wasn't a face to face service. We did it via Skype. So that in itself, I found challenging. Equally, where this lady was sort of coming from was a different angle to where I felt I wanted to develop my skills. This is more from a psychotherapeutic sort of point of view…. When you have good supervision, you actually walk away feeling lighter, that you've been able to unpack specific clients* [IP-04, engaged in CS].

One participant was engaged in online supervision where she was required to type her responses without verbal or visual communication*:*

> *Look, it wasn't bad, and there were advantages to it. It did slow down your thinking while you typed. It did slow down your reactivity while you waited for them to type… It was once difficult to find private space… people could walk behind me, potentially see what I was typing, so the technical stuff around it actually provided challenges* [IP-25, engaged in CS].

Other forms of professional support: Participants who didn't have access to CS believed that they were not disadvantaged by not having access to CS and found support through other means:

> *We're very fortunate that we have a weekly supportive care team meeting, so we discuss patients at that meeting and there's psychology, social work, pastoral care, nurses present at that meeting… we also use that as a bit of a debrief session* [IP-08, not currently engaged in CS].

> *So, I've got a CNC that I work closely with, and I've also got a nurse practitioner… They're probably the closest I get to clinical supervision… It's more of an informal way, but certainly, they are my go to people for support, and advice, in difficult situations* [IP-11, not currently engaged in CS].

Discussion

The current study is the first to investigate the experiences and effectiveness of CS among specialist and advanced practice cancer nurses. CS was significantly associated with less depersonalisation, greater personal accomplishment, and greater job satisfaction and most participants advocated for CS to be available for oncology nurses.

Interview participants in this study perceived that CS was protective against or a remedy for burnout, which was supported by the quantitative findings in relation to personal accomplishment, depersonalisation and job satisfaction. These findings complement a study by Gillet et al.[21] of oncology nurses which investigated the relationship between job satisfaction and psychological need satisfaction. They found that high levels of supervisor support were associated with higher satisfaction of psychological needs[21]. Likewise, interview participants in the current study reported that the feedback provided by supervisors was constructive and validating regarding the care that they provided to patients, and encouraged them to be reflective on interpersonal relationships with colleagues.

Nurses in this study reported varied CS arrangements, yet high to moderate levels of satisfaction with the supervision that they received. There was thus no 'formula' for successful supervision identified from the data, and interview participants indicated that the arrangement needed to meet their individual needs in order to be successful. While 65% of survey participants in this study were allocated their supervisor, systematic review findings recommend that supervisee choice in clinical supervisor is paramount[1]. Attention should be drawn to the individual preferences of nurses for CS, including the discipline of the supervisor (i.e. more experienced nurse or psychologist), the mode of supervision (i.e. face-to-face or online, group or individual), and the frequency of supervision sessions (i.e. monthly or once every few months) when implementing CS in workplaces. It should also be noted that not all participants perceived the need for CS. It may make the most significant difference for practitioners in more autonomous or isolated roles, and those who do not have other satisfactory forms of professional support in place. Good peer support and formal team debriefing had similar perceived benefits to CS for some participants.

This study has demonstrated the relatively low level of engagement in CS among cancer nurses. It is clear that nurses desire a more proactive approach to address the potential adverse impacts of providing supportive care, and health services are slowly responding by providing nurses with supportive strategies afforded to other health professionals, including CS. However, it seems that a cultural shift is required for the nursing profession to recognise the emotional burden of this type of work and offer additional professional support.

Limitations

The main limitation of this study was the small sample of participants engaged in CS at the time of participation. Participants reported that CS was not a part of nursing culture and the proportion of participants engaged in CS is reflective of this – 25% of survey participants and 20% of interview participants. Strong support for CS was evident among participants of this study and the sample may have been biased in this direction.

