

Podium Presentations

THE EFFECTS OF MINDFULNESS PRACTICE ON SPEECH THERAPY CLINICIANS IN TRAINING

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Background: Mindfulness meditation has been found to decrease stress-related cortisol, insomnia, and general emotional distress. It has been shown to increase self-understanding, emotional well-being and detachment from reactions (Hanson, 2013). The present study sought to determine whether implementing meditation practice would decrease levels of perceived stress and increase factors of mindfulness among first-year, graduate level speech therapy clinicians. This four-week study features various relaxation techniques to uncover the effect mindfulness practice has on the perceived stress of first-year, graduate level speech therapists. Ten students underwent either relaxation or mindfulness training for four consecutive weeks. Pre- and post-test surveys using the Perceived Stress Scale and the Five Facets of Mindfulness revealed decreased levels of stress in both participating groups.

Purpose/Objective/Hypothesis: To determine whether mindfulness meditation practice decreases levels of perceived stress and increases factors of mindfulness among first-year, graduate level speech therapy clinicians.

Design/Method/Scope: Ten graduate-level speech therapy clinicians participated in the four-week study. The first group consisted of mindfulness meditation intervention. The meditation group participated in weekly, 30-minute meditation sessions and each participant implemented daily 10-15 minute practice. The second group consisted of various relaxation interventions. This group participated in weekly, 30-minute relaxation meetings and each participant implemented daily 10-15 minute relaxation practice.

Review Methods: Pre- and Post- survey measures were collected using the Perceived Stress Scale (Cohen, 1983) and the Five Facets of Mindfulness Questionnaire (Baer, 2006).

Results: Statistical examination using the Wilcoxon Signed-Rank tests revealed significant differences in levels of perceived stress when comparing both pre- and post- survey measures of the meditation and the relaxation group ($W = 8.5$, $p = 0.02619$). There were no significant differences found for any subtests of the Five Facets of Mindfulness Questionnaire, but the total score for the combined subtests differed in pre- versus post-test administrations ($p < .05$).

Conclusions: Intervention-specific results could not be determined; however, the results indicated reduced levels of perceived stress and increased facets of mindfulness when comparing pre- and post- survey measures of combined intervention group data.

INFORMED CONSENT AND THE LIMITED ENGLISH PATIENT: A PILOT PROJECT TO ASSESS STUDENT KNOWLEDGE, PERCEPTIONS AND ATTITUDES

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Background: Informed consent is the process by which a patient agrees to or rejects a proposed plan of treatment after a discussion with the provider about the benefits, risks and alternative treatments available. In the United States, a signed informed consent form is required before any treatment plan may be implemented. However, there is no literature addressing how students in health professions understand informed consent in the context of encounters with limited English speaking (LEP) patients.

Purpose/Objective/Hypothesis: The purpose of this interprofessional, interdisciplinary pilot project was to explore and assess Idaho State University's dental hygiene students' knowledge, perceptions, and attitudes associated with the process of informed consent when working with LEP patients in a dental hygiene setting. **Design/Methods/Scope:** Using mixed methods methodology, we administered a pre-immersion survey to twenty-eight second-year dental hygiene students. These students then participated in a simulated encounter with Spanish-speaking mock-patients and trained interpreters. After the immersive experience, students completed a post immersion survey.

Results: Study results indicate overall positive increases in student knowledge, perceptions, and attitudes towards various aspects of the provider-LEP patient encounter.

Conclusions: Researchers determined that this interprofessional experience increased student knowledge of best practices when working with LEP patients and with interpreters. Project experiences resulted in shifts in student knowledge, perceptions, and attitudes towards interactions with LEP patients as well as an overall increase in participant confidence in their ability to effectively interact with LEP patients.

I SEE IT DIFFERENTLY: MANAGING STEREOTYPES IN AN INTERPROFESSIONAL SETTING

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Background

The Boise VAMC Center of Excellence in Primary Care Education has recognized a need for interprofessional (IP) teams to explore the formation of professional identities and interprofessional stereotypes. We believe that effective team function begins with identifying common goals and negotiating roles and responsibilities. Much of healthcare professionals' training happens in silos that facilitate the development of strong professional identities that can lead to profession centrism (Pecukonis, 2014). Social Identity Theory has been proposed as a theoretical framework to understand the complexity of interprofessional education (IPE) and the roles that in-group/out-group categorization and stereotypes can play on IP teams (Thomson, et al, 2015). As teams mature they increase awareness of and place greater value on professional cultures, which can improve team function.

Purpose

The purpose of the presentation is to help participants understand IP cultures through the lens of social identity theory, and how profession-centrism can lead to stereotypes that detract from effective team function. The speakers will include a brief review of relevant literature, a personal reflection activity, and conclude with the impact of professional stereotypes on care teams.

Design

Our IP faculty and trainees have expressed interest in increasing awareness of their own stereotypes and being more deliberate about avoiding the negative influence of those stereotypes on behavior; however, we have realized that many do not have the tools to effectively engage in these conversations. Utilizing Cultural Consensus Analysis (CCA), a method from Cultural Anthropology to identify differences in cultural values (Romney et al, 1988), the facilitators have developed a tool to highlight differences in professional approach, clinical care, and training. This tool can then be used to facilitate difficult discussions about professional stereotypes and cultural differences.

A brief review of the background literature will focus on social identity theory, profession-centrism, and how these can lead to conflict in IP teams. In the personal reflection activity, participants will rank-order several polarizing statements about patient care priorities such as: "Treatment decisions should always follow the evidence base". This activity illustrates differences in how care priorities might play out in individuals and will help participants think deeply about how they make patient care decisions every day. The session will conclude with ideas about how participants can improve interactions with others by applying their increased cultural awareness.

INTERPROFESSIONAL PERCEPTIONS AMONG STUDENTS INVOLVED IN THE ISU COMMUNITY HEALTH SCREENING (CHS) EVENTS: A PILOT

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Background: The demand for interprofessional practice is increasing; both in today's academic and healthcare settings. The aim of interprofessional education is to adequately prepare healthcare students to be able to effectively transition into a working environment consisting of multiple healthcare disciplines. ISU's CHS events provide a preceptor supervised, student driven clinically based model that organizes a wide range of disciplines (pharmacy, dentistry, nursing, physician assistants, medical laboratory science, dietetics, public health, speech language pathology, counseling, and audiology) into interprofessional teams. These events allows students a hands on experience; working with and learning from the various disciplines while directly interacting with screening participants in a clinical setting.

Purpose: As a key to the success of both the educational and practice setting of healthcare students, this programmatic assessment will evaluate the interprofessional component of ISU's CHS program by assessing a) the difference in students' perceived value of other disciplines' contributions within a healthcare team by comparing those who participate in CHS events to those who do not, and b) the change in value from the beginning of the semester to the end of the semester in those enrolled in an interprofessional elective.

Methods: All students enrolled at ISU-Meridian were asked to complete a survey in which they answered questions based on their perception of interprofessional interactions using the validated Interdisciplinary Education Perception Study (IEPS) tool. Students who participated in the CHS elective in the fall of 2016 completed the survey before the first screening event of the semester and repeated the survey at the end of the semester. Responses by students enrolled in the elective (study group) were compared in a before and after manner and against responses by students not enrolled in the elective (control group). Analysis of responses will be de-identified.

Results: Twenty-five students were enrolled in the CHS elective; 15 voluntarily completed the survey before the first screening event. One student completed the survey after the first event and is not included in the analysis. Thirteen students returned to complete the survey at the end of the semester. Results from the control group are pending.

Conclusions: Results of this study may influence improvements in organizational and administrative aspects of CHS events. The hypothesis is that through improved team interactions, participant outcomes would also improve but further assessment is needed in this area.

Meridian Poster Presentations

TARGETSEARCH: AN AUTOMATED SMALL MOLECULE SEARCH TOOL FOR DRUG DISCOVERY, DRUG TOXICITY, AND DRUG POLYPHARMACY

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Objectives: To design a single program to handle multiple search methods from a variety of input sources. This program would have to handle a standardized input from a user and be robust enough to handle errors. It would also have to operate consistently no matter which method of target matching is selected. Output needs to be customizable, but consistent no matter the operating mode. The last goal is for it to be accessible to potential users.

Data Sources: ChEMBL21, NCI, MolPort, eMolecules, DrugBank, Human Metabolites databases.

Review Methods: This tool had to accept various inputs and have ability to let the user control desired output. We came up with a program flow: 1. Process input, 2. Do the matching, 3. Present output in an easy to read format.

All the relevant data is preprocessed and stored for later use. 2D searches use fingerprint files. 3D searches require servers to be running prior to searches being done. We developed a separate program that loads them separately so the user of the script doesn't have to. Input can be provided in is many ways. The input can be provided as an sdf, mol file, mol2 file, or provided as a SMILES string or InCHI string. If 2D input is chosen for a 3D search the program automatically generates the most optimal 3D conformation in OpenEye's program Omega. For matching purposes an InCHI key is generated for all inputs. This is useful for later steps when we match across databases. Matching occurs in either one of two ways as chosen by the user. Using OpenEye's FastROCS as a 3D shape match or using 2D finger print matching. Output is sorted via a Tantomoto score which measures how well the result matched the target compound. Then information about the target compound and each result is printed in an easy to read format. Possible output includes predicted binding sites and experimentally measured binding sites. The last step in constructing this was developing a web platform for wider use. This makes it easier to present the program to more people with out special set up for each user.

Results: The end result is a program has access to a potential 16 million different compounds. It has been tested in as many different combinations as possible and as many errors have been fixed as possible. A webbased version is now accessible and running.

Conclusions: This program shows much potential in aiding in drug research. It is ideal for searching for potential binding sites. Future possible expansions might include including pocket shape searching.

STRUCTURAL PREDICTION OF PROTEIN-PROTEIN COMPLEX INVOLVING LARGE-SCALE CONFORMATIONAL CHANGES

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Background: The interactions between macromolecules can have different functions, for example cell signaling, antigen recognition in immune system, protein cleavage in disease, etc. Protein-protein interaction (PPI) plays an important and fundamental role in human physiology and biology. Most of current protein-protein docking methods mainly focus on rigid body docking. PPIs involving large-scale conformational changes in one or both binding partners still remain a significant challenge.

Data Sources: Protein Data Bank PDB code 1G0Y and 1UX5 are used as model systems for method development and validation.

Objective: Our objective is to develop an in silico approach that uses Molecular Dynamics (MD) to predict PPIs with improved accuracy.

Review Methods: Powered by GPU accelerated high-performance computing technologies, we are able to sample large-scale conformational changes using metadynamics simulations. These simulations yield statistically significant protein ensembles determined by free energy profiles. These representative ensembles are used for high-throughput PPI docking. The best scored complexes from PPI docking are further optimized using conventional molecular dynamics simulations.

Results: We show that our MD approach accurately predicts the bound PPI structures, measured by I-RMSD and fnat criteria. The PMF and MM-GBSA methods used as part of the MD approach also provide relatively reliable assessment of the PPI binding energetics.

Conclusions: The MD represents a paradigm shift compared to current computational methods for PPI. We demonstrate that MD offers significant improvement over other methods in the most difficult PPI systems. Once streamlined, MD will facilitate discovery of important PPIs in many biological and disease processes, as well as the design of new molecules to modulate PPIs.

THE INFLUENCE OF PHARMACIST-DRIVEN EDUCATION ON PRESCRIBING HEALTH PROFESSIONALS' CLINICAL PHARMACOLOGY KNOWLEDGE

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Background: Pharmacists are essential healthcare professionals who are considered medication specialists with advanced knowledge in drug related information. To illustrate this point, the didactic pharmacy curriculum includes years of drug counseling, drug-drug interactions, drug-disease interactions and drug-induced medical conditions. In addition, pharmacy students are responsible for completing a year of advanced pharmacy practice experience where pharmacy students are embedded within a variety of pharmaceutically relevant positions of exigency.

In this study, Physician Assistant programs will be assessed. According to the National Commission on Certification of Physician Assistants (NCCPA), at the end of 2015, there were 108,717 certified PAs, and that number is expected to go up. With this increasing trend, this research will demonstrate and solidify the need for pharmacist-lead didactics in pharmacology. This will further strengthen the prescribing practices and increase confidence necessary for improving patient care. This is done with appropriate knowledge in the area of pharmacology.

Purpose/Objective: The Influence of Pharmacist-driven Education on Prescribing Health Professionals' Clinical Pharmacology Knowledge represents the critical academic role pharmacists need to take to educate the future population of prescribing healthcare professionals. This project hopes to illustrate how vital pharmacists are in taking the lead role in teaching the pharmacologic knowledge necessary for future prescribers. Pharmacology courses taught by the prescribing profession (or some other healthcare professional) rather than a practicing clinical pharmacist, may limit the knowledge-base of the future provider—and by extent—limit overall patient care. To reduce the time required to treat patients effectively and limit prescribing errors, the pharmacologic foundation needs to be established by an expert in the field.

Design/Method: This study aims to look at test scores comparing pharmacist-led pharmacology courses versus pharmacology courses taught by healthcare professionals other than pharmacists. Test scores will be obtained from various Physician Assistant (PA) programs in the Pacific Northwest and East Coast, and they will be analyzed to determine the difference between the teaching approaches.

Results/Conclusion: Still pending

INNOVATIVE RESIDENCY READINESS ELECTIVE; STUDENT PERCEPTIONS REGARDING USEFULNESS AND APPLICABILITY OF COURSE

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Objective: Postgraduate residency training has gained recognition as a vital necessity for pharmacy graduates. Additional training and education are recommended to prepare students for the application and interviewing process.

