SIMON FRASER UNIVERSITY, VANCOUVER, CANADA

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GRC NEWS

THE NEWSLETTER OF THE GERONTOLOGY RESEARCH CENTRE

SENIORS' HOUSING UPDATE

ISG 2010

The Department of Gerontology is proud to announce its new PhD Program

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SPECIAL ISSUE ON ELDER ABUSE

This issue of GRC News focuses on the important and disturbing topic of elder abuse. In the main article, former Gerontology Department masters student Yongjie Yon asks if elder abuse is just spousal abuse that has "grown old", or a unique phenomenon. He also draws out some important implications for policy development for awareness campaigns and improving social networks to help avoid victimization. Look out for details of the new book by Gloria Gutman and Charmaine Spencer on "**Aging, Ageism and Abuse – Moving from Awareness to Action**" and information about **World Elder Abuse Awareness Day** on 15th June. I would also like to draw your attention to the Seniors' Housing Update, which includes exciting news about the upcoming **7th World Conference of the International Society of Gerontechnology**, that the GRC is hosting at the Marriot Pinnacle Hotel, 27th-30th May.

Andrew Sixsmith PhD
Director of Gerontology Research Centre

GUTMAN BECOMES 3RD PRESIDENT OF INPEA

On February 1, the GRC's founding director **Dr. Gloria Gutman**, was elected President of the International Network for Prevention of Elder Abuse (INPEA). INPEA was founded in 1997. Its mission is to increase society's ability, through international collaboration, to recognize and respond to the mistreatment of older people in whatever setting it occurs, so that the later years of life will be free from abuse, neglect, and exploitation. Its objectives are to: 1) increase public awareness of the issue; 2) promote education and training of professionals and paraprofessionals in identification, treatment and prevention; 3) further advocacy on behalf of abused and neglected older persons and; 4) to stimulate research into the causes, consequences, prevalence, treatment and prevention of elder abuse and neglect.

INPEA's first president was Dr. Rosalie Wolf (USA). The second president was Dr. Lia Diachman (Argentina).

INPEA SECRETARIAT MOVES TO THE GRC

Since February 15, 2010 the INPEA Secretariat has been located at the GRC.
Contact information is as follows:
INPEA Secretariat,
#2800-515 W. Hastings St.
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URL: www.inpea.net

World Elder Abuse Awareness Day 2010

CELEBRATE WORLD ELDER ABUSE AWARENESS DAY (WEAAD) ON 15 JUNE!

1) Wear something **purple** on **June 15th** to raise awareness about **WEAAD** with your local media, colleagues and other contacts;

2) Plan and implement your own **WEAAD** activities and;

3) Register your **WEAAD** activities with INPEA so that they may be listed on its Calendar of Events.

ELDER ABUSE AWARENESS NOMINATION

To mark World Elder Abuse Awareness Day, the SFU Gerontology Research Centre established an annual awards program to recognize outstanding contributions made by individuals, groups, or businesses in British Columbia towards advancing elder abuse awareness and prevention.

There are four categories of recognition:
For individual, community group or agency contributions;
For innovative programs;
For media reporting (print, radio, TV) and marketing;
For business efforts.

To submit a nomination for 2010, please indicate:
1) Individual/group name, address, e-mail (if applicable), telephone and fax number;
2) The category of award (see above);
3) The nature and scope of the nominee's contribution to this area, and in what capacity;
4) Your full contact information.
Award winners will be recognized at one or more of the **WEAAD** events in BC

Send your nomination to:
OAAN Awareness to Action Awards Committee,
c/o SFU Gerontology Research Centre, 515 West Hastings St., Vancouver, BC, V6B 5K3.
Nominations may also be made by fax (778-782-5066).

Deadline for submission is May 30, 2010.

John K. Friesen Public Forum for Seniors

Gerontechnolgies for health, aging in place and fun: What's there for me?

Marriott Pinnacle Hotel, 1128 West Hastings Street, Vancouver
May 30, 1:00-4:00 pm
FREE EVENT

To register or for more information contact: **Bobbi Symes**
BC Network for Aging Research/Gerontology Research Centre
Email: **secretariat@bcnar.ca** Phone: **778-782-5210**

IS ELDER ABUSE SIMPLY A CASE OF SPOUSAL ABUSE GROWN OLD?

by Yongjie Yon (MA, Gerontology)

INTRODUCTION

Given the increase in population aging, issues relating to elder abuse are becoming more important. The World Health Organization (WHO, 2002) has identified abuse of older adults as a global social problem that requires urgent action. Due to the hidden nature of elder abuse, more research is needed, especially on the nature of spousal abuse or intimate partner violence (IPV) in older populations.

