

Building Family Caregiver Skills Using a Simulation-Based Intervention: A Randomized Pilot Trial

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OBJECTIVES: To evaluate the feasibility, acceptability, safety, and fidelity of a psychoeducational intervention to improve family caregiver technical and communication skills using structured simulations.

SAMPLE & SETTING: 18 family caregivers of adult patients receiving radiation therapy for head and neck cancer at University Hospitals Seidman Cancer Center in Cleveland, Ohio.

METHODS & VARIABLES: A two-group, randomized pilot trial design was used. The intervention consisted of four one-on-one sessions between the caregiver and nurse interventionist during the patient's first, second, fourth, and sixth week of radiation treatment. Participants completed measures of self-efficacy for caregiving, anxiety, depression, and health-related quality of life at baseline, during the fifth week of radiation therapy, and four weeks after radiation therapy.

RESULTS: 4 of the 9 caregiver participants completed the intervention. Improvements in scores for the intervention group were noted for self-efficacy, global mental health, anxiety, and depression.

IMPLICATIONS FOR NURSING: Refinement of the intervention is needed to improve feasibility. Although a caregiver intervention that incorporates simulation for skills training is acceptable and safe, flexibility in protocol is needed.

KEYWORDS family caregivers; experiential learning; simulation; head and neck cancer

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Burdens on family caregivers of patients undergoing treatment for head and neck cancer (HNC) are substantial and often require gaining new knowledge and technical skills to manage treatment side effects, medications, nutritional supplements, and tracheostomy and gastrostomy tubes. According to a report from the National Alliance for Caregiving (2016), 72% of the approximately 2.8 million caregivers of patients with cancer in the United States perform complex medical tasks; however, 43% of caregivers report having received no formal training. Training aims to increase caregiver confidence for performing skills, which has been associated with lower caregiver burden (Mollica, Litzelman, Rowland, & Kent, 2017).

In addition to hands-on care, caregivers must be able to communicate with the patient, other family members, and healthcare providers about the patient's diagnosis and care. Communication skill building is essential to reducing the communication burden and challenges of family caregivers of patients with cancer, such as initiating discussions, sharing emotions and feelings, and providing information to others about the patient's diagnosis (Wittenberg, Borneman, Koczywas, Del Ferraro, & Ferrell, 2017). The potential for communication burden in caregivers of patients with HNC is high, as they often must adapt to a dramatically altered lifestyle and changing roles within the family (Penner, McClement, Lobchuk, & Daeninck, 2012).

The impact of HNC on the psychological health of the caregiver is significant. According to a study by Vickery, Latchford, Hewison, Bellew, and Feber (2003), caregivers have significantly higher levels of anxiety than patients during treatment. Forty percent of caregivers of patients with HNC can be classified

as having a clinical anxiety disorder (Longacre, Ridge, Burtness, Galloway, & Fang, 2012), and about 15% have a depressive disorder (Lee, Lin, Chien, & Fang, 2015). A systematic review of the impact of HNC on the psychological health of the caregiver indicated that family caregivers had higher levels of anxiety and emotional distress than patients and the general population, and that the early phase of the cancer trajectory (i.e., within the first six months following diagnosis) is a significant time of stress for caregivers (Longacre et al., 2012). Early interventions with caregivers, particularly during the treatment phase, can provide psychological support and prepare them for dealing with acute toxicities of treatment (Richardson, Morton, & Broadbent, 2015).

Although the empirical literature supports the need for interventions that provide strategies to reduce distress early in the treatment trajectory, as well as skills training, few studies focus on interventions for caregivers of patients with HNC. In a randomized trial by Clark et al. (2013), a psychosocial intervention delivered jointly to patients with advanced cancer receiving radiation therapy—16% of whom had HNC—and their family caregivers had no effect on the caregivers' quality of life (QOL). A pilot study by Loerzel, Crosby, Reising, and Sole (2014) reported a statistically significant reduction in family caregiver anxiety following a hospitalized training program about care of a tracheostomy after HNC surgery. No studies were identified that examined a comprehensive intervention with a psychoeducational and skills training approach for caregivers of patients with HNC.

