

# CLL Poster Sessions

## **Evaluation of the Effectiveness of Tutoring in a Pre-Clinical Laboratory Course**

\*Holly C. Rice, RDH, MEd and Alan E. Levine, PhD, MEd  
*The University of Texas Dental Branch at Houston*

The purpose of the study is to evaluate the effectiveness of tutoring in a first year dental hygiene pre-clinical laboratory course. Tutoring was offered to students enrolled in the course. Dental hygiene students are expected to meet rigorous clinical performance criteria and developing these clinical skills is a critical component of dental hygiene education.

The tutoring program was evaluated using a nineteen question survey instrument which students anonymously filled out on Blackboard. Approval for the study was obtained from the university's Human Subjects Institutional Review Board. The study population consisted of the classes of 2007-2010 with a total of one hundred and forty-eight students.

Approximately two-thirds (sixty) of the students responding to the survey took part in tutoring sessions. The majority of the tutoring was conducted by faculty with some sessions utilizing peer tutors.

Results of the survey found that a majority of the students participating in tutoring felt that the extra practice and the desire to feel more confident with the instruments were the major reasons for attending tutoring. The survey results found that a majority of the students felt that they were able to adapt the instruments to the typodont better after participating in tutoring. Ninety percent of the students responding to the survey felt that the tutoring helped them feel better prepared for clinic. Greater than sixty percent responding felt that tutoring was more effective than the actual laboratory session and that the peer tutor was as beneficial as a faculty tutor.

## **Calibration of Dental Hygiene Faculty Prior to Instrumentation Evaluations**

\*Beverly A. McClure, RDH, BS  
*Ohio State University*

The purpose of this new program was to calibrate all faculty members to help provide consistent and fair evaluations of instrumentation competencies for beginning dental hygiene (DH) students. A new schedule was being introduced so that beginning DH students would complete 4 periodontal instrumentation competencies prior to the new quarter clinical rotations. These competencies would be evaluated in one clinical session on a classmate. This would require the majority of faculty to evaluate the competencies.

Calibration of faculty is a continual challenge of dental hygiene educators. Students sometimes get confused when one faculty member gives low marks on a case and the student perceives (sometimes correctly) that another faculty member had given them high marks on a similar case. In order to best evaluate and fairly grade the competencies, the pre-clinic course directors were asked to review instrumentation techniques and

probably more importantly conduct an interactive session discussing what would constitute a point deduction on each category with the faculty.

This calibration session took place at a required faculty meeting before the school year started. Faculty participation was energetic and guidelines were established to help grade consistently. A 6-question Likert survey was given to full and part time DH faculty (N=15) following the competency evaluations. One hundred percent of the faculty either strongly agreed (SA), agreed (A) or slightly agreed (SL A) that the suggestions on how to grade specific items and the review of instrumentation techniques were helpful. As a result of the review 100% of the faculty either (SA), (A) or (SL A) that faculty are grading with more consistency.

One-hundred percent of the faculty (SA) or (A) felt better prepared to evaluate competency exams because of the review session and they would like to have other faculty reviews concerning other competency exams. The faculty members were asked which competencies should be reviewed and the outcome in order of the top three were amalgam finishing and polishing, periodontal assessment and the ultrasonic scaler. Review sessions appear to be helpful to faculty in evaluating competencies. The faculty members feel that calibration has improved. At the request of faculty, more calibration sessions will be held.

## **Broadening Dental Hygiene Education Through Interprofessional Collaboration**

\*Susan Jenkins, RDH, MS; Lois Angelo, MSN, APRN; Marie Dacey, EdD; Timothy J. Maher, PhD; Ana Maldonado PA-C/MPH; Stephanie Rhymer, BS, RT(N), CNMT; and Rick L. Shifley, PhD  
*Massachusetts College of Pharmacy & Health Sciences*

Literature indicates that most college level interprofessional education/initiatives do not include dental professionals. In 2008, The Massachusetts College of Pharmacy & Health Sciences, in an effort to gain a position as a leader in interprofessional collaboration, implemented the Schwartz Center Educational Rounds Difficult Conversations Committee, with the goal of improving communication between health care professionals and patients. The committee includes faculty members from dental hygiene, pharmacy, physician assistant studies, nursing, radiological sciences, health psychology, and health science/premed studies.