Implications for practice and future research

This project has found that CS is an effective way to provide professional support to advanced practice and specialist cancer nurses. However, the results must be viewed with caution given the small proportion of the sample who had access to CS. Further interventional research engaging larger numbers of nurses in CS is recommended to identify the most effective forms of CS and constraints to workplace implementation Qualitative findings from the study indicated that peer support played an important role in whether nurses felt supported in their roles, particularly for those in isolated and autonomous roles. Further research into formal peer support programs is also indicated.

Conclusion

The results of this study indicate that CS is not a part of nursing culture and only a small proportion of specialist and advanced practice cancer nurses are engaged in CS. Those engaged in CS experienced lower levels of burnout and higher levels of job satisfaction, recommending it as a promising method of providing professional support to nurses. CS was keenly sought by the majority of participants in this study.

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Conflict of interest

The authors declare no conflicts of interest.

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Oral cancer in South West Victoria

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Abstract

Oral cancer is a debilitating disease. Regional and rural patients may have to traverse a myriad of health services to receive their diagnosis and treatment. Services may be provided by the general practitioner, dentist, surgeon, radiation oncologist or oncologist across the public and private sectors. One such region in South West Victoria has its main cancer health service situated in Geelong which can be quite a distance from the rural and remote areas of the region.

Our study, with the assistance of the Evaluation of Cancer Outcomes Barwon South West (ECOBSW) Registry, retrospectively reports statistics to provide an overview of treatment interventions and outcomes. All newly diagnosed oral cancer patients from 2009 to 2016 were included, with the goal of identifying any areas where improvement in services may be provided.

Background

Oral cancers are tumours of the tongue, lips, cheek, soft or hard palate and gums and have been linked to alcohol consumption, smoking, poor oral hygiene, chewing betel nut and the human papillomavirus (HPV16 and HPV18)[1,2]. Oral cancers are more prevalent in men and older age groups[2]. Mortality rates are comparable to tumour streams such as lymphoma, bladder and stomach cancer[3]. Side effects after treatment can be difficult and include loss of facial form and function, loss of teeth, osteoradionecrosis of the jaw, mucositis, dysphagia and dysarthria[4].

Referral pathways for diagnosis include the general practitioner, surgeon, emergency department or the dental clinic. The dentist, dental hygienist, dental therapist and oral health therapist routinely receive in-service training on identification of tumours and communication skills required to discuss difficult situations[5]. Suspicious mucosal lesions can include leukoplakia, erythoplakia, oral lichen planus, erythroleukoplakia, discoid lupus erythematosus, submucosal fibrosis, verrucous hyperplasia and dysplasia and hyperplastic candidiasis[6]. Dental practitioners believe that screening for oral cancer should be performed but, in practice, less than half screen their patients[7,8]. Time constraints, fear of invoking anxiety, lack of training, lack of confidence or insufficient knowledge have been cited as limiting factors[8–10].

Across regional and rural areas there is a myriad of health services all connected and disconnected in many ways. Communication flows from the general practitioner and the private and public health services, while communication to and from the dentist may be more fragmented. Newly diagnosed patients in the regional and remote areas of South West Victoria (population 411,327) often attend the Andrew Love Cancer Centre based in Geelong when diagnosed with an oral cancer. This may require the patient to travel some distance (Figure 1). The Andrew Love Cancer Centre has access to accommodation off-site for visiting patients and provides a nurse dedicated to head and neck cancer patients to make sure their needs are met.

The Barwon South Western Regional Integrated Cancer Service supports all health services in the region with initiatives that improve access to care. Timeframes for surgery are expected to be immediate, with the need to stop the progression of the tumour a priority. The goal of this study is to report each stage of the patient journey and investigate where improvement may be possible.

Methods

Evaluation of Cancer Outcomes Barwon South West Registry

The Evaluation of Cancer Outcomes Barwon South West (ECOBSW) Registry was piloted in 2008, with its first complete year of data in 2009[11,12]. The registry was the first regional data collection of all newly diagnosed cancer patients with clinical and treatment information, and therefore recording the entire cancer journey. The Barwon South Western region in South West Victoria was selected as the pilot area. The study was a collaborative project between the Department of Health (Victoria), the Cancer Council Victoria and the Barwon South Western Regional Integrated Cancer Service.