In addition, training interventions for caregivers of patients with other cancer diagnoses who have a high symptom burden are limited and focus on coping skills (DuBenske et al., 2014; Porter et al., 2011), communication skills (Wittenberg, Ferrell, Koczywas, Del Ferraro, & Ruel, 2017), and symptom management (Mosher et al., 2016). These studies were delivered online or via telephone and did not focus specifically on the active treatment phase of the cancer trajectory (DuBenske et al., 2014; Mosher et al., 2016; Porter et al., 2011; Wittenberg et al., 2017).

Simulation is a student-centered, active learning technique that uses high- or low-fidelity mannequins or standardized patients (i.e., individuals trained to act like real patients) to provide clinical activities that mimic practice (Jeffries, 2005). Although it is rarely used with family caregivers, simulation has been shown to be effective in training parents to manage seizures in chronically ill children (Sigalet et al.,

2014), to use home ventilators (Tofil et al., 2013), and to provide care for individuals with diabetes (Sullivan-Bolyai, Bova, Lee, & Johnson, 2012). Communication skills training for family caregivers includes didactic and role-play teaching methods, which are commonly included in simulation training for healthcare professionals. Simulation has been effective in improving caregiver communication skills, competencies, and knowledge (Eggenberger, Heimerl, & Bennett, 2013).

In a study of simulation with cancer caregivers by Loerzel et al. (2014), a one-hour group tracheostomy education class using an anatomical trainer was effective in reducing anxiety in family caregivers of patients with HNC. Similarly, in a study by Hendrix et al. (2016), a single training session with an experiential learning component delivered in the inpatient setting was effective in producing short-term improvement in self-efficacy for managing patient symptoms and caregiver stress.

The purpose of this study was to design and pilot test a caregiver psychoeducational and skills training intervention that incorporates simulation experiences to improve technical and communication skills, as well as caring for oneself as a caregiver. The primary aim was to evaluate the feasibility, acceptability, safety, and fidelity of structured simulations for technical and communication skills training for caregivers of patients receiving radiation therapy for HNC. A secondary aim was to obtain preliminary data of the effect of the intervention on caregiver self-efficacy, anxiety, depression, and health-related quality of life (HRQOL) compared to a control group.

Methods

Design, Sample, and Setting

A convenience sample of family caregivers was recruited from the radiation oncology department at University Hospitals Seidman Cancer Center in Cleveland, Ohio. The study was approved by the University Hospitals Cleveland Medical Center Institutional Review Board. Adult patients with a new diagnosis of stage II, III, IVA, or IVB HNC who were scheduled to begin receiving radiation therapy, with or without chemotherapy, were approached at their treatment planning clinic visit. After giving verbal consent to participate, patients were asked to identify an adult family member or friend who provided care and support to them. The family caregiver was then contacted and invited to participate. Inclusion criteria for caregivers were being (a) aged 18 years or older, (b) identified by the patient as the primary caregiver, and (c) able to speak and understand English.

Caregivers of patients enrolled in hospice or those caregivers who were undergoing cancer treatment themselves were excluded. Once written consent was obtained from the caregivers, they were randomized into either the intervention or control group.

Intervention

According to Bandura (1977), perceived self-efficacy is the belief that one can successfully perform a specific behavior to produce an expected outcome, and stronger self-efficacy beliefs can result in greater coping efforts to overcome challenging or threatening activities. In a study of 152 dyads of patients with lung cancer and their family caregivers, lower levels of caregiver self-efficacy for pain and symptom management were significantly associated with higher levels of caregiver strain and mood disturbance, as well as higher levels of patient-reported pain, fatigue, anxiety, depression, and lower levels of patient-reported QOL (Porter, Keefe, Garst, McBride, & Baucom, 2008).

