SGS SOUTHERN GERONTOLOGICAL SOCIETY

Journal of Applied Gerontology
1–23

DOI: 10.1177/0733464815574094
jag.sagepub.com
SAGE

The Effect of Dining Room Physical Environmental Renovations on Person-Centered Care Practice and Residents' Dining Experiences in Long-Term Care Facilities

Lillian Hung[1], Habib Chaudhury[2], and Tiana Rust[3]

Abstract

This qualitative study evaluated the effect of dining room physical environmental changes on staff practices and residents' mealtime experiences in two units of a long-term care facility in Edmonton, Canada. Focus groups with staff (n = 12) and individual interviews with unit managers (n = 2) were conducted. We also developed and used the Dining Environment Assessment Protocol (DEAP) to conduct a systematic physical environmental evaluation of the dining rooms. Four themes emerged on the key influences of the renovations: (a) supporting independence and autonomy, (b) creating familiarity and enjoyment, (c) providing a place for social experience, and (d) challenges in supporting change. Feedback from the staff and managers

Manuscript received: October 5, 2014; **final revision received:** December 21, 2014; **accepted:** January 24, 2015.

[1]University of British Columbia, Vancouver, Canada
[2]Simon Fraser University, Vancouver, British Columbia, Canada
[3]University of Alberta, Edmonton, Canada

Corresponding Author:
Lillian Hung, University of British Columbia, T201-2211Webrook Mall, Vancouver, British Columbia V6T 2B5, Canada.
Email: nurselillian@gmail.com

provided evidence on the importance of physical environmental features, as well as the integral nature of the role of the physical environment and organizational support to provide person-centered care for residents.

Keywords
nursing home, mealtimes, person-centered care, dementia care

Introduction

Among those aged 85 years and above in Canada, almost one third of them (29.6%) live in long-term care facilities (Canadian Institute for Health Information, 2013). Research in the United States found that more than half of the residents (54%) had low food intake (Reed, Zimmerman, Sloane, Williams, & Boustani, 2005), and a Canadian study found nearly 70% of cognitive impaired residents were at risk of malnutrition (Carrier, West, & Ouellet, 2006). Significant issues related to dining and meal intake for older people in care homes included unsupportive mealtime environment, task-focused care, and weight loss in residents (e.g., Curle & Keller, 2010; Hung & Chaudhury, 2011; Palacios-Ceña et al., 2013). In long-term care facilities, mealtimes are critical opportunities to move beyond a task-oriented culture and focus on the relational aspect of staff and residents. A supportive physical environment of the dining room can afford residents and staff a sense of familiarity, comfort, security, enjoyment, belonging, and identity. Although guiding principles and best practice approaches to promote person-centered care in dining are available in the literature (Chaudhury, Hung, & Badger, 2013), empirical research demonstrating any intervention effect is meager (Abbott et al., 2013; Liu, Cheon, & Thomas, 2014). Employing effective environmental strategies to create enjoyable dining and living experience among residents is a way forward to improve quality of life in this population.

Background

Person-Centered Care

Creating a more homelike and person-centered environment for caring older adults has gained momentum in the past decades (e.g., the Green House model in the United States and the units for the Confused and Disturbed Elderly [CADE] in Australia). What is person-centered care and how is it relevant to mealtime experience of older people in care facilities? Person-centered care is a best practice approach, which supports individual residents

holistically and respects personal abilities, values, preference, and needs. Reimer and Keller (2009) suggested that four key elements of person-centered care at mealtimes are providing choice and preferences, supporting independence, showing respect, and promoting social interaction. The role of physical environment in supporting the ability of staff practice has been overlooked in person-centered care. Despite the potential of environmental interventions in dementia care, there is a paucity of studies that have made explicit connections between the environment and personhood.

