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Perspectives, Journal of the Canadian Gerontological Nursing Association, (Formerly, the Journal of the Gerontological Nursing Association Ontario), welcomes original manuscripts describing issues, research and clinical or educational innovations of interest to nurses and others caring for older people. Manuscripts from nurses, other health professionals or other interested parties will be accepted for review. The journal also invites brief submissions of approximately two typed, double spaced pages, describing clinical practice tips, reviews of books or DVDs, creative works and letters of opinion to the Editor.

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- Sharing the practice innovations of gerontological nurses;
- Facilitating dissemination of gerontological nursing knowledge and expertise;
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The preferred style is that recommended by the Publication Manual of the American Psychological Association, 6th Ed. Manuscripts should not exceed 20 pages, including title page, figures and reference list. When possible, subheadings should be used to divide areas of the paper. All figures, tables and diagrams must be numbered and titled. They should not duplicate what is in the text, but should add clarity to it. Research manuscripts should include an abstract (200 words or less), introduction, brief review of the literature, statement of the problem, methodology, results and discussion of the conclusions. All other manuscripts should include an introduction to the issue or theme, a body of text using subheadings that relates clearly and progresses logically to a conclusion. Submissions will be assessed on these criteria: clarity; organization and interest; originality and timeliness; theoretical soundness and validity; implications for clinical practice; and writing style.

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Authors are required to submit manuscript articles in Microsoft Word to Editor, Perspectives at: http://cgna.net/SubmitToPerspectives.html. Include a covering letter that lists all authors, current positions, highest educational degrees, and both work and home addresses and phone numbers. Please include any significant components of your background for the author(s) information section and include the copyright statement as indicated on this page.

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SUBSCRIPTIONS

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Perspectives is a refereed journal published quarterly by the Canadian Gerontological Nursing Association.
In a previous issue of Perspectives, I talked about the two private members’ bill calling for a national dementia strategy. This was introduced into Parliament in February of this year and it will likely become law in 2017. In Manitoba, a survey indicated that about 40% of Manitobans know someone who is living with dementia (Centre on Aging, 2010). This is an incredibly high percentage and it is difficult to imagine how many everyday lives are touched or greatly affected through knowing a family member or friend who is living with dementia. In Manitoba, this is more than 400,000 people and there is no reason to believe that the percentage of 40% is any different in other parts of Canada. This national dementia strategy intends to address the needs of those living with dementia and also their family members and other informal caregivers. The passing of the bill, if it comes in time, could be a point of celebration at our annual meeting in Ottawa in May 2017.

This issue of Perspectives offers three articles, one of which examines an on-line dementia education program for nursing students. The article by Cobbett, Redmond, LeBlanc, MacNaughton-Doucet, Edgecombe and Helpard describes a joint effort between the Nova Scotia Alzheimer Disease and Other Dementias Care Course (ADODCC) Committee and nursing faculty members from Dalhousie University to test the value of on-line content on nursing care of older adults living with dementia. The goal was to see whether or not there would be an improvement in students’ comprehension, application and critical thinking skills. And there is evidence to believe that there was.

Focusing on older adults seen in emergency departments, our second article authoured by Laura Wilding and her colleagues examines 14 Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) and identifies critical factors related to potential functional decline following discharge. Calling on the expertise of clinicians, their study was conducted with Geriatric Emergency Management (GEM) nurses who were attending a provincial (Ontario) conference. Compared to IADLs, ADLs surfaced as relatively more important items in relation to functional decline and of course, GEM nurses routinely assess these items. Not surprisingly, functional decline was also dependent on the level of support received at home, either formal or family support.

In this issue’s Clinical Corner, Lappen and her colleagues describe the evaluation of a continence program on a geriatric rehabilitation unit. We have learned much from research on continence care and this evaluation used the Iowa Model, a knowledge translation model, to guide and evaluate nursing awareness and uptake of implementation strategies. The step-by-step use of the model illustrates how others might pursue knowledge translation.

The three articles in this issue of Perspectives represent facets of working toward integrating research into nursing practice and nursing education. Within the next month, I intend on contacting CGNA provincial associations to ask for more examples of the implementation of research into practice. The editorial team welcomes all manuscripts and we would like to encourage Clinical Corner submissions. Many gerontological nurses and teams are diligently integrating research into practice and Perspectives offers an opportunity share these initiatives with like-minded nurses across the country!

Lorna Guse
Editor, Perspectives

REFERENCES
Centre on Aging. (2010). Profile of Manitoba’s seniors.
Retrieved from http://umanitoba.ca/cdntres/aging/media/Profile_Manitoba_Senior_2010.pdf
A. VISION

The vision of CGNA is to promote excellence in gerontological nursing through leadership, knowledge, and scholarship.

The vision of the Perspectives Journal is to be the premier Canadian journal in gerontological nursing.

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The Mission of the Canadian Gerontological Nursing Association (CGNA) is to address the health of older Canadians and the nurses who participate with them in health care. The Canadian Gerontological Nursing Association is an organization that represents gerontological nurses and promotes gerontological nursing practice across national and international boundaries.

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May 4-6, 2017
Ottawa, Ontario, Canada

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ON-LINE DEMENTIA EDUCATION: CULTIVATING NURSING STUDENTS’ COMPREHENSION, APPLICATION AND CRITICAL THINKING SKILLS

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ABSTRACT

Dementia care educational opportunities for nurses remain variable and sporadic. Lacking adequate education and understanding, nurses are at risk to believe misconceptions, assumptions, and discriminatory attitudes that lead to inadequate caregiver practices and foster social isolation, and discourage independence for older adults living with dementia. The Nova Scotia Alzheimer Disease and other Dementias Care Course (ADODCC) Committee developed a comprehensive course for face-to-face small group delivery. The ADODCC Committee supported Bachelor of Science in Nursing (BScN) faculty members to construct a web-based learning platform that mirrored the ADODCC manual and conduct an evaluation study. This study used a quasi-experimental non-equivalent control group design to examine the differences in comprehension, application and critical thinking skills associated with dementia care in first year BScN students who took an online version of the ADODCC and those who did not (N = 196). The post-test group mean scores were significantly higher for the experimental group (ADODCC) (control group M = 58.68; experimental group M = 73.91). The asynchronous on-line delivery of the first eight course modules was well received. Students reported they highly valued the interactive nature of the online learning environment, particularly those activities with direct application to their future practice as registered nurses.

Keywords: education, nursing student, dementia, online, program evaluation

The number of Canadians living with dementia is growing, presenting challenges for nurses and other health care providers to meet the diverse needs of this population (Jones, Moyle, & Stockwell-Smith, 2013). These health care providers are at risk to perpetuate misconceptions, assumptions, and discriminatory attitudes leading to inadequate caregiver practices such as fostering social isolation, and discouraging independence due to lack of knowledge and understanding about the unique needs of older adults living with dementia (Veselinova, 2013). Various programs have been developed and implemented to provide education for front line care providers, yet Page and Hope (2013) contend that educational opportunities for nurses to gain knowledge about Alzheimer’s disease and other dementias are variable and sporadic.

While dementia education is widely believed to improve care, the depth and breadth of knowledge required may not be a part of baccalaureate nursing curriculums. Scerri and Scerri (2012) recommended education for nursing students including theoretical and practical knowledge, and experience to prepare them to meet the needs of older adults living with dementia. To explore the effectiveness of embedding a dementia care course in an undergraduate nursing program, a quasi-experimental design was used to investigate the question: is there a difference in comprehension, application and critical thinking skills among first year baccalaureate nursing students who take a provincial Alzheimer Disease and other Associated Dementias Care Course (ADODCC) and those who do not?

ADODCC

The educational tool identified to provide dementia education to nursing students is the ADODCC, a copyrighted course that provides successful participants with a certification through the ADODCC Committee Society in partnership with the Health Association of Nova Scotia. The course consists of nine weekly modules. The course was adapted with permission for online delivery for this study (Cobbett, et al., 2015). This required an initial time commitment; however, once developed, course facilitation workload was manageable. Boyer, Maher, and Kirkman (2006) noted that the online learning environment is unique, and it is not satisfactory to simply transfer traditional
face-to-face course material to an online format. When developing the online version, the facilitators reviewed the objectives for each module, and adapted strategies to achieve these in the on-line environment. The course manual contained learning activities that were transferred to the online learning environment, such as case studies and discussions. Discussions were held using the discussion board feature of the online platform, and personal reflection was achieved using the journal feature. Attendance and participation was a key element in the face-to-face delivery, and this was maintained in the online delivery. Student activity was tracked through the online platform, and they were required to complete all module activities in order to receive their ADODCC certificate.