Difficult Conversations is a forum where students, from all disciplines, are given an opportunity to share their positive and negative experiences associated with a chosen topic. An email was sent to the entire student body inviting them to participate. Interested students responded with their personal experiences. Five students respond, including one dental hygiene student, who, after review by the committee, was chosen as a panel member. All members of the college community were invited to attend. The forum was presented during the college's

mid-day activity period, with lunch provided by the Schwartz Center, to everyone who RSVP'd. Each student had 5-minutes to present their story, followed by a question and answer period, all guided by a facilitator.

Attendees are asked to complete a four-question, five-point Likert Scale evaluation asking the following: The case presentations were thought provoking. I gained perspectives that will help me care for my patients. I gained perspective that will help me work more effectively with colleagues. The discussion facilitated reflection about my current or future clinical experience. Program evaluations have been consistently high: 91.6% "case presentations were thought provoking"; 71.2% "gained perspective that will help me work more effectively with my patients/colleagues; 90.1%-"the discussion facilitated reflection about my current or future clinical experiences". The outcomes demonstrate that there is potential to improve communication between health care professionals and patients through this mechanism.

### **Knowledge, Opinions and Practice Behaviors of North Carolina Endocrinologists and Internists Regarding Periodontal Disease and Diabetes**

*\*Jonathan B. Owens, RDH, BS; Janet H. Southerland, RDH, DDS, PhD; John B. Buse, MD, PhD; Robert M. Malone, PharmD; and Rebecca S. Wilder, RDH, MS University of North Carolina School of Dentistry*

**Objective:** This study accessed the knowledge, opinions, and practice behaviors of North Carolina (NC) endocrinologists and internists regarding periodontal disease (PD) and the impact on diabetes.

**Methods:** A questionnaire was developed, IRB approved, pilot tested, revised and mailed to 1,000 internists and 140 endocrinologists in NC. After two mailings the response rate was 28% (N=317). A third mailing was conducted in January 2010 and will be analyzed in March. Data were analyzed using SAS version 9.1, utilizing descriptive statistical methods.

**Results:** Respondents were 66% male. Only 21% agreed they were knowledgeable regarding the studies linking periodontal disease and diabetes. When asked how often an oral examination was performed, 31% rarely performed an oral examination, 27% only when the patient mentioned a problem and 24% at every visit. When asked if a routine oral examination was not provided, 35% indicated it is the responsibility of dental professionals and 34% are not sure what type of oral examination to perform. Seventy-one percent refer patients when they think something needs further examination and 64% refer if a patient expresses concern. Most (95%) agree that good periodontal health is important to overall health and 81% think physicians should be taught to screen for periodontal disease. Eighty-nine percent support collaboration with dental professionals.

**Conclusions:** NC endocrinologists and internists do not feel knowledgeable about PD research as it relates to diabetes but the majority indicated that collaboration with oral health professionals is important. More research needs to be conducted on how to establish collaboration between physicians and oral health professionals.

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### **Examining Peer Assessment in a Didactic Team-Based Learning Course**

Melanie L. Simmer-Beck, RDH, MS; Nancy T. Keselyak, RDH, MA; and Cynthia Gadbury-Amyot, RDH, EdD  
*University of Missouri-Kansas City*

**Purpose:** This project examined the effectiveness of a peer assessment tool at holding individuals accountable for their contributions to group assignments.

**Statement of the Problem and Significance:** As dental educators incorporate more interactive and group learning methodologies into the curricula, individual accountability must be factored into course grades. To ensure students have an opportunity to reward peers who contribute most to group assignments and help individuals recognize the need to be individually accountable to their team, peer assessments are considered essential components of team-based learning.