Physical Environment

Although empirical research is limited in the area of physical environment's role in mealtimes, the growing attention and overall expert opinion and evidence supports that environmental design of dining rooms can have an important role to support person-centered care and enhance the quality of dining experience for residents. For example, staff in a Canadian study (Lee, Chaudhury, & Hung, 2014) reported that their residents in a traditional care home struggled with rushed and overly stimulated meal experiences. Another study in the United States found residents with dementia who were seated to eat in a small dining room had reduced anxiety and agitation compared with those in a traditional large setting (Schwarz, Chaudhury, & Tofle, 2004). An expert in designing for Alzheimer's disease, Brawley (2006) has written about the therapeutic values of having a domestic kitchen near the dining area (e.g., for orientation, participation, and engagement purposes). Other studies have identified positive association between lighting and nutrition outcomes (Brush, Meehan, & Calkins, 2002; McDaniel, Hunt, Hackes, & Pope, 2001). Adding aroma of baked goods was found effective in enhancing the atmosphere of the dining room (Hung & Chaudhury 2011). Studies also support that music has a beneficial effect on reducing agitated behaviors during mealtimes (Hicks-Moore, 2005). In addition, family style dining and homelike décor increased social interaction and improved eating (Nijs, de Graaf, Kok, & van Staveren, 2006). In a recent study of an unconventional dining, six residents were invited to dine in a small private room where they decided on how the meal should be prepared. The residents not only enjoyed the meal, they were found active in engagement of mealtime conversations (Roberts, 2011).

In addition to the direct impact on residents, environmental design of the dining space has the potential to have indirect impact on staff, which in turn affects the care experience of residents. For example, in a small homelike dining room with a smaller number of residents, staff might be more willing and able to care for residents in a more person-centered manner. To date, few studies have been conducted to illuminate how features of the environment

may affect staff practice and what physical factors may enable them to be more effective in their work.

Eating with others is integral to residents' daily pleasure and has symbolic meaning of care (Evans, Crogan, & Shultz, 2005). The dining room is a place where physical, emotional, and social needs of residents are met or unmet. The social and physical domains interact in complex ways in the environment to offer residents mealtime experiences. The social aspects of mealtimes have been recognized as vital in supporting self-identities (Reimer & Keller, 2009) and can have significant impact in health and well-being of residents (Kitwood, 1997). Other factors in the social processes such as unit's culture, hierarchy, staff attitudes, teamwork, task priorities, work flow, and care approaches may also be important in influencing the experience of residents. We know residents in care homes have little engagement at mealtimes (Pearson, Fitzgerald, & Nay, 2003), but we do not have sufficient intervention studies to identify effective ways to improve engagement of residents in mealtime activities. Cooking food on the unit is a good example and had shown positive effects on encouraging engagement and socialization (Quiring, 2006). With appropriate physical setting, staffing, and food, mealtimes have the potential to represent familiar household events for the residents who could relate to and take part in. Without active participation of residents, meals in nursing homes are often heavily controlled by staff while adult residents are objectified and infantilized in a dehumanized way (Venturato, 2010). The purpose of this study was to examine the influences of dining room renovations and enhanced mealtime practices on the quality of residents' experiences and staff practices.

Research Questions

Research Question 1: What is the impact of dining room renovations and meal-enhancement interventions on staff practices during mealtimes?
Research Question 2: What is the impact of dining room renovations and meal-enhancement strategies on residents' mealtime experiences?

Method

This article reports a study that is part of a larger inquiry to examine the impact of dining room physical environmental renovations and meal-enhancement interventions on residents' mealtime experiences and staff practices in a long-term care facility in Edmonton, Canada. The study was conducted over 18 months, from 2012 to 2014, in two care units of the care facility. The larger study employed multimethods including pre- and post-renovation environmental assessment, ethnographic observations, staff

survey, focus groups, and interviews. This article reports the results of staff focus groups and unit managers' interviews shortly after the completion of the renovations.

Drawing on the widely used environmental assessment tool for the overall care unit, Therapeutic Environment Screening Survey (Sloane et al., 2002), we developed a new dining room specific assessment tool—Dining Environment Assessment Protocol (DEAP). This tool was used to conduct a systematic environmental evaluation of the dining rooms in each unit pre- and post-renovations (see Table 1). The tool measures detailed physical environmental features in seven therapeutic domains: (a) support functional ability, (b) awareness and orientation, (c) safety and security, (d) familiarity and homelikeness, (e) sensory stimulation, (f) social interaction, and (g) privacy and personal control. We conducted two focus groups with staff of the two study units in January 2014 shortly after the completion of the renovations in November 2013. Focus groups are a suitable approach to elicit staff views of their practice and residents' experiences because group discussion stimulates interactive conversations, which enabled us to gather rich data (Freeman, 2006). Careful attention was paid to group dynamics, emotive reactions, and verbal and non-verbal interactions. Unit managers were interviewed separately to ensure that staff members participating in the focus groups have a safe environment to voice their opinions.