The first eight modules of the ADODCC were taught as part of a core first year BScN Program healthy aging nursing course. This course examined psychosocial, cultural, cognitive, and spiritual development of adults, health promotion and implications for nursing practice. The first eight modules were delivered online and the final module was delivered through a face-to-face presentation. Students were required to register for the ADODCC course in addition to the core nursing course and purchase an accompanying manual. One hour of time was allotted in the course schedule to allow students to complete each of the eight course modules, with an additional two hours of preparatory work expected for each of the modules. A trained facilitator moderated the course and monitored student completion of activities and assignments. Each module included readings and on-line, module-specific activities such as discussions, wikis, personal journals, and quizzes. For the purposes of the aging course, participation in all modules was mandatory for students to receive certificate of completion of the ADODCC program however, providing demographic data and completion of the pre- and post-tests were optional and students were told that it was their choice as to whether or not they completed the tests.

LITERATURE REVIEW

Almost 750,000 Canadians are living with some type of dementia, and this number is anticipated to reach 1.4 million by the year 2031 (Alzheimer Society of Canada, 2010; Alzheimer Society of Canada, 2013). Consistent with this rising trend, current literature supports the value of dementia education for nurses, healthcare providers, and caregivers (DiBello, Fitzpatrick, & Hall, 2012; Gould & Reed, 2009; Kada, Nygaard, Mukesh, & Geitung, 2009; Veselinova, 2013).

Dementia Care Education

Several studies have reported increased participant knowledge following formal educational programs designed to enhance knowledge and understanding of dementia (Alusha, Hammond, & Wood, 2015; Eccleton, et al., 2015; Kwok, Lam, Yip, & Ho, 2011; Veselinova, 2013). Enhanced dementia education in the practice setting fosters better understanding of the unique needs of those living with dementia, resulting in improved care and diminished discriminatory attitudes, stereotypes and even fear (Veselinova, 2013). Elvish et al. (2014) reported evaluation results from a staff dementia education program called ‘Getting to know me’ in which participants (n = 72) reported increased confidence and knowledge on dementia care as well as a shift in attitude towards a more person-centred approach. Surr, Smith, Crossland, and Robins (2015) reported significantly positive results from a three and a half hour per day dementia education program, ‘Person-centred Care Training for Acute Hospitals’, offered to acute care staff (n = 40) of which 90 percent were nurses. Participants reported improved attitude, enhanced efficacy to provide care, and greater satisfaction working with persons with dementia. Galvin et al. (2010) created, implemented and evaluated a five-module dementia education program in response to poor outcomes of hospitalization for persons with dementia. This was a larger scale study in which the program was administered to over 500 acute care staff including registered nurses. Evaluation results revealed that 83 % of participants believed they had gained strategies on how to adjust the care environment in response to persons with dementia; 71 % of participants were more confident in addressing disruptive behavior; 81 % were better able to recognized safety issues; and 72 % learned strategies to better provide nutrition and personal care.

Dementia Care Education for Student Nurses

Building confidence in baccalaureate nursing students’ ability to provide care of older adults living with dementia is critical. Baillie, Cox, and Merritt (2012a; 2012b) conducted four focus groups with 464 nursing students to explore their experiences providing care to older adults living with dementia during clinical experiences in an acute care setting. Data analysis revealed that the hospital environment was not “dementia-friendly” and students perceived staff members were not adequately educated in the knowledge and skills required for optimal care of individuals with dementia. Study participants reported that professional caring was not evident and the students themselves experienced difficulty providing care related to nutrition, mobility, emotional needs, and communication to those with dementia (Baillie et
The authors recommended that universities prepare and support nursing students for dementia care. Baillie et al. (2012b) identified strategies that students found helpful in providing care for older adults with dementia including building a therapeutic relationship with older adults and their families, using creativity in the delivery of care and the values of flexibility and communication in the care setting.

Program Delivery Method

Review of the literature does not elicit a clear recommendation of the optimal program delivery method. In fact, a number of studies have been conducted to evaluate programs designed to educate students, experienced nurses and caregivers about dementia care (Corbett, 2012; Davison et al., 2007; DiBello et al., 2012; Featherstone, James, Powell, Milne, & Maddison, 2004; Innes, Kelly, & McCabe, 2012; Lim, Kim, Chen, & Ryder, 2008; Peterson et al., 2002; Ruiz et al., 2006). A World Health Organization sponsored meta-analysis of scientific literature on the effectiveness of on-line education for undergraduate nurses and physicians concluded students acquired knowledge and skills equally or better in an on-line delivery method than face-to-face teaching (Al-Shorbaji, Atun, Car, Majeed, & Wheeler, 2015; George et al., 2014). The popularity of online education is increasing because it increases accessibility to advanced education and accommodates learner preferences allowing them more effective time management. Administratively it allows flexibility of scheduling and cost reductions associated with funding staff replacement and an instructor for in-class sessions (Ruiz et al., 2006) as well as the expense of housing a physical space for students to convene. Teaching and learning in online courses has become a global phenomenon and research findings indicate it is comparable or even superior to face-to-face instruction (Anderson, Tredway, & Calice, 2015; Chen et al., 2015; Mayadas, Bourne, & Bacsich, 2009).

METHODS

Purpose

This program evaluation project was submitted to the university ethics review board and was deemed to be exempt from research ethics review under article 2.5 of the Tri-Council Policy Statement (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, 2014). Participation in the course was a mandatory part of the nursing program; however, completion of the demographic data, pre- and post- tests were at the discretion of the student. The purpose of this study was to inform program development in a BScN program in Canada. A quasi-experimental non-equivalent control group design was implemented to investigate if there were differences in comprehension, application and critical thinking skills among first year nursing students who had taken the Alzheimer Disease and other Associated Dementias Care Course (ADODCC) and those who had not taken this course.

Hypothesis

There is a difference in first year nursing students’ comprehension, application and critical thinking skills related to the theory and application of nursing care for older adults living with dementia who complete a healthy aging course compared with students who take the ADODCC online course concurrently with the healthy aging course.

Research Design

A non-equivalent control group design tested the research hypothesis among first year nursing students (N = 196) at two geographically separate campuses of the BScN program. Students were placed into two groups according to their course section enrollment. Students who were enrolled in Section 01 of the healthy aging course were the control group and those enrolled in Section 03 of this course were the experimental group. The number of students enrolled in Section 03 (N = 25) was significantly smaller than in Section 01, which is reflected in the number of participants in the experimental group (N = 23). Completion of the ADODCC modules was required unless the student had previously completed the program. The experimental group completed the ADODCC course simultaneously with the healthy aging course. Both groups received pre- and post- tests in paper format in a proctored classroom related to comprehension, application and critical thinking skills associated with providing care to older adults living with dementia. The 10 multiple-choice questions on the pre- and post- tests were developed for use in this project by experts in dementia education and multiple choice item writing providing face and content validity. The tool was piloted for clarity and face validity with five health care professionals who concluded the questions were clear, easy to understand and was content specific. Cronbach’s alpha was used to test the reliability of the multiple choice items used on the pre- and post- tests. The pre- and post- test consisted of 10 multiple choice items: the subscale comprehension consisted of 3 items (α = .50), the application subscale consisted of 4 items (α = .69), and the critical thinking subscale consisted of 3 items (α = .53). These Cronbach’s alpha scores are below the acceptable levels of .60-.70 except for the application subscale. Item difficulty for 9 of the 10 multiple choice questions were in the acceptable range of .30 to .80 (Tarrant & Ware, 2012).
Demographic data were collected to inform the level of dispersion in the data between the two groups using measures of variability. Paired sample t-tests were used to test the differences between the pre-test and post-test scores within each group; a split plot ANOVA was used as a test of within subjects effects.

Data were collected from students at the conclusion of each module through the completion of an online “Participant Session Evaluation” survey as well as an online overall evaluation of the ADODCC that was included as part of the ADODCC program. The evaluation questionnaire tool was the same for each module, consisting of six questions; the first two asking the participants to rate the clarity and utility of the information provided in the course by selecting strongly agree, agree, disagree and strongly disagree. The remaining questions asked participants to identify what was most helpful in the session, least helpful in the session, what could be improved and additional comments. Qualitative data was collected through interviews from the ADODCC facilitators, who were faculty members certified as facilitators through the ADODCC program. The faculty members had prepared and implemented the ADODCC modules in addition to the required healthy aging so their perceptions of the strengths and areas for improvement were valuable data.