**Methodology:** Data from the dental hygiene classes of 2009 and 2010 were examined at the completion of an introduction dental hygiene course (n=59). Students were allowed 10 points per team member, excluding themselves, to distribute to among teammates. Students were instructed to complete a peer assessment for each student in their team by assigning at least one student 11 points or higher and one student was 9 points or lower with a rationale for the highest and lowest ratings. Scores for each student were averaged. Variability among teams was examined by observing student scores by team. Individual scores of 11 or higher and scores 9 or lower were selected for review of the narrative feedback using the Constant Comparative method to identify common themes.

**Results:** Variability among individual scores was noted in seven of the ten teams with scores ranging from 12 to 7.4. Two themes emerged from the data as determinants for both high and low scores; Social Interaction and Work Ethic. The peer assessment method used in this project demonstrated the ability to differentiate between groups where individual students contributed equally and groups where individual students contributed at different levels.

**Conclusion:** The peer assessment method described in this study signifies the potential of a peer assessment method, such as the one used, to improve team based learning.

### **Assessing Professional Education in the Care of Patients with Neurodevelopmental Disorders and Intellectual Disabilities in U.S. Dental Hygiene Programs**

*\*Christine A. Dominick, RDH, MEd; Kamila Kazmierczak; and Mary E. Foley, RDH, MPH Massachusetts College of Pharmacy and Forsyth School of Dental Hygiene*

**Objectives:** The aim of this study was to: 1) raise awareness among dental hygiene program directors about the need for specialized curricula related to the care and treatment of special

needs patients; 2) assess the extent to which CODA accredited dental hygiene programs incorporate specialized curricula related to the assessment and treatment of patients with neurodevelopmental and intellectual disabilities.

**Methods:** An 11-item questionnaire was distributed via a web-based survey tool (Zoomerang) to 231 US dental hygiene program directors. Data gathered included the number of instructional hours, types of instruction, professional experiences and faculty participation related to the education of students on the assessment, care and treatment of special needs patients. The survey questionnaire was e-mailed in May 2008 with two follow up requests 60 and 90 days later. Descriptive statistics were noted and multiple regression analysis was conducted using SPSS software.

**Results:** Of the 231 surveys, 58% (N=134) were returned. Analysis revealed that 98% of programs incorporate assessment and preventive care of patients with special needs either in a lecture or seminar format, while only 74% reported clinical patient care experiences. Further, 49% reported that they have a noted clinical requirement for students. School settings (dental school, 4-year, 2 years) also demonstrated significant variations in instruction.

**Conclusions:** A lack of curricular uniformity exists. There is a large disparity among the types of patients treated who are designated as special needs among programs. Student clinical experiences with this population are inconsistent.

### Factors Affecting the Oral Care Practices of Texas Nurses in Hospitals

\*Stacy Pettit, RDH, BS; Ann McCann, RDH, PhD; Emet Schneiderman, PhD; Patricia Campbell, RDH, MS  
Texas A&M Health Sciences Center Baylor College of Dentistry  
Elizabeth Farren, MSN, PhD, FNP; and Louise Herrington  
Baylor University School of Nursing

Oral health care is crucial for hospitalized patients. The purpose of this study was to measure factors affecting the oral care knowledge and opinions of Texas nurses employed in hospitals. A survey was developed to measure type of patient contact, nursing education, opinions about the importance of oral care and knowledge of oral care management. The latter was a 24-question knowledge test. The IRB granted "exempt" status.

A random sample of 582 nurses was selected, and a response rate of 26% (152/582) was obtained. Data analysis with SPSS included using frequencies, Chi Square, and Spearman correlation. The mean number of years in practice was 18 (sd=11). The majority had ten or more daily patient contacts (55%). A large group of nurses (42.9%) reported feeling responsible for the oral care management of their patients and assessing the oral cavity of their patients (78.6%). Their hospital required them to assess the oral cavity (61.2%) as well as their nurse manager (50%). They reported being "minimally prepared" by their nursing program for oral care management (median=2, on a scale 1 to 4).