The physical environmental renovations. The renovations on both units were identical; it involved creating a dining room with two open kitchens. After the renovation, each renovated unit's kitchen was equipped with steam tables and ovens to prepare food, and the staff were able to wash plates, glasses, and cutlery on the unit with its own dishwasher. The resident kitchenette located in the open space on one side of the dining room area offered a microwave, fridge, coffee machine, and cabinets of glasses and cutlery. Although the meals were prepared and cooked in the large central kitchen, the unit kitchen had the capacity to cook soup, bake bread and pastries, and so on. The nursing station of the pre-renovation dining room was moved out to increase space. Furniture and finishing were renewed to enhance homeliness of the dining room. Education was provided to support staff, enhancing mealtime care practice. Interdisciplinary staff in both units received the same environmental intervention and education.

Data Collection

Setting and participants. As mentioned earlier, this study was conducted in two units of a large long-term care facility in Edmonton, Canada. Convenient

Table 1. Pre- and Post-Renovation Environmental Profile With Dining Environment Audit Protocol (DEAP).

Domains	Item	Scoring range	Pre-renovation		Post-renovation	
			SCU	Non-SCU	SCU	Non-SCU
(a) Support functional ability						
1	Lighting	0-2	0	0	1	1
2	Glare	0-2	0	0	1	1
3	Table appropriate	0-1	0	0	1	1
4a	Color contrast table/floor	0-1	0	0	0	0
4b	Color contrast dishware/food	0-1	1	1	1	1
4c	Color contrast dishware/table	0-1	1	1	1	1
5	Assisted devices used	0-1	1	0	1	1
6	Wheelchair accessible sink	0-1	0	0	0	0
(b) Awareness and orientation						
7a	Dining room visually accessible	0-2	1	1	2	2
7b	Common washroom accessible	0-2	0	0	0	0
8a	Food aroma	0-1	1	0	1	1
8b	Clock	0-1	1	1	1	1
8c	Meal menu	0-1	1	1	1	1
8d	Table settings, e.g., placemat	0-1	0	0	0	0
8e	Condiment	0-1	0	1	1	1
8f	Personalized items	0-1	0	0	0	0
(c) Safety and security						
9	Space free of clutter	0-2	0	0	1	1
10	Layout support supervision	0-2	2	2	2	2

(continued)

Table 1. (continued)

Domains	Item	Scoring range	Pre-renovation		Post-renovation	
			SCU	Non-SCU	SCU	Non-SCU
11	Furniture rounded in edges	0-1	0	0	1	1
12	Appliances and knifes secured	0-1	1	1	1	1
13	Detergent non-edibles secured	0-1	1	1	1	1
14	Staff to resident ratio during observation	2:20		3:13	5:15	3:11
(d) Familiarity and homelikeness						
15	Atmosphere homelike	0-3	1	0	2	2
16	Resident kitchenette	0-2	1	1	2	2
17	Personal memorabilia	0-2	0	0	0	0
18	Residents participation	0-1	1	0	0	1
(e) Sensory stimulation						
19a	Residents scream/call out	0-2	1	2	1	2
19b	Staff loud talk	0-2	1	1	1	1
19c	TV/radio noise	0-2	1	1	1	1
19d	Loudspeaker/intercom	0-2	2	2	2	2
19e	Alarm/call bells	0-2	1	1	1	2
19f	Equipment noise	0-2	2	1	1	1
20	TV turned off	0-1	1	0	1	1
21	Appropriate music	0-1	0	0	0	0
22	Room temperature	0-1	1	1	1	1
23	View to garden/pleasant scenery	0-4	2	2	1	1

(continued)

Table 1. (continued)

Domains	Item	Scoring range	Pre-renovation		Post-renovation	
			SCU	Non-SCU	SCU	Non-SCU
(f) Social interaction						
24	Mixed seating arrangement	0-2	2	1	2	2
25a	Attractive to social interactions	0-2	0	0	1	1
25b	Functional for social interactions	0-2	1	1	1	1
(g) Privacy and personal control						
26	Residents can choose seating place 0-1		0	0	1	1
27	Private seating option	0-1	1	1	1	1
28	Private space for family	0-1	1	1	1	1
29	Choice of food/drink	0-1	1	1	1	1
30	Fridge/food storage	0-1	1	1	1	1
31	Restraints used	0-1	0	0	0	0
32	Resident control of temp, lighting	0-2	0	1	0	0
Total Score (1-32)		0-68	33	29	41	44

Note. SCU = special care unit.

sampling was used in selecting the two care units where renovations were planned. One unit was a 24-bed dementia special care unit (SCU) and the other one was a 23-bed non-dementia unit (non-SCU). Residents in the SCU had a variety of dementia types, and their functioning in eating and mobility ranged from fairly independent to various levels of dependency. In the non-SCU, the functioning of residents in eating and mobility ranged from independent to highly dependent; the common types of disabilities involved stroke or cerebrovascular accident, multiple sclerosis, brain injury, and dementia.