Increasing student credentials with research may enhance competitiveness amongst their peers. The purpose of this study was to evaluate student perceptions/assessment of a residency readiness course (over three consecutive academic years with a focus on research).

Methods: A two credit elective course was available to all third- year pharmacy students (2014 and 2015) and second year pharmacy students in the spring of 2016 at our satellite campus. Course instruction utilized lectures, forum discussions, mock interviews, and guest lecturers. Topics included: residency basics, terminology and opportunities

basic research principles, CV writing, letters of recommendation, mock interviews, residency director and resident perspectives. Students completed a research project and presented results to a local, state and/or national research forum. Students generated ideas for their topic and were assigned a faculty member(s) as their research mentors. Students completed a pre and post survey to assess perceptions in: ability to apply for a residency and conducting research. Survey results were measured by a Likert scale (1-5) with 1= not comfortable/familiar and 5= very comfortable/familiar. Statistical analysis was conducted through paired sample t-test. IRB approval was not required.

Results: Twenty-three students enrolled from 2014-2016 and twenty completed the study. Changes in student's perceptions from baseline as a result of course activities were statistically significant for familiarity with the residency application ($p < 0.0001$), feeling prepared applying for a residency ($p < 0.0001$) and confidence in competitiveness ($p = 0.00168$). Students were less apprehensive about interviewing for a residency position, preparing a CV, choosing the right program and successfully matching within their chosen program, all of which were statistically significant. Student perceptions from baseline in regards to research were statistically significant for being familiar with the IRB process and collecting data. However, disseminating or presenting final research data was not statistically significant ($p = 0.08611$).

Conclusions: Students enrolled in a residency readiness course perceive more positive associations with applying for and obtaining a residency position. Students felt more familiar with the application process, more prepared to apply, and more confident in competing for a residency. Students were less apprehensive about the IRB approval process and collecting data. As postgraduate training continues to gain momentum, preparing students for these coveted positions is essential.

SURVEY OF PHARMACISTS ON THE PRACTICE OF SELLING NEEDLES AND SYRINGES IN RETAIL PHARMACIES

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Background: The aim of this survey is to identify the current practices and perceptions of selling hypodermic needles and syringes by pharmacists within the retail setting—especially to customers that pharmacists may suspect of intravenous drug use. For most pharmacists, there is no issue supplying a customer with needles and syringes if they have a legitimate medical use for them (such as having an insulin prescription on their medication profile). However, as many intravenous drug users attempt to purchase needles and syringes at retail pharmacies, pharmacists differ on their approach in deciding whether or not to sell needles and syringes to persons requesting them.

Objectives: This survey will help establish how pharmacists in Idaho currently practice selling needles and syringes to persons requesting them. This survey will also measure pharmacists' perceptions on selling needles and syringes to people they suspect of intravenous drug use.

Methods: Anonymous survey delivered by email to practicing retail pharmacists in Idaho. This survey will assess what practices pharmacists currently employ in selling needles and syringes to persons requesting them (such as documenting sales, verifying that a valid prescription is on file, etc.). Also, the survey will measure pharmacists' perceptions on selling needles and syringes to people they suspect of intravenous drug use, including: if they feel they have the responsibility to prevent intravenous drug use by not selling needles and syringes to suspected intravenous drug users; if they feel they have the responsibility to provide sterile supplies to suspected intravenous drug users in order to prevent the spread of blood-borne disease (such as HIV) and other complications that may be caused by non-sterile injections (such as infections); and, if retail pharmacies are appropriate institutions to sell needles and syringes to intravenous drug users.

Results: PENDING

Conclusion: PENDING

DESCRIPTIVE MEDICATION USE EVALUATION OF URINARY TRACT INFECTION PROPHYLAXIS REGIMENS OF GERIATRIC RESIDENTS IN A LONG TERM CARE FACILITY

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Objectives: To evaluate rates of urinary tract infection reoccurrence in geriatric residents on various urinary tract prophylaxes. Regimens for urinary tract prophylaxis are important among nursing home residents with recurring urinary tract infections due to increasing antibiotic use and resistance and morbidity. The purpose of this study is to analyze efficacy of various regimens for prophylaxis against urinary tract infections by measuring recurrence rates while on prophylaxis.

Data Sources: PUBMED®, was searched from October 2016 to January 2017 for urinary tract infection prophylaxis regimens in geriatric populations. Articles from the previous report were screened and those meeting selection criteria were included.

Review Methods: Patients of a nursing home will be included for the following reasons: Admitted to any of the 3 skilled nursing floors, Over 65 years of age, Symptomatic bacterial urinary infections, On a urinary tract infection prophylaxis regimens at various dosages and frequencies for at least 6 months. Patients will be excluded for any of the following reasons: Pyelonephritis with abscess, Prostatitis, Bacteremia, Catheter use within time span of study

Results: In progress.

Conclusions: In Progress.

EVALUATION OF STATIN THERAPY COMPARED TO AHA/ACC GUIDELINES AT A LOCAL HEALTH CLINIC

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Background: The 2013 ACC/AHA Guideline on Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in adults changed the recommendations for managing patients at risk for cardiovascular events. The guidelines focused on statin intensity based on Atherosclerotic Cardiovascular Disease Risk Score (ASCVD) in certain patient populations that had been shown to have mortality benefits.

Purpose: To evaluate the percentage of patients prescribed optimal therapy according to the guideline recommendations in a regional family practice setting. In addition, prescribers will be asked to reflect on what individual factors influence cholesterol treatment decisions.

Design: A random sample of 100 patients between the ages of 40 and 75 who had been prescribed a statin were analyzed through a retrospective chart review. Randomization was conducted with a random number generator. An anonymous prescriber survey was conducted to evaluate what factors prescribers consider.

Results: 3,405 charts were randomized and 100 charts were reviewed (2.9%). 58% (58/100) of patients were on guideline recommended statin therapy with no difference based on prescriber type ($p=0.24$). Patients were more likely to not be on guideline recommend therapy when high intensity doses were recommended ($p=.003$). Thirty five providers were sent survey, with results pending.

Conclusions: There remains a large portion of patients on unoptimized therapy based on ASCVD risk and recent guidelines. Continued education regarding the use of evidence based guidelines is needed within this practice group.

IDAHO PHARMACISTS' PERCEPTION OF PRESCRIPTIVE AUTHORITY

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Background: Since 1998, Idaho pharmacists have been able to prescribe medications through collaborative practice agreements, a written "contract" with licensed prescribers. Only recently, the prescriptive authority of pharmacists as independent prescribers in Idaho has been expanding. In 2015 and 2016, two bills were signed into law allowing pharmacists in the state of Idaho to prescribe opioid antagonists (naloxone) and epinephrine auto-injectors, adding to existing prescriptive authority for dietary fluoride supplements and immunizations. In February of 2017, another bill passed that will allow pharmacists to prescribe smoking cessation products. These advancements for the profession of pharmacy seem like a step forward, but only if they are being utilized.

Purpose/Objective/Hypothesis: This study aims to spread light on Idaho pharmacists' perception of their prescriptive authority. Is this prescriptive authority being used? Are pharmacists confident in their authority to prescribe for these products? Do pharmacists support the push to expand prescriptive authority? It will also determine if there are differences in opinion depending on field of pharmacy practice.

Design/Methods/Scope: The study is a cross-sectional survey of practicing pharmacists in the state of Idaho. The anonymous survey will be completed through the internet and statistical analysis will reveal if Idaho pharmacists agree or disagree on certain topics involving prescriptive authority. Responses will also be analyzed based on primary practice location to see if opinion varies by work environment.

Results: The study is currently in the data collection phase.

Conclusions: The study is currently in the data collection phase.

FACTORS AFFECTING PHARMACISTS' PERCEPTION OF WORKING WITH DRUG USERS

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Background:

According to the 2013 National Study on Drug Use and Health 24.6 million Americans aged 12 or older (9.4 percent) were current (past month) illicit drug users. Illicit drugs include marijuana, cocaine, heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically. An estimated 21.6 million persons aged 12 or older were classified with substance dependence or abuse in the past year. The American Society of Health-System Pharmacists (ASHP) released a statement in 2015 stating that, "pharmacists have the unique knowledge, skills, and responsibilities for assuming an important role in substance abuse prevention, education, and assistance.

Objective:

This study is designed to assess factors (i.e. employment setting, length of employment, workshop attendance) that affect a pharmacist's attitude toward working with drug users.

Method:

Alumni from Idaho State University were sent one email invitation to participate in this study. Respondents not currently practicing pharmacy with a license were excluded from the survey. The survey included demographic information and the validated Drug and Drug Problems Perceptions Questionnaire. The questionnaire used a 5 point Likert scale response within the 30 questions.

Results:

The invitation was sent to approximately 1000 individuals. Ninety-four responses were obtained, four did not meet inclusion criteria. Further analysis is underway.

Conclusion:

Approximately 10% of invitations were accepted, which is near average survey response rates. Final conclusions will be made after analysis of the data is conducted.

POST LICENSURE INTERPROFESSIONAL TRAINING PROGRAM: IMPORTANT OUTCOMES FOR STAKEHOLDERS

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Background/Objectives: The Boise VAMC, Center of Excellence in Primary Care Education (CoEPCE) is a training center for interprofessional team-based education. As such, it has stakeholders from the five participating professions as well as overarching stakeholders, the State of Idaho and VA administration. To be sustainable all the stakeholders need to be satisfied with outcomes that are relevant to their and/or their organization's needs.

Methods: The Boise CoEPCE is an interprofessional program that trains nurse practitioners, medicine residents, nurses, pharmacists and psychologists in a single training environment. The Ambulatory Training Questionnaire (ATQ) was locally developed specifically to ask about issues important to our stakeholders. The questions focus on changes in the perceived knowledge and confidence to deliver primary care, changes in confidence to work as part of an interprofessional team, as well as attitudes toward practicing in: Primary Care, the VA medical system, a rural site, or in Idaho. The survey was administered to all the trainees at the end of their training with the CoEPCE. Based on the perception that early in training a learner doesn't always know what they don't know, the ATQ is administered in a retrospective pre/post design (Cambell & Stanley, 1966). The CoEPCE is now in its 6th year of collecting data.

As an external validation of the location preference data, information was also collected from the five individual training programs on post training placement of trainees.

Results: Across all questions, there was a pre-post difference ($p=0.0002$) with post scores showing a higher perceived knowledge and confidence as well as greater preference to working with the VA, in rural settings, and in Idaho. In the knowledge and confidence questions and the preference of practice at the VA question there were significant interactions ($p<0.05$). The significance of the interaction is driven by increases in knowledge, confidence or preference at the beginning of training. For both the preference to practice in rural settings and in Idaho there was a significant year effect ($p=0.02$) indicating increased preference in both the pre and post data. Initial employment data post training from the individual programs confirm this outcome.

Conclusion: Our program is meeting goals that are important to our stakeholders. We are increasing knowledge and confidence in working as part of an interprofessional primary care team and producing trainees that are interested in working in primary care, in the VA, in rural settings and in Idaho. Some of this effect may be a result of selecting better-prepared trainees that have a greater predisposition for working in these areas.

IDENTIFYING THE CHILDREN WITH THE GREATEST NEED FOR THE BEST CARE: ST. LUKE'S ACUITY TOOL DEVELOPMENT

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Purpose: There is currently a gap in empirical studies examining the reliability and validity of acuity tools used in pediatric care coordination. The purpose of this study was to validate the St. Luke's Children's Acuity Tool (SLCAT). The SLCAT will be compared to the Children with Complex Chronic Conditions v2 (CCC v2) and the Care Coordination Measurement Tool (CCMT) - two established risk stratification tools - to determine convergent validity. Additionally, the predictive validity of the SLCAT will be determined by exploring the relationship of the SLCAT acuity level with important outcomes variables (e.g. in-patient hospital days, primary care physician visits, and cost). A secondary focus is to define, identify, and stratify the pediatric population by acuity level within St. Luke's Children's using additional variables from the electronic medical record software (EPIC; e.g. insurance type or insurance status). This research is approved by St Luke's and ISU IRBs and is part of the ISU/St Luke's Post Doctorial Research Fellowship.

Data source: Twelve months of patient records from a St. Luke's Health System pediatric primary care physician (PCP) panel were queried for individuals who received services in 2015 (N=1860). Data is currently being queued at this time for analysis by St. Luke's IT department.

Design: This will be a retrospective chart review design using existing and de-identified data.

Results: Pending analysis will examine the relationship between acuity levels as determined by the SLCAT and several outcome variables including but not limited to, cost, number of days in hospital, number of emergency room visits, and number of PCP visits. The SLCAT will be compared to the CCCv2 and CCMT using multiple regression and goodness of fit criteria.

Conclusions: There is a paucity of research on acuity tools for use in the pediatric population for care coordination. Specifically, predictive tools that effectively accomplish this task in the medically complex and medically fragile pediatric population remain understudied. With the medically complex population representing just over 1% of the entire pediatric population but utilizing over 33% of the pediatric health care resources, the advancement and development of appropriate acuity tools will contribute to improving the quality and value of care, especially for this complex population. In the broader scope, information from this study could inform acuity tool development in general and contribute to a more efficient health care system. The results of this study will help to establish the reliability, validity, and feasibility of the SLCAT for the purpose of creating a more beneficial and cost-effective model of care coordination for those whom the St. Luke's Health System serves.