This study examines whether IPV is a unique phenomenon or a continuation of an earlier pattern of abuse. In other words, is elder abuse by an intimate partner simply a case of spousal abuse grown old? Despite 30 years of research and attention on IPV, few studies have compared spousal abuse among mid-and-old age intimate partners. To investigate patterns of abuse among mid-and-older intimate partners, the following research questions are examined:
1. What is the prevalence of spousal abuse among mid-and-old age adults?
2. How is spousal abuse at mid-age different from spousal abuse at older age? Specifically, what are the risk and protective factors associated with IPV for the victims and perpetrators?

METHODOLOGY

The national Microdata Files of The General Social Survey (GSS) on Victimization 1999 (cycle 13) and 2004 (cycle 18) are pooled together for the purpose of this study. The combined use of the GSS datasets provides sufficient sample size in order to compare factors associated with IPV among mid-and-old age adults. Logistic multivariate regressions are used to examine probability of abuse as a function of a set of risk factors while controlling for extraneous variables. The risk factors are categorized into personal characteristics, relationship factors and environmental factors.

Personal risk factors: (1) disability (i.e., difficulty in hearing, seeing, communicating, walking and climbing stairs as well as having no impairments in performing ADLs); (2) poor health (i.e., good to excellent health vs. fair to poor health); and (3) dependency on medication (i.e., using medication to help them to sleep, calm or deal with depression). In addition, protective factors are examined in the study. Examples of protection against victimization include taking a self-defense course, carrying something for defense and obtaining a dog.

Relationship risk factors: Spouses' age differences are examined in order to understand how age differences may influence IPV. The study also examined the dependency in the relationship between the respondents and the potential abusers by examining the amount of their contribution to household income, differences in education attainment and alcohol consumption.

Environmental risk factors: geographic region of Ontario, Atlantic, Quebec, Prairie and BC, rural and urban, community size and social isolation. Several measures are used to examine social isolation. First, number of social participation in evening outside activities and second perceptions of crime in their neighbourhood compared to other areas in Canada.

RESULTS

The descriptive results on the prevalence of IPV show several statistically significant differences between the two age groups. In particular mid-age adults experience higher prevalence of emotional/financial abuse (9.1%) than older adults (6.9%) as well as a higher prevalence of physical/sexual abuse (2.4%) compared to older adults (1.0%). Furthermore, descriptive results on the risk and protective factors among mid-and-old

RECENTLY COMPLETED THESIS

Yon, Y. (2010). A comparison of intimate partner violence in mid-and-old age: Is elder abuse simply a case of spousal abuse grown old? M.A. Thesis, SFU Department of Gerontology (Supervisor: A. Wister).

The study used a national pooled dataset from the 1999 and 2004 Canadian General Social Surveys (GSS) to compare spousal abuse between mid-age adults (45-59 years) and older adults (>60 years). Two types of abuse: emotional/financial and physical/sexual are investigated. Three regression models on personal, relationship and environmental explanatory factors are examined to determine salient predictors of spousal abuse for each age group. Both similarities and differences were uncovered across the age groups. In general, the differences reflect the complexities of an aging population indicating the importance of social network, such as participation in social activities and community size. In addition, disability status and spousal drinking habits for both age groups were found to be associated with abuse. This study is the first to examine spousal abuse among younger and older populations on the national level. The findings have implications for intervention programs for abused victims.

Editor's Note: Please see the in-depth article on Yongjie Yon's thesis in this issue.

age adults indicate some similarities and differences.

DISCUSSION

While the problem of elder abuse is not often compared to spousal abuse, research has indicated that some elder abuse is spousal abuse grown old and that the abuse may be a continuation of harms that begin earlier in a relationship (Hotaling et al., 1988). This study found that regardless of age, the commonalities for the likelihood of experiencing emotional/financial abuse include: (1) being members of visible minorities; (2) people who take medication to help them to sleep, calm or deal with depression; (3) persons with disabilities that hinder them from performing activities for daily living (ADL); (4) couples who have wide age differences with their spouses; (5) persons whose spouse drinks excessively on single occasions; and (6) those who perceived higher crime rate in their neighbourhood. Likewise, regardless of the age, physical/sexual abuse is associated with people having: (1) disabilities such as difficulty in hearing, seeing, communicating, walking and climbing; (2) spouses who have drinking problems; and (3) persons who perceive their neighbourhood with higher crime rate when compared to the crime rates in other Canadian communities.

For older adults, there are some unique explanatory variables that are associated with emotional/financial and physical/sexual abuse. The study shows that seniors who participated in more social activities, such as going out at night to visit relatives or friends, or to restaurant, movies, theatres and casinos, are more likely to report experiencing both types of abuse.

There are several ways to interpret this finding. First, the regression analysis only indicates the odds ratios and likelihood of experiencing abuse while controlling for other extraneous variables. It does not indicate the sequence of the relationship. In other words, we are not sure whether the respondents are punished by their spouses for being away at night or that participation in evening activities is a coping response to escape from their abusers.

