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ORIGINAL INVESTIGATION

Resident interactions at mealtime: an exploratory study

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Abstract Social interaction is thought to be important for psychological wellbeing and is necessary for developing relationships between older adults living in facilities. This study seeks to describe the social interaction that occurs amongst tablemates at mealtime in retirement homes, as well those things that influence resident-to-resident interaction. Fourteen lunch time periods were the basis for qualitative participant observation. Two or three researchers collected data in each period, with each observing two tables, resulting in 63 individual table observations at a retirement living facility dining room in a medium-sized city in Southern Ontario. Residents attending mealtime in the dining room were ($\sim$ 100). The type, extent and influences on social interactions amongst tablemates were recorded in detailed field notes. Qualitative thematic analysis, using a constant comparison procedure, was used to summarize and make sense of the data. A variety of social interactions occurred amongst tablemates including: making conversation, providing assistance, sharing, humouring, showing appreciation and affection, and rebuffing/ignoring/excluding. Interactions were influenced by tablemate roles, resident characteristics, and the social and physical environment, including staff. Social interactions or lack thereof are important for relationship development and mealtime environment. Describing the types of interaction and what influences them is a first step towards promoting social engagement which can enhance quality of life for residents. Further investigation through interviews with residents on the meaning of mealtime and companionship at meals will build a deeper understanding of the importance and influences on social interaction in this setting.

Keywords Nutrition · Older adults · Social interaction · Malnutrition

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Introduction

Mealtime is fundamental to daily living as it holds social, cultural, behavioural and symbolic meaning (Kayser-Jones 1996; Wikby and Fägerskiöld 2004). Social companionship appears to be important to nutritional health, as eating with close companions is associated with greater food intake (de Castro and Stroebele 2002; de Castro and Brewer 1992; Locher et al. 2005; Okamoto et al. 2007; Wright et al. 2006). Changes in social arrangements occur when older adults move into residential care. Feelings of social isolation or loneliness can negatively impact food consumption (Burger et al. 2000; Darnton-Hill 1992; Walker and Beauchene 1991). On the other hand, moving into formal care may provide greater opportunities for interaction as a result of communal living and mealtime fellowship which enhance appetite (Wikby and Fägerskiöld 2004).

Retirement homes or 'assisted living' are often the first step in formal care living. Under a predominately social model (Hyde et al. 2007), residents receive meals and medication oversight as well as a private or shared room; assistance with bathing may be offered on a limited basis. Residents are able to manage self-grooming and toileting, although they often require mobility aides. If additional care or services are required these can be purchased or in some cases provided by an external agency. Meals are taken communally. Quality of life is a primary outcome for

these residents, and mealtimes including quality of food and tablemate fellowship play a significant role (Hopper et al. 2007; Street et al. 2007). However, more research is required to understand what influences quality of life in these care settings as they are currently understudied (Hyde et al. 2007).

Research has demonstrated that social engagement and relationship building are important for older adults who have moved into nursing homes and are essential to a quality living experience (Coughlan and Ward 2007). Social relationships amongst peers and between staff and resident are important for 'thriving' in these environments (Bergland and Kirkevold 2007), and positive relationships may help with adjustment to formal care (Bergland and Krekevold 2005; Reed and Roskell Payton 1996). Such relationships can enhance feelings of well-being, self-worth and identity (Coughlan and Ward 2007; Street et al. 2007), as individuals are 'listened to' and understood, especially by staff (Jonas-Simpson et al. 2006). Staff can play integral roles in facilitating peer relationships (Bergland and Kirkevold 2007). Research on nursing and residential homes identified that the building of relationships requires developing familiarity amongst residents (Reed and Roskell Payton 1996) so that a connection is made (Jonas-Simpson et al. 2006); this requires social interaction amongst parties.

There are many challenges that influence social interaction in these settings, such as sensory, mobility and cognitive problems (Bergland and Kirkevold 2005, 2007; Reed and Roskell Payton 1996). Mealtimes are a required communal activity and, thus, a natural point for social interaction amongst compatible peers (Bergland and Kirkevold 2005; Reed and Roskell Payton 1996) and may be the starting point for building and sustaining of social relationships (Bergland and Kirkevold 2007). For those with decreased cognitive and physical capacity, this may be the primary point of the day for such interactions (Hopper et al. 2007). However, sharing a table does not ensure that a connection is made or that social interactions lead to a positive social relationship (Jonas-Simpson et al. 2006).

Although mealtimes have been acknowledged as an important point in formal care for social interaction and relationship building, research on mealtime interactions specifically is limited. To date, research has primarily focussed on studying mealtime interactions amongst residents and staff in nursing homes where capacity for interaction may be limited due to health concerns (Dubé et al. 2007; Nijs et al. 2006). Tablemates and their potential for interaction and fellowship appear to be important to adjustment as well as quality of life of residents (Reed and Roskell Payton 1996); yet, it is unclear what types and frequency of social interaction occur in the retirement home, as research in this setting is scant (Hyde et al. 2007). As this is often the first point of transition to residential care for older adults, it is important to understand what are the social interactions that occur in this setting and what influences them (Hubbard et al. 2003). Thus, the purpose of this exploratory study was to identify: (1) the types of social interactions that occur amongst tablemates in retirement homes, and (2) what factors influence these mealtime interactions.

