

Palliative Inpatients' Experiences with Equine Therapy: A Qualitatively Driven Mixed-Method Exploratory Study

K. J. Cairns¹, K. D. Weaver² and M. A. McNiven³

^{1,2}University of New Brunswick, Fredericton NB Canada

²University of Prince Edward Island, Charlottetown PE Canada

cairnskj_1@hotmail.com¹, kweaver@unb.ca², mamcniven@gmail.com³

Abstract

With advances in modern medicine, Canadians are living longer with chronic illnesses. While many live at home, those in inpatient units may require comfort measures to complement treatment programs. Anecdotal evidence established that equine (horse) therapy can be beneficial, but there has been limited research about the utilization of horse therapy within the inpatient palliative care population in Canada. The study aimed to understand palliative inpatients' experiences with equine therapy. Of eight adult palliative care unit inpatients recruited by nursing staff, six (aged 58 – 82) completed the study. A qualitatively driven mixed-methods research design was used to collect qualitative data via individual interviews with participants, and quantitative data through inpatient records and the revised Edmonton Symptom Assessment System (ESASr). The quantitative data, analyzed using a non-parametric sign test, guided the interview questions. Then, narrative analysis of the interview data allowed rich descriptions and exploration of the participants' real-life experiences. The results of the study identified equine therapy as an effective intervention that allowed participants to "live in the moment." Narrative threads of quality of life, fatigue, distraction, reminiscence, and identification with the therapy horse were examined. This research project outlays an innovative approach for conducting horse therapy within an institutional setting and begins to scientifically address the knowledge gap on the meaning of horse therapy to the adult palliative care inpatient population.

Keywords: Animal assisted therapy, Equine therapy, Mixed-methods, Narratives, Palliative inpatients

1. Introduction

Patients who receive palliative care deal with multiple stressors daily such as pain, loneliness, fear, and depression. They may worry, not only about themselves but also about family and friends [1]. Areas of need identified as unmet by these patients are psychosocial, such as having someone with whom they can sit down, discuss their treatment plan, or socialize [1][2]. In response to these needs, complementary and alternative treatments are evolving [3][4]. More than three-quarters of Canadians (79%) have used at least one complementary or alternative therapy sometime in their lives [5]. Equine therapy is an example of such therapy. A caring and natural nursing intervention, the use of horses to help

Article history:

Received (August 4, 2022), Review Result (October 5, 2022), Accepted (December 15, 2022)

with physical, emotional, and psychological challenges is gaining momentum, and positive results have been reported in the literature for clinicians choosing equine-assisted therapy for veterans [6], multiple sclerosis patients [7], and abuse survivors [8]. Horses have sensitivity to subtle nonverbal cues [9] which can lead to the therapy horse interacting with the patient and the patient acting to elicit a response from the horse. This small measure of control within the interaction can give an outlet to the patient amid an otherwise uncontrolled symptomatic illness [1]. To date, there is limited research concerning the horse's role in hospice or palliative care [10]. Hence, the study aimed to discover and understand palliative inpatients' experiences with equine therapy.

2. Literature Review

A literature review was performed to appraise available research and evidence applicable to this study's intervention aim, which was to provide equine therapy to an adult palliative inpatient. CINAHL with Full Text, PubMed, Cochrane Library, and ProQuest Nursing & Allied Health Source databases were used with the following keywords: Animal-Assisted Activity (AAA), Animal-Assisted Therapy (AAT), animal therapy, equine therapy, horse therapy, hospice, and palliative. Retrieved articles were manually reviewed for additional references and open-access articles identified through Google Scholar were also utilized. Articles that fit the keyword search but not this review were excluded due to having animals (a) as study test subjects rather than as the intervention (e.g., the effects of a drug on an animal), (b) indirectly in the intervention (e.g., using animals to create/model something for use in humans, such as a stent), or (c) as the palliative population (e.g., using treatments to ease a symptom experienced by a palliative animal). Articles that focused solely on the effects of pet ownership such as the effects of owning and caring for a canine on the owner's health were also excluded. As well, articles with an exclusive pediatric palliative population focus were excluded because access to pediatric palliative patients would be non-existent for this study. Due to the difficulty in verifying the accuracy of sources located outside of the library databases, such sources were not included as part of the literature review; however, they helped design the study.

This search strategy yielded 59 articles that were peer-reviewed and published in English between 2000 and 2022 in academic journals. Research as far back as 2000 was included when it was the only evidence available to support or refute findings. Most of the articles were dedicated to a component of palliative care (e.g., living with breast cancer). Small animals, in addition to horses, were used in palliative care settings. The need for more academic evidence about animal therapy was stated in every article.

2.1. Horse therapy and the palliative population

Twenty-eight articles included horse therapy as a potential complementary therapy in palliative care settings. Of these, 14 reported research studies. The populations studied comprised palliative and/or chronic condition needs of female breast cancer [11][12], adults with chronic conditions [7][13][14][15][16], women with eating disorders [17][18], veterans [6][19][20][21], and psychiatric inpatients [22]. Many of the studies used quantitative methods [7][11][13][15][16][17][19][21][22] with three entailing randomized control trials [6][11][22]. Two [12][18] were qualitative inquiries.; three [6][14][20] were mixed methods research with both quantitative and qualitative data.

The type of horse therapy involved riding therapy [7][11][12][15][16][18][20] and/or groundwork activities such as grooming, leading the horse, and finger-painting symbols on

the horse [13][21]. When the riding was combined with groundwork activities, the results were improved sociability, improved muscle strength, and increased confidence [7][11][12][18][20]. In most studies, the research protocols required the participant to go to the horse farm rather than have the horse come to the participant [24]. This would pose a barrier to the current study as traveling to a farm was not a viable option with the inpatient palliative population. The need for further research such as randomized control trials in animal-assisted therapy was identified, however, the difficulty of determining a causal reaction to horse therapy and attributing it to one lone intervention was noted [25].

2.2. Small animal therapy and the palliative population

The literature that focused primarily on small animal therapy used dogs [26]-[41], rabbits [37][39], cats [37], fish [42], birds [43], ferrets, and guinea pigs [34]. The small animal therapy articles focused on cancer populations [2][34][44][45][46], nearing death or end-of-life populations [48][49][50], the palliative care population [28][29][36][37][47][51], and palliative care and/or hospice as an area of examination or use for animal therapy [52][53][54][55][56][57][58]. A meta-analysis of 165 studies agreed that animal-assisted activity had a positive effect on depression but noted a wide variation in how the studies were developed and that few of the studies met inclusion criteria for acceptable research [59].

2.3. Synthesis of the reviewed literature

In general, psychosocial and emotional benefits of Animal-Assisted Therapy (AAT) for clients included socialization [22][23][24][25][30][41][43][60], stress reduction [28][29][38][55], improved mood [2][17][24][34][36][37], increased self-awareness [14][16][24], and an increased feeling of control [14][16][24]. Physical benefits included decreased blood pressure [24][61], decreased pain [2][14][16][28][52][53][56], decreased fatigue [7][34][61], and increased appetite [2]. Breast cancer survivors participating in horse therapy exhibited increased oxygen consumption, increased leg and shoulder strength, and increased quality of life [11]. With the end-of-life process, animals were found to bring comfort and peace to clients [30][48][50] even when clients were only able to visit with animals virtually due to the COVID-19 pandemic [54].

In other ways, AAT with horses contributed to positive client outcomes. Both breast cancer survivors [12] and women struggling with eating disorders [18] reported appreciation of the focus on the persons, the present moment, and the horses – not cancer or eating disorder diagnosis. After therapy, the participants from each study identified connections between animal therapy and other aspects of their lives such as the importance of living in the present and being mindful. Horse therapy was described as giving participants a sense of accomplishment and pride [12][18].