One of the researchers (TR) carried out the systematic environmental assessment of the two units pre- and post-renovation. Before renovation, the SCU scored 33 out of 68 in the total score of DEAP, with higher scores indicative of a more supportive environment. The non-SCU scored 29/68 in the total score of DEAP. Compared with SCU, the non-SCU had a lower score in areas including food aroma, atmosphere, and noise from equipment and television. The post-renovation data reported in this article were collected 6 weeks after the renovation completed. Table 1 shows the pre- and post-renovations assessment results. Before renovation, noise, lighting, and clutter were major complaints in both dining rooms. Problem with the food service delivery was one of the most frequent complaints from residents and families.

The unit managers were asked to recommend six staff members (including nurses, care aides, and food service workers) to participate in each focus group. We conducted two focus groups in the afternoon between shifts on separate days in a conference room of the care facility. Each focus group lasted 1 hr. To provide a safe environment for staff to voice their opinions, management was excluded in the focus group. The manager of each unit was interviewed separately for an hour each outside the focus group. All participants in the focus groups were female. A few of them were new on the unit and others were very experienced. There was a mix of ethnicity, including Eastern Indians, Filipinos, Caucasians, and Europeans. The objective of the focus group was to obtain staff perceptions and experience-based assessments of the effect of renovations on their service practices and residents' dining experiences. For example, participants were asked, "Do you feel that the dining room renovations and meal-enhancement strategies made a difference in improving the dining experience of residents?" "Do you feel that the recent dining room renovations and meal-enhancement strategies made a difference in helping you become more effective at mealtimes? How?" In our probes, we asked for specific aspects of renovations and meal-enhancement strategies that worked well and/or did not work well in supporting the residents' dining experience. We also asked the staff about factors that hindered

the best outcomes of their care practice (e.g., teamwork, communication, knowledge of residents, and staffing problems, etc). The moderator used an interview guide and all participants took active roles in discussing their opinions and experiences. A similar interview guide was also used in the one-on-one manager interviews. Responses in the focus groups and managers interviews were digitally recorded and transcribed verbatim. The transcripts were analyzed for salient codes and themes.

Ethical Considerations

The study has received approval by the University Research Ethics Committee (File No. 2012s0198) and the local care facility administration. All participants gave written informed consent prior to taking part and their participation was voluntary. All names were replaced by pseudonyms in interview transcriptions to ensure confidentiality.

Data Analysis

Thematic analysis (Patton, 2002) was conducted to identify emergent substantive themes. Transcripts and field notes were read several times to gain the first sense of the whole. All three authors discussed initial impressions and reached early agreement on preliminary key patterns. Afterwards, one researcher (LH) carried out analysis through open coding, using qualitative data analysis software *NVivo10*. See examples of coding scheme in Table 2. The full original transcripts and field notes were read several times to review the interpretations. The commonalities and differences of coded extracts were compared and contrasted. The process involved repeatedly going back and forth between the research questions, related literature, vivid examples in data gathered, and team discussions between authors. Our interpretation was primarily driven by the intent to understand the effects of the dining room renovations on residents' mealtime experiences and staff practices in the two units and how those effects may be related to person-centered care.

Results

In the post-renovation evaluation with the DEAP tool, the SCU was rated 41/68 and the non-SCU was rated 44/68 in the total score of DEAP, higher score indicating higher quality (see Table 1). The non-SCU had higher improvement in score with an increase of 15 points (compared with 29/68 pre-renovation). The SCU had an increase of 8 points (compared with 33/68 pre-renovation). The non-SCU had a bigger score change; this is likely due to

Table 2. Examples of the Coding Scheme Used in Data Analysis.