Methods

Data collection

This study was conducted in a for-profit, multi-level care facility in a medium-sized city ($\sim$110,000) in southern Ontario, Canada. This facility was chosen as it is part of a research institute affiliated with the researchers' university. This is a high-end facility that is less than 10 years old; it contains 96 nursing home beds including a locked dementia unit and advanced physical care unit (no dementia). There are supportive care units for those with some cognitive ($n = 46$) or physical impairments ($n = 48$) who can no longer manage the retirement home level but who are not eligible or not ready to move to the nursing home. The retirement level, where this research was conducted, consists of 100 units with primarily single occupancy; larger units are available for spouses. As this was an exploratory study, qualitative participant observation was elected as the best way to answer the research objectives (Brooker 1995; Clark and Bowling 1990).

Observations took place in the retirement section dining room located on the main floor near the main entrance of the facility. Data were collected at the table level as described below. Observation identified that several individuals displayed mobility disability with about one-quarter using walkers to get to the dining room; a few wheelchairs were also used and these individuals did not usually transfer to a dining chair for the meal. Hearing impairments were also evident, and some individuals had obvious dementia based on their conversation and mealtime behaviour. A few individuals had apparent physical deficits (e.g. stroke with paresis, oxygen) that impacted their meal interaction. Significant cognitive impairment, requiring positioning by staff and feeding assistance, other than opening packages, was not observed. Some individuals were assisted by other residents to park their walkers or negotiate the dining room. Approximately 70–75% of the residents were female, and there were less than 10 married couples. The dining room sat 100 residents although numbers on any given day of observation varied. All residents were Caucasian from United Kingdom and

European backgrounds. Less than 10 spoke in Dutch, German and Danish in addition to English during the mealtime observations.

Meals were provided 'restaurant style' by dietary staff and registered practical nurses to tables of up to four residents. The dining area was made up of three connected sections: a windowed area with 11 tables that looked onto the garden, a carpeted area with 13 tables looking onto the foyer and main hall (where there are benches, a library and an open pub area) and 4 tables in the 'pub' area next to the kitchen. The majority of tables are set up for four tablemates. The configuration allowed for the pub area to be used for residents who were not feeling well, wanted to eat on their own, or were new and not yet placed at a regular table. Occasionally guests were observed to eat in the dining area; sometimes they joined in the usual table of the resident or ate separately in the pub area. There were two serving areas with half walls/counters for clearing dishes, disposing of food waste, drink fountains and a mini fridge. Tablecloths and cloth napkins were used, and tables were set with condiments, cutlery and cups and saucers. Other cold drinks were filled by staff and placed at settings as per the preference of the resident, prior to the commencement of the meal. Classical music was often played during observed meals. If desired, residents had the opportunity to select their meals on the day prior to service.

Observations only included lunches to promote consistency as well to accommodate scheduling issues of researchers. Medications required at mealtime were delivered by nursing staff to residents at the beginning of the meal. Lunch had three courses: soup, a main dish provided plated by the servers and dessert served à la carte on trolleys that were moved amongst the tables by staff. Attendance at meals was mandatory with the exception of illness or prior arrangements to go out, and seating was assigned. The director of care for the retirement section of the home assigned seats upon admission. Attempts were made to seat compatible tablemates. For example, if residents were from the same town, were of the same gender, were a couple, or had a common interest (e.g. cards) or characteristic (e.g. language) this was considered. However, availability of an empty spot at the time of admission was the primary driver for seat assignment. At any time, residents had the opportunity to request a move to a different table if an opening was available and before it was reassigned to a new admission. This was a relatively rare occurrence based on discussions with management.

Social interaction was defined in this study as 'active, thinking people engaged in meaningful social action with each other' (Charon 1979, p. 24). This means that an interaction was considered social if it took into account or tried to affect another's acts, behaviours, feelings or intentions, whether they were verbal or non-verbal. Due to the exploratory nature of this study, any interactions that could be observed at the table from a distance were noted. These included: speaking, looking at another, handing items to another, gesturing and making facial expressions or body movements that demonstrated communication and responsiveness to another (Nezlek et al. 2002; Sbisà 2002). Data were collected by 5 trained researchers through 14 observation periods occurring on weekends and weekdays. Training involved reviewing observation goals, clarification on types of observation to note (i.e. any behaviour directed at another or responsive to another's behaviour), reviewing procedures with the primary author and practicing in a local public space (e.g. coffee shop, shopping area cafeteria) until they were comfortable with being subtle in their observation and note taking (Lofland and Lofland 1995). As part of this training they completed detailed field notes which were reviewed by the researchers to ensure that meaningful social actions were being observed and sufficient detail was recorded.