The response to AAT was overwhelmingly positive. Therapy animals were found to pick up nonverbal cues from human participants and provide companionship, comfort, and a sense of peace that helped improve the quality of life of the participants [2][23][24][28][29][37][53][55][61]. By responding to the behaviors of clients as participants, these small and large animals were thought to act as a 'bridge' between the client and the therapist or therapeutic group [24]. Clients could change how they solicited the response from the therapy animal if they wanted a different response [12]. Understanding how to solicit animal responses made clients more self-aware [12][23][24].

AAT was especially important for clients who wanted human companionship but did not know how to obtain it, or for those who did not want human companionship but were willing

to see animals. For example, a man who experienced depression and refused company but surprisingly allowed a therapy dog into his room became more willing to accept human company and requested his privacy sign to be taken down from his door after having a positive interaction with the dog that had jumped up on the bed for companionship [28]. AAT was further found to reverse the roles of the client from being the nurtured to the nurturer [29]. When a client who spent time with a therapy dog nurtured the dog through presence and attention, the client reported a feeling of control within an otherwise chaotic illness.

Potential risks for harm with AAT included hygiene and allergy concerns [29][51]. The ability of the facility to meet safety and infection control policies [53] needed to be assessed. Due to the unpredictable disposition of animals, each specific animal used for therapy needed to be evaluated for an appropriate temperament for the work involved [62][63]. For some species, such as canines, training courses and certification were required before becoming a therapy animal [63]. Horse therapy required training of both the horse and the handlers to ensure that potentially dangerous situations had a positive resolution and that the sessions were facilitated for the best optimal outcomes of the visit [9][62]. Client safety was necessarily prioritized during therapy [12] with a prepared plan in place to stop therapy and obtain help if needed. In the literature reviewed, no cases of infection were traced back to AAT [2][3][24][55][61].

2.4. Summary of literature review

Of the studies reviewed, the evidence supporting AAT was either positive or indifferent. The benefits and positive outcomes of AAT were recognized. Potential risks and insight on how to prevent or mitigate these risks were identified. Most of the articles identified the need for research in palliative care to complement and provide scientific evidence to confirm or deny the anecdotal evidence. Each study varied regarding the AAT intervention, how it was provided to the clients, and how it was measured. None of the horse studies reviewed involved an inpatient population receiving palliative care as the study focus. This stimulated the research question that became the focus of this study: What are the experiences of palliative inpatients with horse therapy?

3. Research methodology

To achieve the research purpose of understanding palliative inpatients' experiences with equine therapy, a qualitative narrative approach allowed flexibility for the participants to share what was important to them about their intrinsic experiences rather than trying to prove or disprove a hypothesis [64]. Narrative served to provide a participant with a practical means for developing a coherent account or story about their experience to integrate the experience into meaningful learning while locating the participant as the storyteller in the story and foreshadowing their perspectives about the future [65]. With this approach, participant narratives conveyed their wants, needs, intentions, and unexpected events within the confines of their setting [65], in this case, the palliative care patient center. Ideally, the study would have a robust sample size and ample data to provide insight into the palliative inpatient experience. Large sample sizes increase generalizability to similar populations, particularly with quantitative data [66][67]. However, it was known during the study design that there was a potential for a small sample size due to the limited availability of the population studied. This prompted the selection of the mixed-methods design of quant → QUAL described by Morse and Niehaus [68] as a sequential design with the supplemental quantitative component collected first followed by the dominant qualitative component. A mixed-method design

provided robust data even with smaller sample sizes [68]. The study aimed to understand the patient experience with horse therapy, so the emphasis was placed on the qualitative component that yielded most of the data to answer the research question.

3.1. Participants

Eight participants met the inclusion criteria within an inpatient Provincial Palliative Care Center (PPCC) facility in Atlantic Canada. Eligibility criteria were being a PPCC inpatient, having the competency to provide fully informed consent, being English-speaking, able to participate in the therapy, and having manageable symptoms to participate. Following the distribution of information letters to potential participants, the first author discussed the study's aim and expectations and obtained written consent from interested individuals before starting the study. Of the eight participants, six were able to complete the study. All spoke English fluently; two participants spoke English as a second language. The average completed education was Grade 12 (50% of participants). Occupations were teacher, homemaker, tourist operator, banker, skilled laborer, and farmer. All participants identified as Caucasian (European descent) except for one (Acadian). Of the six participants, four were female, two were male. The average age was 68.5 years with a range of 58-82 years. Of the six participants, five experienced a form of cancer as a primary diagnosis; the remaining participant was diagnosed with end-stage respiratory illness.

3.2. The horse therapy intervention

The horse selected for the intervention was Billy, a 16-year-old grey Norwegian Fjord registered with the Canadian Fjord Horse Association. Billy's history included providing visits to the palliative care population both in the community and at the farm. He had provided visits to the Provincial Palliative Care Centre (PPCC) before the study was designed, so it was already known that the facility's inpatient rooms were well set up with wide, low windows that allowed a clear view of Billy and enough space for both Billy and his handlers. The windows opened for sound to pass but not touch. If an inpatient did not want to participate, a designated person would follow Billy's progress and completely obscure Billy's presence when he passed that room's window by temporarily closing the window and drawing the shades.

The intervention consisted of four alternating horse therapy visits per participant over two weeks [Table 1]. The first (week one) and third (week two) visits involved viewing a video of the therapy horse, Billy. The video consisted of clips from the horse's previous visits to the PPCC (confidentiality was ensured) as well as clips of the horse in his home environment. The second (week one) and fourth (week two) visits entailed the therapy horse (Billy) coming to the PPCC. Billy came to the room window for all participants, and participants had the option of a hands-on visit with Billy at the front door of the PPCC. Of the six participants, two were able to see Billy at the door and visit with him hands-on. The length of the visits depended on the individual participant and ranged from two to fifteen minutes in duration.

3.4. Data collection

Data gathering took place after the intervention period only and consisted of collecting participants' patient chart information (medications and previously documented revised Edmonton Symptom Assessment System (ESASr) data, completing another ESASr, and interviewing. The ESASr, an internationally used standardized tool to assess multiple

symptoms of the palliative population [69], was already regularly used at the facility studied. First, the medical chart was accessed to obtain the participant's medications and the latest ESASr completed by staff (up to 24 hours before the fourth visit). The participant completed another ESASr shortly after the therapy visit. The remaining demographic data and the qualitative interview data were obtained in interviews by the same researcher. Depending on an individual participant's health status, data were collected via longer sessions (approximately 15-70 minutes) or several short sessions (approximately 5-15 minutes). The interview questions were open-ended; prompting was used by the researcher to further understand a response. Two of the eight participants experienced death before finishing horse therapy, decreasing the participant number to six.

Table 1. Protocol for researching AAT with horses and palliative care inpatients

Video Visit Protocol (First and third visits)
<p>PI to introduce themselves and the purpose of the visit, ensure informed consent is obtained, and answer any questions.</p> <p>Ensure the participant is in a comfortable position with any hearing aids and glasses positioned.</p> <p>Being present as a researcher, not a service provider, watch the video with the participant (approx. 10 min. in duration). If needed, gently redirect the conversation to the horse in the video.</p> <p>At all times, maintain safety. Alert the palliative care center staff ASAP if the participant requires assistance</p> <p>Discontinue visit early if medical or environmental intervention is needed.</p>
Therapy Horse Visit Protocol (Second and fourth visits)
<p>Ensure the therapy horse is up to date on vaccinations. Ensure informed consent was obtained.</p> <p>PI to introduce themselves and the purpose of the visit, answer any questions that may come up regarding the study and remind the participant of their right to withdraw from the study at any time with no consequence.</p> <p>Ascertain the presence of at least three people: one with the participant and two handlers with the horse.</p> <p>Monitor that horse handlers are appropriately dressed for being outside with proper footwear. Instruct horse handlers to immediately alert PI if intervention is needed for the therapy horse.</p> <p>While at the participant's windows, one horse handler focuses on the horse while the other one focuses on external distractions for the horse. No hands-on therapy at windows is permitted due to safety concerns (e.g., risk of jamming fingers).</p> <p>When conducting hands-on therapy, the two horse handlers focus on the horse and the PI focuses on the participant.</p> <p>Participants are to be appropriately dressed based on the weather.</p> <p>Ensure the area is decluttered. Ensure staff is aware of where their patients as participants are to help safely ambulate them.</p> <p>Have hand sanitizer and allow participants to pat the horse one at a time.</p> <p>Focus on the participant. Discontinue the visit with the horse and notify palliative care center staff ASAP if an intervention is needed.</p>
Additional Protocol for Data Collection (Fourth visit only)
<p>Obtain pre-therapy symptoms score (ESASr) and a list of medications from the medical chart.</p> <p>PI to conduct the post-therapy ESASr and the interview (ASAP after the fourth visit; however, depending on the participant's energy, this could be up to 72 hours after the visit).</p> <p>Sync interviews with the participant's energy levels. Some interviews may require only a couple of visits whereas others require multiple, short visits.</p> <p>Encourage participants to elaborate on their responses by using open-ended terminology (e.g., "tell me more").</p>