Codes	Description	Raw data (examples)
Autonomy and choice	Self-determination Freedom of agency Enabling factors to help older people with dementia or other disabilities to express preference and execute autonomy	"It's so nice just to be able to take my wheelchair go over and get myself a cup of coffee, and I can get it myself because it's right there, instead of again asking for a staff member to have to go and get it to them . . ."
Familiarity	Feeling of home Cozy and comfortable A mood of normal everydayness Safe from threats A warm atmosphere Where people can relax themselves, enjoy the physical and social environment	Linda: They said that it's delightful to be there and it's clean, you know, the use of different colors makes the room brighter. I think because of the feeling of coziness, they do communicate better, I mean they seem more relaxed, they enjoy themselves by being there with others. They stay longer; it's not like before when after they eat, they leave right away. They linger there longer; enjoy mingling with others. They ask for another cup of coffee. Some just like to sit there watching people you know . . .

the poor environmental condition at pre-renovation. Equipment and TV noise, atmosphere, and food aroma were some of the problematic areas in non-SCU before renovation. Improvement was noted in all these areas in post-renovation. For example, clutters of equipment were moved out of the dining room and a new policy was put in place to keep the dining room clutter-free. In the DEAP data, the rating for clutter, Item # 9, showed improvement after renovation. As previously noted, the renovation involved creating an open unit kitchen and a resident kitchenette on each unit. Furthermore, new homelike flooring with wooden look replaced the old vinyl sheet. Higher quality recessed lighting and modern ceiling light fixtures were added. New dining tables and chairs were brought in the space. In the DEAP data, problematic areas such as lighting and glare (Item # 1 and 2), atmosphere (Item # 15), and attractive to social interaction (Item # 25a) showed improvement in post-renovation scores. Four themes emerged from the focus groups that reflect the effects and challenges of improving residents' dining experience

Table 3. Themes and Codes.

Themes	Codes
Independence and autonomy	Autonomy and choice
	Personal control
	Safety issues
	Strategies to reduce harm
Familiarity and enjoyment	Familiarity
	Relaxed pace
	Residents eat more
	Weight gain
	Number of wound decreased
Place for social experience	Personalized care
	Relational care
	Families
Challenges	Language
	Old practice
	Education
	Leadership
	Standards

and staffing practice through renovations in the two dining rooms. Table 3 shows a summary of the themes and codes emergent from the data.

Supporting Independence and Autonomy

Staff and managers expressed that residents' autonomy and independence were highly valued and should be honored. Although the right of self-determination was viewed as a fundamental human need, staff also recognized that many of their residents with cognitive impairment required some assistance to assert their agency. Staff in the focus groups clearly identified how the new physical environment and their role facilitated residents with disabilities to exercise their autonomy and independence. Environmental features such as the open kitchen design, clearly visible and accessible coffee machine, and resident fridge were important in promoting autonomy of residents. A few families brought homemade food, and they liked using the microwave to warm things up in the open kitchen. They also kept food in the fridge for their loved ones and residents had open access to the fridge in that kitchen. Based on the meal plan on the kitchen wall, a few residents would plan when to go out to eat with families. By far, the most mentioned positive

change was the coffee machine on the resident kitchen side. It was considered significant because it meant choice and independence for residents. A participant explained,

> To me what is the biggest difference is when you have somebody who's smiling because I (resident) can get a cup of coffee for myself and others because I'm free and capable of doing it . . . (Jean, Non-SCU)

Individuality was strongly emphasized in the focus group discussion. Staff members described the prominence of simple things such as making a cup of tea:

> Now I can always make a cup of tea just the way a resident would like it, a bit stronger or weaker, before tea was made in a big pot, everyone gets the same. (Mary, SCU)

The combination of having the open kitchen and consistent food service staff on the unit also made an important difference in supporting residents to have better personal control about what and how much they want to eat. This includes enabling residents to exercise their autonomy at the point of care, when food is being served. It is discernible that residents, including those with more advanced disease are capable of telling staff what they like/dislike and want to execute self-determination in food choice decisions. A nursing staff described her observation:

> Because the kitchen is there and the kitchen lady is always there, I can have the meal to show the resident. I asked the resident to see if she would like it. She looked at it a few minutes and decided if it looked okay, wanted to have this and that . . . how much do you want . . . They can choose in the moment because like they can see the choice and we help them get that they want, oh you didn't like this food, they will tell us, I'll have that instead . . . it's more flexible. (Tina, SCU)