Data collection

Data were manually and electronically collated from hospital medical records, clinical notes and information systems for all newly diagnosed cancer patients attending a health service from 2009 to 2016. Included in the dataset were patients attending for diagnosis, treatment or care, and those seeing their medical oncologist, radiation oncologist and surgeon. Patients who were diagnosed with cancer prior to 2009 were excluded, as were those who lived outside of the region. Oral cancers were classified as lip (ICD C00), tongue anterior two thirds (ICD C02), gum (ICD C03), floor of mouth (ICD C04), hard palate (ICD C05) and other parts of the mouth including cheek, vestibule and retro molar area (ICD C06)[12]. Squamous cell carcinomas of the lip were included if they were within the vermillion border. Stage at diagnosis using the TNM classification system was transferred into the ECOBSW Registry from the hospital record.

Statistical analysis

Mortality data was obtained from the Births, Deaths and Marriages Registry up until the end of 2018. Outcomes for patients were compared across groups, with the average survival calculated as a mean and 95% Confidence Interval (CI), using the Kaplan-Meier method; 5-year survival was estimated using an actuarial method.

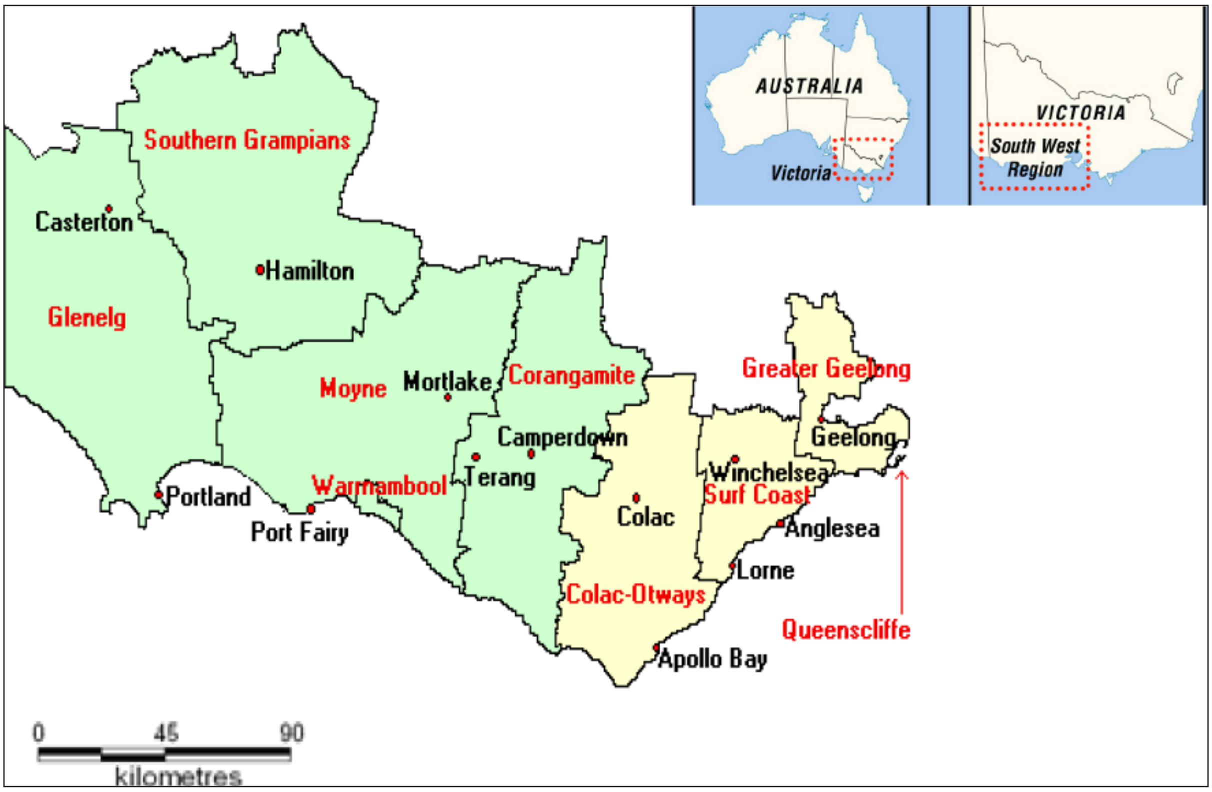

Figure 1. The Barwon South West region in South West Victoria, Australia

Ethics

The ECOBSW Registry obtained approval for the study from the Barwon Health Human Research Ethics Committee (approval number 14/24), St John of God Health Care Human Research Ethics Committee (approval number 709) and the Cancer Council Victoria Human Research Ethics Committee (approval number 1508). All ethics committees granted a waiver of consent to collect retrospective diagnostic and treatment details.

Results

Demographics

From 2009 to 2016 there were 171 patients with 178 oral tumours (Table 1). One patient had three tumours, and five had two tumours. The primary site of the tumours was: 61 (34%) lip, 64 (36%) tongue, three (2%) gum, 22 (12%) floor of the mouth, seven (4%) hard palate, and 21 (12%) other. The average age of the patients was 67 years (SD=14 years; range 30–97 years). The majority were male (67%), lived within 50km of central Geelong (77%), were born in Australia (79%) or Europe (17%), and had a history of smoking (67%). No patients identified themselves as Aboriginal or Torres Strait Islander.

