

Received: 3 December 2019 Revised: 25 March 2020 Accepted: 8 April 2020

DOI: 10.1002/alz.12112



REVIEW ARTICLE

Further understanding the connection between Alzheimer's disease and Down syndrome

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Heather M. Snyder<sup>1</sup> Lisa J. Bain<sup>2</sup> Adam M. Brickman<sup>3</sup> Maria C. Carrillo<sup>1</sup>
Anna J. Esbensen<sup>4</sup> | Joaquin M. Espinosa<sup>5</sup> | Fabian Fernandez<sup>6</sup> | Juan Fortea<sup>7,8</sup> |
Sigan L. Hartley<sup>9</sup> | Elizabeth Head<sup>10</sup> | James Hendrix<sup>11</sup> | Priya S. Kishnani<sup>12</sup> |
Florence Lai<sup>13</sup> | Patrick Lao<sup>14</sup> | Cynthia Lemere<sup>15</sup> | William Mobley<sup>16</sup> |
Elliott J. Mufson<sup>17</sup> | Huntington Potter<sup>18</sup> | Shahid H. Zaman<sup>19</sup> |
Ann-Charlotte Granholm<sup>20,21</sup> | H. Diana Rosas<sup>22</sup> | Andre Strydom<sup>23</sup> |
Michelle Sie Whitten<sup>24</sup> | Michael S. Rafii<sup>25</sup>
<sup>1</sup>Alzheimer's Association, Medical & Scientific Relations, Chicago, Illinois, USA
<sup>2</sup>Independent Science Writer, Elverson, Pennsylvania, USA
 <sup>3</sup> Department of Neurology, College of Physicians and Surgeors, Taub Institute for Research on Alzheimer's Disease and the Aging Brain, Columbia University, New
<sup>4</sup>Division of Development al and Behavioral Pediatrics, Cincinnati Children's Hospital Medical Center & University of Cincinnati College of Medicine, Cincinnati, Ohio,
<sup>5</sup> Department of Pharmacology, Linda Crnic Institute for Down Syndrome, University of Colorado School of Medigne, Aurora, Colorado, USA
<sup>6</sup>Departments of Psychology and Neurology, BIOS Institute, and The Evelyn F. McKnight Brain Institute, University of Arizona, Tucson, AZ, USA
 Department of Neurology, Hospital de la Santa Creu i Sant Pau, Biomedical Research Institut e Sant Pau, Universitat Autonoma de Barcelona, CIBERNED, Barcelona,
<sup>8</sup> Down Medical Center, Catalan Down Syndrome Foundation, Barcelona, Spain
Department of Human Development and Family Studies, University of Wisconsin-Madison, Madison, Wisconsin, USA
<sup>10</sup>Department of Pathology & Laboratory Medicine, University of California, Irvine, Irvine, California, USA
11 Lu Mind IDSC Foundation, Burlington, Massachusetts, USA
 <sup>12</sup> Division of Medical Genetics, Department of Pediatrics, Duke University Medical Center, Durham, North Carolina, USA
13 Department of Neurology, Harvard University/Massachusetts General Hospital, Bost on, Massachusetts, USA
<sup>14</sup>Department of Neurology, Columbia University Irving Medical Center, New York, New York, USA
15 Department of Neurology, Brigham & Women's Hospital and Harvard University, Boston, Massachusetts, USA
 16 Department of Neurosciences, University of California, San Diego, San Diego, California, USA
17 Rarrow Neurological Institute Phoenix Arizona LISA
18 Rocky Mountain Alzheimer's Disease Center and Linda Crnic Institute for Down Syndrome, University of Colorado School of Medicine, Denver, Colorado, USA
<sup>19</sup>Cambridge Intellectual & Developmental Disability Research Group, Department of Psychiatry University of Cambridge, Cambridge Shire & Peterborough NHS
<sup>20</sup>Knoebel Institute for Healthy Aging, University of Denver, Denver, Colorado, USA
<sup>21</sup> Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet, Stockholm, Sweden
<sup>22</sup> Departments of Neurology and Radiology, Massachusetts General Hospital, Boston, Massachusetts, USA
<sup>23</sup> Department of Forensic and Neurode velopmental Sciences, Psychology and Neuroscience, King's College London, South London and the Maudsley NHS Foundation
Trust, LonDowns Consortium, Institute of Psychiatry, London, UK
 <sup>24</sup>Global Down Syndrome Foundation, Denver, Colorado, USA
25 Alzheimer's Therapeutics Research Institute and Department of Neurology, University of Southern California, Los Angeles, California, USA
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Alzheimer's Dement. 2020;16:1065-1077.