Second, participation in social activities also exposes older adults to social issues such as ageism, elder abuse and other forms of discrimination. Being more aware of such issues allows seniors to recognize and report the presence of emotional/financial and physical/sexual abuse. Therefore, rather than associating the negative influence of social activities with abuse, the findings from this study may indicate that social participation is a protective factor in helping seniors to recognize abuse.

There are two explanatory variables associated only with emotional/financial abuse for older adults. First, this study found that seniors living in rural and small town (non CMA/CA) are more likely to report experiencing emotional/financial abuse. Previous research has found that rural victims of domestic violence demonstrated higher rates of emotional abuse and physical abuse, while urban victims demonstrated higher rates of passive neglect (Dimah & Dimah, 2003). Given the hidden nature of IPV, this problem may be further compounded by the low population density in the neighbourhood (Kosberg, 1988) and the lack of services (Teaster, Roberto, & Dugar, 2006).

Second, the study has found that seniors who contribute more than 50% to their household income are more likely to experience emotional/financial abuse. While some research has indicated that some victims are dependent on the abusers other research has found that abusers are more dependent on their victims in some ways, especially for financial abuse (Wolf & Pillemer, 1989).

There are also two other explanatory variables associated with physical/sexual abuse among older adults. First, consistent with the Canadian and other international research on violence against older women, this study also found that older women are more likely to report being victims of physical/sexual abuse than older men (Brzozowski, 2004; Rennison, 2001; Rinfret-Raynor et al., 2004). Older women, as a result of a lifetime of discrimination, may be cumulatively more disadvantaged than their younger counterparts in acquiring knowledge and access to services and resources. Such disadvantages would place them more at risk for victimization and lower the possibility of leaving an abusive relationship (Kosberg, 1988; Zink et al., 2003).

Secondly, among the older age group, those who are one-to-five years younger than their spouses are less likely to experience physical/sexual abuse. Being younger, these older adults may be less frail and dependent on others to care for them thus, it is reasonable to assume that those couples would share relatively similar health needs and are able to support each other.

LIMITATIONS

There are several limitations of the GSS and the study. First, although anonymity was ensured during the data collection phase, it is possible that the prevalence of IPV is underestimated. Secondly, the GSS combination of emotional/financial abuse may not be appropriate because research has shown that emotional and financial abuse are different with specific sets of risk factors (Comijs et al., 1998). Thirdly, the GSS questionnaire did not specify the degree and intensity of the abuse. Such information is important, as more weight and attention should be given when the abuse results in hospitalization. Fourth, the survey relies on past memory (past 12 months). Given the long time gap between the abusive act and the interview, it is possible that information provided may not be accurate, especially for the older age group.

FUTURE RESEARCH

The findings of this study suggest a number of future research directions. First and foremost, in order to truly examine the extent and impact of elder abuse, there is a need for panel longitudinal data to examine elder abuse trajectories over time. Secondly, given the findings on the effects of social participation on elder abuse by intimate partners, more research is needed to examine the role of the social network, especially for older couples. Thirdly, future research should also include a

gender-based analysis on IPV. A gender-based analysis can provide more insights on abuse of older men and women. Future research should examine abuse of older men for at least two reasons. First, since abuse is about three times more common for those living with someone else, elderly men are more likely to be in this situation. Secondly, most men are older than their wives, resulting in them being more vulnerable to abuse (Pillemer & Finkelhor, 1988).

IMPLICATIONS

A number of implications can be derived from this study. First, the results support the importance of abuse awareness campaigns and improving social networks among older adults. With the emphasis on the social networks seniors can become more educated about abuse and better able to recognize cases of victimization.

Secondly, it is imperative to reach out to the most isolated seniors, especially those living in remote or rural areas. Community programs should aim to help foster social networks. Finally, given that some older women may have been IPV victims for a long time, special attention should be dedicated to supporting them and recognize their unique needs. These victims may choose to remain in abusive relationships because they had less opportunity to develop the skills for autonomy (Zink et al., 2003).

Thirdly, it is becoming clear that there are different risk factors of IPV for different age groups and perhaps different senior sub-populations (i.e., visible minorities, immigrant status, genders and Aboriginal). The "all hazards, one-size fits all" approach may not apply to abuse and victimization of older adults, which can have profound implications in the delivery of health and social services.

The advancement of elder abuse intervention and prevention depends on the continued interest of the academic community as well as the attention of health care practitioners, law-enforcement agencies and senior's advocacy groups. Collaborations are crucial to ensure the safety and security of seniors and enable them to fully contribute to society without fear of victimization.

