Health Promotion Initiatives for Alzheimer's Disease and Related Dementias (ADRD)

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Alzheimer Society
ONTARIO

The Alzheimer Society (AS) is an organization that, despite its name, serves a much larger population than exclusively those living with Alzheimer's disease. Although Alzheimer's disease is the most common of the progressive, degenerative brain diseases resulting in dementia being diagnosed in Ontario, the Alzheimer Society is committed to supporting all people living with dementia as a result of any cause[1]. For more information on related dementias, refer to Appendix A.

The Alzheimer Society of Ontario (ASO) has consulted with The Health Communication Unit at the Centre for Health Promotion, University of Toronto, to develop this paper.

Public Interest in Dementia-Specific Health Promotion

Ontarians are becoming increasingly more interested in health promotion initiatives that focus on brain health, specifically those that concentrate on dementia risk reduction. Leger Marketing conducted a nationwide public opinion poll in 2006, on behalf of the Alzheimer Society of Canada, that focused on brain health. It was revealed through this poll that Alzheimer's disease is the second most feared disease by Canadians, preceded only by Cancer. Many organizations and companies have taken a cue from the interests of the public and responded with health promotion initiatives focusing on dementia risk reduction. These initiatives are found nationally and internationally.

National Initiatives

The Alzheimer Society of Canada has published a series of "Healthy Brain Information Sheets"[2]. These sheets are sectioned into seven topics related to dementia risk reduction: brain stimulation, social activity, nutrition, physical activity, stress reduction, head injury prevention, and healthy choices related to the use of recreational drugs, alcohol, smoking, regularly consulting with a doctor, and the importance of adequate sleep. These information sheets are an example of health promotion initiatives that focus on dementia risk reduction.
The Alzheimer Society of British Columbia has also responded to the increasing interest in dementia risk reduction by developing "Healthier Brain" information on their website[3]. This information discusses risk factors for developing dementia and ways to reduce those risks, which is inclusive of many of the same initiatives that are presented by the Alzheimer Society of Canada.

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[1] North West Dementia Centre (2005). Vascular Dementia Fact Sheet. Retrieved from: http://www.pssru.ac.uk/pdf/MCpdfs/Vascular_dementia_factsheet_2005.pdf
[2] Alzheimer Society of Canada (2007). Healthy Brain Information Sheets. Retrieved from: http://www.alzheimer.ca/english/resources/as-publications.htm
[3] Alzheimer Society of British Columbia (2007). Healthier Brain. Retrieved from: http://www.alzheimerbc.org/8steps.php

International Initiatives

In 2005 the Australian government identified dementia as a "national priority"[4]. The government made the decision to name dementia a "national priority" because it was found that the country as a whole had 200,000 people living with dementia[5]. In response to this, Alzheimer's Australia has done an extensive amount of work in the area of health promotion focused on dementia risk reduction. They have developed the publication "Mind Your Mind: A User's Guide to Dementia Risk Reduction"[6]. This publication is also offered in a brochure format that is available in seven languages. The Alzheimer's Australia website provides a list of "update sheets" on certain aspects of risk reduction behaviours[7].

Private Sector

Large corporations are also taking notice of public interest in brain health. The international corporation Nintendo has recently developed a new game called Brain Age[8]. Brain Age is a tool that stimulates the brain by featuring activities such as testing one's mathematical abilities and problem solving skills. A quote from the Nintendo Brain Age website states, "Everyone knows you can prevent muscle loss with exercise, and use such activities to improve your body over time. And the same could be said for your brain. The design of Brain Age is based on the premise that cognitive exercise can improve blood flow to the brain[9]."