The intervention components for the current study used strategies to strengthen self-efficacy for caregiving and self-care through vicarious experience (observing nurse modeling behavior during simulation), performance accomplishments (repeated simulation practice sessions), verbal persuasion (supportive nurse communication during intervention), and attention to the caregiver's emotional state (screening and intervention for emotional distress). The intervention consisted of four one-on-one sessions between the caregiver and nurse interventionist in the clinic during the patient's first, second, fourth, and sixth weeks of radiation treatment. The nurse interventionist was a radiation oncology nurse and member of the clinical staff. The nurse interventionist followed up with patients and caregivers via telephone two weeks after completion of treatment. Each session had its own theme, as well as a corresponding educational focus and simulation plan (see Figure 1).

A standard format was used for each session, beginning with addressing any issues that caregivers were experiencing and assessing their levels of distress on a single-item rating scale from 0 (no distress) to 10 (extreme distress). Emotional support was provided by listening to and normalizing concerns or experiences and offering a referral to a social worker, if needed. Specific information related to each session theme was provided to caregivers using structured content with suggested phrasing from an intervention manual and three National Cancer Institute (NCI) booklets. The intervention manual was developed by

FIGURE 1. Overview of the Caregiver Intervention

Session 1 (First week of RT)

- Goal: Help the caregiver to understand the patient's experience.
- Simulation: Technical skills (e.g., PEG tube feeding, tracheostomy inner tube care and suctioning, skin care)
- Education: Provide information on common patient side effects (e.g., oral secretions, chewing and swallowing, mood changes, pain, skin care).

Session 2 (Second week of RT)

- Goal: Describe the typical caregiver experience.
- Simulation: Self-care skills (e.g., reducing fatigue, improving sleep, promoting caregiver health)
- Education: Provide information on self-management (e.g., emotional concerns, physical concerns).

Session 3 (Fourth week of RT)

- Goal: Discuss how the illness can affect the caregiver-patient relationship.
- Simulation: Communication skills (e.g., asking questions, active listening, staying calm, expressing and recognizing feelings)
- Education: Provide information on coping (e.g., shifting or changing roles, communication difficulties, new feelings or emotions, disruptions in lifestyle [restricted living], changes in intimacy).

Session 4 (Completion of RT)

- Goal: Discuss common issues and concerns that may arise after cancer treatment.
- Simulation: Repeat technical skill training (e.g., post-treatment skin changes) and discuss health promotion and communication, as needed.
- Education: Provide information on the transition to post-treatment survivorship (e.g., patient physical issues, patient and caregiver emotional responses, financial and work issues, caregiver ability to provide ongoing care, advance care planning, when to call the healthcare team).

Nursing Support

- Assure the caregiver that the healthcare team will assist him or her in managing issues.
- Discuss current patient issues or symptoms (sessions 2–4).
- Ask the caregiver what he or she would like to review (sessions 2–4).
- Assess the caregiver for signs of distress.
- Identify social support resources for the caregiver.

Caregiver Tools

- *Facing Forward: When Someone You Love Has Completed Cancer Treatment* (NCI, 2014a)
- *Radiation Therapy and You: Support for People With Cancer* (NCI, 2016)
- *When Someone You Love Is Being Treated for Cancer* (NCI, 2014b)

NCI—National Cancer Institute; PEG—percutaneous endoscopic gastrostomy; RT—radiation therapy

the principal investigator in collaboration with the clinical team. The three NCI booklets provided information on radiation therapy, recommendations for managing side effects, and information on caregiver support, coping strategies, and wellness (NCI, 2014a, 2014b, 2016). Role-play scenarios were used during the simulation to practice technical skills.