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TO OUR GRCN/SHUP READERS

The GRC has decided to produce the next several future issues of our newsletters, GRCNews and SHUP, in electronic and PDF-format only. We have made this decision to test whether our readership will find this Green-initiative all-electronic format acceptable. I welcome your feedback concerning this initiative.
Raymond G. Adams/Editor
GRCNews/SHUP

Lillian Zimmerman (MSW, GRC Research Associate in Gender Issues) very generously donated $500 from the sale of her recently published book ("Bag Lady or Powerhouse: A Roadmap for Midlife (Boomer) Women") to the Centre's library.

GRC NEWS

(GRC) is committed to high quality research and knowledge transfer in the field of aging.

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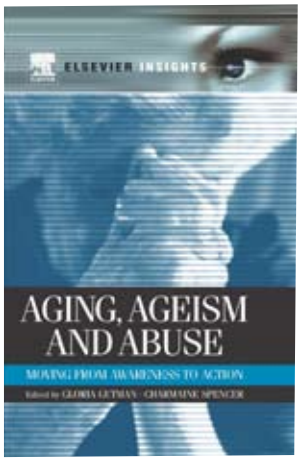
SFU SIMON FRASER UNIVERSITY THINKING OF THE WORLD

NEW PUBLICATION



Gutman, G.M., & **Spencer, C.** (2010). *Aging, ageism and abuse: Moving from awareness to action*. Elsevier Insights [online and hard cover].

Population aging is occurring world wide. Reports of abuse and neglect of older men and women are also evident on a global basis. While much of the work on identification, treatment and prevention of abuse of older persons has been within the family setting, it cannot be separated from the broader experience of growing old in contemporary society. Time and time again, issues around legislation, policy and practice collide with human rights, societal attitudes and stereotypes.

Raising awareness of the link between aging, ageism and abuse, is one goal of this book and a necessary first step in the battle to eliminate abuse and neglect of older persons. But awareness is not enough, action needs to be taken to develop case finding procedures and remedial and preventive policies and programs that are elder-friendly both in intent and in the way that they are implemented. This book offers a thought provoking examination of selected current policies and programs that have been developed within the health, social services and criminal justice systems. It highlights the special issues and vulnerabilities of older women, older men and persons from the LGTB community. It also features a unique approach to reaching young people through an educational program that shapes attitudes and behavior via graphic art. The take-away message is "Freedom from Abuse in Later Life ... An Achievable Goal".

CHAP.1 Social issues and social policy response to abuse and neglect of older adults/Patricia Brownell; CHAP.2 Abuse in later life: when and how does gender matter?/Jill Hightower; CHAP.3 The invisible problem of abused older men/ Jordan I. Kosberg; CHAP.4 Abuse of lesbian, gay, transgender, and bisexual elders/Chris Morrissey; CHAP.5 Union perspectives on abuse prevention in long-term care: current situation, future possibilities/Marcy Cohen; CHAP.6 Abuse of older adults: An Ontario criminal justice perspective/Patricia Fleischmann; CHAP.7 Seneca College's design for social change course: an example of successful collaboration/Paul Shecter, Patricia Fleischmann.

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Elsevier: http://www.elsevierdirect.com/
Amazon.ca: http://www.amazon.ca

BC NETWORK FOR AGING RESEARCH

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www.bcnar.ca email: secretariat@bcnar.ca

Last year the Michael Smith Foundation for Health Research (MSFHR), the organization that funds BCNAR, received confirmation of future funding commitments from the British Columbia Provincial Government. While the Foundation will be able to continue operations, the funding levels have resulted in significant changes. One of these is the ending of the funding for the Health of Population Research Networks funded by MSFHR, including BCNAR. Funding for these Networks ceased as of March 31, 2010.

As is evident by our significant accomplishments to date in expanding health and aging research capacity and training in BC, we are committed to finding ways to continue the network in some capacity until additional funding can be obtained. The investments made into our network have been enormous, and we are committed to keeping the network functional in at least a minimal capacity while seeking further funding opportunities.

BCNAR is grateful for the support of the Gerontology Research Centre at Simon Fraser University and their commitment to host the secretariat office and support a part time staff person to continue the Network . The BCNAR website, member database, and publications database will remain functional.

As well, we are proud to announce our recent Seniors Mentoring Researchers and Trainees (SMART) program. SMART, is a partnership between the Care for Elders Advisory Committee (UBC Department of Medicine, Division of Geriatrics) and BCNAR. SMART is a secure provincial database of older British Columbians (60+) interested in advising, participating and/ or mentoring research and education on aging and age-related issues. The database serves researchers, trainees and older British Columbians interested in aging research and the research process. For further information please visit our website at www.bcnar.ca

GERONTOLOGY
RESEARCH CENTRE

SENIORS' HOUSING UPDATE

VOLUME 19 NO.1 2010 SIMON FRASER UNIVERSITY, VANCOUVER, CANADA

Conference theme is "Technologies for Health, Quality of Life and Aging-in-Place."