Researchers each observed two tables within the same sight-line during the meal, resulting in 63 individual lunchtime table observations (one excluded for incompletion). Selection of tables was initially random, and as observations were completed, those tables which had not been observed were selected, with the goal of observing each table at least two times—once as a primary and once as secondary table. Tables were assigned as primary and secondary prior to the observation period; if social interaction was occurring at both tables at the same time, the primary table was observed. Two to three observers attended each meal, observing from differing vantage points in the room (near the serving areas, sitting on a deep widow sill in the windowed area of the dining room, or near the gazebo that separated the carpeted area from the front hall and foyer) to minimize obtrusiveness and interference with activity, whilst still providing a good view of the selected tables. Although there was some overlap, observers did not consistently observe the same tables. Observations averaged an hour and a half in length, starting before meal service and ending when observed tables were cleared of residents.

Researchers wore name tags identifying their university affiliation and took up their observing positions approximately 15 min prior to the meal. They used a pad of paper and folder which included a map of the room and table/resident codes. Researchers started their observation of the primary or secondary table as soon as the first resident arrived at the table; global dining room activities were noted prior to this point. Data collection included extensive jotted notes made in the field, including types of interactions, the times they occurred, and notable sightings in the environment, such as staff actions, residents, or guests, that affected interactions (Argyle 1969; Lofland and Lofland

1995). Sometimes observers were within sufficient proximity to hear the context of a verbal interaction and this was noted verbatim. Residents would come up to the researchers and ask questions and provide insights on the meal such as comments about the food, quality of service, level of conversation or characteristics of their tablemates. The general content of these conversations were noted by the observers in their field notes, consistent with prior work where residents 'draw the researcher into their social world' (Hubbard et al. 2003, p. 103). Researchers also were instructed to say 'hello' and exchange other pleasantries if they were approached or moving past a staff member or resident. These pleasantries helped build rapport and allay concerns about the observation. After about five observations, residents and staff became more comfortable with the researchers, no longer asking questions about the study, but smiling, waving and chatting with the researchers about general happenings, although the researchers retained their role as 'observer as participant' (Hubbard et al. 2003). As with prior work (Rose and Pruchno 1999) the busyness of the dining hall with serving and eating likely limited the effect of observations on interactions, as compared to other social settings. Although residents and staff knew the purpose of the study, they were unaware of which tables were being observed. Researchers were trained to scan the entire area of observation to minimize their effect on table interactions. After data collection, observations were immediately (within 6 h) recorded into detailed typewritten field notes, expanding upon jotted and mental notes. Tables were labelled numerically and seats alphabetically to identify residents being observed.

Signs were posted prior to each period to inform residents and staff that observations were to take place. Since observations were conducted in a public space, individual consent was not required as per the university's research ethics board. All observed and written data were treated as confidential and participants were kept anonymous. No one withdrew from the study by asking to not be observed nor was compensation provided to the institution or participants. The study received clearance from the University of Guelph Research Ethics Board (#08JL012), as well as the management staff of the facility. Information and debriefing sessions were held for staff and residents to discuss the study's rationale and results. The themes identified in this research were presented to a small group (<20) of residents and staff. Comments indicated confirmation with the forms of social interaction observed although the residents indicated greater information would be attained on the influences of social experience at meal times by interviewing individual residents.

Analysis was concurrent with the data collection to identify and develop themes of mealtime interactions. One global observation where the first author observed the mealtime process in general without focussing on specific tables was conducted partway through to ensure that no mealtime processes (i.e. how serving rotated, timing of courses, other staff in the dining area) were being missed that could influence social interactions at the table level. She took up a spot near the foyer so that most of the dining area could be viewed; she noted general flow of the meal, arrival and departure activities, etc. This global observation helped to fill out the dining context as detailed field notes often excluded the general happenings in the dining space, unless they influenced the interaction at the assigned table. In each field note, researchers included methodological and interpretive notes, an approach used by Silvermann (2000), where observational data are recorded but also analysed in-the-moment. The authors met regularly to review findings. All field notes were read by the first author within a few days of completion; at approximately 50 individual table observations, saturation of themes occurred. Final observations were completed to fulfil the booked observation days. To complete analysis, field notes were reviewed several times independently by the authors and a constant comparative method was used to compare data within and across field notes, tables and residents to identify salient themes that described the type of social interaction at mealtimes amongst residents, as well as identification of influences. Themes were defined and differentiated in memos, using short exemplar observations to demonstrate the theme (Braun and Clarke 2006). The authors met to review these memos and to reach consensus on the labels chosen. The observational team reviewed and provided input to draft versions of the themes and influences on social interaction to ensure that theme labels represented their experience of observation.