3.5. Data analysis

Quantitative data included demographic data and ESASr responses. The routine symptoms on the ESASr scale (pain, tiredness, drowsiness, and nausea, and appetite, shortness of breath, depression, anxiety, and well-being) could be similarly experienced by the palliative population regardless of diagnosis [69]. The ESASr was ideal to use with this study as the inpatients were already familiar with it, therefore reducing participant burden with data

collection. The ESASr data were collected daily at the PPCC by experienced palliative care clinicians with the participants providing the data

Each raw ESASr score was rated on a scale of zero to ten, a zero rating indicated the participant was not experiencing the symptom and a ten rating indicated the worst possible experience of the symptom. Bar charts from Excel of each symptom gave a visual representation of the raw ESASr scoring and indicated that none of the symptoms had a zero rating for all participants. Conversely, none of the participants had a zero rating for all symptoms. The ESASr symptom scores of each participant were compared pre- and post-horse therapy for the fourth visit so that each participant acted as their comparison. Sign tests [66] were completed for each of the ESASr symptoms. The dependent variable for each test was the symptom; the independent variable was time. The pre-horse therapy ESASr data collection occurred before the fourth visit by staff, the post-horse therapy collection occurred after the fourth visit by the first author (an experienced palliative nurse). Before the sign test was performed, the raw ESASr data were transformed into zero, negative, or positive results. Zero indicated no difference between the pre-and post- ESASr collections and therefore was not analyzed in the sign tests. The positive and negative variables focused on whether improvement or decline was noted; therefore the subjective score of the ESASr was not a factor in the calculation.

Qualitative data obtained via a narrative approach focused on the meanings people drew from their experiences [70]. The researcher facilitated the participants to share their stories in detail from their perspectives. The questions were as open-ended as possible, and the interview was often guided by the participant. Each participant was asked the same questions devised for the study [Table 2], however, the depth of responses as well as additional situational questions differed. Data collection varied between participants. Interviews ranged from one or two long sessions to several short sessions depending on the participant's health status. Each interview lasted from 5 to 70 minutes and was transcribed.

Table 2. Interview questions

Tell me about participating in this study. What is your experience with Billy, the therapy horse? What stood out for you about horse therapy? Did you do hands-on therapy? Yes/No What was this like for you?
How did the visits influence any of your symptoms? -e.g., pain, tiredness, drowsiness, nausea, appetite, shortness of breath, depression, anxiety, well-being, and other
I would like to know if you had other factors that affected your symptoms other than the horse therapy. -e.g., medications, visitors, recent events
What does the quality of life mean to you? Did the horse therapy influence your quality of life?
Having met Billy, did the visit with Billy have a similar effect as being around the other animals in your life? A different effect? No effect?
How did you feel when you watched the video of Billy?
How did you feel when you visited with Billy?
Is there anything that you would change about the horse therapy provided in this study?

To supplement any limited data, the existing literature was carefully examined to support (or potentially refute) emerging study findings. Freeman [67] noted that with narrative analysis “data are everywhere” (pp. 63). It was critical to introduce literature into the findings only after the collective core story was developed from participant data to reduce the risk of bias [67][71]. The incorporation of literature as data rounded out the study findings.

Throughout the process of sampling the literature, it was important to periodically examine that each conclusion was complemented and not derived from only one source (i.e., the study findings or the literature), and to be aware of the literature's author, methodology, research question, and its pertinence to this study's findings [67].

The quantitative and qualitative responses were analyzed separately and then integrated. Integration revealed several threads from participants' individual core stories that came together to form a collective core narrative. The ESASr results complemented the understanding of the severity of the symptoms experienced. On analysis, the findings were limited due to the small sample size and finite opportunities to re-interview the participants before the end of life. Despite this, the data collected powerfully represented the participants' experiences.

3.6. Ethics

Before data collection, approval was obtained from the University of New Brunswick Research Ethics Board and the Prince Edward Island Research Ethics Board. Approval was also required and obtained from the University of Prince Edward Island Animal Care Committee to carry out the research in agreement with guidelines from the Canadian Council of Animal Care.

4. Results

Every participant had previous experiences with animals; 100% were exposed to small animals and 50% to large agricultural animals as well. All participants indicated that their previous exposure to animals had a positive influence on their lives. Some participants referred to their animals as family members. According to the quantitative data, none of the ESASr symptom sign tests were found statistically significant. For example, the p-value of 0.25 for the sign test on appetite indicated no significant change between the pre-and post-ESASr collection times. The quantitative results were integrated with qualitative threads to fashion a collective core story of the meaning of horse therapy experiences to palliative inpatients.

4.1. Living in the moment

The participants knew their conditions were terminal and that they would never again return to their homes. Living in the moment enabled them to connect with their intrinsic value as individuals affected by life-threatening chronic illnesses. Their decline in health from diagnosis to admission to the PPCC ranged from quick (months) to prolonged (years); however, once admitted to the PPCC their health declined rapidly from quick (days) to prolonged (months). With such a quick decline, there was less time for them to get affairs in order and to understand their illness trajectory. Participants did not have the time or energy to focus on things over which they had no control. They struggled to manage the concurrent competing symptoms such as tiredness, pain, shortness of breath, poor appetite, and diminished well-being. Time spent with loved ones, the settling of estate affairs, and the acceptance of the inevitable end of life was deemed critical tasks. There was no choice but to take life one day at a time as the future could no longer be anticipated.

Things that were once taken for granted were now considered "gifts from God" such as seeing another sunrise, being able to get out of bed in the morning, and being relatively symptom-free. At one time, participants had based their self-worth on occupation,

relationships with family, hobbies, and/or volunteering activities. Their priorities changed so they could maintain value and self-worth. For example, a participant noted how difficult it was to lose his independence with daily tasks such as mobility, toileting, or dressing. Before he was admitted it could take him up to an hour and a half to get dressed on his own in the morning. On PPCC admission, he changed his perception of himself and then permitted himself to let staff help with dressing so that his energy could be better spent on things such as visiting with family. For all participants, emphasis was placed on the family as they realized their children and grandchildren would continue to live on without their direct influence. Participants were questioned if they had done enough to prepare their loved ones for what was to come after their death.

Living in the moment meant that participants focused on maintaining their maximal independence despite their concurrent symptoms. It was difficult to be dependent on others (e.g., family or staff members). Tasks that were accomplished independently in the past could no longer be done alone. One participant who refused to accept his loss of independence was frustrated by his limitations. To him, it was unacceptable to call for a nurse every time he wanted to move from the desk to the window. He requested a small portable commode with a cushioned cover that he used as a chair to wheel around the room. The PPCC policy was that the brakes were to be applied when in use. Because he could not independently release the brakes safely, it took him a lot of effort to negotiate with the staff to be able to use the commode chair more independently.