Enabling autonomy entailed recognition of threats to autonomy, allowing risk taking and managing risk in balance with quality of life. One challenging issue was residents were attracted to meal preparation activities but were not allowed to enter the operation kitchen for safety reasons. Staff spent a lot of efforts to go back and forth to bring residents out of the kitchen. It was apparent that residents wanted to take more active role in their meal activities, but staff members were restricted to allow that to happen. A staff member explained,

> Some residents would love to participate in chores. But the fact is that they are not allowed to help. We used to have a program doing things like that with

> participation of residents. The health inspector came in and said you can't do that because there's infection risks, they said, staff only. I say it's such a shame because for people living on the unit they would love to pass the food bowl, just like you would be sitting down with a family. (Jean, Non-SCU)

In the interview, a manager told us his opinion of the tension between promoting safety and allowing risk taking in support of autonomy of residents:

> Safety risk will always continue to be a problem no matter where you go in this building . . . We have to just monitor and be there and, and do what we can. It's tough but we can't take things away from people because there is a risk . . . we have to try and strike a balance to allow people to live.

Creating Familiarity and Enjoyment

Some staff felt the decor of the dining room provided residents a feel-good affect, a sense of comfort, familiarity, and everyday pleasure.

> We used to have institutional lighting, in a box style, it was just old and tired; now we have new lowered ceiling lighting that looks modern, and we have some accent pieces on the wall, plus new furniture, this is much better, I think it sets the mood for the area, a lot nicer, makes people feel good, a more pleasing environment to sit and spend time together. (Lorraine, Non-SCU)

The enjoyment of residents was often found in small mundane routines such as having coffee before or after meals. Residents were also noted to enjoy spending more time in the dining room watching people and the world go by. These casual encounters afforded through the social space in the dining room seemed to have importance to their perceptions of a sense of belonging and community.

> Well it seems like they enjoy being in the dining room right now like just because of that coziness in the dining room it's beautiful and nice. They will come out early you know sit at the table and have coffee. They just enjoy themselves while waiting for breakfast. (Tracy, SCU)

> They said that it's delightful to be there and it's clean, you know, the use of different colors makes the room brighter . . . they seem more relaxed, they enjoy themselves by being there with others. They stay longer; it's not like before when after they eat, they leave right away. They linger there longer; enjoy mingling with others. They ask for another cup of coffee. Some just like to sit there watching people . . . (Linda, SCU)

Both of the managers in the interviews commented they noticed more residents were in the dining room for meals. One manager said,

> Benefits of the renovations in my opinion are huge from my time observing people they are happier; we don't have that many wounds on this unit any more as they are eating better. We have a resident who had ulcer on his leg would not heal for years and now it's gone . . . (Pam, SCU)

In a 6-month time period between pre- and post-intervention in 2013, we observed weight gain in residents. Residents on both units together had higher mean weight in December, post-renovation ($M = 70.6$ kg, $SD = 20.37$) compared with their mean weight in July ($M = 68.6$, $SD = 21.26$). Almost three quarters of the residents (72%) gained weight. More residents living on the dementia unit had an increase of weight. Staff also reported that many residents asked for "seconds."

A participant explained that the design of an open kitchen connecting to the dining area stimulated the sense of smell during meal-preparing activities. The diffusion of food-preparation smells, such as toast making in the morning, stimulated appetite of the residents and set them in a good mood. Another participant talked about how the open kitchen design gave them feelings of home, familiarity, and comfort.

> Now it is like what we have at home, there's fresh fruit on the kitchen counter. So residents are able to go up and get themselves a banana or whatever, Julie (resident) enjoys taking her wheelchair, go over and get herself something. (Mary, SCU)

Providing a Place for Social Experience

While elements of the environment such as lighting, color, and furniture contributed to the aesthetics of the place, staff study participants talked more in-depth in terms of their interactions with residents. A participant alluded to being in the dining area where everyday meal-preparing activities was happening, can be a source of comfort that enhances a sense of safety and continuity for residents. It implied that residents were attracted to the dining room because it was a social hub, where casual exchanges and familiar meal preparation activities made them feel safe, relaxed, and included.