Results

Various social interactions, verbal and non-verbal, were observed amongst tablemates, including: making conversation; sharing; giving/getting assistance; humouring; showing appreciation and affection; and rebuffing/ignoring/excluding. Some overlap is probable amongst these categories—for example, sharing of a health concern amongst table mates might result in informational assistance being provided to this tablemate. A great deal of relating amongst tablemates was nonverbal including expressive gestures such as smiling, eye contact, laughing and nodding. Although residents who could verbally communicate applied these types of interaction, others who did not talk much or at all relied on these non-verbal interactions to interface with their tablemates. There were a few (<10) residents who did not interact or interacted minimally with their tablemates or others in the dining

room; it is not clear from observations why this was the case. Field note excerpts are used to elaborate on themes; although names are provided, these are pseudonyms.

Making conversation

Talking was the predominant verbal interaction that occurred amongst residents. Tablemates greeted one another when arriving at the table, sometimes exchanging further pleasantries in an attempt to 'make conversation'. Topics were generally superficial including the weather, how one was doing, what they had been up to since they last met as well as their upcoming plans. Food was a common topic, with tablemates giving opinions on its presentation, taste and temperature. Some complained or made sarcastic remarks about the food. Tablemates spoke about other people, including their own tablemates, other residents, staff, guests, kin and external encounters. Tablemates complimented one another on appearance (e.g. clothes and hair), skills (e.g. card playing), and discussed what was going on in the dining room and outside through the windows or entryway. Non-verbal communication was also noted in 'making conversation'. Raising of eyebrows, making eye contact, a wink, a smile or nod of the head demonstrated that the resident was participating in conversation. As seen in this field note excerpt, 'making conversation' was a way to make a social connection that was relatively superficial, but helped to fill the space of mealtime.

> 12:52: Table is quite quiet, suddenly has conversation. Joe, hard of hearing, who is in my line of vision looks out the window and says loudly, "[the water] is coming off the roof pretty fast!" Alan leans in and responds about the weather, talking about how things are supposed to get 'mild in the next few days' (Observer 1, Table 21)

Sharing

Sharing was defined as giving or sharing something personal with others. This was differentiated from 'making conversation' in that it was intentionally more intimate, showing comraderie and a seemingly closer social connection. Tablemates shared food and their personal belongings (e.g. mail, pictures, books and newspapers). Sharing was also shown in conversation through a greater self-disclosure of one's day, activities or health concerns. Tablemates shared their pains, how they got help, times spent with family, or events outside the meal. These conversations were more elaborate, longer and sometimes involved emotional displays, as compared to the more superficial 'making conversation'. This excerpt displays sharing of a habit/preference as well as an article.

> 12:38: Morag reaches for her bag of herbs which is lying on the table in front of her. She comments to Cecile that she has a lot. Cecile responds by saying that she has a lot too. Morag and Cecile both place herbs in their soup. They discuss the book Cecile brought to the table while they begin to eat their soup. (Observer 3, Table 22)

Getting/giving assistance

Assistive interactions could be categorized in the traditional forms of physical, tangible, or informational assistance (Pierce 2000). *Physical assistance* included helping others sit or stand, moving obstructions out of the way (e.g. walkers), pushing in seats, or passing items out of reach. These interactions were often routine, involving the same participants and sometimes the same order. *Tangible assistance* differed from physical as it was not routine and often resulted from accidents or unusual occurrences where resources could be provided to remedy the situation. Helping clean-up messes, open packages, cutting food, encouraging food intake and repeating food offerings to those who were hard of hearing were examples of tangible assistance. Sometimes this assistance was requested (e.g. re-adjusting a napkin) or was provided spontaneously (e.g. helping make meal selections). *Informational assistance* involved suggestions or advice, such as who to get help from for health issues, what foods to eat for health benefits and locating canes or walkers. The following field note excerpts exemplify the getting/giving of assistance.

> 12:45: Chad has food on his face and has his napkin up to his face to wipe it off. Maureen turns her head, looking at Chad, then raises her hand and guides him by pressing her fingers on his napkin. Chad looks at Rose after and smiles, and Rose looks back down at her food. (Observer 1, Table 13)
>
> 1:01: Michelle returns. Beatrice says "Now you're happy". Beatrice leans forward and talks to Michelle with eye contact once she has sat down. Andrea pushes her plate away from her. The plate has food left on it. Beatrice tells Andrea that she needs to eat more [she sounds concerned]. She says "I worry" to Andrea and Michelle …. Beatrice says "Well you're right, if you don't like it don't eat it". She says this while making eye contact with Andrea. Michelle says "Double up on your dessert", while looking forward at Beatrice. Beatrice repeats this to Andrea while nodding her head and looking at Andrea then states "You used to have a good appetite" [using a worried tone]. (Observer 4, Table 2)

Joking/humouring

One-line witticisms or jokes were made about the food served, specifically on its appearance, texture, or taste. Personal health conditions were also joked about, often light-heartedly. Occasionally, joking was focussed on other residents or staff which had a more malicious intent, involving how they acted, what they wore, things that had happened to them, their conditions or lack of capacity. The following field note excerpts show joking with staff on 'beach day' and a malicious joking interaction about a fellow tablemate.