Five simulation protocols with corresponding scenarios were developed in collaboration with a team of oncology clinicians. The technical simulations training with a tracheostomy tube, gastrostomy tube, and skin care used a low-fidelity mannequin. The communication skills training used common caregiving scenarios to stimulate discussions, identify barriers, and solve issues. Communication skills included asking questions, actively listening, staying calm, expressing feelings, recognizing depressive feelings, and identifying resources (e.g., social worker, dietitian, radiation therapy nurse) for the patient and caregiver. The self-care simulations included identifying strategies to reduce fatigue and improve sleep, prioritizing activities, taking time for leisure activities, finding support, and managing one's own physical care. Two radiation oncology nurses, a surgical nurse, and a psychiatric clinical nurse specialist reviewed each simulation protocol for content validity and consistency with nursing practice guidelines.

The simulation protocols were modeled after procedures used in nursing education. Each protocol contained (a) caregiver learning objectives; (b) presimulation preparation, during which the intervention nurse showed the caregiver the mannequin and reviewed steps of the procedure; (c) basic simulation scenarios and complex alternative scenarios with a series of critical events that the caregiver responded to; and (d) a postsimulation debriefing with the nurse interventionist who answered questions, assessed the caregiver's confidence in performing the skills, and provided additional training as necessary. Each simulation protocol included a structured checklist with scenarios, expected caregiver behaviors, and nurse prompts. Although the simulation training followed a consistent outline, the nurse interventionist was permitted to tailor content to the caregivers' specific needs.

Caregivers in the control group received the NCI booklet *When Someone You Love Is Being Treated for Cancer* (NCI, 2014b). Participants in both groups accompanied the patient while he or she received standard care from the clinical team. Existing care practices during treatment of the patient consisted of weekly visits with the physician and nurse, consultations with the social worker and dietitian, and

planned visits in the acute care clinic for IV hydration. Caregivers who participated in the intervention completed the simulation protocols without the patient present, allowing them to have private, one-on-one interactions with the nurse interventionist.

Measures

Caregiver outcomes were measured at baseline (T1), during the fifth week of radiation therapy (T2), and four weeks after radiation therapy (T3). The Caregiver Inventory is a 21-item survey that assesses caregiver self-efficacy in four areas: managing health information, caring for the care recipient, caring for oneself, and managing difficult emotional interactions (Merluzzi, Philip, Vachon, & Heitzmann, 2011). Items are rated on a nine-point scale ranging from 1 (not at all confident) to 9 (totally confident). Scores are summed, with higher scores indicating greater confidence. Psychometric properties of the Caregiver Inventory were initially reported with data from 133 family caregivers of terminally ill patients and had an overall reliability coefficient (Cronbach alpha) of 0.91 (Merluzzi et al., 2011).

The Patient-Reported Outcomes Measurement Information System (PROMIS) was used to measure caregiver anxiety, depression, and global physical and mental health (Cella et al., 2010). Individuals were asked to rate feelings of anxiety or depression during the last seven days on a five-point scale, ranging from 1 (never) to 5 (always). The anxiety survey consists of seven items; the depression survey has eight items. For each survey, the responses were summed to produce a total raw score, which was converted to a standardized t score. Higher t scores indicate greater feelings of depression and anxiety. Previous research has supported the construct validity of the anxiety and depression item banks (Cella et al., 2010).

The 10-item PROMIS Global Health short form was used to assess HRQOL in caregivers (Cella et al., 2010; Hays, Bjorner, Revicki, Spritzer, & Cella, 2009). Global items, representing the physical, mental, and social domains of life, are self-rated on various five-point scales and generate two summary scores: a global physical health (GPH) score and a global mental health (GMH) score. GPH and GMH raw scores are summed and converted to t scores, with higher t scores indicating better HRQOL. Construct validity of the Global Health short form has been supported through correlations of the global items with the PROMIS domain-specific multi-item scales and the EuroQol (EQ-5D) survey, a generic HRQOL measure (Hays et al., 2009).

Each caregiver in the intervention group was asked to rate his or her satisfaction with the intervention and how helpful the various components of the intervention were during a telephone interview four weeks after the patient completed radiation treatment. Open-ended questions regarding what was the least or most helpful, as well as suggestions for improvement, were included. Interviews were conducted by an independent research assistant who was not involved with the delivery of the intervention.