RESULTS

Quantitative Data Analysis

The initial sample consisted of 196 first year nursing students with an age range of 18 to 50 years ($M = 21.59; SD = 4.89$). There were 179 female students and 16 male students, with one nursing student not selecting a gender category. In relation to prior education, 142 had a previous university degree, 88 had previous post-secondary education, 20 indicated they had previously taken either a workshop or an education session related to dementia, and two indicated they had previously taken the ADODCC course. In order to have a complete data set, both the pre-test (the first day of class) and the post-test (the final day of class) needed to be completed by those wishing to participate; final sample size was 23 for the experimental group and 106 for the control group. The difference in group size was predetermined by course section enrolment.

Control Group Demographics. Five male and 101 females ($n = 106$) comprised the control group with an age range of 18 to 50 years ($M = 21.48; SD = 5.27$). Twenty-five nursing students had a previous university degree and 43 indicated they had previous post-secondary education. One nursing student indicated that they had previously taken the ADODCC with an additional seven indicating that they had taken either a workshop or an education session related to dementia. Forty-one had a family member or loved one with dementia and 25 participants indicated that they had provided care to someone with Alzheimer’s disease or dementia.

Experimental Group Demographics. Two male and 21 females ($n = 23$) comprised the experimental group with an age range of 18 to 45 ($M = 20.22; SD = 5.56$). Two nursing students had a previous university degree and eight indicated they had previous post-secondary education. Two had previously taken the ADODCC with an additional three indicating that they had taken either a workshop or an education session related to dementia. Seven nursing students had a family member or loved one with dementia and six indicated that they had provided care to someone with Alzheimer’s disease or dementia.

Pre- and Post-test Results. Pre- and post-test data were normally distributed (the mean, median and mode were the same) in the control group as well as in the post-test results in the experimental group. The pre-test data in the experimental group was positively skewed, meaning that the mode was to the right of the mean. Results of

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mark Range (%) out of 100</th>
<th>Mean (%)</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group pre-test</td>
<td>106</td>
<td>20% - 90%</td>
<td>54.06</td>
<td>15.96</td>
</tr>
<tr>
<td>Control group post-test</td>
<td>106</td>
<td>20% - 90%</td>
<td>58.68</td>
<td>13.81</td>
</tr>
<tr>
<td>Experimental group pre-test</td>
<td>23</td>
<td>40% - 70%</td>
<td>49.13</td>
<td>9.00</td>
</tr>
<tr>
<td>Experimental group post-test</td>
<td>23</td>
<td>50% - 100%</td>
<td>73.91</td>
<td>13.71</td>
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</tbody>
</table>
the pre- and post- tests for the experimental and the control group are displayed in Table 1. The ranges, means and standard deviations differed for both groups between both tests. There were no statistically significant differences in the pre-test scores between the control and the experimental groups, $F(1, 16) = .78, p = .60$. Both groups demonstrated statistically significant differences in the pre-test as compared to the post-test however the experimental group differences were larger and highly significant.

**Table 2: Paired Sample t-test**

<table>
<thead>
<tr>
<th>Pair</th>
<th>M</th>
<th>SD</th>
<th>Std Error Mean</th>
<th>95% Confidence Interval</th>
<th>t</th>
<th>df</th>
<th>Sign</th>
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<td></td>
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<td></td>
<td>Lower</td>
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<tr>
<td>Experimental Pre-test, Post-test scores</td>
<td>-2.48</td>
<td>1.56</td>
<td>.33</td>
<td>-3.15</td>
<td>-7.61</td>
<td>22</td>
<td>.000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Pre-test, Post-test scores</td>
<td>-.46</td>
<td>1.81</td>
<td>.18</td>
<td>-.81</td>
<td>-2.64</td>
<td>105</td>
<td>.010</td>
</tr>
</tbody>
</table>

Paired sample t-test results are displayed in Table 2. To test within subject effects, a split plot ANOVA was conducted and results were $F(1, 127) = 24.63, p < .001$. Data analysis supported rejection of the null hypothesis, indicating that there is a difference in first year nursing students’ comprehension, application and critical thinking skills related to the theory and application of nursing care for older adults living with dementia who complete a healthy aging course compared with students who take the ADODCC online course concurrently with the healthy aging course. Analysis of the findings indicates that while all students enrolled in the required nursing course had higher comprehension, application and critical thinking skills related to the theory and application of nursing care for older adults living with dementia, there was a statistically significant difference in these abilities in the students in the experimental group (those that had taken the ADODCC concurrently with the healthy aging course) compared to the control group that only took the healthy aging course.

**Analysis of Students’ and Facilitators’ Comments**

**Student Perception of Learning.**

Qualitative data revealed that the ADODCC course consistently met students’ expectations. All students rated the course as good ($n = 8$) or excellent ($n = 15$). Students consistently commented that participation in the course significantly improved their knowledge and skills, expressing a greater appreciation for the depth of knowledge required to provide quality care for older adults living with dementia. Even students who had previously worked with older adults living with dementia commented that the course challenged them. Student narratives reflected core concepts associated with the BScN curriculum such as patient safety, therapeutic communication, person-centered care, critical thinking, and reflective practice. Affective learning was also evident in the student evaluations. There was a valuing of compassion, ethical practice and empathy. Student comments indicated a greater appreciation of the meaning behind the behaviour of the older adult and indicated an enhanced ability to understand the importance of this meaning on the quality of care provided to the individual.

Students commented that the module content was clearly presented and well organized. Sixteen students (70%) indicated on their final evaluation that all the content presented was easy to understand and the remaining students (30%) noted that most of the content was understandable. All students indicated that the manual added considerable value to their learning. Students particularly noted the value of the case studies and relevant clinical examples. Students valued a variety of learning experiences (videos, demonstrations, guest speakers, case studies/scenarios, reflective exercises, discussion board posting, journal sharing and self-assessments). The most frequent suggestion to improve the course was to add more videos, demonstrations and real life examples.

The final module of the course involved working in small groups to prepare and present a clinical project to their peers. The final project was scheduled in a classroom setting during a spring clinical practice course (May) for this project. Students overwhelmingly found the project to be valuable, with 22 students indicating it enhanced their learning. Student comments indicated a sense of pride and ownership of their new knowledge. Several students noted that they would have preferred less evaluation components. There were numerous program evaluations throughout the semester and it is unclear if they referred to content evaluation or program evaluation. ADODCC
specific evaluation components (quizzes, reflections, case studies) were part of each of the modules of the program, which students were required to complete to demonstrate understanding or application. Several students commented that they were confused at times about which online activities were requirements and also noted technical challenges that impacted on their ability to meet course expectations (quiz function and uploading online journals). Only two students indicated the preference for face-to-face delivery in the final course evaluation.

Facilitator Feedback.

Evaluation feedback was obtained from the two faculty members who were the course facilitators and who adapted the course for online delivery. Both had completed the ADODCC training and facilitator course. They identified the following strengths of the online pilot: asynchronous online delivery requiring minimal instructor resourcing to manage the course after the initial set up, the ability to use learning activities outlined in the already developed course manual as a foundation for online activities, purposeful balancing of interactive exercises and individual reflective activities to address affective and cognitive learning and support various learning style preferences, and the face-to-face presentation of final projects that increased accountability for a high quality product and allowed students to highlight their achievement with their peers. Facilitators also offered suggestions for improvement: simplifying and/or streamlining of technology (e.g. successive release dates for activities within each module), increasing the clarity of module expectations in terms of required elements or activities, and considering the possibility to use asynchronous online sharing for the final project so that the entire ADODCC could be delivered online as part of the healthy aging course. In preparation, they had challenges accessing reference materials for online delivery and reported that it took substantial time to initially develop the course for online delivery, including online tools that facilitated interactivity.

DISCUSSION

Findings from this program evaluation support the current body of research that participation in formal education improves knowledge and understanding of dementia and the care provided to those living with dementia (DiBello et al., 2012; Fessey, 2007; Gould & Reed, 2009; Ruiz et al., 2006; Scerri & Scerri, 2012; Veselinova, 2013). Quantitative data analysis demonstrated no statistically significant differences in the pre-test scores between the control and the experimental groups and although both groups demonstrated a statistically significant improvement in post-test scores, the difference in the scores of the experimental group were larger and statistically significant. Qualitative data from the experimental group revealed student perceptions of being better prepared to provide care to older adults living with dementia in the clinical setting. The students indicated they had learned techniques to enable them to better meet the unique needs of older adults living with dementia. These results were similar to those reported by Baillie et al. (2012a) as students reported that they felt poorly prepared to provide care for those living with dementia.