> 1:17: Nursing staff clears the dirty dishes from Table 9. Bob looks up and says "thank you" and the staff cheerfully replies "Your welcome", not making eye contact. Bob questions (jokingly) to the staff – "Your welcome? What for?" The nurse looks at Bob, smiles and chuckles, saying "Well I don't have to do the dishes!" Bob smiles at the nurse as she walks away. (Observer 1, Table 9)
>
> 1:21 p.m. Betty gets up and gets her walker. She spends a bit of time adjusting something [her wallet/purse?] then moves away from the table. Dietary aid clears Alice's and Cathy's plates. Alice laughs making a comment to Cathy and Cathy looks after Betty as she leaves. I note as Betty passes me in the gazebo that she is wearing hand knitted slippers that are brightly, multicoloured. (Observer 2, Table 14)

Appreciation and affection

Appreciation was expressed verbally and non-verbally, by smiling, giving thanks or shaking hands. It often occurred after physical assistance or support was provided by others. Affection was also exhibited but more sporadically and less frequent than appreciation and was observed mainly between spouses or those who appeared to be close confidants. Affection was different from appreciation in that it was shown physically, such as touching or linking arms, holding hands, dancing and hugging or patting others. These excerpts show affection and appreciation, respectively:

> 1:15: A staff comes to the table and asks Monique if she is done. Monique grabs the staff woman's hand and stands up. The staff says that Monique's hands are cold. Rachel says "Cold hands, warm heart", while smiling and looking at the staff. (Observer 4, Table 2)
>
> 12:25: Mary watches people enter the dining room. Joe from Table 2 enters the dining room and Mary smiles. She lifts her hand up and Joe shakes her hand, and they exchange a few words, making eye contact and both smiling. Whilst they exchange words, Mary pulls Joe closer to her with their grasped hands. After their short interaction (5-10 seconds), Joe continues to walk to his table. (Observer 1, Table 9)
>
> 12:52: June is reading a relish packet with her glasses on. …She struggles to open the relish package. David holds out his hand and is given the package by June. David opens the package, and passes it back to June. June says "thank you…that's great", but does not make eye contact when she says this. (Observer 1, Table 16)

Rebuffing/ignoring/excluding

Disagreements at mealtime sometimes resulted in a clash amongst tablemates and its' effect would carry on throughout the meal. Some residents would initiate conversation with others but would be rejected by those that chose to respond minimally or not at all. Residents who purposely rebuffed or ignored their tablemates were not observed to ask for assistance from others in the process of mealtime. For example, they would reach over the table for condiments rather than asking another tablemate to pass it over. Some residents would lean in and talk to another and seemed to be sharing a secret, excluding another tablemate from the conversation. The following two excerpts describe this type of interaction:

> 12:24: Michael enters (walks with a cane). Bruce looks up at him and says hello. Michael does not look at Bruce and does not respond… 12:26: Michael gazes into the carpet main area. Bruce yells to Joan who is walking to her table, asking if she watched the curling. Joan turns around and comes over to Table 10. She puts her hand on Stan's chair and talks to Bruce for a few minutes about curling. …12:28: Stan arrives. He sits down and turns to Bruce and says hello and nods his head. Bruce nods his head back and says hi. Stan looks at Michael, but Michael is looking down. Stan does not say hi. …. 12:54: Michael gets up from the table. Stan says something to him, but Michael does not look at Stan or respond. Stan puts his hands up as Michael walks away (as if to say where are you going?). (Observer 5, Table 10)

> 1:14 Maureen gets up to retrieve a cherry that the staff has dropped- this has rolled towards the windowed dining area. Al is getting up and leaving —Maureen approaches Al with the cherry she retrieved from the floor- and he says "I don't want it' in a harsh voice and waves his arm at her. Maureen frowns and backs away and quickly returns to her

> table and sits down in her seat again, giving the stray cherry to the staff. Al then comes to Table 13 and leans into say something to Maureen, she leans away from him, raising her head up and says "I'm not afraid of you", then Al moves off. (Observer 2, Table 13)

Influences on mealtime social interactions

Interactions were influenced by tablemate roles, characteristics and similarities and the social and physical environment which subsequently supported or impeded interactions.

Tablemate roles

Interaction roles were categorized on a continuum from dominant table leaders to unengaged spectators. Leaders and spectators generally differed based on initiation of the interaction. Most residents were at times leaders and at other points in the meal, spectators. Some residents were *supportive leaders* as they sustained conversation; they lead others into interaction by sharing foods, feelings and beliefs, probed statements made by others and expressed positive regard of others through compliments, concern, appreciation and affection. They tried to engage others with smiling, humour and eye contact. These supportive leaders held little reservation against self-disclosure and upheld the balance of interactions amongst tablemates throughout a meal. In addition to excerpts above on appreciation and affection, the following excerpt exemplifies a supportive leader who brings others into the social interaction at the table:

> 1:14: Morag started to talk about a word game. She explains how there are seven letters and you have to try to make up as many words as you can. Morag asks Cecile and Bev to try out the game and hands them each a piece of paper with the seven letters on it. …1:20: Cecile shows Morag her words as she is still eating her cherries. Bev is also still eating and looks down towards her dish. She does not speak. Morag talks to Cecile… they make eye contact, Morag laughs, then Cecile also laughs. Morag looks to Bev while laughing, but Bev keeps eating and looking towards her dish. When Bev starts to talk, Morag's head tilts in her direction. (Observer 5, Table 22)

On the far end of the continuum of social interaction roles were *dominant leaders* who impeded interactions as they did not encourage positive responses from others, spoke primarily about their own interests and issues, and maintained little attentive behaviour. Sometimes dominant leaders existed in pairs and would control table conversation by excluding or rebuffing other tablemates from their conversation, providing little opportunity for others to interact verbally.