Diagnosis

Of the 178 tumours, 38 (33%) were well differentiated, 67 (58%) moderately well differentiated, and 11 (9%) poorly differentiated; 62 were grade unknown. At diagnosis, 10 (6%) tumours were Stage I, 11 (6%) were Stage II, six (3%) were Stage III, 41 (23%) were Stage IV, and 110 (62%) were unstageable or the stage was not recorded in the hospital record. Of those that were unstaged, 59 (54%) were of the lip (Table 1). For patients who presented as late stage (Stage IV) there was a higher proportion of gum, hard palate and other tumours (p<0.01) (Table 1) compared to the earlier Stages (I–III) but no difference in those who were public or private patients, nor those residing close to Geelong or in the South-West region.

Public patients numbered 99 (58%), private 69 (40%), Department of Veteran Affairs (DVA) two (1%), and one not stated (Table 1). The diagnosing organisation was a health service situated in Geelong for 104 (89%) patients; 54 were unknown/not recorded. For the most current year of 2016 (n=17 patients), the source of referral pathway was in the hospital record for nine patients, with four referrals from the general practitioner and five from a consultant.

Treatment

Treatment included surgery for 143 (84%) patients, radiation therapy for 55 (32%), and systemic anti-cancer therapy for 26 (15%). No treatment occurred for nine (5%) patients, surgery alone for 106 (62%), radiation therapy alone for 13 (8%), systemic anti-cancer therapy for one (1%), surgical and radiation treatment for 17 (10%), radiation and systemic anti-cancer treatment for five (3%), and all three treatment types for 20 (12%) (Table 2). Median time from diagnosis to surgery was 0 days (Inter Quartile Range 0–34 days), time to radiotherapy was 93 days (IQR 63–127 days) and to chemotherapy 94 days (IQR 63-112 days). Screening of patients for supportive care increased over the years from 16% in 2011 to 35% in 2016.