Heather M. Snyder, PhD. Alzheimer's Associa-

tion, Chicago, IL, USA

Email: hsnyder@alz.org

Abstract

wileyonlinelibrary.com/journal/alz

Improved medical care of individuals with Down syndrome (DS) has led to an increase in

life expectancy to over the age of 60 years. In conjunction, there has been an increase in

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Effectively training professional caregivers to screen and refer persons with dementia and intellectual disability



Art Walaszek, MD^{1,2}, Molly Schroeder, CSW², Jody Krainer, MSW, LCSW, MBA², Gregory Prichett, PsyD³, Mickell Wilcenski, MS, CTRS⁴, Sarah Endicott, DNP, APNP, GNP-BC⁵, Tammi Albrecht, DNP², Cynthia M. Carlsson, MS, MD1,2, Jane Mahoney, MD1







*Universty of Wisconsin School of Medicine & Public Health, *Wisconsin Alzheimer's Institute, *Gundersen Health System, *Aptiv, Inc., *University of Wisconsin School of Nursing

BACKGROUND

By age 40, almost all people with Down syndrome, the most common cause of intellectual disability (ID), have neuropathological changes consistent with Alzheimer's disease; by age 60, about half have dementia. Detecting dementia in persons with ID can be challenging because baseline cognitive impairment can be severe and because persons with ID may have difficulty reporting symptoms.

The National Task Group Early Detection Screen for Dementia (NTG-EDSD) was developed to aid detection of cognitive impairment in adults with ID. We implemented an educational curriculum using the NTG-EDSD to increase the ability of professional caregivers to identify and support persons with ID and dementia.

METHODS

From November 2018 to April 2019, we held five in-person training sessions for professional caregivers of persons with intellectual disability, partnering with various managed care organizations and social services agencies across the State of Wisconsin. We assessed knowledge and attitudes at baseline, immediately after training, and one week, one month and six months after training.

RESULTS

154 direct care workers, case managers, healthcare providers, and other social services staff participated in the training (demographics in Table 1). Though 98 participants indicated that their organizations already used NTG-EDSD, only 20.1% indicated they were "very" or "quite confident" using the tool. Other screening tools they reported using to detect cognitive impairment included animal naming (11.0%) and the Mini-Cog (11.0%).

Satisfaction with the NTG-EDSD training was very high (Figure 1), and 94.0% of participants agreed or strongly agreed that they could use the NTG-EDSD tool with their clients. Participants reported a marked increase in confidence in their ability to track various health circumstances and detect functional decline in their clients (pre-training vs immediately after the training) (Table 2). At onemonth follow-up (compared with prior to training), participants found the NTG-EDSD questionnaire to be feasible to use on a wide variety of measures (Table 3). Participants' gains in confidence were generally not sustained at 6-month follow-up. Some feasibility gains were sustained at 6 months, but few measures reached statistical significance due to only a small portion of the sample completing both baseline and 6-month follow-ups.

Following the training, one managed care organization, serving 62 of 72 counties in Wisconsin, made the NTG-EDSD a standard part of its assessment of adults with Down syndrome starting at age 40.

CONCLUSIONS

A wide variety of social services and healthcare professionals can be effectively trained to detect dementia in persons with intellectual disability (ID) using a standardized screening tool, the NTG-EDSD. Participants were highly satisfied with the training, experienced an increase in confidence in their care of person with ID, and found the NTG-EDSD feasible to use. This educational intervention can lead to changes in practice at a systems level. Some gains were not sustained over time, suggesting that repeated interventions may be necessary.