Housing-related highlights:

May 27 – site visits to 3 projects built to SAFERhome™ standards

May 28 – Symposium "Robotics and the Changing Workforce: Examples from the Housing Domain"
Paper Session "In Home Activity Monitoring and Sensors"

May 29 – Symposium "Active and Passive Monitoring Technologies to Support Aging-in-Place"
Paper Session "Ambient Assisted Living"
Keynote Address "What is the Contribution of Technology to Aging-In-Place?"

May 30 – Symposium "The Design Process for Inclusive Environments and Technologies"

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INTERNATIONAL SOCIETY OF GERONTECHNOLOGY 7TH WORLD CONGRESS, VANCOUVER, 27TH–30TH MAY 2010

ISG2010 will be held at the Marriot Pinnacle Hotel in Downtown Vancouver. Over 400 registrants from all over the world will be able to hear a record number of presentations and poster sessions. Highlights of ISG2010 will be:

KEYNOTE SPEAKERS FROM CANADA, FRANCE, SWITZERLAND, TAIWAN AND THE UK

- Twenty invited and submitted symposia
- Paper sessions with over 80 papers on all aspects of technology and aging
- Five poster sessions with over 80 posters covering dementia, design issues, health management, using technology in everyday life and user aspects
- Expert round tables
- Exhibition
- GerontechnoPlatform, featuring demonstrations of state-of-the-art products
- MasterClass for students
- Social program including dinner cruise and salmon barbeque

It is still possible to register for ISG2010, please visit http://www.sfu.ca/isg2010/ is hosting at the Marriot Pinnacle Hotel, 27th-30th May.

Reducing distraction in hospital bedrooms can help older adults learn post-discharge instructions

T. Love, MA (Gerontology), **G.M. Gutman**, PhD, FCAHS, OBC

Commonly, people leaving hospital need some amount of instruction concerning what to do when they get home and what to watch out for in the way of negative signs and symptoms. For many people learning post-discharge instructions is problematic. Studies have shown that less than half of patients are able to state their diagnosis, name their medication(s), state what the medication was supposed to do for them or list possible major side effects (Alibhai et al., 1999; Makaryus & Friedman, 2005), often leading to drug related problems (Paulino, Bouvy, Gastelurrutia, Guerreiro & Buurma, 2004).

The causes vary, including inappropriate literacy level of the instructions (Jolly, Scott, Feied & Sanford, 1993; Safeer, & Keenan, 2005) and insufficient (or no) time spent teaching the discharge plan (Alibhai, Han & Naglie, 1999). While these factors can affect patients of any age, older adults may have even greater difficulty learning post-discharge instructions due to age-related changes in sensation and perception (Harris & Reitz, 1985; Jolly et al., 1993; Safeer & Keenan, 2005), higher risk for delirium (Litton, 2003) and more rapid functional decline (Creditor 1993; Zorowitz, 2002). While it is widely believed that learning becomes more difficult with age (Craik & Bosman, 1992; McDowd, 1996; Salthouse, 1996; Tulving, 1983), Botwinick (1973) argues that the problem is insufficient learning not declining memory skills.

This article reports on a study that was part of a pilot project concerned with the elder friendliness of acute care hospitals in the Fraser Health Authority (FH). FH encompasses a geographic region in British Columbia's lower mainland serving a population of 1.5 million people, 12.4% of whom are aged 65 and over (Wister, Gutman, Adams & Chou, 2006). In FH, adults aged 65 and over make up approximately one-third of hospital cases and account for 55% of inpatient hospital days (Parke & Friesen, n.d.).

The theoretical framework for the research was Lawton and Nahemow's (1973) Ecological Model and accompanying Environmental Docility Hypothesis (Lawton & Simon, 1968) which postulate that as competency declines, people are less able to cope with "environmental press." In the case of patients receiving post-discharge instructions, auditory and visual distractions in a typical hospital patient bedroom represent "environmental press" and their admitting condition, the mechanism whereby "normal" competency is reduced. For older adults press is further exacerbated by age-related decreases in the ability to ignore irrelevant aspects of the environment (Hasher, Stoltzfus, Zacks & Rypma, 1991; McDowd, 1996; Winocur & Moscovitch, 1983).

This research tested the hypothesis that reduced auditory and visual distraction would result in better learning of post-discharge instructions by older adults. It was also hypothesized that stress, as reflected in a measure of body movement (i.e. fidgeting) would be greater in a typical hospital room than in the room modified to be less noisy and distracting.

METHOD

The study was conducted in two four-bed rooms in Burnaby Hospital. The rooms were typical (Gutman, Sarte, Parke, & Friesen, 2005) of those found in older hospitals in FH. One room remained in its original state; the second was modified to reduce visual and auditory distraction. First in one room and then in the other, 36 older adults watched videotaped post-discharge instructions. Half received post-discharge instructions for hip fracture patients in the first room and for congestive heart failure patients in the second. The other half received the hip fracture instructions in the second room. After each viewing and again after approximately 24 hours their retention of the instructions was tested.