Only 25 respondents had attended a continuing education course regarding oral care management, with 13 only taking

one course. Most reported they were "knowledgeable" about oral health management (57.1%), yet the mean score for knowledge questions was only 50% (sd=13%). Years of practice was significantly correlated to the knowledge test score ( $\rho = .204$ ,  $p = .046$ ), as well as the nurses' self-assessment of their knowledge ( $\rho = .254$ ,  $p = .012$ ). Education level ( $\rho = .136$ ,  $p > .05$ ) was not significantly correlated to the knowledge test score.

This lack of knowledge about oral health management indicates a need for further education, such as continuing education for nurses or interdisciplinary curricula for nurses and dental hygienists. This also suggests the possibility of employing dental hygienists in hospitals for providing oral care.

### Journaling as a Method of Stress Reduction and Coping for First Year Dental Hygiene Students

\*W. Gail Barnes, RDH, PhD; Vanessa Faison, RDH, MHA/Ed  
Clayton State University  
Rosetta Watkins, RDH, BA

The first year of most professional programs can be stressful for students. The dental hygiene programs are no exception. Journaling is a method of exploring the thoughts and feelings associated with the experience. According to empirical research, journaling has been shown to decrease health symptoms, improve cognitive performance, strengthen one's immune system and counteract the harmful effects of stress.

First year dental hygiene students were required to record weekly journal entries for their pre-clinic lecture and lab courses via Blackboard's Discussion section. A survey was administered to the same students (N=24; 100% response rate) at the end of their second semester. The survey consisted of 22 items (qualitative open-ended and closed-ended questions) and was administered via the Blackboard Assessment section of their clinical course. Students were instructed to logon to the Blackboard site and complete the survey. Blackboard provided an analysis for the survey which included means, standard deviations, medians, and a list of responses from the qualitative questions.

The results indicated that the students were "comfortable writing weekly journal entries knowing that only the course director would read them" (87%). The students reported that what they liked most about journaling was that they were able to reflect on their feelings when in lab (69.6%); felt less stressed after writing their weekly journal entry (8.7%) and their confidence in instrumentation skills was increased when they read their previous journal entries (17.4%) which in turn helped to reduce their stress level when learning new instrumentation skills.

It can be concluded from the present study that the dental hygiene students were comfortable writing weekly journal entries and that journaling reduced their stress level but not to the extent of other empirical studies. Furthermore, it can be speculated that the respondents participated in other stress reduction activities while first year dental hygiene students.



## Magnifying Loupes in U.S. Entry-Level Dental Hygiene Programs: Occupational Health and Safety

\*Leslie McHaney Congdon, RDH, BSDH, MS(c); Susan Lynn Tolle, BSDH, MS; and Michele L. Darby, BSDH, MS  
*Old Dominion University*

Use of magnification loupes has increased in dental practice settings owing to enhanced visual acuity and potential ergonomic benefits recognized by OSHA and the ADA. However, minimal research has been conducted on magnification practices in schools of dental hygiene.

The purpose of this study was to determine policies concerning the use of magnifying loupes by students and faculty in United States Dental Hygiene Programs. A 31 item, self-designed questionnaire was e-mailed to all 303 accredited entry-level dental hygiene programs.

An overall response rate of 77.8% (N=236) was obtained for analysis. Results reveal the vast majority of programs do not require loupes for faculty or students with only twenty-three percent of responding schools requiring students to purchase loupes and only 8% requiring faculty to use loupes.

Most programs (90%) do not plan to require students to purchase loupes in the near future although the majority (73%) believes proper use of loupes should be integrated into the curriculum. Over 90% believe the greatest advantages of loupes are improved periodontal probe readings and ergonomics; followed by caries detection (70.2%) and decreased muscular pain (69.7%).