Outcome

Twenty four (14%) patients were referred to palliative care and 21 (12%) developed metastases. Sixty three (40%) patients had died up until the end of 2018. Average survival was 6.66 years (95% CI 6.02–7.31 years), with no difference in survival across gender (p=0.54), smoking status (p=0.47), nor proximity of residence to central Geelong (p=0.72) (Table 2). Differences in survival were

Table 1. Stage of tumour at diagnosis: by proximity to Geelong, tumour site and health insurance status

	Stage I–III	Stage IV	Stage not recorded in hospital record	p value
Proximity to Geelong				
Resides <50km central Geelong	21 (78%)	30 (73%)	85 (77%)	0.86
Resides >50km central Geelong	6 (22%)	11 (27%)	25 (23%)	
Tumour site				
Floor of the mouth	7 (26%)	9 (22%)	6 (5%)	<0.01
Gum	0 (0%)	3 (7%)	0 (0%)	
Lip	2 (7%)	0 (0%)	59 (54%)	
Other	3 (11%)	14 (34%)	4 (4%)	
Hard palate	0 (0%)	2 (5%)	5 (5%)	
Tongue	15 (56%)	13 (32%)	36 (33%)	
Health insurance status				
Public	21 (78%)	31 (76%)	52 (47%)	<0.01
Private	6 (22%)	8 (20%)	58 (53%)	
DVA	0	2 (5%)	0	

found across age groups, stage at diagnosis, treatment type and primary site of tumour (all p<0.01).

Discussion

This study found a high proportion of those with oral cancer were men, those living close to Geelong, and those with a history of smoking. Geelong has a history of many industries and manufacturing plants, including the automotive industry, petrol refinery, aluminium smelter, producer of farming and heavy machinery, rope works, woollen mills and glass manufacturing to name a few, and the 1950s and 1960s saw many European immigrants finding Geelong as their new home. In 2016 the Greater Geelong had 7% of the population who were born in Europe or the United Kingdom[13], while in this study there was an increased proportion of 17%.

In this study there was no significant difference in survival for those that currently, ever or never smoked, but this increased the chance of having oral cancer. Many studies have reported the

Table 2. Tumour site. Average survival (mean 95% CI) and 5-year survival rate (95% CI): by demographics, diagnostic criteria and treatment pathways

	Survival (mean 95% CI) in years	5-year survival rate (95% CI)	p value
Overall	6.66 (6.02–7.31)	59% (51–67%)	
Demographics			
Males	6.80 (6.03–7.57)	60% (50–70%)	0.54
Females	6.31 (5.15–7.46)	56% (42–70%)	
30–39 years	8.05 (3.64–12.46)	75% (33–100%)	<0.01
40–49 years	9.04 (8.03–10.06)	100% (100–100%)	
50–59 years	7.67 (6.27–9.06)	70% (53–88%)	
60–69 years	6.26 (5.11–7.41)	57% (41–74%)	
70–79 years	6.17 (5.06–7.29)	60% (44–76%)	
80–89 years	3.43 (2.07–4.78)	26% (7–44%)	
90yrs+	1.84 (1.08–2.60)	9% (0–33%)	
Current smoker	7.09 (6.08–8.11)	64% (51–77%)	0.47
Past history of smoking	5.75 (4.68–6.82)	51% (37–65%)	
Never smoked	6.41 (5.33–7.50)	61% (45–76%)	
Not stated	6.08 (2.65–9.51)	60% (25–95%)	
Resides <50km central Geelong	6.60 (5.87–7.33)	58% (48–67%)	0.72
Resides >50km central Geelong	6.67 (5.35–7.99)	63% (46–79%)	
Diagnostic criteria			
Stage I	5.33 (2.60–8.06)	54% (16–92%)	<0.01
Stage II	4.94 (2.96–6.92)	47% (16–79%)	
Stage III	5.05 (1.64–8.46)	50% (10–90%)	
Stage IV	4.12 (2.94–5.29)	34% (19–50%)	
Unstageable or stage not recorded in medical record	7.63 (6.88–8.39)	71% (62–81%)	
Treatment pathway			
No treatment	4.71 (1.37–8.05)	41% (8–74%)	<0.01
Surgery	7.54 (6.79–8.29)	70% (60–79%)	
Radiotherapy	2.78 (0.95–4.61)	20% (0–42%)	
Surgery and radiotherapy	5.27 (3.32–7.22)	48% (24–73%)	
Radiotherapy and chemotherapy	5.56 (1.74–9.39)	50% (1–99%)	
All three treatments	5.62 (3.93–7.31)	56% (33–79%)	
Tumour site			
Floor of the mouth	5.26 (3.65–6.88)	47% (25–70%)	<0.01
Gum	3.40 (0.06–6.74)	33% (0–87%)	
Lip	7.62 (6.65–8.60)	71% (58–83%)	
Other	4.13 (2.50–5.76)	33% (12–54%)	
Hard palate	4.28 (0.94–7.62)	38% (1–76%)	
Tongue	7.21 (6.17–8.24)	67% (54–80%)	