Two weeks after the patient completed radiation treatment, the nurse interventionist conducted booster calls with caregivers. These calls allowed the nurse interventionist to ask the caregiver specific questions about any new issues following the completion of treatment, the patient's recovery and home care, and any distress experienced by the caregiver. Self-care strategies for the caregiver and community resources were also reviewed during booster calls.

Data Analysis

Descriptive statistics were used to describe the sample, outcomes, and percentage of participants who improved in outcome variables from T1 to T2 and T2 to T3 using IBM SPSS Statistics, version 24.0.

Results

Of the 30 caregivers approached, 18 consented to participate and were randomized to either the intervention ($n = 9$) or control ($n = 9$) group. One caregiver dropped out from each group. One caregiver who dropped out of the trial after session 1 cited scheduling and work issues. On average, caregivers were aged 58 years, female ($n = 12$), Caucasian ($n = 15$), unemployed ($n = 10$), and a spouse of the patient ($n = 14$). Most patients had stage IV disease ($n = 14$), were receiving concurrent chemotherapy ($n = 16$), and had a mean time since diagnosis of 76 days ($SD = 28.35$).

The in-person sessions lasted 39 minutes on average; booster calls took 13.5 minutes. The option of receiving sessions 3 and 4 via telephone was offered, but was used with only one caregiver. Resources for the technical simulations included an anatomical model and low-fidelity mannequin with percutaneous endoscopic gastrostomy (PEG) tube feeding capability.

Four caregivers completed the entire intervention; however, two of these caregivers received combined sessions. Session 4 was the most frequently missed session ($n = 4$). On average, completion of all steps within each session according to protocol ranged from 71% at session 2 to 100% at session 4. Steps

within each intervention session were modified by the nurse interventionist based on caregiver needs (e.g., changing order of topics or omitting a nonapplicable step). The number of caregivers who received simulations varied: skin care ($n = 8$), health promotion ($n = 7$), communication ($n = 5$), and PEG tube feedings ($n = 3$). Six caregivers received the booster call.

Exit interviews with five participants revealed that caregivers were very satisfied with the intervention ($n = 5$), found the technical simulations to be somewhat or very helpful ($n = 4$), reported that the role-playing scenarios were very helpful ($n = 5$), and rated one-on-one time with the nurse highly. Feedback from the nurse interventionist indicated that caregivers found that the in-person sessions provided an opportunity to discuss their feelings, frustrations, and emotions.

No adverse events or incidences of increased caregiver emotional distress were reported. Mean scores for caregiver distress were assessed at the beginning of each session and ranged from 5.25 ($SD = 2.25$) at session 1 to 3.75 ($SD = 1.50$) at session 4.

Baseline outcomes for the groups did not differ statistically, except for higher GPH for caregivers in the control group ($t[14] = -2.37, p = 0.033$). Caregivers in the intervention group showed improvement in mean scores for managing health information, caring for oneself, and managing difficult situations from T1 to T2 (see Table 1). From T2 to T3, improved mean scores were noted for caring for the patient, GMH, GPH, and anxiety.

On average, caregivers in the control group had improved scores for managing health information, managing difficult situations, GPH, and anxiety from T1 to T2. From T2 to T3, caregivers in the control group showed improvement in scores for caring for oneself, managing difficult situations, and GPH.