ADDRESSING SEXUAL HEALTH DISPARITIES IN IDAHO'S ETHNIC MINORITY POPULATIONS THROUGH POINT-OF-CARE (POC) HIV AND HEPATITIS C TESTING

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Background: Idaho State University-Meridian Health Science Center (ISU-Meridian HSC) provides Community Health Screening (CHS) events to increase access to medical care for a growing indigent population within Idaho. The CHS, incorporate many of the goals set forth in Healthy People 2020 (USPSTF) utilizing efficient interprofessional student teams, and expanding partnerships with local government and other community health agencies. A full CHS event includes various dental, medical, and mental health screenings. In addition, point of care testing for HIV and HCV are offered in an effort to normalize and de-stigmatize these viral diseases and reach vulnerable populations with sexual health education and information. CHS currently targets individuals in south-central Idaho with limited health care resources. One of the goals of the CHS was to expand to other vulnerable communities. Idaho's Latino population is the fastest growing ethnic minority population in our state and has 4 Native American reservations, most of which are isolated and lack access to infectious disease specialist. At the start of CHS events, 14% of our population served was Latino/a or Native American. Recently outreach efforts increased this to 42%.

Methods: This is a retrospective review of participants attending a CHS event who were offered an HIV screening. Prior to starting the screening process participants sign a liability release authorizing screening services and are informed about what happens in the event of a reactive result. Administration of the tests includes running the antibody test, offering risk-reduction counseling, prevention education and linkage-to-care as needed. Results are kept in a locked office in a locked file cabinet. Spanish language interpreters as well as written materials in Spanish are provided to Hispanic clientele. The POC tests enable many at-risk clients to know their status, be referred for confirmatory testing and direct referral if their screenings show reactive results. Non-reactive results will receive valuable education to reduce further behavioral risk.

Results: At the start of CHS events, 14% of our population served was Latino/a or Native American. Recently outreach efforts increased this to 42%. Data collected on 297 participants from 12 CHS events over the period from January 2015-December 2016. Approximately 30% (n=84) had previously been screened for either disease in their lifetime. Thus, 70% were receiving these screenings for the first time.

Conclusion: Through creative partnerships, targeted outreach and appropriate language materials to disenfranchised ethnic minority populations, HIV and HCV screenings can be incorporated into normalized health screenings events with an effective outcome of testing individuals for the first-time, providing necessary prevention education and linkage-to-care in their own communities.

TBI SCREENING AND REFERRAL THROUGH ISU'S COMMUNITY HEALTH SCREENINGS

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Background

Traumatic Brain Injury (TBI) is a leading cause of death and disability in the United States. However, because there may be no visible signs of injury, TBI's are frequently unreported or misdiagnosed. We conducted a series of TBI and quality of life screenings that identified individuals with potential brain injuries; provided referrals to a primary care provider; and trained a cadre of future health care professionals.

Purpose/Objective

To increase awareness and establish the referral pathway, the TBI team committed to the following objectives:

- Conduct TBI screenings at ISU's community health screening (CHS) events
- Train an interdisciplinary team of student professionals to administer the screening tool
- Follow up with a Quality of Life After Brain Injury (QOLIBRI) survey
- Provide free or low cost TBI primary care provider referrals to uninsured and underinsured participants

Method

In conjunction with ISU's free community health screenings (CHS), an interdisciplinary team of student professionals screened for the likelihood of TBI using the Ohio State University TBI Identification Screening Method (OSU-TBI). Participants who screened likely and were interested in a primary care referral were contacted again, usually within two weeks, to complete QOLIBRI. Results from both instruments were used to indicate the need for a TBI referral to primary care services, with additional referrals if warranted.

Results

Since Fall 2015, seventy-two ISU students and faculty across several healthcare disciplines have been trained to administer the TBI screening. 255 individuals have been screened during this time period, 95 of whom met the criteria for likely having experienced a TBI. Of those who screened "likely", 71 were already receiving help, not interested in a referral, did not leave a contact number, or were otherwise unreachable. Twenty-four have completed the QOLIBRI, triggering a primary care referral and additional referrals to ISU counseling and/or speech and language clinics. Health West in Pocatello, and Unity Health in Meridian, have partnered with the IRH to accept TBI referrals for free to low cost primary care services.

Conclusion

ISU's Institute of Rural Health continues to be at the forefront of identifying and coordinating TBI needs and resources in the community. The TBI programs involvement in the CHS events aims to, or has, 1) increased the knowledge and skills of future health care professionals with interdisciplinary trainings, 2) established a protocol for identifying those in need of referrals, and 3) overall strengthened the network of services and supports for TBI in Idaho.

ADVANCING ORAL HEALTH KNOWLEDGE AND ATTITUDES OF PHYSICIAN ASSISTANT STUDENTS THROUGH THE IMPLEMENTATION OF STFM'S "SMILES FOR LIFE" ORAL HEALTH CURRICULUM

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Office of Medical & Oral Health, Physician Assistant Studies

Purpose

To determine the effectiveness of the Society of Teachers of Family Medicine (STFM) "Smiles for Life" curriculum on the knowledge and attitude of physician assistant (PA) students regarding oral health.

Background

Since the Surgeon General's Report on Oral Health in America was released in 2000,¹ PA programs have placed greater emphasis on integrating oral health into their curriculum. While most PA programs provide some training in oral health,² not all programs have implemented oral health into their curriculum. The main reasons being the lack of available time and faculty with oral health expertise.² To date there has not been a study investigating the use of the "Smiles for Life" modules as the sole component of the oral health curriculum. Data is also lacking in regards to the effectiveness of the "Smiles for Life" curriculum as a PA student-learning tool.

Methods

Pretest and posttest surveys were administered to 72 didactic year PA students from one PA program. The pretest survey consisted of 13 questions measuring medical knowledge on oral health topics and 8 statements regarding attitudes toward oral health, the confidence they had in performing an oral exam and recognizing oral diseases. The posttest survey mirrored the pretest survey except the wording of one question was changed from "I expect to gain" to "I gained" new knowledge and skills from the Smiles for Life modules.

Results

Forty-one PA students (57% response rate) completed the pretest survey and 26 (36% response rate) completed the posttest survey. Attitude questions were answered on a 1-5 Likert-scale, with 1 corresponding to "strongly disagree" and 5 to "strongly agree". The mean for all attitude questions increased from 3.20 on the pretest to 3.87 on the posttest survey, which is statistically significant ($P < .05$). The number of correctly answered questions on the knowledge portion of the survey increased from a mean of 6.83 on the pretest survey to a mean of 9.85 on the posttest survey, representing a 23% increase in knowledge acquisition, which is statistically significant ($P < .0001$).

Conclusions

This study shows an improvement in the attitudes and increase in knowledge of PA students toward oral health after completion of the "Smiles for Life" curriculum. This curriculum is an effective teaching tool for PA students and can be implemented without requiring additional class time or faculty expertise as it can be completed online. In addition to using the "Smiles for Life" curriculum in PA programs, it may be advantageous for clinically practicing PAs as it is free of charge and CME credits are offered without the requirement of travel.

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PUBLIC SMOKE-FREE POLICIES AND VOLUNTARY HOME SMOKING RESTRICTIONS IN NIGERIA: FINDINGS FROM THE GLOBAL ADULT TOBACCO SURVEY (GATS)

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Background: Beyond the purview of public smoke-free policies, households represent a common location for secondhand smoke (SHS) exposure among women and children in Nigeria. The extent to which individuals encounter SHS in public places may impact their propensity to restrict smoking at home.

Methods: Using a nationally representative cross-sectional household survey of 9,650 Nigerians (Global Adult Tobacco Survey - 2012), we determined the number of public places (i.e. government buildings, restaurants, public transportation) where respondents reported recently encountering SHS. We then modeled the association between the number of public places with reported SHS and the likelihood of having a home smoking restriction using multivariable logistic regression accounting for personal smoking characteristics along with demographic, geographic, household characteristics.

Results: Half (50.0%) of Nigerian households with a smoker, and 84.4% of all Nigerian households, reported a home smoking restriction. For each additional public place where SHS was encountered (range 0-9), Nigerians were 14.7% less likely to report a home smoking restriction (OR:0.853 95%CI:0.789-0.922). Other factors negatively associated with a home smoking restriction included perceived harm from SHS, living in a rural area, and having a household member that smokes.

Conclusion: In Nigeria, an increasing number of public places where SHS was encountered is associated with a lower likelihood of having a home smoking restriction. Public policy may have an important role in creating social norms regarding SHS that diffuse to home environments. In addition, those living in homes with smoking restrictions may be less inclined to visit locales that are not smoke-free.

TRAINING COMMUNITY HEALTH WORKERS STATEWIDE LIVE ONLINE: PROOF OF CONCEPT

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Background: As part of the Statewide Healthcare Innovation Plan (SHIP) in Idaho, the Idaho Department of Health and Welfare (IDHW) is responsible for training 200 community health workers (CHW) throughout Idaho by the end of 2018. Stakeholders at the SHIP CHW working group desired instruction that was both delivered face-to-face and accessible across Idaho. CHW training programs in other states have been delivered live in person as one-day overviews, or asynchronously online.

Objective: Given the stakeholder priorities, budgetary restraints, CHW work schedules, and the distance between communities in Idaho, we sought to demonstrate the feasibility of live-online instruction of CHW in Idaho in partnership with IDHW.

Approach: We adopted the asynchronous online Massachusetts CHW core curriculum and adapted it for live-online instruction for Idaho. Five instructor teams, each consisting of one public health professional and one CHW, were hired and trained on both the curriculum and use of the Moodle and BlackBoard Collaborate technologies. During the fall 2016 semester, 11 students were issued a certificate of completion after the inaugural 16-week course and 23 students are enrolled in spring 2017. Future sections are planned through 2018. Asynchronous, self-paced health-specific modules including Colorectal Health, Cardiovascular Health, Cervical Health and Breast Health, and others are being developed to allow students to expand their training after completion of the core.

Preliminary Results: Internal evaluation results on changes in self-reported competency and student satisfaction were positive. One lesson learned is that a shorter course (14-week) with self-paced asynchronous health-specific modules would allow more flexibility for students. We will develop and test this alternative approach.

Conclusion: Preliminary results suggest CHWs can be trained in a live-online setting that improved competency and was considered positive from student's perspectives.

EVALUATION OF NUTRITION VALUE OF FOOD BOXES FROM A LOCAL FOOD PANTRY

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Objectives:

1. Identify an easy method to help food pantries evaluate the nutritional quality of their food boxes.
2. Apply tools created to other food pantries to help them ensure nutritional adequacy of their food boxes.
3. Verbalize food groups most often missing from food pantry food boxes.

A local food pantry contacted the Dietetic Internship coordinator for help with nutritional analysis of their food boxes. The pantry requested this information for use in a grant application. They wanted to improve the nutritional quality of the boxes by purchasing additional food to supplement what they already received from the foodbank.

Two interns and the coordinator visited the pantry, and created an analysis using a food group approach.

Using a target of 25% of monthly needs for an adult, analyses showed that the food boxes were adequate in grain and protein servings. However they were especially low in fruits, vegetables, and dairy. Inadequacy was compounded by the fact that the two person household received the same box as a one person household.

Interns provided data on nutritional adequacy to the grant-writing committee, and as a sideline, they provided data on how hunger negatively impacts learning, behavior, and school attendance for children as supporting evidence for the grant.

Next, interns created a guide for the food pantry workers to help them determine the number of servings that are needed per person from each food group to make a complete food box. This was to help ensure nutritional adequacy, and a balance of foods. One large poster with the necessary amounts from all food groups was created for the pantry. Additionally, laminated small posters for individual food groups were created to post in each area of the pantry where corresponding foods are stored.

TUBERCULOSIS AND THE IDAHO REFUGEE POPULATION

Bajema, A., Bastar, T., Donaldson, T., Mayer, M., Rambow, L., Wilson, L.
School of Nursing

Background: The occurrence of Tuberculosis (TB) in the native-born population of the United States has decreased substantially over the past few years. However, the incidence of TB in foreign-born individuals coming to the United States has increased. Prior to arrival, refugees are screened for TB, and no known active cases are allowed entry. Treatment with multi-drug therapy includes Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol in various combinations. Recently, multidrug-resistant-TB (MDR-TB) has accounted for 10% of cases. TB is differentiated between latent and active stages, with latent being non-contagious and accounting for the majority of the cases that are diagnosed and treated. Within the refugee population, compliance with treatment can be a problem due to transportation issues, deficient understanding related to diagnosis, and stigma associated with the diagnosis.

Purpose: This poster presentation has been created to highlight the etiology, diagnosis, treatment, and the incidence of TB among the Idaho refugee population. Barriers to treatment and nursing care of the Idaho refugee population are also explored.

Methods: Research conducted for this poster included information from the Centers for Disease Control and the Idaho Office of Refugees. Google Scholar and Idaho Health Sciences Library oneSearch federated database search tool were used to search for evidence-based research and practice guidelines. Peer-reviewed articles and information from 2012 to the current year were included.

Results: The incidence of TB in the foreign-born population, specifically in the refugee population in the United States has increased to as much as 66% in known diagnoses of Tuberculosis. Idaho has received refugees from Myanmar, DR Congo, and Afghanistan, which are three of the twenty-two countries considered to be TB high burden countries. Between 2011 and 2015, seven refugees settled in Idaho tested positive for active TB. Refugees affected with latent TB are managed by the health department, and receive treatment at local medical facilities.