Eligibility criteria for participating in the study were: aged 75 or over, community-dwelling, fluent in English, able to hear normal speach with minimal difficulty (with a hearing aid if used), able to read letters the size of newspaper print (with glasses if used). Possible participants were excluded if they had a movement disorder (e.g. Parkinsons) or cognitive impairment (e.g. Alzheimer's or other dementia), knowledge of hip fracture or congestive heart failure (CHF) through either personal experience, as a family caregiver or having been employed as a health care professional. The final sample ranged in age from 75-90 (mean age= 80.17 yrs., s.d. = 4.45), 75% were female, 84% lived alone.

In addition to aesthetic changes that made the room look less institutional, modifications were made to reduce both noise and visual distraction. These included installing a dropped ceiling with sound absorbing ceiling tiles, covering the terrazzo flooring with 4mm rubber flooring and hanging bed curtains that had more folds, were longer and were made of a denser weave fabric than is typical in FH hospitals. (See Figures 1 & 2).

To determine the effect of each change, sound level measurements were taken in both rooms. Overall, there was a substantial reduction in decibel levels in the modified room (6.36dB to 32.40dB depending on location). It should be noted that a 12-point reduction in decibels is equal

to reducing the number of voices heard from16 to one (Ahuja, 1999). The greatest sound reduction came from the dropped ceiling and heavier curtains with only a minimal decrease attributable to the rubber floor.

In most previous studies, modifications have been made to the physical environment of care settings concurrently with changes in staffing and/or care policies and procedures. A unique feature of this research is the strict attention paid to limiting the cause of potential differences in learning to differences in the physical environment.

RESULTS

Analysis of instruction retention scores yielded no significant main effects. There were however significant room type x instruction type x order interactions in both immediate and delayed testing. Correlation analysis revealed significant relationships between age and both immediate and delayed retention test scores when post-discharge instructions were delivered in the "typical" room and between age and CHF instructions, the more difficult of the two sets of post-discharge instructions all study participants learned. These findings suggest that the oldest participants had the most difficulty when faced with learning the more difficult instructions in the less supportive environment.

Analyses of data from the "fidget chair", the chair beside the bed that study participants sat in when waiting for the instructional video to come on, which was equipped with sensors that recorded body movement, revealed no main effect for rooms in the first or second five-minute waiting period. However, there was a significant main effect for room type when the instructional video was playing. Further examination of the data revealed a consistent pattern of change in body movement ("fidgeting") in both rooms with scores dropping from the first to the second five-minute waiting period and rising again during the video. As shown in Figure 3, the rise was greater in the "typical" room.

In immediate testing, there was a significant correlation between retention scores and fidget chair scores in the "typical" room during the video. This relationship, which was not found in the modified room, could be a result of increased movement in an attempt to hear the video, an effort that was not required in the modified room. This interpretation is supported by data from a video camera and 3 webcams that monitored participants throughout the time they were in each room. Further, movements recorded during the first five minutes are those commonly associated with boredom or impatience (e.g. looking around the room, adjusting watches/checking time or tapping fingers). However, while watching the instructions most participants were physically focused on the monitor, especially in the typical room, where they could be seen moving forward in their seat or tilting one ear towards the speaker.

DISCUSSION

The results partially supported the hypothesis that the learning of post-discharge instructions would be greater when older adults receive instruction in a hospital setting with less auditory and visual distraction. It was hoped that the room effect would be sufficiently powerful that regardless of which order participants were exposed to the rooms ("typical" first, then modified or vice versa) or which type of instruction they received in the room (congestive heart failure or hip fracture) they would retain instructions better if received in the modified room. However, learning scores only differed significantly between rooms in the delayed test. The absence of differences in the immediate test may have been due to ceiling effects or an insufficient time interval between learning and testing.

We had not predicted that there would be an age effect. However, the data revealed significant negative correlations between age and retention scores in both immediate and delayed tests when post-discharge instructions were received in the "typical" room. Age was also negatively correlated with retention scores for the more difficult (i.e. CHF) instructions. What these data suggest is that, for seniors in the oldest-old category (over 80 yrs of age), having to learn and retain complex post-discharge instructions in a room with visual and auditory distraction is problematic. This interpretation is consistent with Lawton and Simon's (1968) Environmental Docility Hypothesis and Lawton and Nahemow's (1973) Ecological Model, both of which suggest that as a person's competence decreases (as with age or illness), so too will their ability to adapt to press from the physical environment.