> I notice what the residents like is that they are not looking at the wall; they can see you (the food service staff) when you are serving, which is a lot more interesting. (. . .) They look into the kitchen watch what you are making, just like what people do at home. (Tracy, SCU)

There was a consensual agreement among the staff that engagement between staff and residents significantly increased due to the environmental changes and by consistent appointment of a food service staff in the unit kitchen. By knowing what each resident wanted and preferred, they were able to build relationship, have fun, and find satisfaction with their jobs.

Linda: Before I had to work on both sides, I was just all stressed out, exhausted. Now, I can make tea . . . open the jam and spread their jam. It feels good to do all these small things for them.
Josie: Absolutely because you know your residents, you know when they behave in a certain way and what that means, you learn to read their mood, you know how to approach them.
Jenny: I think we do have more interactions with the residents now, I sometimes sing and dance with them, and they laugh, they love it.
Mary: And now you can ask them if they want seconds or more coffee. There's a lot more small talk about what is going on with their lives and in the world, the weather's crappy, who is getting married or having a baby, it's through the small talk, people feel valued.

Participants were very much appreciative to have families and volunteers to come and be with the residents. They shared stories of how families like spouses who were quite old themselves would come even on days of extreme cold weather and heavy snow. Some families came daily, even two or three times a day to feed their loved ones and help with others. The involvement of a few family members created positive memories for staff and residents and their contribution to quality of life of residents was greatly valued by staff.

Challenges in Supporting Change

Culture change takes time to happen. Some staff were frustrated with the language used in the old culture.

> I would like to take the word feeder out of the vocabulary. 25 people don't need bibs hung around their neck. I hate the word feeder and I don't like bib. Napkin. We give napkin to people, that's what people normally use at home. (Mary, SCU)

Normalcy and using respectful language were viewed important to staff. A participant commented that she was told not to use the word "bib" in a recent educational session. Unfortunately, other staff who attended the

educational program seemed vague to recall the content of that educational session. In fact, a majority of participants in the focus group did not have a chance to attend the session. Lack of a critical mass of staff having the training for the new vision and goals of the dining program appeared as a barrier for the program's sustainability. Not unexpectedly, when focus group participants were asked about what would be needed to make their care practice and interaction more effective and to improve the dining experience of the residents, without any hesitation, they responded that they needed education to support culture change. Finally, the care providing organization had created a set of standards for the dining experience enhancement program, but participants in the focus groups were not aware of the standards. As organizational commitment and leadership support have been identified in the literature as essential in supporting change (Kitson et al., 2008), future development in the dining enhancement program will require effort in ensuring that staff are knowledgeable and supported in providing person-centered care.

Discussion

Older people with cognitive or physical disabilities have the right to be given meaningful opportunity to exercise autonomy (Boyle, 2008). This study has demonstrated that a supportive physical environment enables people with disabilities greater personal control and autonomy, as well as affords higher social engagement. For example, the open kitchen on the unit allowed staff to help residents see meal preparation and residents could decide what they wanted and how much. Also, a domestic homelike atmosphere made the place more inviting for social engagement. Residents enjoyed spending more time in the dining room before and after meals to socially interact with others. Well-designed dining room accommodates and meets the needs of residents facilitate autonomy and control, which is integral in promoting health and well-being of residents. Our findings are consistent with what nursing homes residents in Spain described food as a sign of autonomy and social normality (Palacios-Ceña et al., 2013). Small simple rituals like being able to get coffee and having a choice of what to eat led to feelings of safety, comfort, and independence, which reinforced a sense self-identity and sustain personhood.

The staff participants and unit managers in the study expressed significant challenge in trying to protect residents from safety risks and at the same time promote engaging activities for a normalized life. For instance, access to the kitchen, participation in meal-preparing activities, and household chores are not only opportunities for residents to maintain remaining skills but those familiar and meaningful activities can also provide them a sense of

achievement, contribution, and inclusion. These concerns reflect those in the literature (e.g., Bump, 2010) that underlined the importance of protecting personal control and individual choice in nursing homes. In a recent study in Sweden (Johansson, Christensson, & Sidenvall, 2011), people with dementia clearly expressed their desire to have autonomy and independence while practicing mealtime activities was one way to support their sense of independence.

Regulatory and licensing authorities should respect and promote residents' rights in participation of mealtime activities, rather than limit opportunities for engagement. Local facilities need to find ways to work with authorities to minimize risk of infection or other safety hazards, so a balance can be gained between enhancing quality of life and protection from safety risks. For instance, assisting residents to practice hand washing before passing food is a way to reduce risk. Arranging a meal setup or preparation program with residents in the second kitchen may distract enthusiastic residents from entering the unit kitchen while staff are serving hot food.