Conclusions: TB is caused by *Mycobacterium tuberculosis*, and is spread primarily through droplets. Drug-susceptible TB is highly treatable. Many cases of latent TB have occurred in foreign-born individuals coming to the United States, who are treated upon entry. Diagnosis is made through tuberculin skin test, interferon-gamma release assay (IGRA), sputum cultures and chest x-ray. While latent TB is generally treatable with a combination of drugs. Challenges to successful treatment among the refugee population include language barriers, lack of education, transportation, and cultural stigma. Several drugs are currently in the phase three trial period to treat MDR-TB. Nursing interventions center around clear communication through interpreters regarding education, medication adherence, possible medication side-effects, self-care management, and follow-up care.

IDIOPATHIC ARTHRITIS IN THE PEDIATRIC POPULATION AND RECOGNIZING THEIR PAIN

Borchers, B., Ake, S., Bajema, A., Calvert, T., Flaming, G., Roberts, K., Parker, S.
School of Nursing

Background: Juvenile idiopathic arthritis (JIA) encompasses all forms of arthritis of unknown etiology that present before 16 years of age with persistent symptoms for at least six weeks. This autoimmune disorder creates joint inflammation, leading to significant pain, swelling, redness, warmth and stiffness. Diagnosing this condition is difficult and little is known about cultural differences concerning expression of pain and parental recognition of pain, in the pediatric population.

Purpose: This poster outlines the prevalence of the JIA, pathophysiology, diagnosis and integral nursing care for individuals with JIA. This project will explore evidence surrounding cultural differences concerning expression of pain and parental recognition of pain, in the pediatric population.

Method: Research was conducted using the ISU library database to locate scholarly research articles supporting the topic of juvenile idiopathic arthritis. Search limitations included articles from 2013 to 2017 and those available in full text. The following keywords were used in this research process: juvenile idiopathic arthritis, juvenile rheumatoid arthritis, pediatric rheumatology, children, chronic arthritis, chronic illness and adolescence.

Results: Juvenile idiopathic arthritis has physical, emotional and social implications. It is estimated that JIA is one of the most common chronic diseases in children, with a prevalence of 16-150 cases per 100,000 children. A combination of genetic and environmental components is thought to be involved in the pathogenesis of JIA, however the precise factors that determine one's susceptibility remains unknown. Nursing care for an individual with JIA includes completing thorough assessments, managing the child's signs and symptoms, and providing emotional and psychological support. Diagnosis is challenging as JIA can present similarly to other disease processes. Cultural expression of pain can be different, as some children are more stoic, while some are more expressive. Therefore, the nurse must be able to properly recognize and manage the child's pain in a hospital setting. It has been noted that pain is often undertreated as parents may not fully understand their child's expression of pain and may have fearful misperceptions surrounding pain medications.

Conclusion: Although control of JIA has improved, treatment is often incomplete with potential for inflammatory flare-ups, joint deformity, chronic pain and decreased physical function. The aspects of assessment, managing pain and providing support are consistent throughout various nursing roles. With early diagnosis and treatment, there is greater success of managing the disease in the pediatric population, especially as they transition into adulthood. Parents need continuous education about the disease process, their child's expression of pain and the importance of treating the pain to limit emotional distress and long-term joint damage.

PANDAS SYNDROME: IDENTIFICATION AND TREATMENT

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Background: Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infection (PANDAS) is thought to be an autoimmune-mediated disorder triggered by a streptococcal infection that causes basal ganglia dysfunction resulting in obsessive-compulsive disorder (OCD) and tics. In 1998, researchers first described the condition as a distinct form of childhood onset OCD. The issue was particularly important because the etiology of the disease has a direct bearing on the appropriate course of action; interventions for PANDAS are not helpful for other forms of OCD and tics.

Purpose: The purpose of this project is to extract and summarize the PANDAS research findings since the identification of the disease in 1998. These data may serve as a starting point from which to design and implement training materials into nurse-education curricula.

Methods: Data was gathered by searching the keywords, "Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections," "PANDAS" "obsessive-compulsive disorder" and "tic disorder" in EBSCO's Academic Search Premiere database. One researcher reviewed abstracts and quickly identified a 1998 landmark study that examined diagnostic criteria through a study of 50 patients. Using the 1998 paper as a foundation, search parameters were narrowed to articles published between 2011 and 2016 and topics related to incidence/prevalence, pathophysiology, nursing implications, and special considerations for treating pediatric patients. The project team utilized 6 articles published between 2012 and 2015 (excluding the 1998 study) and distributed them to a research team of 7 post-baccalaureate nursing students for review. The research team then reached a consensus on how best to extract and summarize the most relevant information to present in poster form during Idaho State University's 2017 Research Day.

Results: Results from the 1998 study laid the groundwork for all subsequent PANDAS studies included in the research. The five diagnostic criteria remain relevant: patients present with OCD or a tic disorder, the symptoms manifest before puberty, onset is rapid and episodic, there are concomitant associated neurologic abnormalities, and a temporal association with Group A Beta-Hemolytic Streptococci (GABHS) infection. Subsequent studies confirmed that male PANDAS patients outnumbered females 2:1, symptoms onset was rapid, tended to begin between ages 6 and 10, and were accompanied by similar comorbidities. Some concern is expressed regarding establishing association between GABHS and onset of symptoms. Researchers have redefined PANDAS to the Pediatric Acute-Onset Neuropsychiatric Disorder (PANS) in cases where association cannot be definitively demonstrated.

Conclusion: The documented research reinforces the propriety of the PANDAS diagnosis and treatment. Development of the PANS diagnosis addresses skeptics' concerns over the occasional difficulty in demonstrating association between GABHS infection and symptoms onset. Further study should focus on improved detection and treatment.

EPIDEMIOLOGY OF PERTUSSIS OUTBREAKS IN IDAHO AND ITS RELATIONSHIP TO SOCIOECONOMIC STATUS AND VACCINATION EXEMPTION RATES

Edmonds, L., Calvert, T., Roberts, K., Johnson, Q., Luke, K.
School of Nursing

Background: Pertussis, or whooping cough, is an infection caused by the gram-negative bacteria, *Bordetella pertussis*. The Centers for Disease Control and Prevention (CDC, 2015a) describe Pertussis as a highly contagious infection spread from person to person via coughing, sneezing, or close contact with someone who has pertussis. Nurses are the primary healthcare workers interacting with infected individuals, and with cases on the rise they are critical in identifying and educating individuals about the disease. The best hope for treatment is to prevent outbreaks through education and the use of the Tdap vaccination (CDC 2015c).

Objective: Our objective is to look at the epidemiology of pertussis and determine if there is a connection between socioeconomic status and vaccination rates and if this is contributing to increased rates of pertussis outbreaks in Idaho.

Design: This is a literature review of research and statistics from the CDC website, CINAHL®, ClinicalKey® databases and the Idaho Health and Welfare website, accessed in February 2017. The search was limited to English language studies within the last 5 years. To assess the multicultural data concerning socioeconomic status we looked at 2015 data from the Idaho Health and Welfare website concerning 11 counties with reported pertussis cases in the state of Idaho and compared the rates to the per capita income of each county (Idaho Health & Welfare, 2015).

Results: We evaluated 11 Idaho counties with pertussis outbreaks in 2015. We identified the population, number of cases, per capita income, number of exemption waivers, and pertussis outbreaks per one hundred thousand people. We used this data to create graphs to evaluate any correlations. From observation only (with no statistical data available) there does not appear to be a consistent relationship between vaccination rates and reported cases of pertussis, nor does there appear to be a relationship between these variables and per capita income. For example, Nez Perce County reported 18 cases of pertussis with only 4% exemption rate while Idaho County reported six cases of pertussis in 2015 with the highest percent of exemption at 18%.

Conclusions: There is some data that suggests that the resurgence of pertussis may be linked to a change in vaccination type from whole-cell to acellular (CDC, 2015b). In the future, we would like to look into the rate of pertussis outbreaks in correlation with the different types of vaccinations used in past and current vaccination regimens.

IMMUNIZATION WAIVERS IN IDAHO

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School of Nursing

Background: The process to defer immunizations is becoming easier. Idaho is already one of the lowest immunized states in the United States. This deferment has many consequences such as disease outbreak, reduced herd immunity, and increased mortality. Increased immigration numbers have brought risk of possible disease infections back into the region due to lack of health care in certain areas leaving at risk populations vulnerable.

Objective: This report provides information regarding rates of Idaho immunizations with corresponding comparison to national rates. Additionally, education is given regarding outbreak statistics to be compared to state vaccination rates. By providing these statistics the general public may be better informed about spread of disease, prevention of disease spread as a result of vaccination, and the concept of herd immunity to make informed, evidence-based decisions regarding vaccination choices. Nurses can be the first exposure the population may have to be able to ask about immunizations so they must be up to date on all current evidence without adding in biases.

Methods: A search was completed using CINAHL and Google Scholar looking for scholarly sources on the topic of immunization waivers in Idaho. The search term that we used, "anti-vaccine" "immunization waiver" "herd-immunization" and "US outbreaks" All sources included in our research were published within the last 5 years.

Results: Idaho isn't one of the primary locations where outbreaks occur, likely because it isn't as population-dense as other states in which outbreaks are much more frequently seen. Idaho is continuously one of the least vaccinated states and has the highest vaccination exemption rate in the United States according to the CDC. Immigrants are screened for preventable diseases but may not finish all shots in series which can increase risk of becoming infective. There has been many national vaccination programs available but due to Idaho's waiver policy many can bypass living room for infection to spread.

Conclusion: Due to increased incidence of preventable vaccinated disease, Idaho should be taking actions toward increasing the vaccination rate rather than making it easier for exemption. Possible methods of improving vaccination rate generally involve reducing cost of vaccines or eliminating cost entirely, offering insurance incentives for vaccination, making the cost of the exemption process exceed the cost of vaccination, and persuasive correction of misinformation. The low population density within Idaho decreases the chances of contracting a vaccine preventable disease but the statistics reveal that Idaho would be susceptible to an outbreak of preventable disease if exposed to viruses. Ongoing health surveillance and education by nurses in the community are needed to ensure all diverse population's safety are being met.

IMPACT OF QUALITY OF LIFE GUIDED INTERVENTIONS FOR DEPRESSED VETERANS

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Background: According to the Veteran's Administration (VA)'s National Registry for Depression, 11% of Veterans 65 and older have a diagnosis of major depressive disorder (MDD). These findings suggest that treatment for depression should be an essential practice priority. Health related quality of life (HRQoL) is significantly lower in patients with MDD. Research demonstrates a significant and inversely correlated relationship between HRQoL and depression; interventional studies focus on treating depression to improve HRQoL. However, the intrinsic relationship with HRQoL suggests it is reasonable that individualized HRQoL focused interventions would impact depression.

Purpose: The purpose of this scholarly project was to assess if interventions tailored to improve HRQoL affect depression among veterans with MDD.

Procedures - The project was determined by the VA IRB to be non-research. Participants were Veterans 65 years of age or older, receiving home health visits and a positive depression score. An individualized quality of life measure, the Patient Generated Index (PGI) and the Patient Health Questionnaire-9 (PHQ-9) measuring depression were completed at baseline and seven weeks after implementation of nurse led interventions. Interventions focused on those areas listed on the PGI that were the most important to the Veteran's HRQoL.

Results: Ten Veterans participated in the project, the mean age was 74.8 (SD10.9). Baseline HRQoL mean score was 25.83 (SD24.52) on a 0-100 scale with 100 being the highest quality of life. Baseline PHQ-9 mean score was 8.4 (SD4.6) on scale of 0 to 27 with 27 being the most depressed possible. Post-intervention PHQ-9 mean score was 5.1 (SD 3.0). The lower PHQ-9 scores indicate less severe depression post-intervention. HRQoL scores increased from baseline of 25.833 (24.522) to follow-up HRQoL scores of 28.167 (21.651). Identified areas of HRQoL that were affected by depression included strained relationships, sexuality, and anger management. Line graphs of individual scores before and after intervention and exemplar cases are included.

Conclusion: The benefit of assessing and tailoring interventions around what is most important to an individuals' HRQoL, by utilizing the PGI questionnaire was found to positively affect depression in the Veterans. Utilization of the PGI guided interventions for improving the Veterans HRQoL. Additionally, the PGI functions as an evaluation of intervention efficacy. To conclude, it is important to recognize the subjective and individual nature of HRQoL; by focusing interventions around improving HRQoL, clinicians may also improve other intrinsically related concerns such as depression. Projects involving more participants are needed to validate the findings of this project.

NURSING CARE FOR PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY

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School of Nursing

Background: Muscular dystrophy (MD) refers to a group of diseases that attack the different skeletal muscle groups of the body. There are nine different types of MD, all of which are inherited conditions, are progressive in nature, and have no known cure. Duchenne muscular dystrophy (DMD) is the most common form of muscular dystrophy and also the most common childhood neuromuscular disorder.

Purpose: The purpose of this project was to examine incidence, different stages, and how patient care and treatment evolve as the DMD patient's condition progresses. Specifically, the project will cover different aspects of the disease in relation to nursing care.