Evidence Supporting Dementia Risk Reduction Behaviours

It has been proven that people that keep their brains active are 2.5 times less likely to develop Alzheimer's disease.[10] There are brain aerobics that one can do to develop and maintain a healthy brain, such as change daily routines, talk to someone new, start a conversation, and play a game such as solitaire.[11] Research supports that an active social life rich with social activities that promote health brain activity can reduce one's risk for developing dementia.[12]

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[4] Victoria University (2006). Dementia Risk Reduction, Community Education: Strategies Scoping Project Retrieved from: http://www.alzheimers.org.au/content.cfm?infoPageId=2178
[5] Ibid.
[6] Alzheimer's Australia (2006). Mind Your Mind.
Retrieved from: http://www.alzheimers.org.au/upload/MYM_book_lowres.pdf
[7] Alzheimer's Australia (2006). Why you should Mind Your Mind.
Retrieved from: http://www.alzheimers.org.au/content.cfm?infoPageId=2178
[8]Nintendo (2006). What Is Brain Age?
Retrieved from: http://www.brainage.com/launch/what.jsp
[9] Nintendo (2006). What Is Brain Age?
Retrieved from: http://www.brainage.com/launch/training.jsp
[10] Alzheimer Australia (2006). Mind Your Mind: A User's Guide to Dementia Risk Reduction (p.4).
Retrieved From: http://www.alzheimers.org.au/upload/MYM_book_lowres.pdf
[11] Third Age. *Brain Aerobics and Brain Gymnastics.* Retrieved from:
http://www.thirdage.com/living/games/brainfitness/index.html
[12] Alzheimer Australia (2006). Mind Your Mind: A User's Guide to Dementia Risk Reduction (p.16-17).
Retrieved From: http://www.alzheimers.org.au/upload/MYM_book_lowres.pdf

Severe head injury has also been shown to be a risk factor for the development of Alzheimer's disease. In one US study it was found that people that had suffered a severe head injury were at a 4.5 times greater risk for developing Alzheimer's disease than those that did not.[13] There are many ways to prevent head injury, such as wearing protective headgear when cycling or rollerblading and wearing seatbelts when in a vehicle.

Type 2 Diabetes is a significant risk for dementia. Type 2 Diabetes and hypertension are two prevalent diseases that are so highly related that co-morbidity is common.[14] In fact, the chances of having cognitive decline when one has Type 2 Diabetes and hypertension is significantly higher than a person that does not suffer from either one of these conditions.[15] Although Type 2 Diabetes may be the result of lifestyle choices or family history as is heart disease, these diseases can be managed through many avenues, including nutrition and exercise. The same activities that keep the heart healthy, such as good nutrition and exercise, will produce and maintain a healthy brain. It has been indicated that at autopsy, 60-90% of those with Alzheimer's disease show cerebrovascular pathology.[16] The links between heart health and brain health is becoming increasingly recognized, including the growing realization that issues related to vascular health play a significant role in the expression and severity of dementia.[17]

Ontario's Action Plan for Healthy Eating and Active Living (2006) states that "some organizations are developing policies and programs that influence the factors that shape health…but may work in isolation from one another (p.14)". The ASO has become increasingly aware of information regarding dementia that links with other diseases and conditions such as Diabetes and heart-related conditions and understands the importance of developing common messaging in conjunction with other community-based health organizations.

Aboriginal-Specific Health Promotion Initiatives

The ASO is aware of two emerging risk factors for dementia that are affecting Aboriginal communities. The first relating to healthy living is the high prevalence of Diabetes among Aboriginal communities. In Ontario, the prevalence of Diabetes in Aboriginal people is three times that in non-aboriginal Ontarians.[18] Therefore,

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[13] Alzheimer Australia (2006). Mind Your Mind: A User's Guide to Dementia Risk Reduction (p.18). Retrieved from: http://www.alzheimers.org.au/upload/MYM_book_lowres.pdf

[14] Hassing L.B., Hofer S.M., Nilsson A.E. et al. (2004). Co morbid type 2 diabetes mellitus and hypertension exacerbates cognitive decline: evidence from a longitudinal study. Retrieved from: http://ageing.oxfordjournals.org/cgi/reprint/afh100v1.pdf

[15] Ibid.

[16] Kalaria, R. (2002). Similarities between Alzheimer's Disease and Vascular Dementia. *Journal of the Neurological Sciences, 203-204*, 29-24.

[17] Zekry D., Duyckawets, C., Belmin, J., Geoffre, C., Moulias, R., Hauw, J. (2002). Alzheimer's Disease and brain infarcts in the elderly: Agreement with neuropathology. *Journal of Neurology, 249*, 1529-1534.