Students were asked to identify content areas they believed would be most significant in their future nursing practice. The most commonly identified areas were patient safety, promoting independence, care planning/co-ordination, therapeutic communication, promoting a therapeutic environment, understanding and effective behavioral and emotional management and family care giving. Generalizability of the findings is limited by the use of convenience sampling, the small sample size of the experimental group and that only one school of nursing was sampled. Another limitation of the study is that although students indicated they were better prepared to provide care to older adults living with dementia, this was not evaluated in the clinical setting. This is an area for future study.

CONCLUSION

Clearly there are benefits of education for nursing students to improve their knowledge, skills and attitudes related to care of those living with dementia. Both quantitative and qualitative data suggested that nursing students highly valued the interactive nature of the online learning environment particularly activities with direct application to their future clinical practice (i.e., care planning, families in transition, nutrition, leisure activity promotion, and therapeutic conversations). The findings can be used to inform program development, specifically with recommendations to adopt the ADODCC as a part of the formal education of nursing students. Based on these positive results, the ADODCC has been approved as a required component of a first year nursing course in a BScN degree program at both sites where this research was conducted.

Adopting the ADODCC has the potential to positively impact the attitude, knowledge and skills of future registered nurses when caring for older adults living with dementia and their families. Leaders in nursing education are encouraged to explore the potential of adopting this course as an integral part of nursing education. With the increased emphasis on the importance of collaborative interprofessional teams, educators within other health professions would also benefit in exploring how this course could be taught in an interprofessional learning environment.
REFERENCES


GERIATRIC EMERGENCY MANAGEMENT NURSES’ VIEWS ON PREDICTION OF FUNCTIONAL DECLINE IN OLDER ADULTS AFTER A MINOR INJURY

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ABSTRACT

This study was conducted to determine the views of Geriatric Emergency Management (GEM) nurses on what clinical features constitute clinically significant functional decline after an injury in previously independent older adults who present to the Emergency Department (ED). After a rigorous development process, a 13 item survey questionnaire was developed and offered to 65 GEM nurses who were attending a provincial GEM nurse conference. The response rate was 81.5% (53/65). Ninety percent of the GEM nurses considered a drop in function of at least 2 points on the Older Americans Resources and Services Activity of Daily Living Questionnaire (OARS ADL-Q) (Fillenbaum, 1988) exist to measure functional independence but to our knowledge no tool exists to identify previously independent older adults at high risk of functional decline after a minor injury. The OARS ADL-Q is a 14-item questionnaire that rates individuals on their functional decline or the reduction in ability to perform activities of daily living (ADL) in older adults (Asakawa et al., 2000; Boul et al., 1993; Caplan et al., 1998; Currie et al., 1984; Denman et al., 1989; Moritz et al., 1995; Narain et al., 1988; Rowland et al., 1990; Salvi et al., 2007; Rowland et al., 2007; Sutton et al., 2008; Wilber et al., 2010; Winograd et al., 1991). Additionally, functional decline is the most important predictor of institutionalization and of disproportionate use of health services by older adults (Aminzadeh, 2001; Hebert, 1997; Hoogerduijn, 2007; Rockwood, 1996), and may be a key predictor of frailty (Rockwood, 2005).

Currently, a high proportion (75%) of older patients who sustain minor injuries are discharged home after their ED visit, often without an assessment of their functional status (Miller et al., 2009; Salvi et al., 2007; Wilber et al., 2010). Between 10 - 45% of those discharged will develop functional decline that persists long after the initial injury (Carpenter, 2013; Currie et al., 1984; Ferrera et al., 1999; Grisso et al., 1992; Rowland et al., 1990; Russell et al., 2006; Salvi et al., 2007; Shapiro et al., 2001; Sirois et al., 2013; Wilber et al., 2010; Victor & Vetter, 1989). With the expected increase in the proportion of older adults over the next several decades, an improved approach towards functional assessment might identify high risk patients in order to promote early intervention to prevent decline and improve outcomes in this population (Human Resources and Skills Development Canada, 2011; Statistics Canada, 2011).

A number of assessment scales, such as the Older Americans Resources and Services Activity of Daily Living Questionnaire (OARS ADL-Q) (Fillenbaum, 1988) exist to measure functional independence but to our knowledge no tool exists to identify previously independent older adults at high risk of functional decline after a minor injury. The OARS ADL-Q is a 14-item questionnaire that rates individuals on their functional decline.
ability to perform seven basic or functional activities of daily living (ADL) and seven instrumental activities of daily living (IADL). The OARS ADL-Q assessment tool has been validated in the ED, and has been successfully used for both in-person and over the telephone interviews in ED studies (McCusker et al., 1999a; McCusker et al., 1999b). Currently, it is not known how much of a decline is considered clinically significant, that is, what would be a key clinical finding that would require follow-up or intervention. The goal of this study was to determine Geriatric Emergency Management (GEM) nurses’ views on what they considered to be a clinically significant point drop on the 28-point OARS ADL-Q as well as the acceptable sensitivity for a clinical decision rule to identify older patients at high risk of functional decline after sustaining a minor injury. The OARS ADL-Q was chosen to inform the development of a clinical decision rule to identify older adults at risk of functional decline after they present to the ED following a minor injury.

METHODS

Study Design and Participants

This study surveyed GEM nurses at the annual Ontario GEM Nurse Network conference in Toronto, Ontario, Canada in September 2012. GEM nurses have specialized education in the assessment and management of geriatric patients and support age-appropriate care in the ED. A key aspect of this role is to link patients to specialized geriatric services and community supports in order to support the sustainable discharge of high-risk older adults. At the time of this study, there were a total of 96 GEM nurses in Ontario (our target population). Sixty-five were in attendance at the conference (67.7%). To be eligible for the study, participants had to have been in an active GEM nurse role. All in attendance at the conference were invited to participate. The survey design was informed by Dillman’s Tailored Design Method (Dillman, 2007). This approach optimized high-quality data collection and consisted of three stages to questionnaire development: (a) key informant, in-person interviews (pre-survey), (b) cognitive interviews (draft survey), and (c) pilot-testing (final draft survey). As per the accepted clinical decision rule methodology, both content experts and end users are surveyed to gain insight into their perceptions regarding the clinical utility of such a tool. As the proposed clinical decision rule will be ultimately used by both GEM nurses and ED physicians, a survey of GEM nurse views was seen as a key component of the development of such a clinical decision rule (Stiell & Wells, 1999).

Outcome Measures

The primary objective of this study was to determine what GEM nurses perceived as the minimal clinically important difference (MCID) or point drop in basic ADL and IADL scores to define significant functional decline. Our secondary outcome was to determine what sensitivity a clinical decision rule would require to predict functional decline at six months post injury. Six months post injury aligns with key trauma database information and represents the timeframe where the acute effects of the injury would be expected to have resolved. We were interested in determining the sensitivity that the majority (90%) of these specialized nurses would be satisfied with (the 10th percentile for the point drop and the 90th percentile for the sensitivity). This survey also investigated GEM nurses’ current knowledge and practice patterns regarding the assessment of functional decline.

Functional decline is often defined and measured by a decrease in the ability to perform ADLs (Hastings & Hefflin, 2005; Lee et al., 2001). ADLs have been classified into basic or physical ADL items which are self-care activities the person normally performs on a daily basis (e.g. bathing, dressing, toileting, transferring, grooming, and feeding oneself) and the more complex IADL items which allow an individual to live independently in a community (e.g. operate a telephone, shopping, food preparation). We used point drop on the OARS ADL-Q to determine what GEM nurses’ viewed as clinically significant functional decline (Breithaupt & McDowell, 2001). Each of the items on the OARS ADL-Q rates the patients on their ability to perform the activities independently as follows: 0 (completely unable to perform the activity), 1 (can perform the activity but with some help), and 2 (can perform the activity without any help) (Fillenbaum, 1988; Hebert, 1997; Hoogerduijn et al., 2007; Inouye et al., 2000; Sutton et al., 2008). A person’s score can range from 0 (totally dependent) to 28 (completely independent) (Fillenbaum, 1988; McCusker et al., 1999a; Wilber et al., 2006). We defined the point drop as the number of points lost from the 28-point OARS ADL-Q.