Method: Research was conducted by compiling information from scholarly sources such as medical references, peer-reviewed journals, and nursing texts. Searches were conducted through Ebsco Cinahl and Google Scholar. Search words included "Muscular dystrophy", "Duchenne muscular dystrophy", "Duchenne muscular dystrophy treatment", "Duchenne muscular dystrophy care", "Duchenne muscular dystrophy pathophysiology". Six sources were included, all of which were published within the last 5 years.

Results: The incidence is about 1 in 5,000 live male births, and the disease is universally fatal, usually by the age of 20 to 25. Therapeutic symptom management for patients with DMD is multidisciplinary, and evolves as the child and disease progress into young adulthood. In early stages, symptoms are treated, and progression is slowed, with pharmacologic therapy. Physical therapy, surgery, braces, orthoses, and mobility and positioning aids play bigger roles as the disease progresses. In the late stages, DMD patients often require ventilation support until the weakening muscles lead to respiratory insufficiency and eventually death. Nursing care focuses on complication prevention and slowing the progression of the disease through mobility promotion, cardiopulmonary function maintenance, and quality of life maximization.

Conclusions: Due to progressive care and treatments, the prognosis of Duchenne muscular dystrophy has improved over the last decade with life-expectancy increasing, in some cases, to nearly 30 years. There are no exact timeframes to the evolution of treatment, but rather, the disease is treated as the patient's needs change. Although therapies have improved, the reality behind this disease is a lifetime of therapy, surgeries, injuries, complications, and heartache for patients and their families.

CEREBRAL PALSY: A LITERATURE REVIEW

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Background: Cerebral palsy (CP) is a group of early developmental non-progressive neurological disorders that affect movement and posture. Recent improvements in medical care have extended the life expectancy of individuals with CP. Therefore, it has become more relevant that nurses working outside of pediatrics be familiar with the care and disease process of persons with CP.

Purpose: The purpose was to give a brief description of the disorder, along with an outline of the pathophysiology, nursing implications, adult vs. pediatric care considerations, and examples for application in health care.

Methods: This was a literature review of research from the CINAHL®, ClinicalKey®, Cochrane Library® and PubMed® databases, along with physical texts accessed between October 2016 and December 2016. The search was limited to English-language, peer-reviewed research within the last five years, with the exception of noteworthy historical studies.

Results: Analysis of seven articles determined a multidisciplinary approach is required to manage CP. Cerebral palsy is the most common cause of movement disorders in children, and its effects are lifelong. It can be refined to four different sub-types with different disorder processes. The four sub-types being: spastic, athetoid or dyskinetic, ataxic, and mixed (a combination two or more). Symptoms appear in early childhood or infancy and are related to damage or abnormal development of the brain around the prenatal, perinatal and postnatal period. Involvement of the primary physician, neurology, nursing, physical therapy, dietary, counseling, psychology, and family contribute to better patient outcomes. In pediatric populations, care is focused on limiting the effects of CP, where care for adults with CP emphasizes living with the limitations that were set during childhood. Continuity of care is often broken as patients transition from pediatric to adult health care. Starting discussions with patients early, during adolescence, about the transition into adult health care, establishing protocols for transition and developing lists of providers capable of managing care for adults with CP limits the impact of transition.

Conclusions: Proper management of care can lead to better quality of life for those living with CP. Since life expectancy has been improving as of late, CP has expanded from being only a childhood disorder and into an adult disorder as well. Understanding of the disorder process and special needs of this patient population will be helpful for all nurses and health care providers. Pediatric nurses can improve care by being knowledgeable in local adult providers who specialize in care for adults with CP and beginning the discussion with patients early. More research needs to be done on improving quality of life for those with CP in relation to technological therapies.

U.S. SUICIDE RATES IN ADOLESCENT HISPANICS

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Background: Suicide is a serious public health problem that significantly affects those of all ages in the United States. It is the second leading cause of death among American adolescents and young adults. This rate increased by 18.2% between 2004-2014. Risk factors for suicidal behavior include, history of alcohol and substance abuse, family history of mental illness, socioeconomic status, feelings of hopelessness or isolation, and inability to cope with loss or physical illness.

Objective: The objective of this research review is to examine the ethnic, geographical and social risk factors associated with suicidal behavior, specifically, in adolescent Hispanics in the United States.

Review Methods: CINAHL® was searched from 2012 to 2017 for peer reviewed journals with full text articles in English. Keywords such as adolescent, Hispanic, and youth suicide were searched resulting in 11 articles. The CDC, Healthy People 2020, Suicide Prevention Action Network of Idaho and Suicide Prevention Resource Center websites were also searched for suicide data.

Results: Of all adolescent deaths from suicide in the United States, over 60% were adolescent Hispanics. Two of the most important risk factors for youth suicide are alcohol and substance use. One study compares Hispanic to Non-Hispanic groups in Miami County, and found that Hispanic youths were 1.62 times more likely to have used drugs and/or alcohol at the time of the suicide attempt.

Conclusion/Recommendation: Hispanic adolescent populations have higher incidences of hopelessness, alcohol use, familial and social alienation, and perceived racial discrimination than Non-Hispanic youths in the US, which are thought to lead to higher suicide rates. More research needs to be done in Idaho because of its prevalent Hispanic population of 12%. Few studies have examined the connection between substance use and suicide attempts in the Hispanic youth population. Further research on this complex relationship would be an important in understanding why Hispanic youth suicide rates are so prevalent.

BRAIN-EATING AMOEBEA

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School of Nursing

Background: *Naegleria fowleri*, a free-living amoeba, causes a fatal disease known as primary amoebic meningoencephalitis (PAM), by entering the body through the nasal passages and travelling to the central nervous system (CNS), where it degrades connective tissue. In the US, there have been 138 documented cases from 1965-2015 with only three survivors. In the southern United States, there has been an increase in children contracting PAM by swimming in freshwater areas contaminated with *Naegleria fowleri*. This is concerning since there are limited treatment options.

Purpose: The great mystery surrounding these free-living amoebas has caused difficulty in determining effective treatments. Little is understood about the pathogenesis of *Naegleria fowleri* and clinical manifestations of infection are very similar to those of bacterial meningitis, which can lead to wrong initial treatment of this disease. The purpose of this paper is to create awareness of PAM and to provide information about new life-saving treatments.

Design/Methods/Scope: Due to the rare occurrence and low survival rates of this disease, medical databases MEDLINE and CINAHL were utilized to find the most relevant articles. The search was limited to full text available, English, and scholarly (peer reviewed) journals published from 2000 to 2015. Keywords such as brain eating amoeba, *Naegleria fowleri*, and primary amoebic meningoencephalitis were searched yielding less than 600 articles. Articles were reviewed for the presence of statistical analyses of diagnostic tools and treatment options regardless of geographical location.

Results: *Naegleria fowleri* is a rare disorder it is unlikely to be encountered in clinical practice. Creating awareness and implementing proper precautions can reduce fatal outcomes of primary amoebic meningoencephalitis. Early treatment with miltefosine, an anthelmintic, in combination with therapeutic hypothermia and other drugs, resulted in survival in two cases in 2013. Although brain damage occurred in one of these two cases. All known survival cases were treated with amphotericin B, an antifungal, in combined with enzyme inhibitors and sulphonamides.

Conclusion: Evolving knowledge of this brain-eating amoeba can influence factors such as rapid recognition of infection, more efficient treatment options, reduction of fatalities, and prevention of complications and incidences. More research needs to be done on whether there is a particular part of the brain that is more susceptible to damage by *Naegleria fowleri* so that immediate steps can be taken to rehabilitate any brain damage that may occur. Future cases should continue to be treated with a combination of drugs and therapeutic hypothermia.

UNINTENDED PREGNANCY PREVENTION FOR IDAHO WOMEN LIVING IN POVERTY

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Background

Unintended pregnancies are pregnancies that are mistimed, unplanned or unwanted at the time of conception. Even with all our technological and medical advances, unplanned or unintended pregnancies in the United States (US) are still prevalent. In 2011, 45% of all pregnancies in women ages 15-44 in the US were unplanned. For these reasons, a goal of Healthy People 2020 is to increase the proportion of pregnancies that are intended to 56%. The rates of unintended pregnancies are highest when women are low-income, young, cohabitating or a minority. The rate of unintended pregnancies among poor or low income women is 5 times higher than the national average. It is important to understand the barriers to reproductive health that women in poverty experience.

Purpose

Our purpose is to understand how reproductive health disparities in women at or below the poverty line affect Idaho's unintended pregnancy rate. Per the US Census, Idaho's poverty rate is 15.1%, which is slightly higher than the national average. We want to understand the possible barriers to contraception, education and support that women in poverty may experience. We also want to look at how poverty may alter the pregnant women's health and ability to receive prenatal, perinatal and postnatal care.

Methods

We searched the databases CINAHL, Google Scholar & EBSCO host for articles published after 2010. Key words included: unplanned pregnancies, unintended pregnancies, poverty, women, reproductive health care, rural and Idaho. We also searched the most recent US government census and government surveys.

Results

While we could not find results directly for Idaho, our results show that there are many factors impacting the unintended pregnancy rate of women in poverty. These factors include: access to birth control, cost of birth control, education, community priorities, and time. These factors also differed when comparing rural vs. urban statistics. We also found that there is a large financial benefit when women have free and easy access to birth control.

Conclusion

Reproductive health disparities exist along socioeconomic lines. Women in poverty are more likely to have unintended pregnancies, putting an emotional and financial strain on themselves and their families. When women are given free and easy access to birth control, specifically, long acting reproductive contraception, unintended pregnancy rates decrease. To best serve our communities as well as to save Idaho money, we need to bridge these disparities and allow women in poverty birth control access and education.

EPIDEMIOLOGY OF HEPATITIS B IN IDAHO

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Background: Hepatitis B (HBV) is a viral disease that affects the liver. There are two types of HBV infections: acute or chronic. Acute HBV is when the individual is infected with a mild illness that lasts a few weeks. Chronic HBV occurs when the body's immune system is unable to eliminate the virus. Chronic hepatitis does not usually present until the patient has sustained liver damage. This can lead to liver failure or liver cancer.

Purpose: The purpose of the research is to examine the epidemiology, cultural incidence and vaccination recommendations for HBV.

Methods: We examined scholarly information from sources including the CDC, Idaho Department of Health and Welfare, nursing texts, and the National Institute of Health. Sources were gathered using CINAHL, Google Scholar, and PubMed using specific keywords such as: hepatitis B, Idaho, vaccination, and epidemiology. Sources gathered were published from 2014-2017.

Results: Infants infected within the first five years of life have a 15% to 25% risk of premature death from liver disease, including liver failure or liver cancer. Nationwide, the rate of acute HBV was lowest among Hispanics and Asian/Pacific Islanders and highest for Non-Hispanic Blacks. In the state of Idaho, there were 13 cases of acute HBV and 101 cases of chronic HBV in 2015. Of those 13 acute cases, 3 occurred in Ada county.

Conclusions: The Centers for Disease Control guidelines recommend that all children receive their first dose of HBV at birth and complete the vaccine series at age six to eighteen months. By making the standard of practice to vaccinate infants as well as any individuals at risk for contracting HBV, the accidental contraction and spread of HBV can be decreased in the process. Due to the long term implications and complications of chronic HBV, vaccination at birth is vital for protection.

REGIONAL BELIEFS OF IDAHO PROVIDERS WHEN WORKING WITH CHILDREN WHO ARE D/HH

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While Idaho does not mandate newborn hearing screenings, many hospitals and providers choose to require them. Typical Idaho practice entails a hearing screening in the hospitals at birth or by one month of age. If there is a referral, a comprehensive follow-up with a pediatric audiologist is made prior to three months of age. By six months of age, children diagnosed as deaf or hard of hearing (D/HH) are advised to begin receiving services by enrolling in early intervention programs, and seeing an audiologist regularly. Delays in the initiation of services can have an adverse effect on the child's speech and language development.

In the current early intervention model, a family with a child who is D/HH works with multiple entities in the community to ensure appropriate services. Each entity has its own area of expertise and process of working with families. This leads to families slipping through the cracks or reduplication of services. The purpose of this study is to survey providers of children who are D/HH in their understanding of available resources and use of state and local resources. By surveying providers' knowledge of resources for this population we will identify the gaps and replications of early intervention services.

Information was obtained through a voluntary survey directed towards current service providers who work with children who are D/HH. This survey was administered online via Qualtrics, a private research software company, as well as paper-based via mail to those providers that do not respond via the electronic survey. The survey was sent to over 600 healthcare providers within the state of Idaho who work with children who are D/HH. This included speech-language pathologists, audiologists, and early intervention specialists. Service providers provided valuable insight into where gaps in the process occurred and where resources are lacking. Data was compiled and analyzed. This poster presentation presents the finding from the provider survey.

SUPPORTING FAMILIES IN THE EARLY HEARING DETECTION AND INTERVENTION PROCESS IN IDAHO

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Background

Idaho is considered a "frontier" state- meaning a population density less than 6 persons per square mile within the service area. Challenges accessing high quality medical and educational services can be inherent with this type of population density. Families are a key aspect of ensuring a young child who is Deaf/Hard-of-Hearing (DHH) moves through the process of identification to enrollment in early intervention and understanding their perspective of this process is essential to addressing systematic and regional strengths and opportunities.

Purpose

In 2015, Idaho received a grant to develop a statewide Community Collaboration Project. This project included bringing key stakeholders together to identify strengths and opportunities of Idaho's birth-to-three system from detection to enrollment in early intervention.

Methods

A paper survey was sent to families across Idaho who had been screened for Newborn Hearing Screening in the last three years, 119 families completed the survey, yielding a 22% response rate.