link to smoking[1,2]. For our region of interest, 43% of the general population have a history of smoking[14] and, in this current study of oral cancer patients, 67%.

Sixty two percent of tumours were unstaged or unstageable. Half of these were squamous cell carcinomas of the lip and likely to be early stage. We found similar proportions for all cancers in our earlier studies; however, improvement has happened since the inception of the ECOBSW Registry for lung, breast and colorectal cancer[11]. We acknowledge the ECOBSW Registry extracts staging data based on the TNM Classification System, and some patients may have had their stage described using clinical language when pathology was not possible or available.

We note similarities in patients living in the South West of the state compared to those living in Greater Geelong with regard to stage at presentation and outcomes. However, most of the patients were diagnosed at a health service within the Geelong region. Of concern is the 23% presenting at Stage IV, with a higher proportion in the gum, hard palate and other sites such as the cheek, vestibule and retro molar area. This finding highlights the importance in the role of the dentist to report any unusual areas in the mouth, particularly where the patient cannot see themselves. However, higher proportions of up to 40% at Stage IV, at diagnosis, have been reported in prior studies[15].

An oral cancer screening and early detection program commenced at Barwon Health, the public Geelong Health Service, in 2019. The Dental Health Services of Victoria led program was offered to all health professionals within oral health services. The education sessions were aimed at improvement in early detection. The community dental clinics have a clientele who present with many of the risk factors for oral cancer. Lectures and chairside education by an oral medicine specialist covered identification of benign lesions in the oral cavity, signs and symptoms and potentially malignant disorders. Patient case studies were presented. The importance of a thorough medications history was presented, along with how to conduct a comprehensive oral examination, including intra-oral photography. Risk factors for oral cancer were presented. Referral pathways and urgency of referrals were reiterated. How to handle conversations such as risk reduction and difficult situations where suspicious lesions are present were part of the training session. Following the introduction of an oral cancer guide for dental teams in the UK, it was found that referrals rose by 6%[16].

Conclusion

Many patients present with late stage tumours. Whilst we cannot alleviate the anguish experienced by these patients, using the ECOBSW Registry we can monitor the care provided and highlight any anomalies to service redesign teams. Education for health practitioners in the community dental clinics is a step in the right direction and this data reiterates the importance of regular dental check-ups. Improvement in the recording of tumour stage in the hospital record is a process that can be improved, and this report will increase the awareness. In addition, continued monitoring of staging will occur when the ECOBSW Registry data is collected past 2016. Smoking cessation programs are prevalent in the health services. However, the results of this study suggest that there is more work to be done. Photographs of oral cancer displayed in the community dental clinic may help further discussions towards quit programs and we would suggest further promotion of education programs in community settings.

Conflict of interest

The authors declare no conflicts of interest.

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1. Devesa S, Bray F, Vizcaino AP, Parkin DM. International lung cancer trends by histologic type: male–female differences diminishing and adenocarcinoma rates rising. International Journal of Cancer 2005;117(2):294–299.
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