Questionnaire Development

To aid the development of the survey tool we conducted 13 key informant interviews (four geriatricians, four emergency physicians and five family physicians) as well as eight cognitive interviews (one geriatrician, five emergency physicians and two family physicians) on convenience samples of physicians. We then pilot tested the survey on one GEM nurse in addition to pilot testing on 16 local physicians. The key informant interviews (pre-survey) were conducted to establish feasibility of
the survey, obtain current knowledge on functional decline, and determine ideal methods on gathering information. Cognitive interviews, which involve sitting with respondents and observing how the survey is completed, were conducted to evaluate the clarity, comprehensibility and face validity of the draft survey. The pilot survey (final draft survey) was conducted to identify and fix any potential problems with our survey implementation procedure and the questionnaire. The final questionnaire consisted of 13 questions separated into five sections and was printed on two single-sided pages. The questionnaire consisted of an eligibility question (one item), demographic and practice setting items (seven items), assessment and measurement of functional decline (three items), relevance of ADL items to functional decline (one item), and required sensitivity for the clinical decision rule (one item). A copy of the survey questions can be found in the Appendix.

Survey Administration

The survey was distributed to all 65 Ontario GEM nurses attending a conference in Toronto, Ontario, Canada. Each participant at the conference received a cover letter and survey questionnaire in their conference package. A brief presentation was made to the conference participants explaining the purpose of the survey, and everyone in attendance was invited to participate. The OARS ADL-Q items were listed on the questionnaire to help the participants understand and better answer the questions. The completed survey questionnaires were collected by the investigators who were in attendance at the conference. This study received expedited review and was approved by the Ottawa Health Science Network Research Ethics Board in August 2011.

Data Analysis

Descriptive statistics were calculated to characterize GEM nurse responses. The four possible responses (always, often, rarely, and never) on the assessment of functional decline were dichotomized as always (combining always and often) or rarely (combining rarely and never). The four possible responses (very important, somewhat important, less important, and not important) on the importance of the ADL tasks to functional decline were dichotomized as important (combining very important with somewhat important) or not important (combining less important with not important). These responses were dichotomized to present the data clearly and succinctly (Figure 1). Distribution of the sensitivity and MCID or point drop were generated and presented using boxplots. Data were analyzed using SAS version 9.2 (SAS Institute, Cary, NC).

RESULTS

Respondents

A total of 53 of the 65 GEM nurses attending the conference (81.5%) completed and returned their survey questionnaires. The majority (96.2%) of the respondents were female and almost 2/3 (64.1%) were between 35 to 54 years of age. Table 1 depicts the demographic information for the respondents. Of these nurses, 15.1% of respondents had between 10 and 19 years’ experience, and 64.2% reported having practiced for more than 20 years. A high proportion, 62.3% of respondents were seeing less than 20 patients aged 65 and older per week, while 22.6% saw between 21 and 30 patients aged 65 and older per week.

Clinically Significant Function Decline

Our results indicate that 90% of GEM nurses considered a point drop of two or more on the 28-point OARS ADL-Q when the older adult did not have support at home, and a point drop of three or more when the older adult had support at home, as clinically significant to imply functional decline when considering all the 14 ADL/IADL items. When considering only the seven basic or physical ADL items, the same proportion of GEM
nurses considered a point drop of one or more when the older adult did not have support at home and a point drop of two or more when the older adult had support at home as clinically significant.

Our results also indicate that 90% of GEM nurses would be satisfied with a sensitivity of 90% for a clinical decision rule to identify older adults at high risk of subsequent functional decline at the time of the initial injury. A summary of these results are presented in Table 2.

Details on the distribution of GEM nurse responses on a clinically significant point drop as well as the required sensitivity are presented in Figures 2 and 3. When the older adult has support at home there is variability among the GEM nurses as to what the clinically significant point drop should be to imply functional decline as illustrated by the wide range of quartiles.

**Assessment for and Relevance of ADL to Functional Decline**

Participating GEM nurses’ views on the importance and assessment of the 14 ADL/IADL items to functional decline are presented in Figure 1. Our results showed that overall assessment rates of the 14 ADL/IADL items were high, with 70% or more of GEM nurses routinely assessing all the items. However, while a majority of

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**Table 1: Respondent Demographic Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th># (%) of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>51 (96.2)</td>
</tr>
<tr>
<td>Age Group (years)</td>
<td></td>
</tr>
<tr>
<td>&lt; 35</td>
<td>7 (13.2)</td>
</tr>
<tr>
<td>35-44</td>
<td>14 (26.4)</td>
</tr>
<tr>
<td>45-54</td>
<td>20 (37.7)</td>
</tr>
<tr>
<td>≥ 55</td>
<td>9 (17.0)</td>
</tr>
<tr>
<td>Missing</td>
<td>3 (5.7)</td>
</tr>
<tr>
<td>Years in Practice</td>
<td></td>
</tr>
<tr>
<td>&lt; 10</td>
<td>11 (20.8)</td>
</tr>
<tr>
<td>10-19</td>
<td>8 (15.1)</td>
</tr>
<tr>
<td>≥ 20</td>
<td>34 (64.2)</td>
</tr>
<tr>
<td>Number of Patients Aged 65 and Older Seen / Week</td>
<td></td>
</tr>
<tr>
<td>≤ 20</td>
<td>33 (62.3)</td>
</tr>
<tr>
<td>21-30</td>
<td>12 (22.6)</td>
</tr>
<tr>
<td>31-50</td>
<td>2 (3.8)</td>
</tr>
<tr>
<td>&gt; 50</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Missing</td>
<td>6 (11.3)</td>
</tr>
</tbody>
</table>

**Table 2: Required Point Drop to Define Functional Decline and Required Sensitivity for a Clinical Tool that Would Meet or Exceed Expectations for 90% of Respondents**

<table>
<thead>
<tr>
<th>Minimum Point Drop in All 14 Basic ADL/IADL Items*</th>
<th>Point Drop or Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>If patient has NO support at home</td>
<td>2</td>
</tr>
<tr>
<td>If patient has support at home</td>
<td>3</td>
</tr>
</tbody>
</table>

| Minimum Point Drop in the 7 ADL Items*             |                          |
| If patient has NO support at home                 | 1                         |
| If patient has support at home                    | 2                         |

| Sensitivity* %                                     | 90                        |

* Meet or exceed expectations for 90% of respondents

The dispersion of answers was smaller (i.e. less variability) when the older adults did not have support at home.

Similarly, there is some degree of variability among the GEM nurse responses on the required sensitivity for a clinical decision rule to identify injured older adults who may be at risk for a subsequent functional decline.

**Assessment for and Relevance of ADL to Functional Decline**

Participating GEM nurses’ views on the importance and assessment of the 14 ADL/IADL items to functional decline are presented in Figure 1. Our results showed that overall assessment rates of the 14 ADL/IADL items were high, with 70% or more of GEM nurses routinely assessing all the items. However, while a majority of
GEM nurses considered the items as very or somewhat important to functional decline, it was noted that they did not always assess all of the items. Items considered of less importance to assess included assessment of driving, taking care of own appearance, preparing meals, shopping for groceries, handling finances and doing housework.

**DISCUSSION**

The GEM nurses indicated that a point drop of at least two on the OARS Score was clinically significant when considering all the 14 ADL/IADL items. If the GEM nurses were considering just the seven ADL items, a point drop of one was considered significant. A lower point for the ADL items over all the items implies higher importance of the ADL items compared to the IADL items. Our findings highlight the importance of the basic or physical ADL items over the IADL items for any functional decline measurement.

We also found that a clinically significant point drop to define functional decline was dependent on the level of support received at home. The GEM nurses indicated that an older adult could live with a higher point drop in function when home support was available. Such views reflect the fact that a family member or home care worker can perform some of the tasks on behalf of the older adult such as handling finances or shopping for groceries. A sensitivity of 90% for a clinical tool would meet or exceed the requirement for 90% of GEM nurses. We considered the 90th percentile more important than the mean or the median because we want a majority of health professionals to be satisfied with the outcome measures. Only half of the GEM nurses would be satisfied if we used the medians.

In comparison, a commonly used geriatric screening tool (Identification of Seniors At Risk or ISAR), developed for use in the ED setting, has a sensitivity of 81% (Breithaupt & McDowell, 2001; Fillenbaum, 1988; McCusker, 1999). In our study, only 50% of the nurses had indicated a satisfaction with a sensitivity of up to 80%. Given our results, the ISAR tool is not sensitive enough for more than half of our respondents.

**Assessment and Relevance of ADL to Functional Decline**

Our results show that a high proportion of GEM nurses consider most of the OARS ADL-Q items as important in terms of functional decline and they routinely assess most items. Given the high proportion of GEM nurses assessing for functional decline and their experience with geriatric assessment, the perspective of these clinicians should inform others about the use of the OARS ADL-Q to predict functional decline in older adults.

**Respondents**

With a fairly representative sample of provincial GEM nurses at this conference, we achieved a satisfactory response rate or completion rate of 81.5%. The majority of the respondents were female because the majority of the GEM nurses in Ontario are female. Since we obtained a reasonably high completion rate out of a high proportion of all Ontario GEM nurses, 67.7% (65/96), attended the conference, our results may be generalizable to other specialty geriatric nurses who function in the ED setting.