Results

This presentation will share quantitative and qualitative results related to the timeliness of hearing diagnosis follow up, challenges families met with follow up and hearing aid fitting, barriers to follow-up and strengths and challenges in terms of enrollment in early intervention.

Conclusion

The survey provided the community collaboration with data to help drive systems and process change in the Early Hearing Detection and Intervention system within Idaho. As we look at the collective data of families' perspectives, we are better able to identify regional discrepancies and opportunities for improvement.

EXAMINING EFFECTIVENESS OF GROUP-BASED INTERVENTION VIA TELEHEALTH TECHNOLOGY

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Background

Recent research examining the effectiveness of telehealth (Blaiser, Behl, Callow-Heusser, & White, 2013; Behl, et al., in press) has shown that early intervention services provided via telehealth yield child outcomes as good as or better than face-to-face services. A primary reason for these improved outcomes is the increased parent-engagement when sessions are provided over distance technology. An essential aspect of successfully engaging families is effective parent coaching. Parent-implemented intervention is one of the most effective ways of influencing child language (Roberts & Kaiser, 2012). The Hanen It Takes Two to Talk (ITTT) Program has demonstrated significant and positive effects on the language development of young children (Girolametto, Pearce & Weitzman, 1996). To date, the Hanen ITT program has only been run in an in-person manner, with the parent participants in the same classroom as the facilitator.

Purpose

The purpose of this study is to examine the effectiveness of family-based group intervention provided via telehealth technology.

Design

Eight parents of young children were invited to participate in the feasibility study. Parents were asked to complete an online scheduling tool with dates that they were available. Six families who could attend four consecutive weeks were chosen and participated in a pilot family-based training program presented via telehealth technology.

Results

All of the families attended all of the sessions and felt that the technology was successfully used to implement the intervention. Quantitative and qualitative results from surveys pre- and post-intervention will be presented.

Conclusion

Telehealth has the potential to be a successful model for providing group-based intervention to families. Interventionists need to consider both clinician and parent factors when implementing telehealth to facilitate the use and success of the intervention.

ANALYSIS OF THE FEATURES OF COMMUNICATION-BASED APPLICATIONS

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Background

The use of applications has become increasingly popular in corporate, educational, medical and home environments can be used to promote learning, efficiency and entertainment. Smartphones, laptops, desktop computers and tablets make applications readily accessible to the general population. Applications can be utilized effectively as a tool for targeting various communication goals used by speech-language pathologists (SLPs), parents, or children. There is a need for an organizational tool to help SLPs effectively use this technology effectively in working with clients.

Purpose

Our goal is to create an application to be utilized by parents and SLPs to promote therapy objectives while in the home environment and strengthen the bond between parent and child communication. This goal is founded upon a meticulously thorough database of current applications, in order to create one application that possesses all the leading qualities necessary to accomplish parent-child interaction.

Design

A comprehensive list was developed of applications that were considered effective for the development of speech, language, and communication skills. Each of the apps were categorized as having focus, language, cost, and communication aspect.

Results

An infographic was developed to share the data obtained from the application database to help provide easy-to-access information about communication-based applications.

Conclusions

SLPs can better utilize applications in intervention settings when they have access to organized information about their features and aspects.

REFLEXIVE OR VOLITIONAL EYE OPENING DURING SENSORY ORGANIZATION TESTING

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Background: Computerized Dynamic Posturography, specifically Sensory Organization Testing (SOT), has been found to be useful in exploring how patients manage their sensory inputs for balance. Two of the conditions require the patient to close their eyes. Often, because of fear, anxiety, or other reasons, patients briefly open their eyes during the testing process. When this occurs, it can significantly affect test outcome, interpretation, and ultimately their plan of care.

Purpose: The purpose of this study was to (a) determine occurrence of reflexive or volitional eye opening (ROVEO) occurs under vision denied conditions 2 and 5 of the SOT and (b) if there was a correlation with a patient's fear of falling or age.

Methods: Fifty individuals with or without sensory dysfunction and/or abnormal sensory preference were separated into three age groups (18-35, 36-55, 56-65). Fall Efficacy Scale (FES) survey was completed before sensory input testing. Sensory input testing included the 6 conditions of the Sensory Organization Test (SOT). A fixed camera recorded participants' eye movement for ROVEO in vision denied conditions 2 and 5, and were reviewed by three examiners.

Results: Two examiners found 54% of the participants exhibited ROVEO in conditions 2 and 5 of the SOT, while the third examiner found only 34% of the participants exhibited ROVEO. While no relationship was found between FES score and occurrence of ROVEO, there was a difference in ROVEO between age groups. Two examiners found the 18-35 age group to have the highest occurrence of ROVEO, compared to the third examiner, who found the 56-65 age group to have the highest occurrence of ROVEO.

Conclusions: The results confirm the importance of monitoring patients for adherence to testing instructions and indicate the need for an alternative way of denying vision in the two conditions.

SENSORY ORGANIZATION DIFFERENCES IN GAMERS AND NON GAMERS

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Background: Engaging in video games particularly for extended amounts of time have been shown to cause motion sickness (Chih-Hui, Wu-Wen, & Li-Ya, 2012). Motion sickness can be defined as a sickness that has occurred when a user's perception of self-motion is based on incongruent sensory inputs from the visual system, vestibular system, and non-vestibular proprioceptors (Reason, 1978). Exposure to video games can result in differences in the sensory inputs that make up our sense of balance (Chih-Hui, Wu-Wen, & Li-Ya, 2012). Differences in the sensory inputs will, over time, cause the organization of these inputs to shift or change.

Objectives: There has been no previous research examining the sensory organization differences between gamers and non-gamers. The sensory organization of adult gamers who engaged in two or more hours each day, more than once per week and adult non-gamers who played less than 2 hours of video games per week was evaluated.

Methods: Individuals completed an inventory survey that indicated their demographic information as well as gaming habits such as; gaming platform, screen size, and number of hours played per week. Sensory Organization Testing (SOT) conditions 1-6 were completed by all participants to establish an SOT profile.

Results: When comparing composite and individual condition equilibrium scores there was no significant difference between the gamer group and non-gamer group in ability to use their sensory inputs for balance. Time played, screen size, type of game played, and preferred console did not appear to affect sensory organization testing performance of the gaming group. Time played, screen size, type of game played, and preferred console was not a significant factor in the performance of the gaming group. However sensory analysis of gamers showed that gamers were significantly more reliant on their visual input for balance even if the visual input was incorrect.

Conclusions: The significant visual preference of the gaming group suggests that video game use may be a factor regarding potential dizziness and balance difficulty in adults. The effect is significant for the general well-being of adults that play video games and suggest that moderation should be considered in the use of video games. A practical consideration of the present study indicates that video game use should be considered when working with adults in a clinical setting. Further investigation would be required to understand the extent that video game use can affect the sensory weighting of people who play video games.

AGE EFFECTS ON WIDEBAND ACOUSTIC IMMITTANCE IN AN ADULT POPULATION

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Background/Objectives: Because the middle ear plays a vital role in transferring sound into the inner ear, and consequently, our ability to hear, it is important to know how this transfer of sound may be altered via age-related changes in middle ear anatomy. Advances in technology, relative to commonly used clinical tests, have allowed a more comprehensive and accurate analysis of middle ear function using measurements called wideband acoustic immittance (WAI). With the recent commercialization of WAI technology, the need to translate research work to clinical practice, including the creation of normative data, has been accelerated. Data presented here are from a larger study with aims of identifying ages at which differences in WAI are present and developing a WAI normative database for individuals across the age spectrum.

Methods: For the present study, adult WAI absorbance data from individuals in three age groups were examined (20 - 30, 45 - 55, and 65 - 75 years). To gather this data, a probe assembly (e.g., microphone and receiver) that is covered with a disposable, soft rubber ear tip was placed at the entrance of the ear canal. The acoustic stimuli presented to the ear consisted of rapidly presented "clicks" of approximately 60 dB SPL. Click stimuli were presented and responses are sampled across an approximately 7-second time interval, where pressure is swept from +200 to -300 daPa in the ear canal. WAI data, including the quantity of absorbance, were compiled and descriptive statistics were performed.

Results: Preliminary results show that absorbance was similar for the two older age groups across the entire frequency range (250 - 8000 Hz). However, significant age effects were found for absorbance with the younger group. In particular, absorbance for the 20 to 30 year old group was significantly lower than the two older groups for 600 through 3000 Hz and higher by for 4000 to 7000 Hz.

Conclusions: These results suggest a trend toward decreasing middle-ear stiffness with age. They also hold relevance for the establishment of normative data for WAI measurements for different age groups and for understanding the aging process in the peripheral auditory system.

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AN INTERDISCIPLINARY APPROACH TO TREATING DEAFNESS-DYSTONIA OPTIC NEURONOPATHY

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Two local individuals were identified and diagnosed with DDON, with genetic testing confirmation. GeneReviews dictates unknown prevalence data, though research from 2012 identified 91 individuals from 37 families (Tranebjaerg, 2013). A multi-disciplinary team has been assembled to monitor, assess, and treat our local patients. Disciplines involved include: Audiology, Medical Lab Sciences, Physical Therapy, Dietetics, Occupational Therapy, Speech-Language Pathology, Psychology, Pharmacy, Counseling, and Vocational Rehabilitation. The diversity of diagnostic characteristics and service quantity received by patients requires, intense team collaboration to conduct a focused treatment plan, essentially improving quality of life. The rare nature of DDON establishes the foundations of this case study, which involves incorporating service observations with monitoring the rehabilitation process.

If patients with DDON exhibit varied deficit severity and progression rates, an appropriate intervention model is unclear. Since symptom onsets are unpredictable, treatment is typically executed as each manifest. What are appropriate evaluation and treatment methods for a multidisciplinary team to implement? What evaluation measures are appropriate, reliable, and address patient needs? What evaluation methods effectively address varied severity and progression? Does this method correlate with successful identification of treatment based on individual results and patient needs? The researcher can apply these observations in order to better formulate a cohesive multidisciplinary treatment plan for the patient as a whole as opposed to individual symptoms. Key observation components include: overall mental health status, cognitive health and function, gross and fine motor skills, speech and swallow capabilities, sensorineural hearing loss, and amplification devices.

SEVERE-PROFOUND LANGUAGE IMPAIRMENT WITH GENERALLY TYPICAL NONVERBAL SKILLS: A CASE STUDY

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Background

This assessment case study examines a child with an unusually large difference between her severely to profoundly impaired language skills and generally typical nonverbal cognitive skills. The very extreme difference between this child's verbal and apparent non-verbal skills was much greater than is usually seen in children with primary language impairment. Children with language skills in this range typically have a primary intellectual disability. However, this does not appear to be the case here.

Purpose

The purpose is to provide a detailed description of the modified speech, language, hearing and cognitive assessment procedures that were necessary for adequately characterizing this child's language and nonverbal cognitive skills and understanding her unique profile of strengths and weaknesses. We additionally highlight the potential problem of assuming nonverbal cognitive levels that is based on testing that requires verbal comprehension.

Methods and Results

Lily was a 7year 3 month old girl, who was enrolled in this case study after demonstrating profoundly poor language skills but performing within normal limits on the Test of Nonverbal Intelligence-4. Assessment included detailed speech, language, and non-verbal cognitive audiological evaluations. Oral peripheral examination revealed minor facial asymmetry. Speech sound evaluation concluded that her intelligibility was moderately to severely limited although her speech sound errors appeared to be fairly consistent. Her language skills were too low to obtain standard scores on formal language tests. Dynamic assessment determined that Lily was able to learn target items given verbal and gestural support. Audiological assessment was normal for hearing but she did demonstrate poor central auditory processing skills. Using the guidelines for alternative assessment on the WISC-IV, the child was taught the instructions (but not the content) of the WISC-IV subtests prior to testing. Performance on the nonverbal tasks was within the typical range for all but one subtest.

Conclusions

Lily exhibits a severe to profound language impairment with nonverbal cognitive skills that are largely within normal limits. It is important to note that a typical composite cognitive score on a test such as the WISC IV, that includes both verbal and nonverbal skills, would be likely to identify her as intellectually impaired given her very low verbal skills and inability to understand verbal instructions. This could result in inappropriate educational placement and intervention. This case highlights the potential importance of critically evaluating various aspects of language and cognition with children who present with very severe language impairments, as well as the importance of avoiding composite scores when there is great variability of performance on various subtests.

PROCESSING OF THE PLURAL -S MORPHEME IN CHILDREN: AN EVENT-RELATED POTENTIALS STUDY.

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Background: Few studies have specifically investigated the underlying neurolinguistic semantic and syntactic processing of grammatical morphology in children. Although grammatical morphemes largely serve syntactic functions, there is meaning associated with them as well. Some grammatical morphemes have a more transparent meaning, such as the plural -s.

An electroencephalographic (EEG) approach especially suited to measuring neurolinguistic activity during language processing is the event-related potentials (ERPs) technique. ERPs are brain waves that are extracted from an EEG and are time-locked to a particular stimulus type. The N400 is a well-documented negative-going ERP wave peaking around 400 ms post-stimulus onset in response to semantic incongruity/error (e.g., Kutas & Federmeier, 2011). The P600 is a well-documented positive-going wave peaking at about 600 ms post-stimulus onset in response to syntactic incongruity/error or complexity in adults (e.g., Coulson et al., 1998;) and children (e.g., Friederici & Hahne, 2001). In other words, an N400 response should be elicited when someone encounters a semantic mismatch. The P600 response should be elicited in response to a grammatical error or unexpected structure in a sentence.