We plan on disseminating our training materials through the Wisconsin Alzheimer's Institute website. Other next steps could include (1) assessing the impact of this training on healthcare outcomes in persons with ID, and (2) ensuring that the tool is applicable to persons from a wide range of ethnic, racial and socioeconomic backgrounds.

REFERENCES

Esralew, L., Janicki, M.P., DiSipio, M., Jokinen, N., Keller, S.M. and Members of the National Task Group Section on Early Detection and Screening. (2013). National Task Group Early Detection Screen for Dementia: Manual. Available from www.aadmd.org/ntg/screening.

Moran JA, Rafii MS, Keller SM, et al., The National Task Group on Intellectual Disabilities and Dementia Practices consensus recommendations for the evaluation and management of dementia in adults with intellectual disabilities. Mayo Clin Proc 2013;88:831-840.

FIGURES & TABLES

Table 1. Demographics of participants Characteristic N(%) / M±SD Professional role case manager or care coordinator 92 (59.7%) direct care worker 11 (7.1%) 20 (13.0)%) healthcare provider health educator 10 (6.5%) other 21 (13.7%) Years in role 7.8 ± 8.2 Years in field of aging or dementia 11.7 ± 8.0 Years in field of ID 11.3 ± 8.6 Gender female 144 (93.5%) Ethnicity Not Hispanic/Latino 147 (95.5%) Hispanic/Latino 7 (4.5%)

American Indian/Alaskan Native 1 (0.6%) Asian/Asian-American 3 (1.9%) Black/African-American 7 (4.5%) Hawaiian Native/Pacific Islander 1 (0.6%) White 138 (89.6%) 2 or more races 2 (1.3%) Educational level

6-12 years 8 (5.25%) technical/4-yr college 98 (63.6%) graduate school 45 (29.2%)

Table 2. Confidence in ability to track health circumstances & functional decline

(0=not at all, 3=very confident)	pre	post	p-value
Intellectual disability	2.10	2.33	0.003
Changes in mental health	2.24	2.39	0.032
Significant life events	2.30	2.54	< 0.001
Diagnosis of mild cognitive impairment or dementia	2.03	2.32	<0.001
Declines in ADLs	2.39	2.56	0.002
Changes in memory	2.11	2.48	< 0.001
Changes in behavior & affect	2.20	2.48	<0.001

Figure 1. Satisfaction with training

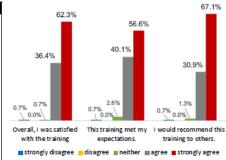


Table 3. Feasibility of using NTG-EDSD questionnaire

(0=strongly disagree, 4=strongly agree	pre	1-mo post	p- value
Questions allow for an accurate representation of the person	2.69	3.15	0.08
I have sufficient experience w/ person with ID to complete questionnaire	2.77	3.23	0.027
Questions are comprehensible	2.38	2.92	0.012
Instructions for using the tool are comprehensible*	2.46	3.08	0.005
Tool is complicated	1.77	1.15	0.04
The purpose of the questionnaire is clear*	2.38	3.23	0.01
Using the questionnaire for periodic reassessments would be meaningful	2.69	3.38	<0.001

^{*} also statistically significant change at 6-month follow-up

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Ethnicity			
- Not Hispanic/Latino - Hispanic/Latino	147 (95.5%) 7 (4.5%)		
Race			
American Indian/Alaskan Native Asian/Asian-American Black/African-American Hawaiian Native/Pacific Islander White 2 or more races	1 (0.6%) 3 (1.9%) 7 (4.5%) 1 (0.6%) 138 (89.6%) 2 (1.3%)		
Educational level			
- 6-12 years - technical/4-yr college - graduate school	8 (5.25%) 98 (63.6%) 45 (29.2%)		

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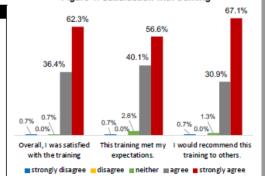


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