**Study Limitations**

This study has a few limitations. While all GEM nurses at this conference were encouraged to participate, a few did not (12/65). It is unknown how this would have biased the survey results. A response rate of 81.5% is higher than the usual mean response rate of approximately 50% found in many previous medical personnel surveys (Asch et al., 1997; Cummings et al., 2001; Perry et al., 2012b; Perry et al., 2012a). We are not aware of any systematic reason for non-response, so we cannot speculate on how findings might have been different had all of the GEM nurses at the conference participated.
Functional decline can be measured in different ways with various instruments including the Functional Status Questionnaire (Jette et al., 1986), Lawton IADL Scales (Lawton & Brody, 1969), Functional Independence Measure (Granger et al., 1990), Barthel Index (Mahoney & Barthe1, 1965), Katz ADL (Katz et al., 1963), and the OARS ADL-Q (Fillenbaum, 1988). A potential limitation of this study is the use of the OARS ADL-Q that weights all the items the same; other instruments providing varying weights to functional ability items. However, since the OARS ADL-Q has been validated in the ED setting, we opted to use this tool.

Implications for GEM Nurses

The fast-paced and frequently overcrowded ED often prevents physicians and nurses from assessing older adults for current and future functional decline. To our knowledge no prior assessment has defined clinically significant functional decline. This definition may assist ED staff to identify previously independent older adults who may be at high risk of functional decline after sustaining a minor injury.

CONCLUSION

Our results indicate that 90% of frontline GEM nurses would consider a drop in function of at least two points on the 28-point OARS ADL-Q as clinically significant to imply functional decline. A sensitivity of 90% would meet or exceed 90% of GEM nurses’ requirements for a clinical decision rule to identify injured older adults who may be at high risk of functional decline six months’ post injury. It remains to be seen whether or not other emergency departments adopt the OARS ADL-Q and follow the protocol that has been established through this study.

REFERENCES


# Survey: Functional Decline in Elderly Patients

**Does your practice specialize in the care of the elderly?**
- [ ] Yes
- [ ] No

1. Are you:
- [ ] Male
- [ ] Female

2. Year of Birth: 19___

3. How many years have you practiced in your profession? _______ years

4. How many years have you specialized in the care of the elderly? _______ years

5. In what setting do you perform MOST of your geriatric or care of the elderly clinical activity?
- [ ] Emergency Department
- [ ] Long Term Care
- [ ] Other (Please specify): __________________________________________

6. On average how many patients (of any age) do you see per week? _______ # patients/week

7. On average how many patients that are 65 years of age and older do you see per week? _______ # patients/week 65 years of age and older

8. How often do you ask elderly patients if they have difficulty performing the following activities of daily living (ADL)?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Always</th>
<th>Often</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressing and undressing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting in and out of bed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using telephone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparing meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking own medications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking care of own appearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathing/Showering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting to bathroom on time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driving or taking transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping for groceries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling finances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing housework</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. If a clinical decision rule were available to identify elderly patients at high-risk of functional decline 6 months after sustaining a minor injury (injury that is treated on an outpatient basis without being admitted), how sensitive would you require such a rule to be, before you would be willing to use it?

<table>
<thead>
<tr>
<th>Sensitivity (%)</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

The following 14 tasks make up the Older Americans Resources and Services (OARS) Activities of Daily Living and Instrumental Activities of Daily Living (ADL/IADL) scale:

1. Eating
2. Dressing and undressing
3. Getting in and out of bed
4. Walking
5. Using telephone
6. Preparing meals
7. Taking own medications
8. Taking care of own appearance
9. Bathing/Showering
10. Getting to bathroom on time
11. Driving or taking transportation
12. Shopping for groceries
13. Handling finances
14. Doing housework

Each task is given a point value of 0, 1 or 2 based on ability to perform the activity:
- **2 points**: can perform the activity without help
- **1 point**: can perform the activity but with some help
- **0 points**: completely unable to perform the activity

10. Assuming all 14 tasks are used in determining functional decline what point drop would you say is clinically significant to imply functional decline 6 months after sustaining a minor injury? (Point drop = number of points lost due to change in ability from a baseline of being completely independent (i.e. 14 points = 7 tasks x 2 points each))

<table>
<thead>
<tr>
<th>Point drop</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

11. If we were to only look at the basic ADL tasks (i.e. the 7 tasks listed below) what point drop would you say is clinically significant to imply functional decline 6 months after sustaining a minor injury? (Point drop = number of points lost due to change in ability from a baseline of being completely independent (i.e. 14 points = 7 tasks x 2 points each))

- **Eating**
- **Dressing and undressing**
- **Getting in and out of bed**
- **Walking**
- **Using telephone**
- **Preparing meals**
- **Taking own medications**
- **Taking care of own appearance**
- **Bathing/Showering**
- **Getting to bathroom on time**

<table>
<thead>
<tr>
<th>Point drop</th>
<th></th>
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</thead>
</table>

12. Six months after sustaining minor injury (injury that is treated on an outpatient basis without being admitted), how important do you consider each of the following tasks in terms of performance by an elderly patient who was completely independent prior to the injury? Assume the patient has NO support at home.

<table>
<thead>
<tr>
<th>Task</th>
<th>Very Important</th>
<th>Somewhat Important</th>
<th>Less Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressing and undressing</td>
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<tr>
<td>Bathing/Showering</td>
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<tr>
<td>Getting to bathroom on time</td>
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<tr>
<td>Driving or taking transportation</td>
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<tr>
<td>Shopping for groceries</td>
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<tr>
<td>Handling finances</td>
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<td></td>
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<tr>
<td>Doing housework</td>
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</tbody>
</table>

13. If we were to only look at the basic ADL tasks (i.e. the 7 tasks listed below) what point drop would you say is clinically significant to imply functional decline 6 months after sustaining a minor injury? (Point drop = number of points lost due to change in ability from a baseline of being completely independent (i.e. 14 points = 7 tasks x 2 points each))

<table>
<thead>
<tr>
<th>Point drop</th>
<th></th>
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</thead>
</table>
EVALUATION OF A CONTINENCE IMPLEMENTATION PROGRAM ON A GERIATRIC REHABILITATION UNIT

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ABSTRACT

Baycrest Health Sciences implemented guidelines for continence care management with early assessments and an interdisciplinary team approach on a Low Tolerance, Long Duration rehabilitation unit to address the needs of patients with physical and/or cognitive impairment reasons for being unable to toilet themselves. The purpose of this evaluation was to assess the implementation of guidelines and strategies for managing continence, as integrated into clinical practice on a geriatric rehabilitation unit. Nurses were trained on a continence care protocol. A needs survey was administered to determine learning needs and uptake of care practices. A second survey evaluated the impact of the strategies. A chart audit of completed continence admission assessments was conducted. The Iowa model was used as the knowledge translation theory to guide implementation. Nurses had statistically significant improvement (p < .05) in awareness of strategies for managing continence, in confidence completing assessments and in creating care plans based on the bladder/bowel diaries. A chart audit revealed 80% of admission continence assessments were completed. This evaluation helped understand the barriers and facilitators to implementing continence guidelines and the need for Plan-Do-Study-Act cycles to ensure optimum uptake of best practices.

Keywords: aging, evidenced-based practice, knowledge translation, prompted voiding, urinary incontinence

Urinary Incontinence (UI), an involuntary leakage of urine, is estimated to affect 3.3 million Canadians (The Canadian Continence Foundation, 2012). While UI affects people of all ages, it is especially prevalent for older adults with approximately half of all inpatients experiencing UI (Chutka, et al., 1996; Dingwall & Mclafferty, 2006). There is a basic misconception among the public as well as care providers that UI is an expected change that occurs with the aging process (Dingwall & McLaugherty; Registered Nurses Association of Ontario [RNAO], 2011). However, “urinary incontinence can be resolved, better managed, or better contained in 100% of the people affected [including older adults]” (Borrie & Valiquette, 2002, p. 114), and there are interventions designed to achieve this. Research conducted beginning in the late 1980's has demonstrated the effectiveness of utilizing a prompted voiding intervention to assist patients in regaining/maintaining urinary continence across a variety of healthcare settings (Burgio, et al., 1994; Hu, et al., 1989; Jirovec & Templin, 2001; Ouslander, et al., 1995; Palmer, Bennett, Marks, McCormick, & Engel, 1994; Schnelle, et al., 1989). The Registered Nurses' Association of Ontario Best Practice Guideline (BPG) Promoting Continence using Prompted Voiding has been compiled based on the strong and high quality evidence found from prior studies as to the effectiveness of the prompted voiding intervention (Eustice, Paterson, & Roe, 1999; Eustice, Roe & Paterson, 2004). The BPG features an education and implementation program to promote evidenced-based urinary continence care. The RNAO defines prompted voiding as “a behavioural technique using verbal and physical cues to assist the individual to use the toilet or appropriate receptacle... [and it] is a first-line intervention for some types of urinary incontinence (urge, stress, mixed and functional)” (RNAO, 2005, p. 15). The goals of the prompted voiding intervention are: (a) to reduce the frequency and severity of urinary incontinence episodes, (b) to prevent the complications associated with urinary incontinence and (c) to improve quality of life (RNAO, 2011).