Purpose and Hypotheses: The purpose of the present study is to evaluate the neurolinguistic patterns in the processing of the plural morpheme -s in early school-age children. In the single word picture-matching tasks, we expect children to exhibit an N400 response to the incongruent conditions. In the grammaticality judgment task, we expect the children to exhibit a P600 response to the incongruent sentences.

Method: Children ages 5;6 - 7;11 wore a 128 electrode head-net during the experimental tasks which recorded their brain activity. During task 1, the child looked at a picture and heard a word that either matched or did not match in plurality. Task 2 was an auditory-only, sentence grammaticality judgment task. Participants heard a sentence that included a determiner and noun sequence that is grammatical or ungrammatical in terms of the plural -s and pressed the yes or the no to indicate if it was a good sentence.

Results: The results indicated that young school-age children appear to process the plural -s semantically, in the absence of other syntactic information, as indicated by the presence of an N400 to incongruent stimuli in the word-picture tasks and that they process the plural -s syntactically within a sentence context as indicated by the presence of a significant P600 component in the sentence task.

Conclusion: The results will serve as an important basis for comparison for examining morphological processing in children with specific language impairment.

This study is part of a larger project entitled, Electrophysiology of plural -s processing in specific language impairment. It is funded by a pilot research grant from the Mountain West Clinical Translational Research Infrastructure Network IDeA-CTR, Subaward No. 16-746Q-ISU-PG47-00.

LANGUAGE SAMPLE PRACTICES WITH CHILDREN WHO ARE DEAF/HARD-OF-HEARING (DHH)

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It is important for clinicians to choose an assessment tool, like language samples, that is sensitive enough to evaluate language skills of children who are DHH to optimize hearing and language outcomes. Particularly, choosing an assessment tool that can identify patterns of use or omission of high frequency noun and verb morphology, since even mild to moderate hearing loss has been shown to cause difficulties with these communication abilities. However, a recent study reports that professionals who work with children who are DHH do not frequently use language samples and most often use standardized assessments to evaluate and monitor progress of children with cochlear implants (Neuss et al., 2013). The purposes of this study is to 1) identify common language sample practices of professionals who work with children who are DHH, 2) identify how professionals are using information gained from language samples and 3) outline common practices to propose a clinical protocol for language sample use.

An electronic questionnaire was disseminated to audiologists, SLPs and Educators of the Deaf in the United States. Descriptive statistics were used to analyze trends. A total of 168 participants participated in the survey. Approximately 77.3% (n=129) of participants reported that over 75% of their caseload was children who are DHH. Most participants (n=153; 91.6%) reported that they use language samples. Despite this, approximately half (n=63; 51.2%) of participants reported using norm-referenced testing most often when evaluating language of children who are DHH. Participants reported using information obtained from language samples to monitor progress of clients (n=79; 62.7%), and to set goals for clients (n=75; 60.0%). They were least likely to use information obtain from language samples to determine eligibility of services (n=27; 23.0%). Participants overwhelmingly agreed that they found language samples useful with the populations they serve (n=130; 94.9%) and that they could offer information that norm-referenced assessments could not provide (n=133; 97.1%), despite them being most popularly used for evaluation of children who are DHH.

Results from the current study reflect that most respondents believe language samples offer a unique look into a child's language development that norm-referenced assessments are not sensitive enough to detect. Despite professionals' frequent informal use of language samples to evaluate language abilities and monitor progress the lack of standardization may contribute to the increased use of norm-referenced testing to determine eligibility for children who are DHH. It is proposed that the results of this study may help establish a standardized language sample protocol that would guide practices in the use of language samples with children who are DHH.

IMPLEMENTATION OF EFFECTIVE AND EFFICIENT GLOBAL HUMANITARIAN HEARING HEALTHCARE SERVICES

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Background: When missionary audiologists provide services in developing countries and deliver minimal follow-up care, patients are often left alone for long periods of time with triflingly limited access to additional guidance. This issue compromises the overall success patients have with hearing healthcare. The deficiency in adequate follow-up care has been attributed to the lack of sufficient funding to support the work of many mission groups and time constraints. The ability for medical missionaries to sustain their work abroad is also compromised when volunteer motives, healthcare worker perspectives/expectations, and their perception of benefit disagrees with the needs of communities visited for services. As a result, many of patients are often left to troubleshoot their own hearing aid devices with little to no guidance. They are left without access to professionals who have the knowledge and aptitude to adjust their hearing aids appropriately, and may consequently be deprived of the necessary counseling required for proper adaptation to their hearing aids.

Objectives: The purpose of this study is to evaluate the issues the patients in developing countries may face once missionary audiologists return to their respective countries and discuss possible solutions that could help improve follow up care. This study discusses several solutions for improving hearing healthcare follow-up services overseas which are making a 5 year mission trip plan in which several future trips are budgeted for ahead of time, training audiology assistants to troubleshoot hearing aids and perform hearing screenings, implementing teleaudiology services abroad, and overcoming hearing aid cost issues through fitting patients with lower maintenance amplification.

Review Methods: The literature integrated in this project was found through journal article search engines such as Google Scholar and Idaho State University One Search online library catalog. The data incorporated in this paper was collected from a Guatemala audiology mission trip that was organized by the Medical Missions Foundation- a University of Kansas Medical Center affiliated missions group. One hundred and thirty-five patients were seen in Antigua, Guatemala as a part of an audiology mission trip.

Results: Through the support of local personnel, audiology assistants can be trained to provide services within their community during the absence of missionary audiologists. With adequate technological resources and additional planning, supervision over audiology assistants and consistent communication between patients and their audiologist can be established via teleaudiology.

Conclusions: Research findings indicate that the longevity of effective and efficient medical mission follow-up services are dependent rigorous and introspective assessments concerning mission finances, service performance motivation, cumulative retrospective assessments of previous mission trips, and personnel support from outreach teams and within the community.

THE EFFECTS OF TYMPANOSTOMY TUBES ON THRESHOLDS: A COMPARISON OF DIFFERENT AUDIOLOGIC EARPHONES

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Research has shown that pure tone testing, using insert earphones, with adult patients who have pressure equalizing (PE) tubes yields exaggerated thresholds. The purpose of this study is to determine if similar differences in the pure-tone thresholds exist in the pediatric population across the frequency range, 250 Hz - 8000 Hz. Participants for this study were children between the ages of 6 months to 12 years, who had PE tubes. All participants received otoscopy, tympanometry and two types of pure-tone audiometric testing; first, under insert earphones and second, under supra-aural earphones. Results under insert earphones found a worsening of thresholds in the low-frequencies (250 Hz and 500 Hz) and an improvement of thresholds in the high-frequencies (6000 Hz and 8000 Hz). Under supra-aural earphones, the results were reversed; improvement in the low-frequencies and a worsening in the highs. The inverted responses obtained across the frequency range suggests that neither transducer is recommended exclusively. In this way, clinicians may consider using supra-aural earphones for low-frequency testing and insert earphones for high-frequency testing; there was no significant difference between transducers in the mid-frequency range.

MORPHOSYNTACTIC ERRORS IN NARRATIVES OF CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENT

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Background: As children with specific language impairment (SLI) get older, their rates of grammatical errors appear to decrease. However, the frequency and types of errors they produce in more challenging discourse forms such as narrative may indicate persistent language difficulties and may differentiate them from their peers.

Purpose & Hypotheses: This study evaluated the specific types and frequencies of morphosyntactic errors and the syntactic complexity of utterances produced by children with SLI and their peers with typical language (TL) using consistent narrative stimuli. We have tested the following hypotheses:

1. School-age children with SLI will have greater error rates in 1) noun morphology and a noun composite score as well as in verb morphology and verb composite score children with TL.
2. Children with SLI will have reduced syntactic complexity as measured by clausal density than those with TL.
3. A subset of error types may be capable of adequately discriminating between children with SLI and those with TL.

Methods: Oral narrative language samples from the Test of Narrative Language (TNL) were collected from 14 school-age children and 14 peers with TL. Samples were transcribed and coded for morphosyntactic errors and syntactic complexity.

Results & Discussion: ANOVAs indicated that there were no significant differences between individual noun and verb morphemes. Noun composite and verb composite error rates were calculated. A repeated-measures ANOVA found that the SLI group had higher error rates than the TL group, and there was an interaction of group by composite score. The SLI group had a higher error rate for verb composite morphology (9.59) than for noun composite morphology (5.37). Other error types such as irregular past tense and pronoun case errors were also evaluated and found to occur at significantly higher rates in the SLI group than in the TL group.

Discriminant function analyses and cross-validation determined that the verb composite and the noun composite in combination classified children with either SLI or TL with 78.6% accuracy; however, this was distributed differently across sensitivity and specificity in each analysis.

Independent samples t-tests on the number of clauses used per T-unit, using both the subordination index and the clausal index were conducted. Although the differences were not significant (adjusted alpha of $p < .025$), the effect size for the subordination index was .80, which is a large effect. Clinical implications of these findings will be discussed.

Conclusion: Many School age children with SLI continue to demonstrate morphosyntactic errors in narrative discourse and potentially use fewer full subordinate clauses than children with TL. However, no one measure was able to adequately discriminate between the 2 groups.

TEACHING TRAINEES HOW TO PROVIDE TEAM-BASED PRIMARY CARE THROUGH TELEHEALTH MODALITIES

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Needs and objectives: Team-based primary care to rural and underserved areas is an important goal of health care systems. Clinical Video Telehealth (CVT) can provide care to remote areas but there are limited training opportunities. Our goal is to expose interprofessional (IP) trainees to team-based primary care through CVT.

Setting and participants: The Boise VA Center of Excellence for Primary Care Education is home to IP health care training for Internal Medicine (IM), nurse practitioners (NP), and pharmacy residents, and post-doctoral psychology fellows. The Boise VA is also the Telehealth Hub for the northwest region, providing care for veterans in the state of Alaska, Washington, Oregon, and Idaho.

Description: CVT has been incorporated into ambulatory care training for IP trainees starting with a half-day introduction class to learn about CVT technology and safety. This includes dedicated time for certification, including a skills test. The trainee has at least another half-day clinic to participate in the clinic's team-based huddle seeing patients with a faculty provider. The IM and NP resident can direct the nursing staff to aid with the physical exam with the equipment, including otoscope, auscultation device, and high definition camera for closer inspection. Psychology fellows use CVT for visual cues and non-verbal communication. Pharmacy residents use CVT in combination with subsequent telephone appointments, and use clinical registries. Virtual warm hand-offs are modeled between professions.

Evaluation: Since 11/2015 to 12/2016, we had 17 trainees do a telehealth rotation, 9 IM, 2 NP, and 4 pharmacy residents and 2 psychology post-doctoral fellows. A survey was sent to each trainee following completion. 12 out of 17 surveys were completed for 70% response rate. The post-training survey data is limited by small sample size, but the trend suggests CVT skill competence increasing from underdeveloped to competent, with interest in performing CVT increased from neutral to positive. One trainee expressed enough interest to pursue a permanent position in telehealth. All the trainees that completed the survey requested more telehealth training experiences.

Discussion / reflection / lessons learned: Team-based telehealth experiences can be provided to IP trainees; it appears this is a welcomed opportunity. Lessons learned include that all the IP trainees have interest in more telehealth experiences. Future considerations include increasing the rotation to a continuity care clinic for the trainees and offering specialty CVT clinic exposure with trainees on the patient side tele-presenting to a specialty provider at a distant site.

Impact: - IME: To our knowledge, there is no other facility conducting healthcare education for IP trainees with exposure to team-based primary care via CVT to a geographically diverse area. Healthcare education can be expanded to CVT technologies in primary care providing access and continuity of care to rural and underserved areas.

EFFECT OF CAFFEINE CONSUMPTION ON HYDRATION STATUS

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Dietetic Interns

Objective: To update the Academy of Nutrition and Dietetics Evidence Analysis Library (EAL) topic on caffeine and hydration from 2007 to 2017.

Data Sources: EBSCOhost and CINAHL were searched from November 2006 to January 2017 for English-language studies with a sample size of 10 or more healthy, adult subjects aged 19 to 64. Various caffeine sources were considered. Initially, 65 articles were found, but only three met the inclusion criteria.

Review Methods: Dietetic interns used the EAL templates and Quality Criteria Checklists to evaluate the included articles for grade, quality, and outcomes. A total of three studies, one meta-analysis, one randomized control trial, and one double-blind, randomized, crossover trial were evaluated. All three studies examined the effect of caffeine on hydration status.

Results: One study found that a median of 300 mg caffeine per day did not cause a significant diuretic effect in healthy adults. A second study found that increasing fluid intake from 35 to 40 ml/kg body mass did not produce a detectable increase in 24-hour hydration status, regardless of caffeine intake. The third study determined that a moderate dosage of 5 mg caffeine/kg body mass, had no effect on total body water, extracellular water, or intracellular water compartments.