Participating in horse therapy did not give back independence or change the upcoming end of life for the participants. Yet, it provided interactions that helped to retain personal value and a sharing of that value with others. For example, the two participants who did hands-on visits with Billy (the therapy horse) enjoyed him lowering his head and gently nudging them to encourage more patting from them. These participants perceived a sense of empowerment by controlling the type of affection they provided to Billy; and so, Billy's visits influenced living in the moment by providing a sense of anticipation, excitement, brightness, novelty, joy, and control. This encouraged participants to experience the moment without a focus on their current health status and symptoms. Expressing both surprise and delight, participants and family members considered the horse visits as "something above and beyond" what they expected at a palliative care unit, at the opportunity.

4.2. Living in the moment threads

Underpinning the collective core narrative of living in the moment were threads of quality of life (QOL), fatigue, distraction, reminiscence, and identification with Billy, the therapy horse. These threads became clear after analyzing the data transcripts multiple times and reassembling the plots, sub-plots, and threads across individual stories, into a collective core story.

4.2.1. Quality of life

To participants, having a good Quality Of Life (QOL) meant being symptom-free, maintaining independence, enjoying socializing with family and friends), and appreciating the things that come with each day such as waking up in the morning. However, ESASr responses indicated a wide variety of symptoms and severities that influenced the sense of QOL when combined with participants' perceptions of their value and self-worth. The uncertainty of each day and wondering if "my sickness is staying the way it is for the time being" was voiced. All six participants experienced tiredness and drowsiness. Five

experienced shortness of breath and a diminished sense of well-being. Four experienced pain and decreased sense of appetite. Anxiety and nausea were experienced by three participants, and depression by two. One participant experienced a range of all nine symptoms on the ESASr at the same time which impacted her QOL. Medications helped to manage symptoms; for example, the three participants who experienced nausea during data collection indicated that anti-emetic medications decreased nausea.

The participants defined QOL in terms of multidimensional aspects. Emotional aspects were expressed as feelings of depression, anxiety, and well-being on the ESASr. Health care and preparatory aspects were managed by the staff "treat[ing] you very well in here" and staff "do[ing] everything for me," including assistance with the organization of estate and funeral affairs. Personal autonomy was very important to QOL. All participants desired to retain independence for as long as they could. Physical aspects were identified as a desire to be "relatively pain-free." One participant, in describing living longer with "a new set of lungs," was referring to obtaining relief from his distressing symptom of shortness of breath (of which eight out of ten on the ESASr shortness of breath scale was "normal" for him. Social and spiritual QOL were expressed as "spend[ing] time with family and friends," and the feel[ing] that each new day is a "gift from God."

Aware they may not wake up the next day, participants focused on taking each day "as you can," actively trying to enjoy the day as it was. Only one participant described QOL in terms of quantity, expressing a desire to "live longer." A participant who had a strong connection with Alcoholics Anonymous quoted that "we only have today because tomorrow never comes." Billy's visits helped to "brighten" and bring "a little joy" to the day, providing stimulation and a brief respite from the symptoms the participants were experiencing.

4.2.2. Fatigue

While living to see another day was an accomplishment, surviving with an end-stage illness at the PPCC was tiring. To conserve energy, participants often used silence and chose their words carefully. For example, one participant sharply declared "next question!" instead of spending additional energy elaborating on his present answer. Fatigue was evident with tiredness and drowsiness rated on a range of three to eight out of ten on the ESASr.

When participants became over-tired, they anticipated the following day would be "bad." A bad day included an increase in symptoms such as shortness of breath and/or so much tiredness that they could "sleep for a day or two." They would stay in bed with little energy. Billy's visits provided participants with a sense of calmness, relaxation, and energy. The participants who went outside to pet Billy did not say that Billy added to their fatigue; in fact, one participant declared that Billy gave her a brief "burst of energy." Those participants who stayed in their rooms stated that Billy did not contribute to their tiredness; instead, they attributed their tiredness to their diseases and medications.

4.2.3. Opportunity for distraction

Billy's visit provided a break from the everyday routine and concerns that the participants lived with. After all, "who would expect to have a horse visit them?" The distraction created a positive experience through social interactions with Billy, the horse handlers, the staff, and family and friends. One participant "could almost feel" Billy through the window glass, and she did not have prior experience with horses. Another participant could "tell from Billy's face" how much he was "really really (sic) enjoying" the handlers brushing him. The brushing of Billy's neck, either by the participants or the handlers, evoked smiles from

everyone involved. The distraction of Billy coming to the unit elicited spontaneous waving and stimulated participants to converse with the handlers about Billy's history and care.

The most meaningful aspect of Billy's visits to participants was being able to share the experience with family and friends. A sense of anticipation was created earlier in the day when staff declared "Billy's coming today!" Participants arranged for family and friends to be present when Billy was there. Grandchildren's faces lit up when they saw Billy. Family and friends took pictures to preserve the moment. A picture taken of Billy giving a participant a "kiss" at her window on her 63rd birthday was shared with every family member on and off the province.

4.2.3. Positive reminiscence

Seeing Billy brought forth pleasant memories of caring for previous animals that participants had considered "like family." These unique past participant-animal relationships included dogs, cats, rabbits, foxes, and livestock. The memories of caring for these animals were positive feelings of love and/or satisfaction. As a young girl, one participant saw a foal being born and had loved horses ever since. Seeing Billy took her back to when she was growing up on a farm, and fondly relived a memory of a horse taking an apple from her hand. For another participant, a pet dog named Baby was a true companion that knew when to snuggle up "right close" to comfort her when she was upset. This gave her a sense of value, self-worth, and love because Baby demonstrated care and concern for her well-being. Nurturing an orphaned fox provided one participant with a sense of satisfaction.

4.2.4. Identification with the therapy horse Billy

Participants living with chronic illnesses and receiving palliative care services wanted to be seen first as individuals, rather than as their illnesses. "When I'm around people they see all the scars, whereas Billy just sees me... [Billy] doesn't let my condition affect how he sees me. It makes me feel fine." Billy making a "face" or quickening his step to reach participants faster was perceived by participants as Billy recognizing and acknowledging them.

Some participants also identified with Billy by using him to either express their feelings or to transfer their feelings. For example, one participant used Billy to express how he viewed himself – "what's that idiot doing on [the] another side of the window" with an oxygen tube "stuck up his nose." This participant was limited initially in his mobility; then as his lungs deteriorated, he became dependent on oxygen. Loss of self-worth, identity, and independence was evident in his description of how Billy would see him. A second participant routinely asked how Billy was doing. He was concerned if Billy had a sore hip or back. Although initially, this participant denied having similar pain; he later acknowledged that he was asking about symptoms he experienced.

4.2.5. Summary of results

The resulting core narrative "living in the moment" emerged from the individual experiences of six participants living with chronic terminal illnesses in a palliative care unit. Living in the moment enabled the participants mindfully experience every available opportunity they deemed appropriate. As the participants' circumstances changed, so did their priorities in life and their perceptions of themselves. Living in the moment allowed them to re-prioritize and change what was, and was not, important.

The core narrative of living in the moment with its threads of QOL, fatigue, distraction, reminiscence, and identification with Billy contributed unique insights into the participants' experiences. The results of the study clearly showed that the participants wanted to be seen, heard, and recognized as individuals with intrinsic worth and value. It was difficult for them to be viewed by others as their illness, symptom, or environment. Time was important and in short supply due to fatigue and competing symptoms. Billy's visits helped to distract participants from their fatigue and other symptoms while providing socialization opportunities. The visits brought a sense of excitement and provided meaningful experiences for both the participants and their loved ones.

5. Discussion

The collective core narrative of living in the moment reflects contemporary findings on mindfulness by Beng et al. [72], Dobkin [73], and Romotzky's et al. [74]. Mindfulness is a specific way of non-judgmental thinking that entails being purposely present in the moment. It is an established form of meditation long practiced by Buddhists [75] and use with various populations such as those seeking stress reduction, hospice and palliative care clients, and health care professionals [76][77][78][79]. Mindfulness allows for an interruption of common worries, stresses, and negative thoughts that accompany health concerns [72]. It may be easy for people to experience each day thinking of either the past or the future, unaware of what is happening in the present [79]. Mindfulness can lead people to reappraise their lives to make the best of their situation so they can continue living in the moment [79]. Romotzky et al. [74] found that using strategies like mindfulness allowed palliative care clients to reappraise their lives and completely change previous defining behaviors (e.g., being now willing to express their feelings and accept help).