Cost of magnification loupes was cited as their primary disadvantage. Although 77% of respondents believe loupes are essential in private practice and acknowledge advantages to the use of loupes results suggest clinical policies may not correlate with beliefs and personal standards of care. Educational programs in dental hygiene appear unhesitant to adopt and require the use of loupes. Funding for this research project through ADHA IOH.

## Use of Complementary and Alternative Medicine for Work-Related Pain Correlates with Career Satisfaction Among Dental Hygienists

\*Aubree M. Chismark, RDH, BS; Alice E. Curran, DMD, MS; Margot B. Stein, PhD; Tabitha Tavoc, RDH, PhD; and Gary N. Asher, MD, MPH  
*University of North Carolina at Chapel Hill*

Chronic musculoskeletal pain (CMSP) is associated with work stress and burn-out among registered dental hygienists (RDHs), with prevalence estimates ranging between 64.0-93.0%. Complementary and Alternative Medicine (CAM) therapies can be helpful in managing CMSP.

The purpose of this study was to determine if RDHs who use CAM have greater career satisfaction than those who use Conventional Therapy (CT).

ADHA members (N=2431) in North Carolina (N=573) and California (N=1858) were surveyed. Data were analyzed using univariate and bivariate analyses, and logistic regression. We received a response rate of 25.3% (n=617), of which 76.5% (n=472) suffered from CMSP. Any CAM or CT use was report-

ed among 80.7% (n=381) of RDHs with CMSP. CAM users reported greater overall health (79.3% vs. 54.0%,  $p<0.001$ ), career satisfaction (59.2% vs. 39.0%,  $p<0.001$ ), and were able to work the hours they wanted (69.8% vs. 64.0%,  $p<0.001$ ) when compared to CT users. Of those with CMSP, 36.4% (n=172) considered a career change and 13.0% (n=59) reported having left dental hygiene due to CMSP. Those with CMSP were less likely to recall that ergonomics were reinforced during clinical training.

We can conclude that: 1) Ergonomics education may help reduce the number of RDHs who suffer from CMSP; 2) CAM therapies may improve quality of life and enhance career satisfaction for RDHs who suffer from CMSP. Future research should examine incorporating CAM, such as yoga stretches, and ergonomic education into the dental hygiene curriculum. For those who suffer work-related CMSP, CAM therapies may improve work quality, quality of life, and career satisfaction.

Funding for this project through ADHA IOH (09-01).

## Interprofessional Education Through an Oral Health Curriculum to Physician Assistant Students

\*Kelly Anderson, RDH, MHS; Barbara Smith, PT, PhD; and Denise Maseman, RDH, MHS  
*Wichita State University*

**Introduction:** As the link between oral and overall health becomes more evident to health professionals outside of dentistry, integration of oral health education is an appropriate goal for health professional education.

Interprofessional Education (IPE) is the process by which a group of students or workers from health-related occupations learn together during parts of their education.

**Purpose:** The purpose was twofold: to evaluate the implementation of an oral health curriculum to physician assistant (PA) students; identify which parts were most important in changing the PA students' knowledge regarding oral health.

**Method:** Didactic and laboratory sections were offered. Data collected were from a pre-/post-test of 24 items answered on a 5-point Likert scale, reflecting an attitudinal measure of students' (n=43) ability to apply and understand the oral health curriculum. Chi-square analyses determined if a relationship existed between answers on the same instrument before and after instruction. IRB approval was obtained and the students gave informed consent.

**Results:** Students felt they improved their level of understanding on all topics. Data were organized from the largest change in perceived competency (> 70%) from pre to posttest (8 items), moderately changed (60-69%) (6 items), and to least changed (35-59%) (10 items). The items with the largest change included: monitor impact of medications on oral tissues, recognize caries and oral lesions that require referral, and recognize signs/symptoms of gingivitis and periodontal disease.

**Conclusion:** The results indicate that the curriculum enhanced the perceived oral health competency of these PA students and their ability to recognize oral signs/symptoms that may impact a patient's general health. Overcoming the challenges of integrating health professional curriculum can ultimately benefit health professionals and patients.