Despite the fact that a highly evidenced-based and user-friendly BPG exists, many patients in geriatric healthcare settings continue to experience UI leading to an increase in urinary tract infections (UTIs), skin breakdown and falls, and decrease in quality of life (Agnew & Booth, 2009; RNAO, 2011). This could be due to the multiple barriers that staff experience when trying to promote continence for their patients, some of which include: increased time demands of the prompted voiding intervention, difficulty toileting on time due to workload, and lack of appropriate transfer/mobility equipment (RNAO, 2005; Wyman, 2003). Translating evidence into practice requires multiple approaches (La Rocca, 2012). These include: engaging
Baycrest’s Low Tolerance, Long Duration (LTLD) unit was one of five units selected for the continence guideline implementation. The LTLD inpatient program is designed for older adult patients who do not meet the criteria for high intensity rehabilitation programs (Leung, et al., 2015). Baycrest selected the Promoting Urinary Continence Using Prompted Voiding guideline (RNAO, 2005; RNAO, 2011) for implementation based on the incidence of incontinence in our geriatric population. Baycrest’s Low Tolerance, Long Duration (LTLD) unit was one of five units selected for the continence guideline implementation. The LTLD inpatient program is designed for older adult patients who do not meet the criteria for high intensity rehabilitation programs (Leung, et al., 2015).

PURPOSE

The purpose of this evaluation was to assess the implementation of the guideline and strategies for managing continence, as integrated into clinical practice for a geriatric LTLD inpatient population. Patients on LTLD units may have various types of incontinence including functional incontinence where for physical and/or cognitive reasons they are unable to get to a bathroom. Many patients on the unit have continence goals, which they work towards achieving with the support of the healthcare team. Maintaining or regaining continence and/or adhering to a set toileting schedule has a major impact on discharge planning for those who are transitioning back into the community or living independently. Therefore, creating and implementing tools and processes that help staff facilitate continence care plans and goals for their patients’ needs may enhance the discharge planning process. The evaluation will help to inform the unit on the implementation and staff needs.

METHODS

The continence guideline was implemented on a 32-bed LTLD unit. Implementation of the continence guideline on the LTLD unit commenced in April, 2014 and ended in February, 2015 and followed the seven steps of the Iowa Model. The seven steps were undertaken as follows.

Step 1, Selection of a Topic was in accordance with Baycrest’s implementing RNAO BPGs as part of the organization’s strategic plan to achieve BPSO® status, and the continence guideline was selected as a top priority for Baycrest patients by nursing administration.

Step 2, Forming a Team commenced in April, 2014 when a multidisciplinary continence working group was created to work on the implementation plan. A continence working group was formed, which was co-lead by an Advanced Practice Nurse (APN) and a staff registered nurse who was a RNAO Advanced Clinical Practice fellow from the rehabilitation program. The group consisted of staff nurses, personal support workers (PSWs), physical and occupational therapists, dieticians, a doctor, the clinical manager and social workers from the rehabilitation program.

Step 3, Evidence Retrieval was accomplished by the group members with several resources identified including the RNAO BPG (2005), and supporting literature for the prompted voiding BPG, as well as a quality improvement tool from the Ontario Health Quality Council (n.d.) on restoring and promoting continence.

Step 4, Grading the Evidence after reviewing the evidence obtained in step 3, the group developed a consensus that the prompted voiding RNAO BPG consists of mostly high quality evidence, and has proven to be an effective intervention across a variety of healthcare settings (Eustice, Roe & Paterson, 2004).

Step 5, Developing an Evidence-Based Practice (EBP) Standard was facilitated by the working group, who considered the BPG’s “relevance for practice, its feasibility, appropriateness, meaningfulness, and effectiveness for practice” (Doody & Doody, 2011, p. 662). These considerations promote a patient-centered approach (Doody & Doody), and allow for the BPG protocol to be individualized for the specific needs for the patient population. In collaboration with the clinical team, the continence working group drafted the continence documentation tools that would be utilized for guideline implementation. These tools include: a nursing admission continence assessment, a continence care process map, a continence care plan, a bowel/bladder (BB) diary/goals for discharge planning, and a daily prompted toileting schedule.
Step 6 features implementing EBP as part of an evaluation to examine implementation before integrating the evidence on a larger scale (Ciliska, et al., 2011). A series of meetings with the LTLD staff (nursing, allied health, and unit manager) were conducted to introduce the continence guideline. Continence round discussions took place once per week on the day and evening shifts. Nursing and allied health were informed of the continence program rollout via in-services, staff meetings and e-mail. Over the next six weeks, the APN attended continence rounds and provided education on BB diaries, the continence assessment, toileting schedule and interventions, and discussed cases of clients on the unit. Processes for forming a continence care plan was developed, with feedback obtained from nursing staff and manager approval. In mid-August, the continence assessment screen went live in the electronic medical records, for all new admissions. The ‘plan of care for continence’ documentation tool began for all appropriate patients (as determined by nursing staff based on the continence care process map). The continence care process map is a decision tree that assists the nurse in determining what interventions and documentation tools are needed based on the patient’s continence status (if the patient is continent, no further assessment/intervention is needed unless there is a change of status). The continence assessment features a list of questions used to determine whether or not a patient is continent, what type of incontinence he/she may be experiencing, and assesses bowel function and fluid/fibre intake. For incontinent patients, the ‘plan of care for continence’ documentation tool is used to determine voiding patterns based on a BB diary, which is a three consecutive day voiding record. The voiding record is analyzed for bowel/bladder patterns to determine a voiding/toileting schedule should a patient be a candidate for the prompted voiding intervention. Feedback between all members of the healthcare team and evaluation of the patients’ continence care plan is ongoing to help inform discharge planning surrounding patient continence goals.

The continence protocol is as follows: a continence assessment is administered within 7 days of admission, a 3-day BB diary is completed for appropriate patients, regular toileting/voiding patterns are recorded and analyzed, and a continence care plan/toileting schedule is created and put into place.

To ensure that appropriate equipment was available to nursing and therapeutic staff, an equipment audit was completed. A proposal was submitted and additional toileting devices were purchased for the unit.

As part of an initial needs assessment a pre-test was administered to nursing and interdisciplinary staff who were on the unit six weeks after the documentation tools were introduced and before the guidelines were formally implemented. The pre-test featured 14 questions, which were designed to determine staff awareness of continence care strategies/BPGs and their confidence in implementing them. Responses were scored on a five point unipolar scale from “not at all” to “very much”. A follow up post-test was administered five months post implementation to the nursing and interdisciplinary staff who were on the unit at that time. Step 7, Evaluation was based on the findings from the surveys, which were communicated with the team to foster further improvements to the continence care protocol. Feedback from the needs assessment was reviewed, and staff generated strategies to facilitate change during rounds and focus groups.

RESULTS

Needs Assessment and Follow Up

The needs assessment data that was collected at step 6 is presented in Table 1. The major barriers to guideline implementation were identified in the needs assessment survey presented in Table 2. This is important because the following themes needed to be addressed to facilitate the implementation. These themes included: discontinuity in staff such as different team leaders and different nurses, need for standardization of practice including a common care plan, and communication. The availability of appropriate equipment in predetermined areas was also identified.

Based on the needs assessment feedback, educational strategies that were developed through a series of Plan-Do-Study-Act cycles (PDSA) included: continence champions on the unit, case studies utilizing continence care assessments, additional education on filling in BB diaries and analysis to design a toileting schedule, review of medical chart documentation, and the use of an education/communication board on continence displayed at the nurses’ station.