The key to implement and sustain person-centered care principles is through "culture change" in organizational philosophy, staffing model, staff training, and interdisciplinary teamwork (Venturato, 2010). The attitude and behaviors of care workers can affect the experiences of residents; staff beliefs and practice can be influenced by organizational culture and leadership commitment. Without sufficient number of staff, adequate training, supervision, and ongoing support, a positive physical environment alone is not likely to deliver best possible outcomes in the long run. In this study, the food service staff reflected on their experience of feeling the pressure to rush serving between units and having no time to meaningfully interact with the residents and to get to know them. This echoes findings in other studies that when a staff views residents as tasks to be done, the social and emotional aspect of dining is missed (Pelletier, 2005; Wu & Barker, 2008). Furthermore, staff training should be part of the orientation for new staff and ongoing education to develop the workforce. Such training could ensure that everyone on the team understands their roles and are knowledgeable in supporting older people to have quality dining experience in the living environment of care facilities.

Families may well be the greatest untapped resources in supporting the dining experience of residents (Henkusens, Keller, Dupuis, & Schindel Martin, 2014). A recent study found family visitation during mealtimes was infrequent, so future research is needed to better understand ways to increase family involvement (Durkin, Shotwell, & Simmons, 2014). To extend knowledge in caring for older adults in health settings, further research is required to discover how particular environmental interventions may affect various

cultural aspects of mealtimes in different countries. For example, positive outcomes were found in a recent study that entails environmental interventions as well as wine and cheese in SCUs in France (Charras & Frémontier, 2010). To date, most studies in person-centered care have been conducted in Western countries, whereas very little is known about the ways in which personhood and self-identity intersect with race, ethnicity, and other cultural traditions. There is a need for a broader examination in the sociocultural domain and its interaction with physical environment.

Limitations

It is important to point out that although staff responses in focus groups and resident actual weight records supported that there was weight gain in many residents after the renovation, we could not be certain that the weight gain was directly related to the dining room renovation. The weight gain could possibly be related to multiple interrelated factors, including individual residents' clinical conditions and/or other potential changes in the care units. The purpose of our study was to understand how the mealtime experience of residents and care practice of staff might be influenced by the dining room renovation and other meal-enhancement strategies (e.g., staff education). Finally, no generalizability is claimed in this qualitative study, instead, it provides insights into the experiences of the participants with contextual details to assist readers in the transferability of the findings in other settings and circumstances.

Conclusion

We have examined ways in which staff and residents can derive benefits and might experience challenges from dining room environmental renovations. The results from this study indicated that residents spent more time and ate more in the renovated dining rooms with supportive environmental features. Residents were enabled to exercise a higher level of autonomy in terms of choosing what, how much, and when to eat. With the open kitchen design, residents were able to see, hear, and smell what the food service staff was preparing inside the kitchen. On the other hand, although a few residents wanted to be a part of some of the domestic chore activities, they were challenged with lack of opportunities and encouragement. The creation of a consistent food service staff assignment on the unit increased social engagement and person-centered care. Nursing staff felt they had more opportunities to be present and socially engage residents and families. Families were part of the everyday life on the unit and their presence was highly valued and appreciated by staff. Feedbacks from the staff and managers provide evidence of the importance of physical

environmental features, as well as the integral nature of the physical environment and organizational support to provide enjoyable person-centered care for residents during mealtimes.

Authors' Note

This study received approval by the Research Ethics Board (institutional review board [IRB]): File No. 2012s0198.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article:
This study was supported by a research grant from the CapitalCare Foundation, Edmonton, Canada.

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Author Biographies

Lillian Hung is a PhD student in the School of Nursing at the University of British Columbia and a clinical nurse specialist in the Elder Care Program at Providence and Vancouver Coastal Health in British Columbia, Canada. Her research examines how the care experiences of patients and families are influenced by the physical and social environments of hospitals and care facilities.

Habib Chaudhury, PhD, is professor in the Department of Gerontology at Simon Fraser University, Vancouver, Canada. His research interests are environmental design for people with dementia, memories of home and personhood in dementia, and neighborhood and active aging.

Tiana Rust, PhD, is lecturer in the Department of Psychology at the University of Alberta, Canada. Her research investigates the social creation of dependency in older adults.