Active spectators promoted table leaders and other tablemates to continue engaging in social interactions (in above example this is Cecile). This occurred most often by making and maintaining eye contact, nodding responsively, providing feedback to other's dialogue and articulating responsive emotions through verbal comments and facial expressions. *Unengaged spectators* did not participate in interactions or express emotions to others (in above example, Bev until later in interaction). They would not respond when spoken to and did not ask questions or interact at the meal in ways that would be considered culturally appropriate (i.e. reaching across the table for condiments rather than asking a tablemate to pass). These residents gave little information for others to further conversations and offered minimal eye contact and attending behaviours to others. The following is a further example of such an interaction:

> 12:40: Men quiet (waiting for next course?). All men looking up and forward across the table; they do not appear to be looking at the other men at the table, but at the surroundings. (Observe 5, Table 20)

Sometimes these residents were the object of other interactions amongst tablemates, such as rebuffing, talking or making jokes about when they left the table. These unengaged residents tended to come to the table and leave the meal early (Michael in earlier excerpt). When residents were observed eating alone, the lack of the physical presence of tablemates forced lone diners into a spectator role, either unengaged or active through attempts to interact with staff, smile and be a part of conversations of other tables.

Tablemate characteristics

Similarities amongst tablemates supported interactions. For example, those who spoke the same non-dominant language sought each other out for interactions, either by being placed at the same table or by situating themselves after a meal at other tables where these similar residents sat. Accents affected interactions as those who spoke the same way could understand one another whilst others sometimes struggled to comprehend a tablemate who spoke differently. Common backgrounds fostered deeper understanding amongst tablemates as quirks and humour were better received. Kindred interests and personalities also supported interaction through talking and sharing. Those who were single occupants tended to be put with the same gender. In general, all-male tables were less involved in social interaction than all-female tables.

Hearing, vision, cognitive or health problems had the potential to limit interactions, as well as physical challenges that influenced the task of eating. Even with these limitations, some residents continued to interact whilst others with these deficits needed to focus on eating, suggesting that there is diversity in how much these characteristics influence interaction. The following excerpt demonstrates how poor health can result in limited social interaction. This was a husband and wife; she required continuous oxygen and a scooter for mobility, whilst he had some paresis, suggesting a past stroke. A later conversation between the wife and a staff member indicated she was having considerable pain and needed some medication:

> 12:35: Janet comes into the dining area on a scooter. She moves herself into the chair to the right of Albert. She is breathing oxygen and is wearing sunglasses…Albert passes a creamer/milk to Janet. Janet says 'thank you', but I do not see if Albert says anything… 12:43 Albert has a difficult time with his napkin on his lap, as he keeps adjusting it. Janet looks over at Albert while he does this. A server then comes along, with a smile and asks Albert and Janet if they would like some hot tea water. Both look at the server, and say 'yes'. She pours it in Albert's cup. He says 'thank you'. After the server leaves there is silence. Janet looks in a gaze towards the entrance foyer …12:50: Albert looks at a nurse that walks by. Janet drinks her coffee/tea. There is still silence. A server comes to clear the dirty soup dishes from the table. Neither Albert or Janet say anything or acknowledge the servers presence. The server also does not say anything. Janet rests her right side of her chin in her right hand which is propped up on the table with her right elbow. There is still no conversation. (Observer 1, Table 19)

Social and physical environment

Tablemates usually had to wait before they were served their first dish. This time enabled residents to converse, assist one another, share, or make jokes. However, as meals were served, interactions in the dining room decreased. Whilst some residents still interacted, others were more concentrated on the task of eating. Interactions were greatest before the first course and between courses, thus multiple courses provided greater opportunities for tablemates to interact. Further, although there was no limit to the time that residents could take to eat the various courses, the culture of staff needing to move onto other tasks (e.g. bringing next course, clearing tables) influenced interactions; tables were too small to hold multiple dishes that resulted from persons who were slower to eat.