[18] Ministry of Health and Long-Term Care (2006). The Ontario Aboriginal Diabetes Strategy. Retrieved from: http://health.gov.on.ca/english/public/pub/ministry_reports/oads_06/oads_06.pdf

Aboriginal people in Ontario are at an increased risk of heart conditions including stroke, which can result in dementia.

The second risk factor emerging in Aboriginal communities is the increased life expectancy for Aboriginal peoples[19]. The greatest risk factor for developing Alzheimer's disease is age. Alzheimer's disease is now beginning to appear in Aboriginal communities more and more and the communities have different ways of responding and identifying dementia.

Caregiver Burden

20,344 people with mid to late stage dementia are being cared for at home in Ontario.[20] This means that a large population of Ontarians have assumed the role of caregiver to a person with dementia. There are many characteristics of dementia that make it very stressful for an informal caregiver to deal with, such as memory loss affecting day-to-day functioning, disorientation, changes in mood or behaviour, change in personality, and wandering.[21] Some characteristics of caregiver burnout are difficulty sleeping, increased susceptibility to illness, loss or gain of weight, headaches, depression and emotional outbursts.[22] The ASO is committed to caregiver health promotion by ensuring that caregivers are made aware of and have accessibility to respite options, counselling services and other community supports.

Dementia Health Promotion: An Ontario Imperative

In Ontario alone, we currently have over 160,000 people living with dementia, and that number is on the rise.[23] ADRD is a priority issue in Ontario that needs attention and support to begin to create change for the future. Over 60% of the residents in Ontario's long-term care homes are there because of ADRD and 16% of persons served by Community Care Access Centres (CCACs) are diagnosed with ADRD and represent the adult client group with highest needs, other than persons on palliative care.

Alzheimer Society of Ontario and the 39 Alzheimer Society chapters across Ontario have a 25-year history of demonstrated commitment to persons with ADRD and their caregivers. We have worked with the Ministry of Health and Long-Term Care (MOHLTC) to expand services, originally supported by charitable funds alone. ASO provides public education, family education and special programs in schools. As

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[19] Statistics Canada (2006). A Portrait of Canada. Chapter Six: Aboriginal Seniors in Canada. Retrieved from: http://www.statcan.ca/english/freepub/89-519-XIE/2006001/aboriginal.htm

[20] Alzheimer Society of Ontario and Alzheimer Knowledge Exchange (2007). Projected Prevalence of Dementia: Ontario's Local Health Integration Networks.

[21] Alzheimer Society of Ontario website: http://alzheimerontario.org/English/alzheimer%20disease/default.asp?s=1

[22] Veterans Affair Canada website: http://www.vac-acc.gc.ca/clients/sub.cfm?source=health/caregiving/burnout

[23] Alzheimer Society of Ontario (2007). Projected Prevalence of Dementia: Ontario's Local Health Integration Networks (p.4).

well, we train workers in community and long-term care. In research, we have provided foundational support to the Centre for Research in Neurodegenerative Diseases (CRND), Faculty of Medicine,
University of Toronto, and are the leading contributor to our Alzheimer Society of Canada's Peer Review Research Program. We are innovators, evidenced in our history, and in our present promotion of new activities and we are committed to a future of innovation.

Our Niagara Chapter built on the national Brain Health campaign and now offers programs in the community, similar to the pre-conference workshop at the upcoming Registered Nurses Association of Ontario (RNAO) 6th International Conference, "Older People Deserve the Best! Aging and Health Across the Continuum: Towards a Sustainable Future". Recently, our London Middlesex Chapter provided $1million to ADRD research. Our partner the Murray Alzheimer Research Education Programme (MAREP), Research Institute for Aging, Faculty of Applied Health Sciences, University of Waterloo, has developed a program that enables persons with ADRD to promote healthy living to their peers. Earlier this year, ASO, in partnership with an Aboriginal health service on Manitoulin Island, hosted a roundtable discussion, which identified the needs of the communities in terms of educational materials and services. ASO will work with our partners on this issue and implement a health promotion initiative for dementia, specific to Aboriginal communities.