In addition to mindfulness, the collective narrative of living in the moment enabled opportunities for self-expression and satisfaction amid the duress of terminal illnesses. Narrative threads about QOL, fatigue, distraction, reminiscence, and identification with the therapy horse Billy conveyed unique insights that contribute to an understanding of the meaning of horse therapy experiences to inpatients receiving palliative care. The loss of value and sense of self commonly expressed within palliative units is stressful for everyone involved, particularly for those already experiencing debilitating symptoms [80].

According to a participant in a study by Romotzky et al. [74], "palliative care is not about prolonging life but about maintaining and enhancing the quality of life" (p. 4). Lane, Ramadurai, and Simonetti [81] described the improved quality of life by addressing the physical, psychosocial, and spiritual needs of the palliative care patient. As well, McCaffrey, Bradley, Ratcliffe, and Currow [80] further broke QOL down into emotional, health care, preparatory, personal autonomy, physical, social, spiritual, and cognitive aspects. This study's findings on QOL for palliative care inpatients found similar emotional, health care, preparatory, personal autonomy, physical, social, and spiritual components. The remaining component of cognition as identified by McCaffrey et al. [80] was not highlighted by this study's participants as none experienced impaired cognition.

In this study, AAT helped distract from the omnipresent fatigue and other symptoms while providing socialization opportunities. Distraction as a therapy is well documented in the literature and has been used in pediatric [82][83], psychiatry [84][85], and palliative [86][87] populations. Wolgast and Lundh [88] explored the positive (acceptance) and negative (avoidance) effects of distraction. Positive distraction was supported by this study's findings that to some extent most participants accepted their current situations. The socialization that

came about from the distraction was welcomed. Evidence of negative distraction was shown with one participant who had not fully accepted where he was with his diagnosis. As soon as the distraction was over, his focus would negatively return to his symptoms or his limited independence.

Reminiscing is a proven therapy for stimulating feelings of purpose, meaning, and belonging [89][90][91]. Dobson [90] described a Canadian hospital program that utilized tactile stimulation kits for reminiscing. For example, a bank teller fingering coins may bring forth fond memories of a different time, in turn, allowing the individual to be seen as the person before the development of illness. Scott and Kaylor [91] identified how important it was for healthcare professionals to see beyond their clients' presentation in the clinical setting to create rapport and a better understanding of their clients. The participants in this study either reminisced about horses or other animals within their lives such as current or past pets, livestock, and in one participant's case wildlife. The love, connection, and satisfaction of having a pet are supported by Fine and Beck [62], Tottle [92], and While [93]. Negative memories could be damaging to the individual who is reminiscing; but with proper preparation, those memories can still be therapeutic [89]. For example, reminiscing during animal therapy could lead to distressing memories of being afraid of horses or being attacked by a dog. That did not occur in this study as only positive memories were expressed.

The finding of increased social interactions supported Geisler's [29] conclusion that companion animals facilitated "communication, grief, and life review" (p. 287) for those approaching their end of life. The excitement, anticipation, joy, and enhanced companionship with loved ones generated by the horse therapy intervention were also reported by Ockleford and Berryman [55]. As well, the finding that Billy's visits stimulated interest and provided a positive diversion beyond the actual visit was consistent with how Lander and Graham-Pole [49] described the purring of a cat as "love medicine" that soothed and transcended the grief and distress of a dying man and his wife.

The study's finding that palliative care inpatients wanted to be recognized as individuals first was congruent with Haylock and Cantril's [12] finding that participants appreciated the focus being on them as individuals rather than as people with cancer. Loss of identity is a documented phenomenon either individually [94] or as a family unit [95]. Gillies and Johnston [96] noted that an individual's sense of identity could be affected in multiple ways such as cancer presenting physical challenges (e.g., surgery) and dementia presenting cognitive challenges (e.g., the memory processes of the individual being affected). An illness could make an individual forget their past self/role, presenting a need for that individual to redefine themselves [94]. In the absence of illness, even the process of aging could bring losses that affect an individual's identity and role [96]. An animal such as Billy the therapy horse that accepted individuals as they were then without their active involvement or interpretation presents a powerful moment.

This study provided a protocol for the initiation of horse therapy in the inpatient palliative setting. Considering practice location, population, and appropriate intervention strategies, the horse therapy visits took place over two weeks for each patient with two types of visits per week (i.e., Billy visiting and viewing a video of Billy). Billy's visits entailed interacting with each participant at their window for a few minutes until the participant was ready to stop (range of two to ten minutes, depending on the participant). Hands-on therapy was then offered at the front door of the Provincial Palliative Care Centre (PPCC) for willing participants. The participants were quite clear that the visits with Billy were preferred over watching videos.

6. Conclusion

From the literature reviewed, various potential benefits of animal-assisted therapy were identified; however, there was limited scientific evidence concerning the inpatient palliative population. This study provided a unique opportunity to explore the palliative inpatient experiences with equine therapy while not being a strenuous intervention for the participant. The offered equine therapy, tailored to adult palliative inpatients, was successful in helping the participants meet their need to live in the moment while being terminally ill. Participants directed the study's findings by sharing their experiences of how essential and difficult it was for them to live in the moment. Having the therapy horse visit them through their windows without needing to leave their beds, allowed participants to enjoy the experience but still conserve their energy. Against the backdrop of pain, fatigue, the uncertainty of illness demands, and institutional care; moments of interacting with the therapy horse created niches of varying levels of expression, control, and wonder. The findings provided empirical evidence in the form of core stories and revised Edmonton Symptom Assessment System scores that conveyed horse therapy as a positive energy-conserving intervention in the patient palliative care center setting.

Although there may be other alternative or current therapies that could complement and help participants to continue living in the moment, this study's results provided insight into the meaning of equine therapy where current research is lacking for the inpatient palliative population. The protocol developed as this study's intervention could be adapted for other horse therapy interventions, such as with family members and palliative care staff.

Acknowledgments

The authors thank each participant and their families and acknowledge the kindness and support of the Prince Edward Island (PEI) Palliative Care Centre and its team members. This research was supported by a PEI Nurses Union Bursary and a University of New Brunswick School of Graduate Studies Merit Award to the principal investigator. The authors further acknowledge the contribution of Billy, the therapy horse.

References

- [1] K. Murray, "Essentials in hospice and palliative care: A practical resource for every nurse," Victoria, BC: Life and Death Matters, (2016)
- [2] D. A. Marcus, "The role of volunteer services at cancer centers," *Current Pain and Headache Reports*, vol.17, pp.376-376, (2013) DOI: 10.1007/s11916-013-0376-1
- [3] B. R. Ferrell, and N. Coyle, N. "Oxford textbook of palliative nursing," (3rd ed.). New York, NY: Oxford University Press, (2010)
- [4] S. Y. Pan, S. H. Gao, S. F. Zhou, M. K. Tang, Z. L. Yu, and K. M. Ko, "New perspectives on complementary and alternative medicine: An overview and alternative therapy," *Alternative Therapies in Health and Medicine*, vol.18, no.4, pp.20-36, (2012)
- [5] N. Esmail, "Complementary and alternative medicine: use and public attitudes 1997, 2006, and 2016," Fraser Institute, (2017) <https://www.fraserinstitute.org/sites/default/files/complementary-and-alternative-medicine-2017.pdf>
- [6] D. L. Erickson, D. Fisher, B. Woelk, W. Buckner, and C. Ashley, "A mixed methods study of telepathic interspecies communication with therapeutic riding horses and their recovering wounded veteran partners," *NeuroQuantology*, vol.14, no.2, pp.404-426, (2016) DOI: 10.14704/nq.2016.14.2.953

