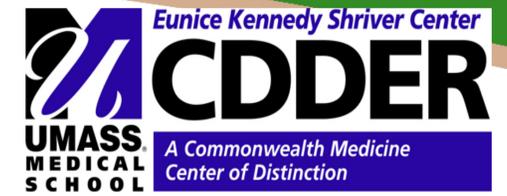


Educating Dental Health Professionals about People with Intellectual and Developmental Disabilities¹

Christine J. Clifford², MHP; Alexandra Bonardi², MHA, OTR/L; Matthew Holder³, MD, MBA



Background

Dental schools and dental hygiene programs are required to incorporate specialized training in their programs to serve people with special needs, however people with intellectual and developmental disability (I/DD) continue to experience poor oral health outcomes. Access to clinicians with the desire and skill to care for people with I/DD remains a challenge. There is a need to understand the best approaches to improve access, and to reduce disparity in oral health, for this vulnerable population representing approximately 1-3% of the general population. Researchers are systematically investigating the literature to uncover evidence of effective approaches to improve access and to support good oral health behaviors. These approaches should be integrated into educational curricula.

The key question: “Do professional educational experiences impact *providers* (dentists, hygienists and others) attitudes toward (willingness), or ability to treat individuals with I/DD?”

Methods

The systematic review included databases such as PubMed, as well as gray literature. Broad search terms were used to uncover interventions to improve both access to oral health and support good oral health behaviors in individuals with I/DD. Initial results yielded 4,854 articles. Title and abstract screening for articles that specifically address the I/DD population, that describe a measurable intervention with measurable outcomes, and that were published after 1990 resulted in approximately 400 articles for full text review, and 125 for data abstraction. To uncover the state of evidence and outcomes as they relate to the educational exposure for allied dental health professionals, a targeted key question, on education for treatment and prevention directed at providers, was developed. This focused the review on the educational outcomes and the development of the evidence base for educational interventions.

Results

Fifteen articles were identified to have a clear I/DD population definition, intervention, and outcome. Articles were reviewed in detail with structured abstraction of results entered into the AHRQ Systematic Review Data Repository.

Interventions measured:

1. Assess educational experience/knowledge acquisition: curriculum for orthodontists, dentists, & hygienists
2. Assess attitudes toward treating persons with I/DD
3. Assess an educational model: virtual patient, service learning, interprofessional model
4. Assess comfort/satisfaction with technique or materials: behavior management, available information, experience

Interventions were delivered by lecture (3), virtual patient models (2), case base learning (1), service learning (1) and combination video/text based (1). Length of interventions ranged from a 45 minute lecture to an 8 hour practicum. Sample size ranged from 23 to 568 and studies surveyed a variety of student and professionals.

Study Subjects	# of Studies
Students (dental, hygiene)	6
Dentists	3
Individuals with I/DD	2
Orthodontists, Hygienists, Nurse Practitioners, Other health providers	1 each

Ten of the 15 studies were surveys, measuring 38 total outcomes.

Outcomes	# of articles containing the outcome
Curriculum related (i.e., content, satisfaction)	9
Education/Knowledge (i.e., gained, experience)	6
Attitudes/Beliefs (i.e., perception)	5
Behavior Management (i.e., knowledge, experience, comfort)	4
Comfort level (i.e., comfort treating)	3
Expectation (i.e., of individuals with I/DD capabilities)	2
Other: communication skills, complete training, cooperation, awareness, etc.	1 each

Providers gained knowledge and/or a level of comfort in treating people with I/DD after meeting and working with them as part of training. Providers indicated they felt ill-prepared and expressed desire to have specific training. There are limited opportunities for structured exposure to this population in traditional dental curricula.

Quality of Evidence

Using questions adapted from The Community Guide Data Abstraction Form, clinical experts provided an interpretation of external validity, while a research methodologist accomplished a separate review of internal validity. Few studies rated “good” for both internal and external validity.

Study Author	External Validity	Internal Validity
Brown BR, Inglehart MR	Good	Good
Dehaitem MJ, Ridley K, Kerschbaum WE, Inglehart MR	Good	Fair
Dellavia C, Allievi C, Ottolina P, Sforza C	Fair	Fair
Delucia LM, Davis EL	Poor	Good
Hahn JE, FitzGerald L, Markham YK, Glassman P, Guenther N	Good	Fair
Harper DC, Wadsworth JS	Good	Good
Humza Bin Saeed M, Daly B, Newton JT	Good	Good
Jones ML, Boyd LD	Poor	Fair
Keselyak NT, Simmer-Beck M, Bray KK, Gadbury-Amyot CC	Good	Fair
Kleinert HL, Sanders C, Mink J, Nash D, Johnson J, Boyd S, Challman S	Poor	Good
Mabry CC, Mosca NG	Poor	Fair
Meurs D, Rutten M, de Jongh A	Good	Good
Nagarajappa R, Tak M, Sharda AJ, Asawa K, Jaliha S, Kakatkar G	Fair	Good
Sanders C, Kleinert HL, Boyd SE, Herren C, Theiss L, Mink J	Good	Good
Subar P, Chávez EM, Miles J, Wong A, Glassman P, Labarre E	Good	Fair

Conclusions

Exposure to individuals with I/DD, whether that be through curriculum, practical experience, or other means has a positive impact on a providers attitudes toward treating individuals and including individuals with I/DD in their practice. There are limited studies to describe the impact of educational interventions on this population. Further research and evaluation is needed.