Spouses, guests and staff all affected mealtime interaction. Couples would sit together; however, if they were seated with other residents, their interactions were often observed to be less intimate compared to when they sat alone. Guests and family removed residents from their tablemates by exclusive conversation, moving to another table to eat, or leaving early to visit elsewhere. In these cases, other tablemates were observed to suffer from the loss of a tablemate and their interaction. Staff were important influencers of interactions by the way they engaged with residents as noted in the following two excerpts:

> 12:59: A staff member [rec therapist] approaches the table and speaks to Geraldine; the staff sits on the pillar base by the table. Helen looks on but the staff does not acknowledge her in any way and focuses in on Geraldine. They talk about an event… Helen is no longer looking at these two as they chat, but drinking coffee and looking into the hallway, in the area of the staff who are doing medication distribution from the cart. (Observer 2, Table 23)
>
> 12:40: A woman passes by the table and says "hello" to Bett and Christine. Bett and Christine both turn to look at the woman who is passing by. Christine crosses her hands on the table and Bett looks down as she takes a sip of her drink… A staff member comes by the table to collect the empty soup bowls standing behind David's chair.. she tells the table that her sister is due to have a baby today and that she is very excited about it. There is some discussion among Bett, Christine and David, but I cannot hear the verbal interaction –tablemates make eye contact with the staff member. The staff member also mentions that it is Chinese New Year. She is Chinese and explains to them that her year is the year of the Ox. (Observer 4, Table 17)

In the first example the staff approached the table and interacted with only one resident, excluding others who were interested in the interaction, but refrained from participating when they were not included. In the second example, the staff made a general comment to the entire table, thus acknowledging all tablemates, engaging them and residents responded with smiling, eye contact and verbal responses. Such interactions could act as a stimulus for more interaction, typically in the form of table conversation even after the staff member had moved on.

The physical environment also influenced interactions, as some seating provided a better view to see other activities, persons, or objects, including interactions occurring at different tables and amongst and with staff occurring in the dining room. Being able to see who was walking the hallway, entering the building, or observe what was going on outside the building either detracted tablemates from

interactions or acted as an agent to stimulate them, especially in 'making conversation'. Further, the noise level in the dining room influenced interactions as some residents could not hear others over mealtime processes and background noise, including dinner music.

Discussion

Mealtime in older adult care facilities is a complex and ever-changing environment that influences social interaction, as residents and staff enter and leave the environment over time. The findings from this exploratory study corroborate prior research by further detailing the types of social interactions that occur in this environment (Dubé et al. 2007; Nijs et al. 2006), specifically amongst tablemates and how they may be influenced by various factors, including staff. Unlike prior work, this study focussed on the interactions amongst residents and provides greater understanding of the naturalistic social environment of meals in facilities. Prior studies often included (Amella 2002; Phillips and Van Ort 1993) or excluded (Dubé et al. 2007; Nijs et al. 2006) residents based on characteristics that were believed to influence interaction, such as cognitive status or functional limitations. Prior to this study, only one other project specifically examined geriatric tablemate interactions in a rehabilitation hospital setting (Paquet et al. 2008). The current study extends this work by examining a residential setting where for many, this is a permanent change in living circumstances. Further, we observed the entire social environment, including guests, such as friends and family or non-mealtime staff who interacted with residents during mealtime. Other researchers have excluded these naturally occurring interactions (Pearson et al. 2003; Sydner and Fjellström 2005) which can have a large influence on interactions that take place.

As with prior work examining staff and resident interactions, we identified a range of interactions that occur amongst tablemates at mealtime (McKee et al. 1999; Rook 1985, 1990; Rook and Ituarte 1999). Hubbard et al. (2003) similarly identified talking or our 'making conversation' which was focussed on the weather or happenings in the dining hall, or behaviour of other residents. They also identified similar interactions of humour or practical jokes, flirtation and affection and describe our 'rebuffing/ignoring' theme as 'dislike and anger' (Hubbard et al. 2003). In assistive care, intimate relationships exist less often than non-intimate ones (Bergland and Kirkevold 2007; McKee et al. 1999), resulting in more superficial interactions such as 'making conversation'. As with prior work social interaction occurred between courses or at the beginning of the meal (McKee et al. 1999). Some residents did not engage in mealtime interaction and this may be due to lack of interest or perhaps lack of capacity of themselves or others to participate in social actions (Reed and Roskell Payton 1996). At mealtime, some may only see it as a place to eat and not one of social or relational importance (McKee et al. 1999), especially if they are not with a close companion or find that they are unable to build friendships due to dislike or intolerance of another. Bergland and Kirkevold (2007) found that about half of their participants did not consider building relationships with fellow residents as important for their 'thriving' in the facility; their participation at mealtimes was less than those who did seek out peer relationships. Being unable to move or choose one's companions also could lead to limited interaction at mealtimes by some residents. Further work involving interviews with residents is needed to confirm why a low level of social interaction does occur amongst some tablemates.