- [7] V. Vermöhlen, P. Schiller, S. Schickendantz, et al., "Hippotherapy for patients with multiple sclerosis: A multicenter randomized controlled trial (MS-HIPPO)," *Multiple Sclerosis Journal*, vol.24, no.10, pp.1375-1382, (2018) DOI: 10.1177/1352458517721354
- [8] S. Rugari, S. Major, and A. Kennedy, "A horse is a horse – and sometimes part of a clinical team, too," *American Nurse Today*, vol.8, no.9, (2013) <https://www.americannursetoday.com/a-horse-is-a-horse-and-sometimes-part-of-a-clinical-team-too/>
- [9] D. Latella and B. N. Abrams, "Handbook on animal-assisted therapy: Foundations and guidelines for animal-assisted interventions, 4th ed," Elsevier Academic Press, Waltham, pp.115-137, (2015)
- [10] A. Selby and A. Smith-Osborne, "A systematic review of the effectiveness of complementary and adjunct therapies and interventions involving equines," *Health Psychology*, vol.32, no.4, pp.418-432, (2013) DOI:10.1037/a0029188
- [11] C. Cerulli, C. Minganti, C. De Santis, E. Tranchita, F. Quaranta, and A. Parisi, "Therapeutic horseback riding in breast cancer survivors: A pilot study," *Journal of Alternative and Complementary Medicine*, vol.20, no.8, pp.623-629, (2014) DOI: 10.1089/acm.2014.0061
- [12] P. J. Haylock and C. A. Cantril, "Healing with horses: Fostering recovery from cancer with horses as therapists," *Explore (NY)*, vol.2, no.3, pp.264-268, (2006)
- [13] H. Dabelko-Schoeny, G. Phillips, E. Darrough, S. DeAnna, M. Jarden, D. Johnson & G. Lorch, "Equine-assisted intervention for people with dementia," *Anthrozoos*, vol.27, no.1, pp.141-155, (2014) DOI:10.2752/175303714X13837396326611
- [14] M. Hakanson, M. Moller, I. Lindstrom, and B. Mattsson, "The horse as the healer – a study of riding in patients with back pain," *Journal of Bodywork and Movement Therapies*, vol.13, pp.43-52, (2009) DOI:10.1016/j.jbmt.2007.06.002
- [15] D. Homnick, K. Henning, C. Swain, and T. Homnick, "Effect of therapeutic horseback riding on balance in community-dwelling older adults with balance deficits," *Journal of Alternative and Complementary Medicine*, vol.19, no.7, pp.622-626, (2013) DOI: 10.1089/acm.2012.0642
- [16] [16] L. Wehofer, N. Goodson and T. L. Shurtleff, "Equine assisted activities and therapies: A case study of an older adult," *Physical & Occupational Therapy in Geriatrics*, vol.31, no.1, pp.71-87, (2013) DOI:10.3109/02703181.2013.766916
- [17] E. J. Cumella, C. B. Lutter, A. Smith-Osborne and Z. Kally, "Equine therapy in the treatment of the female eating disorder," *SOP Transactions on Psychology*, vol.1, no.1, pp.13-21, (2014)
- [18] H. Sharpe, "Equine-facilitated counseling and women with eating disorders: Articulating bodily experience," *Canadian Journal of Counselling and Psychotherapy*, vol.48, no.2, pp.127-152, (2014)
- [19] R. A. Johnson et. al, "Effects of therapeutic horseback riding on post-traumatic stress disorder in military veterans," *Military Medical Research*, vol.5, no.3, pp.1-13, (2018) DOI: 10.1186/s40779-018-0149-6
- [20] B. Lanning and N. Krenek, "Guest Editorial: Examining the effects of equine-assisted activities to help combat veterans improve quality of life," *Journal of Rehabilitation Research and Development*, vol.50, no.8, pp.7-13, (2013)
- [21] M. Romaniuk, J. Evans and C. Kidd, "Evaluation of an equine-assisted therapy program for veterans who identify as 'wounded, injured or ill' and their partners," *PLoS ONE*, vol.13, no.9, pp.1-15, (2018) DOI:10.1371/journal.pone.0203943
- [22] J. R. Nurenberg, S. J. Schleifer, T. M. Shaffer, et al., "Animal-assisted therapy with chronic psychiatric inpatients: Equine-assisted psychotherapy and aggressive behavior," *Psychiatric services (Washington, DC)*, vol.66, no.1, pp.80-86, (2015) DOI: 10.1176/appi.ps.201300524
- [23] M. Lessick, R. Shinaver, K. M. Post, J. E. Rivera and B. Lemon, "Therapeutic horseback riding: Exploring this alternative therapy for women with disabilities," *AWHONN Lifelines*, vol.8, no.1, pp.46-53, (2004)
- [24] J. Rossetti and C. King, "Use of animal-assisted therapy with psychiatric patients: A literature review," *Journal of Psychosocial Nursing and Mental Health Services*, vol.48, no.11, pp.44-48, (2010)

- [25] A. Maujean, C. A. Pepping, and E. Kendall, "A systematic review of randomized controlled trials of animal-assisted therapy on psychosocial outcomes," *Anthrozoös*, vol.28, no.1, pp.23-36, (2015) DOI:10.2752/089279315X14129350721812
- [26] K. Cole, A. Gawlinski, N. Steers, and J. Kotlerman, "Animal-assisted therapy in patients hospitalized with heart failure," *American Journal of Critical Care*, vol.16, no.6, pp.575-588, (2007)
- [27] K. Diniz Pinto, C. T. Vieira de Souza, M. L. Benamor Teixeira, M. I. Fragoso da Silveira Gouvêa, "Animal-assisted intervention for oncology and palliative care patients: A systematic review," *Complementary Therapies in Clinical Practice*, vol.43, (2021) DOI:10.1016/j.ctcp.2021.101347
- [28] S. R. Engelman, "Palliative care and use of animal-assisted therapy," *Omega: Journal of Death and Dying*, vol.67, no.1-2, pp.63-67, (2013) DOI: 10.2190/OM.67.1-2.g
- [29] A. M. Geisler, "Companion animals in palliative care: Stories from the bedside," *American Journal of Hospice and Palliative Medicine*, vol.21, no.4, pp.285-288, (2004)
- [30] P. L. Hall and Z. Malpus, "Pets as therapy: Effects on social interaction in long-stay psychiatry," *British Journal of Nursing (Mark Allen Publishing)*, vol.9, no.21, pp.2220-2225, (2000)
- [31] E. Holman and B. Kennedy, "Palliative Care Matters: Lessons From the Loss of a Facility Dog," *American Journal of Hospice and Palliative Medicine*, vol.35, no.10, pp.1362-1364, (2018) DOI:10.1177/1049909118761387
- [32] M. G. Hunt and R. R. Chizkov, "Are therapy dogs like xanax? does animal-assisted therapy impact processes relevant to cognitive behavioral psychotherapy?, *Anthrozoös*, vol.27, no.3, pp.457-469, (2014) DOI:10.2752/175303714X14023922797959
- [33] M. Orlandi, K. Trangeled, A. Mambrini, M. Tagliani, A. Ferrarini, L. Zanetti, R. Tartarini, P. Pacetti and M. Cantore, "Pet Therapy Effects on Oncological Day Hospital Patients Undergoing Chemotherapy Treatment," *Anticancer Research*, vol.27, pp.4301-4304 (2007)
- [34] R. A. Johnson, R. L. Meadows, J. S. Haubner, and K. Sevedge, "Animal-assisted activity among patients with cancer: Effects on mood, fatigue, self-perceived health, and sense of coherence," *Oncology Nursing Forum*, vol.35, no.2, pp.225-232, (2008) DOI: 10.1188/08.ONF.225-232
- [35] C. A. Krause-Parello, C. Levy, E. Holman, and J. E. Kolassa, "Effects of VA facility dog on hospitalized veterans seen by a palliative care psychologist: An innovative approach to impacting stress indicators," *American Journal of Hospice and Palliative Medicine*, vol.35, no.1, pp.5-14, (2018) DOI:10.1177/1049909116675571
- [36] T. Kumasaka, H. Fujisawa, H. Karino, H. Masu and M. Kataoka, "Changes in moods of palliative care ward patients by interacting with trained therapy dog which is the first such dog stationed in a hospital in Japan and examination thereof," *International Medical Journal*, vol.23, no.3, pp.284-287, (2016)
- [37] T. Kumasaka, H. Masu, M. Kataoka, and A. Numao, "Changes in patient mood through animal-assisted activities in a palliative care unit," *International Medical Journal*, vol.19, no.4, pp.373-377, (2012)
- [38] B. Macauley, "Animal-assisted therapy for persons with aphasia: A pilot study," *Journal of Rehabilitation Research and Development*, vol.43, no.3, pp.357-366, (2006) DOI: 10.1682/JRRD.2005.01.0027
- [39] C. A. Marr, L. French, D. Thompson, et al., "Animal-assisted therapy in psychiatric rehabilitation," *Anthrozoös*, vol.13, no.1, pp.43-47, (2000) DOI: 10.2752/089279300786999950
- [40] I. Nathans-Barel, P. Feldman, B. Berger, I. Modai, and H. Silver, "Animal-assisted therapy ameliorates anhedonia in schizophrenia patients: A controlled pilot study," *Psychotherapy and Psychosomatics*, vol.74, no.1, pp.31-35, (2005) DOI: 10.1159/000082024
- [41] N. E. Richeson, "Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia," *American Journal of Alzheimer's Disease and Other Dementias*, vol.18, no.6, pp.353-358, (2003)
- [42] N. E. Edwards, and A. M. Beck, "Animal-assisted therapy and nutrition in Alzheimer's disease," *Western Journal of Nursing Research*, vol.24, no.6, pp.697-712, (2002) DOI: 10.1177/019394502236642