Persons with ADRD are served across the health system and ASO partners with practitioners in many diverse settings. Through First Link, we are working with Family Health Teams (FHTs) in 4 demonstration projects across Ontario, to increase access to early diagnosis and responsive services. To facilitate this, we convened an expert workshop on ADRD and chronic disease management and have published a report on the workshop. Though Bill 140 we advocated for mandated training for long-term care workers and we are committed to working with government and providers to follow-through now that the Bill is in law. Our Alzheimer knowledge Exchange (AKE), supported by the MOHLTC and partnered with the Seniors Health Research Transfer Network (SHRTN), including the Centre for Activity and Aging and MAREP, encourages and supports Communities of Practice in many different aspects of dementia service. The AKE infrastructure stands ready to support health promotion.

Our vision is "A world without Alzheimer's disease". Our only tool until recently has been research into a cause and cure. Now science offers a second tool, health promotion, as a means to influence disease prevention. Our goal is to learn effective ways to promote brain health from existing initiatives in other jurisdictions and to grow them in Ontario.

The ASO is proposing a province-wide effort focusing on brain health that puts into place a program that will make Ontarians aware of dementia risk reduction behaviours, and provides supports through education and services to encourage Ontarians to develop and maintain behaviours that will reduce the risk of developing dementia. It is imperative that we respond to the demand that is ahead for the Ontario healthcare system with the baby boom generation reaching the age of increased risk for developing dementia. An intervention focusing on prevention and awareness is critical for Ontario's future.

Action Steps

We foresee an action program, which would segment the target population into 4 groups based on age cohorts (in the age range 45+), aboriginal communities and informal caregivers.

Our program would be based on the 'system elements' described in the report "Thinking like a system: The way forward to prevent chronic disease in Ontario".[24] Each of these elements would need to be in place in order to ensure that a health promotion initiative is successful. Some of this work would need to be done in preparation for a launch.

Capacity Development

Many health promotion practitioners are not familiar with the normal aging process, let alone the diseases of old age. Similarly, many persons in elder care are not familiar with the principles and methods of health promotion. For example, the beneficial effects of exercise even in the post-75 age group may not be known, nor are the unique exercise techniques proven effective with this group. Learning needs, supportive environments and, local partnerships would need exploration and support.

ASO foresees developing stronger partnerships with like-interested organizations at the provincial level via the Ontario Chronic Disease Prevention Alliance as a means of beginning the process and linking that group to 'elder' groups where we are already involved, e.g. the Elder Health/Elder Care Coalition, the Dementia Networks in each Local Health Integration Network and the Ontario Coalition of Community Support Services.

[24] Ontario Chronic Disease Prevention Alliance (2006). Thinking like a system: The way forward to prevent chronic disease in Ontario.

Best Practices Identification and Research

The Alzheimer Knowledge Exchange is a natural forum to facilitate the search for best practices by linking with its partners, extending its reach, engaging experts and disseminating the information. As well, the AKE can support on-going action/learning as new programs are launched. This capacity within AKE can in itself begin to produce new knowledge about health promotion and dementia. As well, the AKE can bring practitioners and researchers together so that the research agenda can be more reflective of practice needs. For example, a consultant from The Health Communication Unit at the Centre for Health Promotion, University of Toronto, has agreed to work with the Alzheimer Society of Ontario to identify best practices for health promotion in the area of dementia risk reduction.

Evaluation

A multi-year commitment to health promotion will enable a "Plan-Do-Check (PDC)" approach to developing health promotion in Ontario. This Continuous Quality Improvement (CQI) approach has proven effective in health care and is endorsed by the Ontario Chronic Disease Prevention Alliance (OCDPA). It compacts the cycle of information flow, so that programme improvement occurs more rapidly. Tools to promote PDC can be part of the Capacity Development phase. As well, resources for a more comprehensive evaluation could help Ontario become a world leader in health promotion in dementia, just as it is now a world leader in dementia research.

Surveillance and Monitoring

We would be willing to lead discussions with other parts of the health system, in particular primary care, to see how effective surveillance may be enabled. Our work with Family Health Teams may assist in this regard.