Figure 1: Typical Room

Figure 2: Modified Room

The second hypothesis predicted that stress, as demonstrated by fidgeting, would be lower in the modified hospital room compared to a "typical" hospital room. The "fidget chair" data provided strong support for this hypothesis. The participants in this study fidgeted significantly more while watching the post-discharge instruction video in the "typical" room than in the modified room, with fidget rates in the "typical" room, while watching the video, being almost as high as when study participants first entered the room. If fidgeting is an indicator of stress, then

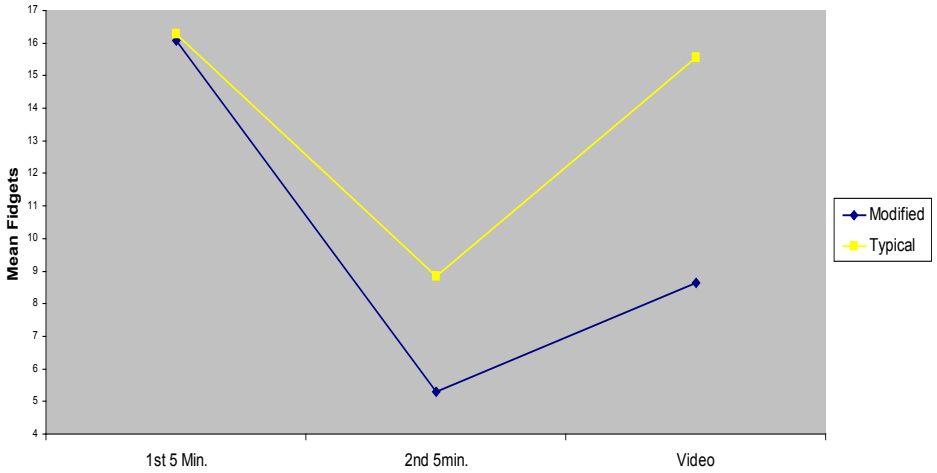

Figure 3: Mean Fidget Levels in the Modified and "Typical" Rooms by Measurement Period

participants in the "typical" room were as stressed during the video as when first entering the room.

There were several changes made to the modified room, each with differing degrees of impact on distraction. The greatest reduction in sound came from the dropped ceiling with sound absorbing tiles. The curtains reduced auditory as well as visual distraction. It is recommended that both of these modifications be given serious consideration when new construction or renovations are planned. The noise reduction achieved by the rubber flooring was minimal. As the initial cost of this flooring product is substantially greater than other flooring options, installing it primarily for the purpose of noise abatement would not be recommended.

CONCLUSION

It is possible that room effects may have been muted by the fact that participants were non-hospitalized volunteers, not "real" patients i.e. the sample may have been too healthy to maximally benefit from the modifications. Additionally, considerable time and attention was devoted to creating an instruction set that capitalized on theory and research with respect to the common learning needs of older adults. In other words, we may have done such a good job in developing the instructions that people were able to learn them despite the noise and distraction.

In any event, this pilot study yielded promising findings with respect to the role of the physical environment in facilitating the learning/retention of post-discharge instruction.

The next step is to implement environmental changes and test learning/retention in a real patient population.

ACKNOWLEDGEMENTS

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AGE-FRIENDLY NEW WESTMINSTER: WHEELABILITY ASSESSMENT

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The built environment has a direct impact on physical activity levels. Common barriers to physical activity include built environment aspects. The Canadian Fitness and Lifestyle Research Institute (2004) studied factors impeding physical activity in various sizes of communities from the built and social environments, policy issues, and individual factors and it was concluded that many of the barriers involved the built environment. For example, the lack of sidewalks and poor maintenance of sidewalks were identified as barriers to physical activity in both larger municipalities (>1,000 persons) and smaller communities (<1,000 persons) (CFLRI, 2004). Larger municipalities were more concerned about connectivity of roads, trails, and paths and poor lighting and smaller communities were more concerned with the repair and maintenance of parks and trails. On the other hand, well-connected streets correlate positively with older adults' walking (e.g., King et al., 2003; Gauvin et al. 2008). Other studies (e.g., King, 2008; Mota et al., 2007) also identified that a lack of sidewalk maintenance was a barrier to physical activity among older adults.

To overcome barriers and to enhance participation in sport, physical and community activities, BC has established various opportunities for local communities to create more supportive environments for people with disabilities and seniors. In August 2007, a memorandum of understanding for inter-agency coordination and collaboration was established between the Ministry of Healthy Living and Sport (MHLS), Union of BC Municipalities (UBCM), 2010 Legacies Now (LN) and BC Parks and Recreation Association (BCPRA) in support of coordinated action to support local governments and communities to develop policies, services and programs to improve local infrastructure facilitating physical activity, especially for people with disabilities and seniors (Ministry of Healthy Living and Sport, in press). Based on the memorandum, the UBCM has created five funding streams under the theme of Healthy Communities. Among these five, the Built Environment and Active Transportation (BEAT) specifically addresses age-friendly community design by improving connectivity for walking. As of 2009, a total of 24 local governments were funded. Among these BEAT communities, the city of New Westminster has highlighted the accessibility for people with mobility limitations.