- [43] H. Falk and H. Wijk, "Natural activity: An explorative study of the interplay between cage-birds and older people in a Swedish hospital setting," *International Journal of Older People Nursing*, vol.3, no.1, pp.22-28, (2008)
- [44] M. Best, L. Aldrige, P. Butow, I. Olver, M. Price, and F. Webster, "Treatment of holistic suffering in cancer: A systematic literature review," *Palliative Medicine*, vol.29, no.10, pp.885-898, (2015) DOI:10.1177/0269216315581538
- [45] S. Fleishman, P. Homel, M. Chen, V. Rosenwald, V. Abolencia, J. Gerber, and S. Nadesan, "Beneficial effects of animal-assisted visits on quality of life during multimodal radiation-chemotherapy regimens," *Journal of Community and Supportive Oncology*, vol.13, pp.22-26, (2015) DOI: 10.12788/jcso.0102
- [46] K. Nakano, K. Sato, H. Katayama, and M. Miyashita, "Living with pleasure in daily life at the end of life: Recommended care strategy for cancer patients from the perspective of physicians and nurses," *Palliative and Supportive Care*, vol.11, pp. 405-413, (2013) DOI: 10.1017/S1478951512000442
- [47] A. Chur-Hansen, S. C. Zambrano and G. B. Crawford, "Furry and feathered family members—A critical review of their role in palliative care," *American Journal of Hospice & Palliative Medicine*, vol.31, no.6, pp.672-677, (2014) DOI: 10.1177/1049909113497084
- [48] R. Kedanis, "The miracle of Henry the hospice cat," *Holistic Nursing Practice*, vol.6, pp.379-381, (2016) DOI:10.1097/HNP.000000000000179
- [49] D. A. Lander and J. R. Graham-Pole, "Love medicine for the dying and their caregivers: The body of evidence," *Journal of Health Psychology*, vol.13, no.2, pp.201-212, (2008)
- [50] N. Martin, J. L. Pascual, D. T. Crowe, C. Toevs, M. F. Cerada, F. Maurizio, M. Mikkelsen, and L. J. Kaplan, "Comfort at the crossroads: Service, therapy and emotional support animals in the intensive care unit and at the end-of-life," *Journal of Trauma and Acute Care Surgery*, vol.84, no.6, pp.978-984, (2018) DOI:10.1097/TA.0000000000001877
- [51] A. Schmitz, M. Beermann, C. R. MacKenzie, K. Fetz, and C. Schulz-Quach, "Animal-assisted therapy at a university center for palliative medicine - A qualitative content analysis of patient records," *BMC Palliative Care*, vol.16, no.50, pp.1-13, (2017) DOI: 10.1186/s12904-017-0230-z
- [52] Y. D'Arcy, "'Paws' to provide comfort, relieve pain," *Nursing*, vol.41, no.4, pp.67-68, (2011) DOI:10.1097/01.NURSE.0000395305.83786.93
- [53] S. Horowitz, "Animal-assisted therapy for inpatients: Tapping the unique healing power of the human-animal bond," *Alternative and Complementary Therapies*, vol.16, no.6, pp.339-343, (2010) DOI:10.1089/act.2010.16603
- [54] C. Kong and S. M. Camellia Soon, "Virtual volunteering during the COVID-19 pandemic: case studies of virtual animal-assisted activities in a Singapore hospice," *Journal of Social Work in End-of-Life & Palliative Care*, vol.18, no.3, pp.203-215, (2022) DOI:10.1080/15524256.2022.2105472
- [55] E. Ockleford and J. Berryman, "Do companion animals have therapeutic value?" *European Journal of Palliative Care*, vol.8, no.2, pp.75-78, (2001)
- [56] R. Reed, L. Ferrer, and N. Villegas, "Natural healers: A review of animal-assisted therapy and activities as a complementary treatment for chronic conditions," *Revista Latino-Americana de Enfermagem*, vol.20, no.3, pp.612-618, (2012)
- [57] G. Van Hyfte, L. Kozak, and M. Lepore, "A survey of the use of complementary and alternative medicine in Illinois hospice and palliative care organizations," *American Journal of Hospice and Palliative Medicine*, vol.31, no.5, pp.553-561, (2013)
- [58] M. Winkle, A. Wilder, and L. Jackson, "Dogs as pets, visitors, therapists and assistants," *Home Healthcare Nurse*, vol.32, no.10, pp.589-595, (2014)
- [59] M. A. Souter, and M. D. Miller, "Do animal-assisted activities effectively treat depression? A meta-analysis," *Anthrozoos*, vol.20, no.2, 167-180, (2007) DOI: 10.2752.175303707X207954
- [60] E. Williams and R. Jenkins, "Dog visitation therapy in dementia care: A literature review," *Nursing Older People*, vol.20, no.8, pp.31-35, (2008)