Based on the needs assessment feedback, communication strategies also were developed, which consisted of team huddles and focus groups highlighting issues surrounding the importance of documenting to track patient goals with admission and discharge, and documenting on daily bowel/bladder patterns as well as a change in status. Additionally, it was determined that continence discussions should take place regularly between nursing staff and the multidisciplinary team, and prompts were put in place to engage in continence discussions for LTLD patients during weekly rounds. To integrate the continence assessments into routine practice, unit champions used a clipboard with a list of highlighted continence assessments due, and a reminder in the shift report on day 6 and 7 to complete the admission continence assessment.
Incontinence Intervention Evaluation

The impact of the strategies used to implement the continence guideline was determined by comparing the nurse and interdisciplinary team responses on the survey items on the pre-test and post-test. Since we were unable to match the pre and post tests for each staff member we analyzed differences between the pre-test and the post-test using an independent sample t-test. The nursing results are presented in Table 3 and the interdisciplinary team results are presented in Table 4.

After the training on the continence guidelines, nursing staff felt significantly more aware of strategies for managing incontinence, more confident in filling in the continence assessments and more confident in creating care plans for managing patients’ incontinence based on the bladder and bowel diaries and continence assessment.

The significant changes in attitudes and confidence were reflected in the performance of the staff, as measured by the number of completed continence admission assessments. The continence assessment audit showed a dramatic 80% completion rate at 6

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Table 1: Strategies for Implementing a Continence Care Protocol

<table>
<thead>
<tr>
<th>Staff Feedback:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain staff feedback from the needs survey on how the documentation tools (continence assessment, bowel/bladder (BB) diary, algorithm) were working and pre-implementation focus group with nurses and the interdisciplinary team</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Strategies:</th>
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</thead>
<tbody>
<tr>
<td>Continence champions on the unit</td>
</tr>
<tr>
<td>Review case studies utilizing continence care assessments</td>
</tr>
<tr>
<td>Additional education on filling in bowel/bladder diary and design a toileting schedule</td>
</tr>
<tr>
<td>Case review of medical chart documentation</td>
</tr>
<tr>
<td>Communication board on continence in the charting area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication Strategies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team huddles mid shift:</td>
</tr>
<tr>
<td>1. Importance of documenting to track patient goals with admission and discharge</td>
</tr>
<tr>
<td>2. Document on daily bowel/bladder patterns, change of status</td>
</tr>
<tr>
<td>Incorporate continence discussions in weekly rounds between nursing staff and the team</td>
</tr>
<tr>
<td>Designate team member to use prompts in weekly clinical rounds to engage continence discussions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standardize Practice Strategies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to be routine practice for nurses:</td>
</tr>
<tr>
<td>1. Clipboard with list of highlighted continence assessments due</td>
</tr>
<tr>
<td>2. Reminder in the shift report on day 6 and 7 to complete admission assessment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ensure appropriate equipment available:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment audit - draft proposal for toileting equipment purchase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support for Initiatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide unit manager and professional practice leaders with project updates</td>
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</tbody>
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Table 2: Barriers to Implementing Continence Guidelines

<table>
<thead>
<tr>
<th>Different team leaders</th>
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<tbody>
<tr>
<td>Not all the same nurses for one week for one patient</td>
</tr>
<tr>
<td>Care is not always consistent</td>
</tr>
<tr>
<td>Time management and workload</td>
</tr>
<tr>
<td>All hands must be on board to accomplish continence</td>
</tr>
<tr>
<td>Need to standardize practice</td>
</tr>
<tr>
<td>A plan is made but not everyone follows up with it</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Availability of appropriate equipment in predetermined areas</td>
</tr>
</tbody>
</table>

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Incontinence Intervention Evaluation

The impact of the strategies used to implement the continence guideline was determined by comparing the nurse and interdisciplinary team responses on the survey items on the pre-test and post-test. Since we were unable to match the pre and post tests for each staff member we analyzed differences between the pre-test and the post-test using an independent sample t-test. The nursing results are presented in Table 3 and the interdisciplinary team results are presented in Table 4.

After the training on the continence guidelines, nursing staff felt significantly more aware of strategies for managing incontinence, more confident in filling in the continence assessments and more confident in creating care plans for managing patients’ incontinence based on the bladder and bowel diaries and continence assessment.

The significant changes in attitudes and confidence were reflected in the performance of the staff, as measured by the number of completed continence admission assessments. The continence assessment audit showed a dramatic 80% completion rate at 6
months post-implementation, which was a significant increase from the 2% completion rate that was previously identified.

**DISCUSSION**

These results are in keeping with the literature on guideline implementation and Knowledge Translation (KT). Continence guideline uptake was a central focus to the implementation efforts and we found that the use of a KT model, specifically the Iowa model was useful in directing the process. The Iowa model effectively informed multiple implementation strategies to support the clinical team’s uptake of continence care and integrate the guideline within the processes on the unit. Strategies to improve continence management were challenging to implement but the Iowa model provided a tool to enhance the implementation process. The Iowa model facilitated staff engagement and supported a change in practice evidenced by the outcomes from the evaluation survey and completion rate for the continence documentation tool.

While the results are encouraging, several limitations

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Table 3: Pre and Post Surveys of the Nurses

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>PRE TEST NURSES N = 14 MEAN (SD)</th>
<th>POST TEST NURSES N = 21 MEAN (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since the training on continence, do you feel you have an increased awareness of strategies for managing incontinence?*</td>
<td>2.2 (± 1.2)</td>
<td>3.1 (± 1.0)</td>
</tr>
<tr>
<td>Do you feel confident in filling in the continence assessment?*</td>
<td>2.2 (± 1.2)</td>
<td>3.5 (± 0.7)</td>
</tr>
<tr>
<td>Do you feel you are confident in creating care plans for managing your patient’s incontinence based on the bladder &amp; bowel diaries and continence assessment?*</td>
<td>2.2 (± 1.3)</td>
<td>3.3 (± 0.7)</td>
</tr>
<tr>
<td>Do feel there is a multidisciplinary approach to creating strategies for continence management?</td>
<td>2.2 (± 1.0)</td>
<td>2.9 (± 1.0)</td>
</tr>
<tr>
<td>Do you feel there is sufficient communication amongst the team for how to manage the patients’ continence level?</td>
<td>2.0 (± 1.0)</td>
<td>2.5 (± 1.3)</td>
</tr>
<tr>
<td>Do you feel patients and families are well informed about continence care plans at discharge?</td>
<td>1.8 (± 1.0)</td>
<td>2.5 (± 1.0)</td>
</tr>
</tbody>
</table>

*Increase from pre to post was statistically significant p < .05.

Note: Responses were measured on 5 point unipolar scales anchored by 1 = “Not at all” and 5 = “Very much”.

Table 4: Pre and Post Surveys of the Interdisciplinary Team

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>PRE TEST INTERDISCIPLINARY TEAM N = 12 MEAN (SD)</th>
<th>POST TEST INTERDISCIPLINARY TEAM N = 9 MEAN (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do feel there is a multidisciplinary approach to creating strategies for continence management?</td>
<td>2.2 (± 1.0)</td>
<td>2.3 (± 0.7)</td>
</tr>
<tr>
<td>Do you feel there is sufficient communication amongst the team for how to manage the patients’ continence level?</td>
<td>1.8 (± 1.0)</td>
<td>2.4 (± 0.5)</td>
</tr>
<tr>
<td>Do you feel patients and families are well informed about continence care plans at discharge?</td>
<td>1.5 (± 0.8)</td>
<td>2.0 (± 1.0)</td>
</tr>
</tbody>
</table>

Note: Responses were measured on 5 point unipolar scales anchored by 1 = “Not at all” and 5 = “Very much”.
should be noted. First, evaluation was based on only one unit of specialized care. The generalizability to other geriatric units is unclear. Second, the evaluation did find a positive impact on the staff but did not examine actual changes in patient incontinence and voiding patterns. As this was an evaluation which used the Iowa model to guide the roll out of continence care management, it is suggested that the next step of inquiry should look at the impact that the continence guideline will have on patient outcomes.

CONCLUSION

This was a program evaluation initiative to assess the implementation of the prompted voiding intervention and understand the barriers and facilitators of introducing continence care guidelines. This evaluation demonstrated the need for Plan-Do-Study-Act cycles to ensure that optimum uptake of best practices is integrated with the clinical team's processes in delivering patient care. KT strategies were used to build capacity and included staff involved with planning, enhancing team communication and standardizing care. Results from this evaluation study can be used to elicit further research in this area to help integrate evidence-based interventions into practice, and promote better patient outcomes.

ACKNOWLEDGEMENTS

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This work is part of the BPSO® Program, funded by the Ministry of Health and Long-Term Care. For more information about the BPSO® Program, please visit www.RNAO.org.

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REFERENCES