Emphasizing mobility and active living, especially for people who are reliant on wheelchairs, scooters, walkers, and other mobility aids, New Westminster has designed its BEAT project to assess wheelability in the built environment. To conduct the assessment, it established a representative working group of mobility aid users and conducted a survey which was completed by over 120 respondents. It also conducted a pre-assessment to objectively measure aspects of the built environment such as sidewalk width and inclines, and two assessments focusing on dialogue, education and knowledge exchange between engineers, planners and people who use mobility aids. As an outcome of BEAT, the City produced neighbourhood wheelability maps for its Downtown and Uptown neighbourhoods. It also used the results to inform City polices, practices and design decisions related to wheelability.

Aging-in-place in Downtown and Uptown New Westminster has been observed. About 42% of all seniors in New Westminster live in these two neighbourhoods (Statistics Canada, 2009). These two neighborhoods also have high shares of households living in multi-family housing (94.3% in Uptown and 93.8% in Downtown) (Statistics Canada, 2009). According to a survey for participants (n=121) who were not able to attend the site assessments, the most frequently cited barriers of going outside were poor design of curb cuts, presence of steep slopes, uneven surface treatments, poor construction practices (e.g., inadequate signage, lack of

alternative routes), and insufficient time for mobility aid users to cross streets in travelling Downtown and Uptown New Westminster.

As a follow-up of the BEAT, the City has proposed neighborhood infrastructure implementation strategies which enhance the mobility and comfort of people with mobility limitations. A few outcomes such as paving and sidewalk filling had already been realized, and meeting members suggested additional goals such as partnering with tourism bureaus to distribute walkability/wheelability maps. In evaluating the process and outcomes, the GRC is planning to analyze the impacts of the neighbourhood built environment on physical activity levels, well-being and a sense of community. It builds community capacity when community planning is accompanied with citizen action focusing on an issue that affects such a broad range of individuals, from parents with strollers to mobility aid users to older adults in general.

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NEW PUBLICATION

Gutman, G.M. (2009). *Seniors' environmental health literature review.* [(Report) submitted to Health Canada, Healthy Environments and Consumer Safety, British Columbia Region.]

This literature review was commissioned by the Healthy Environments and Consumer Safety Branch of Health Canada, to look at the impacts on seniors' health of four broad groups of environmental hazards: biological, chemical, radiological and climate change. Within each group, the objective was to identify what is known and what information is still needed in order to understand and develop policies and programs to protect the health of seniors from environmental hazards.

Table of Contents: Executive Summary. CHAP.1. Introduction. 1.1 Background. 1.2 Definitions. CHAP.2. Methods. 2.1 Databases Searched. CHAP.3. Analysis. 3.1 Biological Hazards. 3.1.1. Microbiological contaminants in water. 3.1.2 Microbiological contaminants in food. 3.1.3 Moulds and allergens. 3.2 Chemical Hazards. 3.2.1 Chemical contaminants in water. 3.2.2 Chemical contaminants in air. 3.2.2.1 Outdoor air pollution. 3.2.2.2 Indoor air pollution. 3.2.3 Heavy metals. 3.2.4 Pesticides. 3.2.5 Polychlorinated Biphenyls (PCBs). 3.3 Radiological Hazards. 3.3.1 Radon. 3.3.2 Ultraviolet radiation. 3.4 Climate Change. 3.4.1 Weather-related mortality. 3.4.2 Climate change, air pollution and mortality. 3.4.3 Extreme weather-related health effects. CHAP.4. Summary 5. Recommendations. References. Appendix A - Keywords used for systematic literature review on seniors' environmental health. Appendix B – Number and geographic location of studies by exposure type and health outcome.

Available in PDF-format on the GRC website: http://www.sfu.ca/uploads/page/04/GUTMANreport.pdfRecent Centre Activities

NEW RESEARCH- CIHR TEAM IN THE CAUSE AND PREVENTION OF FALLS IN RESIDENTIAL CARE

The GRC is part of a collaborative team from SFU and UBC led by **Dr. Steve Robinovitch** (SFU Kinesiology) examining the causes of falls in residential care and the potential of innovations in care, environmental design and assistive technologies for falls prevention and the alleviation of their consequences. The research will make particular use of new high resolution video systems installed in two nursing homes to capture incidences of falls as they occur. The GRC's **Drs. Andrew Sixsmith** and **Habib Chaudhury** will be looking particularly at the environmental risk factors associated with falling. **Bobbi Symes** (BCNAR/GRC) will be the project manager. The research will be carried out over the next five years, with $2.5 million funding provided under the CIHR Mobility in Aging program. Further information on project website etc. will be available on the GRC website in due course.