Policy and Programme Implementation

We would propose the use of the Performance Improvement Model as a means of guiding the change process so that real gains in capacity are made and secured within our health promotion environment. The model (see attached) identifies different 'loci' where change must occur in order for real change to continue. This model would guide pre-planning, capacity development, partnership agreements and individual organization commitment. Existing resources such as the ADRD Planning Framework and the accompanying Toolkit can be resources for this aspect of change.

Next Steps:

Our Society proposes that the Ministry commit to a dialogue on our proposals and invite other participants into the dialogue as it matures. For example, The Health Communication Unit has expressed an interest in joining a further discussion. As well, partners such as the Centre for Activity and Aging would also be able to contribute to developing a fuller program. An early stage consultation with experts and potential key partners would be appropriated as part of the engagement process. All of these specific steps would follow from a policy commitment by the Ministry to seize the opportunity offered by new knowledge in promoting brain health, as one way in which the Government of Ontario is addressing the dementia imperative.

Appendix A: Related Dementias

Other forms of dementia, which are classified as "diseases", are Lewy Body disease (LBD) and Parkinson's disease. LBD is one of the most common forms of progressive dementia. Some of the symptoms of LBD include memory loss, poor judgement, confusion, visual hallucinations and a shuffling gait[25]. Parkinson's disease affects the central nervous system by causing tremors; rigidity, poor balance and a shuffling gait as well as the loss of intellectual capacity and psychosocial issues such as anxiety and depression.

Dementia is not only the result of disease but might also be the result of head trauma. Dementia pugilistica or "Boxer's syndrome" is the condition by which dementia is the result of repeated head trauma. The symptoms of such a condition are dementia, poor coordination and slurred speech.[26] A single traumatic brain injury may result in Post-Traumatic Dementia (PTD). The symptoms of this condition are very similar to Dementia pugilistica; however the symptoms do vary depending on what area of the brain was damaged by the trauma.[27]

Second to Alzheimer's disease, vascular dementia is the most common form of dementia. There are three types of vascular dementia: acute onset (post-stroke), multi-infarct dementia (following a number of mini-strokes or transient ischaemic attacks in the cerebral cortex) and subcortical vascular dementia (resulting from a history of high blood pressure). The loss of blood flow to the brain from a stroke/s causes many issues for people such as the altered ability to walk, slurred speech and emotional outbursts.[28] The highest risk factor for a stroke is high blood pressure (hypertension).[29]

Korsakoff's syndrome or 'alcohol amnestic syndrome' is caused by a lack of thiamine (vitamin B1)[30]. This deficiency is often the result of excessive alcohol consumption. Alcohol can inflame the stomach lining and impede the body's ability to absorb key vitamins. Another issue is that people that regularly consume excessive amounts of alcohol are found to have inadequate nutrition resulting in a diet that lacks necessary vitamins. Korsakoff's syndrome differs from all other dementias in that it often damages the outer area of the brain, which affects a broader range of activities. The common symptoms related to Korsakoff's syndrome is memory loss, difficulty acquiring new information, confabulation, apathy and repetitive behaviours. Korsakoff's can be managed with proper supports as people that acquire this form of dementia often retain their memories, skills and learning gained prior to the onset of the condition.

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[25] Alzheimer Society of Canada website: http://www.alzheimer.ca/english/disease/dementias-lewy.htm
[26] National Institute of Neurological Disorders and Stroke. What is dementia? Retrieved from: http://www.ninds.nih.gov/disorders/dementias/detail_dementia.htm
[27] National Institute of Neurological Disorders and Stroke. What is dementia? Retrieved from: http://www.ninds.nih.gov/disorders/dementias/detail_dementia.htm
[28] Alzheimer Society of Ontario website: http://www.alzheimer.ca/english/disease/dementias-vascular.htm
[29] Heart and Stoke Foundation website: http://ww2.heartandstroke.ca/Page.asp?PageID=1965&ArticleID=4984&Src=stroke&From=SubCategory
[30] Alzheimer's Society (2003). Alzheimer's Society Information Sheet. Retrieved from: http://www.alzheimers.org.uk/Facts_about_dementia/PDF/438_WhatIsKorsakoffs.pdf

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