This study is unique in that influences on mealtime interaction were identified. Knowledge of these potential influences can lead to future intervention work. For example, table assignment appears to influence interactions amongst tablemates. As many facilities assign table seating, interactions and relationships do not exclusively emerge by choice, as a facility's care regime and physical environment also play a role in shaping them (Timko and Moos 1990; Bergland and Kirkevold 2007). As residents may feel that they are unable to change spots due to rules (Reed and Roskell Payton 1996) this could lead to dissatisfaction and poor adaptation to the care environment. Prior study has also demonstrated the importance of acknowledging the cultural values and table manners of residents (Sidenvall et al. 1996), their similarities (e.g. gender, cultural background, interests and hobbies) (Sidenvall et al. 1996; Paquet et al. 2008) and presence of impairments like hearing or cognition that affect social interactions (Bergland and Kirkevold 2007; Hubbard et al. 2003; Reed and Roskell Payton 1996) when determining tablemates. Developing familiarity through 'making conversation' with residents and staff is important to the transition to care and mealtimes provide greater and 'safe' opportunities for this contact due the presence of all residents at one time, the regularity of meals, and the function of eating that can be used as an excuse for not interacting (Reed and Roskell Payton 1996). Thus, greater emphasis is needed on selecting tablemates if assigned seating is used.

This study further identified that tablemates take on roles that influence interaction. Prior study has acknowledged the potential facilitation of interactions by staff (Reed and Roskell Payton 1996; Bergland and Kirkevold 2007), but tablemates can also be facilitators. Consideration of these roles and the personalities or characteristics that may lead to these roles could help in matching tablemates. For example, we can hypothesize that social interactions may be increased by placing supportive leaders

with individuals who are primarily spectators. This could also resolve known issues such as more dependent residents being given fewer opportunities to communicate or express themselves at mealtime (Carpiac-Claver and Levy-Stroms 2007), including making food choice requests (Sydner and Fjellström 2005). Some tablemates in this study encouraged others to eat more, distinguished what was healthy to eat and made sure others got what they wanted to eat. This is consistent with prior work that found that having a supportive tablemate can foster social interactions and improve food intake (Dubé et al. 2007).

Other findings suggest that the social and physical environment need to be considered at mealtimes. Similarly, Curch (2003) in an ethnographic study of women living in a retirement community where one meal per day was consumed in a common dining room, identified that social stigma was associated with walkers cluttering up the dining room. The socialization aspect of the dining room was important, especially for widowed residents; interactions happened with staff as well as tablemates. However, facility policies affected the dining experience including timing, pressure to dress a certain way and rules about guests. Operators, care directors and staff need to be educated on the impact of facility design, dining room set-up and care regimes that influence tablemate interactions as well as the importance of social interaction amongst residents. Bergland and Kirkevold (2007) also found that staff hand an important role to play in facilitating resident interactions. As with this work, we found that staff who stimulate conversation by introducing topics or asking questions, promoted social interaction amongst tablemates.

Limitations

Observations were only conducted at lunch and it is possible that tablemate interactions vary with time of day. The findings cannot be generalized at this point to higher levels of care, although it is likely that similar types of interactions occur in these environments, although with less frequent and perhaps more commonly between resident and staff rather than amongst residents (Paquet et al. 2008). Limited observation vantage points affected whether observers could see or hear interactions, and likely influenced how some tables interacted, especially in earlier observations. Further, some aspects of the social environment are not readily observable; some residents told us that the quality of conversation at their tables were dependent on such things as companionship. Future work should include interviews with residents to more fully understand the meaningfulness of social interactions, especially determining the value of different forms of social interaction as well as any mediating factors (Weingarten 1991; Hubbard et al. 2003). Future studies should also examine the effect of social interaction on appetite and food intake by residents and how social interaction is influenced by physical spaces, number of dining companions or table set-up, as well as resident choice in seating. Particular attention to the influence of dementia on social interaction is needed as larger proportions of residents in care present with this challenge.

Implications

Despite the noted limitations of this exploratory study, recommendations for changing facility practice can be made at this time. If possible, facilities should investigate how they can support choice of mealtime table location and tablemate (McKee et al. 1999) so that the social and physical environments are to the preference of residents. For example, a more 'restaurant style' offering could be provided, where tablemates make reservations for a table with names of tablemates, or show up to the dining hall as groups ready to be seated by staff. Further, staff need to be educated on their important role in stimulating table interactions and helping residents to feel included and part of the group when interactions occur amongst staff and residents. 'Playing favourites' was something alluded to by both staff and residents in their side conversations with the research team, and this has the potential to affect quality of life and adaptation to facility living. To stimulate interactions amongst residents, table tents, flyers or other items that stimulate conversation could be introduced.

Conclusion

Examining mealtime is useful when trying to understand social and psychological health of older adults living in institutions, as it is a major social event of the day and may be one of the few activities that offers opportunities to socially interact with consistent companions. Mental attitude and relationships with caregivers and other residents are important to 'thriving' in nursing homes (Bergland and Kirkevold 2005); thus effort to improve attitudes and develop relationships in the mealtime context is important. Many things influence interactions and the facilitation role of staff and supportive leader residents can be called upon to initiate more social interaction amongst tablemates. Although exploratory, this research suggests several ways in which facilities can support social interaction amongst tablemates. Future work needs to empirically demonstrate the connection between staff–resident interaction and the effect on subsequent table interactions as well as the linkages between social interactions, their influences, appetite (Wikby and Fägerskiöld 2004) and quality of life in institutional environments.

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