- [61] S. Matuszek, "Animal-facilitated therapy in various patient populations: Systematic literature review," *Holistic Nursing Practice*, vol.24, no.4, pp.187-203, (2010)
- [62] A. H. Fine, and A. M. Beck, "Understanding our kinship with animals: Input for health care professionals interested in the human-animal bond," In A. Fine's (Ed.), *Handbook on animal-assisted therapy: Foundations and guidelines for animal-assisted interventions* (4th ed., pp. 3-10), Waltham, MA: Elsevier, (2015)
- [63] E. Creagan, B. Bauer, B. Thomley, and J. Borg, "Animal-assisted therapy at mayo clinic: The time is now," *Complementary Therapies in Clinical Practice*, vol.21, pp.101-104, (2015) DOI: 10.1016/j.ctcp.2015.03.003
- [64] D. J. Clandinin, "Narrative inquiry: A methodology for studying lived experience," *Research Studies in Music Education*, vol.27, no.1, pp.44-54. (2006) DOI: 10.1177/1321103X060270010301
- [65] L. McAlpine, "Why might you use narrative methodology? A story about narrative," *Eesti Haridusteaduste Ajakiri*, vol.4, no.1, pp.32-59, (2016) DOI: 10.12697/eha.2016.4.1.02b
- [66] D. S. Moore, G. P. McCabe, and B. A. Craig, "Introduction to the practice of statistics, 7th ed.," W. H. Freeman, New York, (2012)
- [67] M. Freeman, M. "Data are everywhere: Narrative criticism in the literature of experience," In C. Daiute, and C. Lightfoot (Eds.), *Narrative analysis: Studying the development of individuals in society*, 63-81. Thousand Oaks, CA: Sage, (2004)
- [68] J. M. Morse and L. Niehaus, "Mixed method design: Principles and procedures," Left Coast, Walnut Creek, (2009)
- [69] D. Hui and E. Bruera, "The Edmonton symptom assessment system 25 years later: Past, present, and future developments," *Journal of Pain and Symptom Management*, vol.53, no.3, pp.630-643, (2017) DOI:10.1016/j.jpainsymman.2016.10.370
- [70] C. Daiute and C. Lightfoot, "Narrative Analysis: Studying the Development of Individuals in Society," SAGE, Thousand Oaks, pp.vii-xviii, (2003)
- [71] B. Glaser and J. Holton, "Remodeling grounded theory," *Forum: Qualitative Social Research*, vol.5, no.2, (2004) DOI:10.17169/fqs-5.2.607
- [72] T. S. Beng, F. Ahmad, L. C. Loong, L. E. Chin, N. Z. Zainal, N. G. Guan, N. G... and C. B. Chiong Meng, "Distress reduction for palliative care patients and families with 5-minute mindful breathing: A pilot study," *American Journal of Hospice and Palliative Medicine*, vol.33, no.6, pp.555-560, (2016) DOI:10.1177/1049909115569048
- [73] P. L. Dobkin, "Mindfulness-based stress reduction: What processes are at work?" *Complementary Therapies in Clinical Practice*, vol.14, pp.8-16, (2008) DOI: 10.1016/j.ctcp.2007.09.004
- [74] V. Romotzky, J. Strupp, A. Hayn, J. U. Ruffer, J. Grummer, and R. Voltz, "All of a sudden, a lot less still makes it worthwhile to be alive: Palliative care patients' views on life," *Palliative and Supportive Care*, pp.1-7, (2018)
- [75] J. Kabat-Zinn, "Mindfulness-based interventions in context: Past, present, and future," *Clinical Psychology: Science and Practice*, vol.10, no.2, pp.144-156, (2003) DOI: 10.1093/clipsy/bpg016
- [76] P. Ricci-Allegra, "Spiritual perspective, mindfulness, and spiritual care practice of hospice and palliative nurses," *Journal of Hospice and Palliative Nursing*, vol.20, no.2, pp.172-179, (2018) DOI:10.1097/NJH.0000000000000426
- [77] J. Kabat-Zinn, "An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results," *General Hospital Psychiatry*, vol.4, pp.33-47, (1982) DOI:10.1016/0163-8343(82)90026-3
- [78] S. L. Shapiro, J. A. Astin, S. R. Bishop, and M. Cordova, "Mindfulness-based stress reduction for health care professionals: Results from a randomized trial," *International Journal of Stress Management*, vol.12, no.2, pp.164-176, (2005)
- [79] T. Bartley, and J. Teasdale, *Mindfulness-based cognitive therapy for cancer*. Hoboken: John Wiley & Sons, (2011)

- [80] N. Moyal, A. Henik, and G. E. Anholt, "Cognitive strategies to regulate emotion – current evidence and future directions," *Frontiers in Psychology*, vol.4, pp.1-4, (2014) DOI: 10.3389/fpsyg.2013.01019
- [81] N. McCaffrey, S. Bradley, J. Ratcliffe, and D. C. Currow, "What aspects of quality of life are important from palliative care patients' perspectives? A systematic review of qualitative research," *Journal of Pain and Symptom Management*, vol.52, no.2, pp.318-328, (2016) DOI:10.1016/j.jpainsymman.2016.02.012
- [82] T. Lane, D. Ramadurai, and J. Simonetti, "Public awareness and perceptions of palliative and comfort care," *The American Journal of Medicine*. (2018) DOI:10.1016/j.amjmed.2018.07.032
- [83] K. A. Birnie, M. Noel, J. A. Parker, C. T. Chambers, L. S. Uman, S. R. Kisely, and P. T. McGrath, "Systematic review and meta-analysis of distraction and hypnosis for needle-related pain and distress in children and adolescents," *Journal of Pediatric Psychology*, vol.39, no.8, pp.783-808, (2014) DOI:10.1093/jpepsy/jsu029
- [84] S. Boucher, J. Downing, and R. Shemilt, "The role of play in children's palliative care," *Children*, vol.1, pp.302-317, (2014) DOI:10.3390/children1030302
- [85] G. P. Strauss, K. L. Ossenfort, and K. M. Whearty, "Reappraisal and distraction emotion regulation strategies are associated with distinct patterns of visual attention and differing levels of cognitive demand," *Plos One*, vol.11, no.11, pp.1-18, (2016) DOI:10.1371/journal.pone.0162290
- [86] S. P. Kumar, and A. Jim, "Physical therapy in palliative care: From symptom control to quality of life: A critical review," *Indian Journal of Palliative Care*, vol.16, no.3, pp.138–146, (2010) DOI:10.4103/0973-1075.73670
- [87] S. Parsons, and C. Anderson, "The meaning of Friday afternoon tea for informal caregivers on a palliative care unit," *International Journal of Palliative Nursing*, vol.15, no.2, pp.74-78, (2009)
- [88] M. Wolgast, and L. G. Lundh, "Is distraction an adaptive or maladaptive strategy for emotion regulation? A person-oriented approach," *Journal of Psychopathological Behavioral Assessment*, vol.39, pp.117–127, (2017) DOI:10.1007/s10862-016-9570-x
- [89] S. Barron, S. P. Davies, and R. D. Wiggins, "Social integration, a sense of belonging and the Cenotaph Service: Old soldiers reminisce about Remembrance," *Aging and Mental Health*, vol.12, no.4, pp.509-516, (2008) DOI:10.1080/13607860802224268
- [90] S. Dobson, "A reason to reminisce; in case you missed it in Senior Living Mental," *Chronicle Herald*, (2016) Retrieved from <https://login.proxy.hil.unb.ca/login?url=https://search.proquest.com/docview/1793757356?accountid=14611>
- [91] K. Scott, and J. K. DeBrew, "Helping older adults find meaning and purpose through storytelling," *Journal of Gerontological Nursing*, vol.35, no.12, pp.38-43, (2009)
- [92] W. Tottle, "Dogs, mental health, and the ways they can help our minds. *Positive Health*, vol.Nov2018(250), pp.6-6, (2018)
- [93] A. While, "Pet dogs as promoters of wellbeing," *British Journal of Community Nursing*, vol.22, no.7, pp.332-336, (2017)
- [94] N. Vickers, "Narrative identity and illness," *Journal of Evaluation in Clinical Practice*, vol.18, no.5, pp.1070-1071, (2012) DOI: 10.1111/j.1365-2753.2012.01919x
- [95] S. Pederson, and T. A. Revenson, "Parental illness, family functioning, and adolescent well-being: A family ecology framework to guide research," In I. Marini & M. Stebnicki's (Eds.), *The psychological and social impact of illness and disability*, (6th ed., pp.249-271). New York, NY: Springer Publishing Company, (2012)
- [96] B. Gillies, and G. Johnston, "Identity loss and maintenance: Commonality of experience in cancer and dementia," *European Journal of Cancer Care*, vol.13, pp.436-442, (2004)

Authors



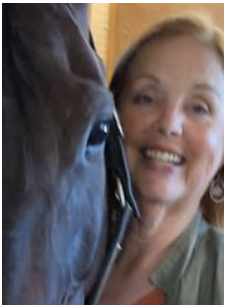
Krisandra Cairns

Registered Nurse, Charlottetown, PEI, Canada
University of New Brunswick (Fredericton) Alumna
University of Prince Edward Island Alumna



Kathryn Weaver

Honorary Research Professor, Faculty of Nursing, University of
New Brunswick, Canada



Mary McNiven

Professor of Animal Science (retired), Atlantic Veterinary College,
University of Prince Edward Island, Charlottetown, PE Canada.