Discussion

This pilot study tested a complex, multicomponent caregiver intervention that incorporated simulation strategies delivered at point-of-service during the cancer treatment trajectory. Feasibility was assessed with multiple factors, including time requirements, recruitment of the target population, participant adherence to the program, resources needed, and training required for the nurse interventionist. Although 40% is a high refusal rate, it is consistent with other intervention studies that aimed to enroll patient-caregiver dyads (Kent et al., 2016; Northouse et al., 2006; Northouse, Katapodi, Song, Zhang, &

Mood, 2010). In addition, the 10% attrition rate is consistent with other caregiver intervention studies at this institution (Mazanec et al., 2017). Scheduling conflicts created issues for enrolled caregivers attempting to complete the intervention. Reducing the number of sessions by combining content and offering a hybrid delivery of online content and in-person simulation sessions can improve feasibility in a larger trial. Minimal resources were needed

to deliver the intervention in the clinical setting. Training of the nurse interventionist was facilitated by an intervention manual and simple, consistent formats for delivering the intervention sessions and simulations. Acceptability of the intervention was confirmed for caregivers and the nurse interventionist. The content of the intervention and method by which it was delivered (in-person meeting with the nurse and simulation) was found to be acceptable.

TABLE 1. Caregivers' Improvement in Self-Efficacy Following Simulation Intervention

Variable	Control ^a						Intervention ^b					
	T1 (N = 8)		T2 (N = 8)		T3 (N = 8)		T1 (N = 8)		T2 (N = 7)		T3 (N = 7)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Caregiver Inventory												
Caring for oneself	34.25	6.18	34.75	8.38	36.75	9.91	31.38	9.13	33.29	7.34	33.14	8.59
Caring for the patient	49	6.07	49.13	7.66	49.88	7.61	47.88	4.26	47.86	5.4	50.57	3.6
Managing emotional interactions	44.75	8	46.5	11.19	47.38	9.8	40.63	9.64	43.57	7.89	39.14	11.48
Managing health information	22.13	3.56	24.63	3.42	24.25	3.69	23.13	1.96	24.57	1.9	23.57	2.94
Total score	150.13	21.7	155	28.09	158.25	27.81	143	23.53	149.29	19.39	146.43	24.14
Variable	t	SD	t	SD	t	SD	t	SD	t	SD	t	SD
PROMIS												
Anxiety	54.96	13.76	51.49	11.75	51.48	14.47	57.76	9.47	57.03	5.02	53.41	11.31
Depression	50.24	9.51	50.7	10.17	50.13	10.34	51.29	8.25	51.59	7.72	53.9	4.68
GMH	52.1	7.35	51.45	8.66	51.91	9.04	49.43	6.6	48.04	5.24	49.8	4.92
GPH	53.81	6.81	55.8	5.6	56.99	3.87	44.86	8.23	44.63	7	46.9	6.25

GMH—global mental health; GPH—global physical health; PROMIS—Patient-Reported Outcomes Measurement Information System; T1—baseline; T2—during the fifth week of radiation therapy; T3—4 weeks after radiation therapy

^aOne participant dropped out of the study.

^bOne participant dropped out of the study, one participant had missing data for T2, and one participant had missing data for T3.

Note. Scores on the Caregiver Inventory range from 1 (not at all confident) to 9 (totally confident), with total scores ranging from 21–189. Potential total subscale scores for caring for oneself range from 5–45. Potential total subscale scores for caring for the patient ranged from 7–63. Potential total subscale scores for managing emotional interactions range from 6–54. Potential total subscale scores for managing health information range from 3–27. Higher total scores indicate greater confidence.

Note. GMH and GPH were measured using the PROMIS Global Health short form. Each item is rated on a scale from 1 (never) to 5 (always), with total scores being converted to a standardized t score with a mean of 50 and a standard deviation of 10. Potential total t scores range from 21.2–67.6 for GMH and 16.2–67.7 for GPH. Higher t scores indicate better health-related quality of life. Anxiety and depression were measured using PROMIS. Each item is rated on a scale from 1 (never) to 5 (always), with total scores being converted to a standardized t score with a mean of 50 and a standard deviation of 10. T scores ranged from 36.3–82.7 for anxiety and 37.1–81.1 for depression. Higher t scores indicate greater feelings of anxiety and depression.

