Applying behavioral research and multidisciplinary collaboration in special education school-based clinic rotations

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Interdisciplinary Collaboration

• 4th year bachelor degree DH students
• DH Program dentist and faculty
• Master’s students and faculty in Behavior Analysis and Therapy
• Master’s students and faculty in Communication Disorders and Sciences
• SIU Center for Autism Spectrum Disorders
• School nurses in special education schools
• Special education teachers and aides
• School principals

What do you need to get started?

• Dentist to do exams (General Supervision)
• Faculty to supervise students (workload assignment)
• Disposable mirrors, sterile instruments, portable chair, light
• Spin brushes, manual brushes, floss, fluoride varnish, PPE, disposable items
• Stickers, bubbles, and other items for positive reinforcement
• Paperwork (consent, health history, charts, etc)
• MOU
Overview of the Project

- 4th year required course “Multicultural Applied Experiences in Dental Hygiene”
- Longevity of project - 4 years (Began 2010)
- 2 Special Education Districts (4 schools)
- Originated with a grant from the Illinois Children’s Healthcare Foundation
- Memorandum of Understanding
- Human Subjects approval
- School nurses distributed & collected paperwork
- Consent-to-treat/Medical History/Behavioral Survey
- Consent to photograph & videotape
- Illinois State required School Exam provided
- Portable equipment
- Operates Spring semester only

Overview of the Project

- Dental exams
  - 4 schools in 4 days
- Written feedback is sent home to parents
  - Oral findings
  - Treatment needed
  - Treatment received
  - Oral Health Assessment Rating Score
  - Feedback on child’s behavior
  - Referral
- 26 days of student rotations
  - 4 to 8 days at each school
  - Some children are seen multiple times
4th Year Dental Hygiene Student Participation

- Mandatory “Special Schools” rotation
- Required course: Multicultural Applied Experience in Dental Hygiene
- DH student commitment is between 12-40 hours
- Rotation operates every Tuesday & Thursday morning 8:30-11:30 for 14 weeks
- 76 dental hygiene students have participated over 4 years
- 5 DH students have been subjects in single subject research projects

Students providing care

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Student and child

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3 students and teenage boy

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Seven students and teenage boy

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Expectations for the Dental Hygiene Students

- Review child’s dental exam record
- Review medical history
- Review previous year’s progress notes
- Review Behavioral Survey completed by parent or caregiver
- Discuss child’s recent behavior with school nurse
- Take the lead when the child enters the room
- Manage the child’s behavior (with assistance if needed) utilizing basic skills techniques
Expectations for the Dental Hygiene Students

- Compare existing conditions to exam charting
- Complete a dental cleaning (i.e. explore, scale, de-plaque, remove stain, apply fluoride varnish)
- Teach home care
- Document progress notes
- Write note to be sent home to family

Reviewing Behavioral Survey

BAT Graduate students collecting data on DH students for training purposes

Using picture schedule to facilitate communication

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Using file (non-sharp) to desensitize

Positive reinforcement using bubbles, praise, toys, and a break

What is accomplished?

- Nothing
- Something
- Everything

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Behavioral Survey

Example of questions
1. Can the child verbalize his/her needs?
   If not, how does he/she communicate?
2. Is the child orally defensive?
3. Does the child have any fears or dislikes?
4. Does the child have any preferred toys that may be used as a reward?
5. Does the child have any unmet dental needs?

Children who Participate

• Approximately 500 consent-to-treat forms have been returned over the four years
• Between 104-147 children have participated each year

Reported Disabilities

• 30% No disability reported on medical history
• 34% Autism
• 9% Seizure Disorder/Epilepsy
• 8% Deafness/Hearing Impairment
• 7% Down’s Syndrome
• 5% Cognitive Impairment
• 5% Communication Disorder
• 6% Emotional or Behavioral Disorder
• 5% ADHD or Learning Disorder
• 3% Cerebral Palsy
• 3% Traumatic Brain Injury
• 3% Other Developmental Disability

(More than one disability was reported for some children.)
Children’s Behavior During Exam

- Acceptable: 63.7%
- Improvable: 18.8%
- Unacceptable: 17.5%

Dental Cleaning Results

- Complete: 69%
- Partial: 19%
- No Treatment: 12%

Behavioral Intervention
- Applied Behavior Analytic Techniques
  - taught dental hygiene students skills to manage and prevent uncooperative behavior.

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Applied Behavior Analytic (ABA) Techniques Taught

- Reinforcement
  - Positive (toys, praise)
  - Negative (breaks)
- Picture schedule
- Differential reinforcement
- Prompting
- Escape extinction
- Contingent escape

Benefits of a Special Education School-Based Partnership
Benefits to the Dental Hygiene Students

- develop behavioral management skills through mentoring and experience
- develop clinical skills
- learn about various developmental disabilities
- experience portable equipment
- participate in a multidisciplinary oral care team

Develop CONFIDENCE in their ability to communicate and interact with children who may be different from them.

And...

COMPASSION for the population
Benefits to the Children

- Learn to become better dental patients
- Learn to accept oral care procedures
- Learn social skills
- Receive a dental exam and preventive care
- Receive referral for restorative care
- Receive toothbrushes, floss, timer, & prizes
- Receive better oral health
- Have fun

For more information

Thank you.