The findings related to fidelity of the intervention reinforced the need for a high degree of flexibility and tailoring in the intervention protocol to meet the caregivers' specific schedules and needs. Pragmatic trials, in contrast to strictly controlled explanatory trials, have design characteristics that maximize the applicability of interventions to real-world settings, allowing for flexibility in the delivery of and participant adherence to the intervention (Loudon et al., 2015). Subsequent trials of this manualized intervention will incorporate core steps from the sessions with general guidelines on how to adapt each session to the caregivers' needs.

A strength of this intervention was the integration of distress screening and management into each session prior to education and skills training activities. Although this likely extended the time for intervention delivery, it was essential because caregivers of patients with HNC report significant psychologic distress and burden during the early survivorship period, which may impair their ability to provide care for the patient with HNC (Longacre et al., 2012).

During the transition to survivorship, the intervention showed improvement in scores on self-efficacy, GMH, GPH, and anxiety. This was a key finding because the month after completion of treatment is a critical period with physical and emotional challenges, persistent severe symptoms, and lack of contact with the healthcare team (Sandstrom et al., 2016). These findings establish a baseline for additional research with a larger sample size to confirm the intervention's effectiveness.

Limitations

The high refusal rate and limited number of participants who completed the entire intervention protocol were significant and highlight the need for proactive strategies to promote caregiver recruitment and retention. Preliminary results of the intervention should be interpreted with caution.

Implications for Nursing

Family caregivers are essential members of the healthcare team, and a proactive approach to training and supporting caregivers is needed. The results of this pilot study suggest that using simulations as an educational technique with family caregivers enhances their skills with complex caregiving tasks during HNC treatment. Simulation should be used in conjunction with a more comprehensive psychoeducational intervention that addresses the caregiver's distress prior to education. Flexibility in the intervention protocol

KNOWLEDGE TRANSLATION

- Interventions for family caregivers in clinical settings are complex and require flexibility to meet caregivers' specific needs.
 - Caregiver technical skill development often occurs within an emotional context, requiring simulations to be paced by the caregivers' responses to avoid overload and anxiety.
 - In this pilot study, role-play was acceptable to family caregivers for practicing communication skills and strategies for self-care.
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is required to tailor the intervention to the caregiver's immediate needs. Caregivers in this intervention particularly valued one-on-one time with the nurse to privately express their feelings and concerns. In addition, having multiple sessions with the same nurse provided continuity for the caregiver.

It is important for nurses delivering simulations to note that the acquisition of technical skills for family caregivers often occurs within an emotional context. Using a supportive tone and pacing the simulation based on the caregiver's responses can avoid overload and anxiety. Simulation is presented as a time to learn and practice skills in a safe situation. Although preparing the caregiver for the simulation (i.e., seeing and touching mannequins) and the simulation scenarios is important, the most significant component of the simulation is the debriefing period when the nurse offers support, reinforces key concepts, and answers questions.

Unlike the findings of Wittenberg et al. (2017), this study indicated that the use of role-play was acceptable to family caregivers for practicing their communication skills and strategies for self-care. This difference may be related to the method of delivery (in-person sessions versus via telephone) for the intervention. Caregivers reported that the communication scenarios designed by the radiation oncology nurses were realistic and reflective of what was happening in the home. Nurses can recognize the contextual factors that influence communication skills, such as the quality of the relationship between the caregiver and patient (Wittenberg et al., 2017) and caregiver health literacy (Yuen et al., 2016), and adapt role-play scenarios based on the caregivers' needs. Nurses can specifically ask caregivers if they are experiencing communication challenges with the patient, other family members, or the healthcare team. Role-play can be easily implemented by nurses during instructional sessions to practice communication skills with caregivers.

Conclusion

Research indicates that education of family caregivers must go beyond traditional didactic teaching methods. The results of this study support using simulations within a comprehensive psychoeducational intervention for family caregivers of patients with HNC. Because caregiver interventions in clinical settings are often complex and require flexibility in protocols, interventions should be tailored to the specific needs and concerns of caregivers.

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