Conclusion Statement: Evidence indicates that moderate caffeine consumption (up to 5 mg of caffeine per kilogram of body weight per day or 300 mg/day) does not impact the hydration status of healthy adults above that of a placebo or non-caffeine-containing beverage. (Grade I Evidence)

TAKING SGIM'S "TEACHING EDUCATORS ACROSS THE CONTINUUM OF HEALTHCARE" ON THE ROAD - A LOCAL, INTERPROFESSIONAL FACULTY DEVELOPMENT INNOVATION

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Background: The Boise VAMC has a history of interprofessional training in healthcare. While there are opportunities within one's profession to develop as an educator, there are few opportunities to develop as an educator in an interprofessional environment. In addition, programs desire sustainable faculty development opportunities to improve their quality of teaching. To address these purposes, we implemented a local version of SGIM's national TEACH (Teaching Educators Across the Continuum of Healthcare) at our institution.

Purpose/Objective/Hypothesis: The purpose of this project is to evaluate our implementation of this interprofessional version of TEACH.

Design/Methods/Scope: Invited to attend were faculty from our training programs: Internal Medicine, Family Practice, Psychiatry, Nurse Practitioner, Psychology, Pharmacy, and Nursing.

In collaboration with national TEACH faculty, we modified the TEACH certificate program for our interprofessional faculty. Over an academic year, we provided a full-day faculty kick-off, monthly in-person teaching seminars, monthly in-person (or virtual) journal clubs. Participants were required to attend the kick off and 5+ seminars and 5+ journal clubs; complete 6+ peer teaching observations, and a teaching philosophy. Mentorship was organized between professions, while journal club topics were divided up among each profession. Lectures were provided by invited guests that instruct as part of the national TEACH program.

Results: 35 faculty members attended the day-long retreat, with a stated goal of completing TEACH training; of that, 24 completed the requirements (69%). Faculty represented included internal medicine (n=15, 42.9%) and related subspecialties (n=5, 14.2%); pharmacy (n=7, 20%); nurse practitioner (n=3, 8.6%); psychology (n=3, 8.6%) and psychiatry (n=2, 5.7%). End-of-year survey respondents reported having a mean of 5 observed teaching sessions with faculty feedback (range 0-10, SD 2.5). Self-reported satisfaction indicated greatest improvement in small group settings, followed by large group settings and teaching with the patient present. 86% of survey respondents indicated that TEACH had a moderate or a large impact on their personal development. Trainee ratings of TEACH faculty teaching ratings compared to non-participating faculty was only available for a subset of internal medicine faculty; there were no differences of ratings between the year prior and the year of the curriculum. Thematic analysis of 75 statements from a semi-structured end-of-course focus group was performed, with an interclass correlation coefficient of 0.98 after four rounds of review. Of seven classes identified, feedback (19% of statements) and deliberate teaching practice (21% of statements) were prominently featured as important aspects of the course.

Conclusions This faculty development effort appeared effective and sustainable. Key elements in the adaptation of SGIM's TEACH format include encouraging peer feedback, encouraging deliberate practice regarding teaching strategies, and adapting it for an interprofessional audience.

Pocatello Poster Presentations

ADOPTION OF AN EVIDENCE-BASED MANAGEMENT APPROACH IN HEALTHCARE MANAGEMENT DECISION-MAKING

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Purpose - The purpose of this exploratory study was to examine whether healthcare leaders adopt an evidence-based management (EBMgt) approach when facing major decisions and what types of evidence healthcare administrators consult during their decision-making. This study also intended to identify any relationships that might exist among adoption of EBMgt in healthcare management, attitudes towards EBMgt, demographic characteristics, and organizational characteristics.

Methods - A cross-sectional study was conducted among U.S. healthcare leaders. Spearman's correlation and multiple logistic regression were performed using the Statistical Package for the Social Sciences (SPSS) 23.0.

Results - 154 hospital chief executive officers and chief administrative officers completed the survey. The study results indicated that 90% of participants self-reported having adopted an evidence-based management approach for decisions-making. Professional experiences (87%), organizational data (84%), and stakeholders' values (63%) were the top three types of evidence consulted daily and weekly for decision-making. Case study (75%) and scientific research findings (75%) were the top two types of evidence consulted monthly or less than once a month. An exploratory, stepwise logistic regression model correctly classified 75.3% of all observations for a dichotomous "adoption of EBMgt" response variable using three independent variables: attitude towards EBMgt, number of employees in the organization, and the job position. Spearman's correlation indicated statistically significant relationships between healthcare leaders' adoption of EBMgt and (1) healthcare organization bed size ($r_s = .217$, $n = 152$, $p < .01$), (2) attitude towards EBMgt ($r_s = .517$, $n = 152$, $p < .01$), (3) the number of organization employees ($r_s = .195$, $n = 152$, $p = .016$). The multiple logistic regression model showed that the odds ratio (OR) for EBMgt Attitude was 3.180 (1.841, 5.49), indicating a positive relationship between attitude and adoption of EBMgt.

Conclusions -The study findings have important implications for healthcare administrators' professional practice in healthcare management. First, the study results may help health policy-makers and professional associations better understand healthcare leaders' decision-making style. Second, the outcomes of the study can be used for exploring some possible interventions that might increase the adoption of an evidence-based approach in healthcare management and reduce barriers to the adoption of EBMgt in the future. Finally, not much is known about healthcare administrators' attitude toward EBMgt in current U.S. healthcare environment. The present study revealed an overall positive attitude toward EBMgt and significant relationship between attitude and adoption of EBMgt among the healthcare leaders. The research findings may contribute to the scholarly literature in U.S. healthcare administration and management.

HIV PROTEASE TARGETED SYNTHESIS OF CONFORMATIONALLY-RIGID HYDROXYETHYLENE DIPEPTIDE ISOSTERES: A COMBINATORIAL APPROACH

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Background : With the success of Highly Active Anti-Retro Viral therapy (HAART), the life expectancy of HIV patients has dramatically increased. However, emergence of drug resistance, toxicity, pharmacokinetic issues, and side effects etc. are some of the concerns still associated with the currently available drugs. To address these issues, there is a continuous need for the development of novel and improved anti-HIV agents.

Hypothesis: Drugs acting via potent inhibition of the critical enzyme HIV protease constitute a major class of drugs in AIDS therapy. Currently available HIV protease inhibitors utilize peptide hydrolysis transition-state isosteres as the key element for their anti-HIV activity. Hydroxyethylene, dihydroxyethylene, hydroxyethyl amine, and methyleneamine moieties are some of the strategic nonhydrolyzable transition state isosteres that have been employed in the construction of various HIV protease inhibitors. We introduce conformationally rigid hydroxyethylene motif as nonhydrolyzable transition state inhibitor.

Design: As part of our research towards medicinal chemical studies of bioactive compounds, the present research investigates the design and synthesis of conformationally rigid hydroxyethylene dipeptide mimics. Among the various structural motifs useful in imparting conformational rigidity, cyclopropane rings remain a popular choice in drug discovery endeavors. Accordingly, in an as yet unreported investigation, synthesis of cyclopropane ring-constrained dipeptide isosteres containing a hydroxyethylene 'warhead' has been initiated. Utilizing a multifunctional enantiopure aminobutenolide (developed in our research group) as a 'second-generation' chiral building block, the synthesis involved an initial diastereoselective cyclopropanation to construct a strategic [3,5]-bicyclic lactone.

Results: Utilizing two diversification sites in the target analogs, and employing select sets of amines and amino acids as the diversity elements, a combinatorial parallel synthetic approach has been followed towards rapid construction of a demonstration library of cyclopropane ring containing hydroxyethylene dipeptide isosteres. In continuing studies, construction of a 32 member library, followed by biological evaluation of the above compounds against HIV-1 protease are being pursued.

Conclusions: Based on the known HIV-1 protease inhibitor antiviral agents, design and synthesis of a novel class of conformationally-rigid hydroxyethylene dipeptide isosteres have been initiated. In continuing studies, construction of a 32 member library, followed by biological evaluation of the above compounds against HIV-1 protease are being pursued.

THE UTILIZATION OF NALOXONE BY SHERIFF AND POLICE DEPARTMENTS IN IDAHO

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Background:

In 2014, about two million Americans were abusing or dependent on prescription opioids. Nationally, the death rate attributed to opioid overdose increased around threefold from 2002 to 2015. Because of the increased death rates, the United States Department of Justice has encouraged law enforcement agencies to become trained in naloxone administration. Naloxone is an opioid antidote designed to rapidly reverse opioid overdoses. Many law enforcement officials are not equipped with naloxone in the field. However, it has been shown that law enforcement can decrease opioid-related deaths after proper administration of intranasal naloxone. Currently, little is known about the use of naloxone by Idaho county sheriff and police departments.

Objective:

This research project focused on determining the policies and procedures regarding naloxone administration and handling at Idaho sheriff and police departments.

Method:

The data was collected through a structured telephone survey. All 44 counties contacted provided responses.

Results/Conclusion:

Currently, only one county (Bear Lake) is handling and administering naloxone. Common concerns arose among many other sheriff departments including storage and stability of naloxone in the deputy car, legal liability, cost of the medication, training, etc. Additionally, the results of this survey showed that many sheriff's departments are unfamiliar with the medication and its benefits. In conclusion, naloxone is underutilized by sheriff and police departments in Idaho.

ASSESSING THE BASIC KNOWLEDGE AND ATTITUDES OF NON-MEDICAL FIRST RESPONDERS TOWARDS INTRANASAL NALOXONE ADMINISTRATION BEFORE AND AFTER PROPER TRAINING

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Background:

Prescription drug abuse is a growing epidemic in Idaho. Common prescription drugs abused are opioids including oxycodone, hydrocodone, codeine, heroin, etc. Naloxone is a medication that can rapidly and effectively reverse opioid overdoses.

Because of this epidemic, the United States Department of Justice has encouraged law enforcement agencies to become trained in naloxone handling and administration to use in emergency opioid overdoses. Although intranasal administration of naloxone by law enforcement can decrease opioid-related deaths, many law enforcement individuals are not typically equipped with naloxone in the field.

Objective:

This project focuses on assessing general knowledge and common barriers associated with law enforcement handling and administration of intranasal naloxone. We created a general training protocol for Idaho State University public safety officers and Bannock County law enforcement agencies. The insight gained from this project will allow us to improve and advance the training protocol for future use. Addressing misconceptions about naloxone and providing the right information and training will hopefully increase its acceptance by law enforcement and result in greater availability to those in need.

Method:

We will utilize a structured survey containing multiple choice as well as 5-point Likert scale questions. This survey will be taken before and after conducting a 50 minute training on identifying opioid overdoses and the proper administration of intranasal naloxone.

Results/Conclusion:

The results of this study will be determined after completion of the naloxone training on March 9th.

AN EVALUATION OF MEDICATION NON-ADHERENCE AND BARRIERS FOR USE OF MOBILE HEALTH APPLICATIONS IN ADULTS IN RURAL IDAHO

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Background: Medication adherence is paramount to effective disease management. However, it is often difficult to motivate patients to comply with their regimens. Poor medication adherence can result from many factors including low health literacy, beliefs about medication or the respective disease(s), the complexity of the regimen, time, ability to care for one's own health, or judgment or fear of judgment from family and friends.¹ Poor medication adherence reduces treatment benefits which may be falsely perceived as lack of therapeutic efficacy, accounting for 30-50% of treatment failures.^{2,3} The advancement of technological applications with cellular phones allows patients to monitor and track changes in medication regimen or health. As mobile health apps continue to develop it has become unclear what benefit, if any, exists.

Objectives: The primary objective of this study was to evaluate the magnitude of patient non-adherence in adults suffering from chronic diseases taking one or more medications. The secondary objective of this study was to evaluate patient attitudes and barriers towards using mobile health apps as a means to improve medication adherence and health outcomes.

Design: An anonymous survey was designed to evaluate patient medication adherence and patient perceptions on mobile health application use as a tool for adherence improvement. The survey was distributed over a two-week period to adults in eight family medicine clinics in southeast Idaho. All patients receiving the survey were asked to return the surveys anonymously to a designated collection box regardless of completion. Patients were not obligated to participate.

Results and Conclusions: This study is currently ongoing. Results will be disclosed upon study completion.

HEART FAILURE GUIDELINE ADHERENCE: EVALUATING HEART FAILURE GUIDELINE ADHERENCE WITHIN A COMMUNITY HEALTH CENTER.

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Background: Heart failure (HF) is a chronic, progressive condition in which the heart muscle is unable to pump enough blood through the vasculature to meet the body's need for blood and oxygen. About 6.5 million adults in the United States carry the diagnosis of heart failure. Current data from 2012-2014 shows that the death rate per 100,000 people with heart failure in Idaho is 176.5, higher than the national average of 161.6. The death rate per 100,000 patients with heart failure in Bannock county was 220.4, the fourth highest in the state and significantly greater than the national average. Because this disease is so taxing on the lives of patients, their family members, and the health care system, measures must be implemented to increase adherence to evidence-based HF treatment guidelines.

Objectives: The primary objective of this quality improvement project is to improve the treatment of HF in a federally qualified community health center by increasing adherence to the American College of Cardiology / American Heart Association (ACC/AHA) HF treatment guideline.

Methods: An electronic medical record query was performed to identify all patients with a diagnosis of HF and an office visit in the previous 12 months. A standardized chart abstraction tool was developed. Elements of the data abstraction tool included: patients' primary care provider, whether or not a cardiologist was managing their HF, HF classification, active medications and dosages for medications used to treat HF, date of most recent HF education provided to patient, and immunization status. A pharmacist and student pharmacist used the abstraction tool to collect data from each patient chart to determine pre-intervention outcomes. Following chart abstraction and identification of specific areas of improvement, an evidence-based quality improvement intervention will be developed and implemented. Post-intervention data will be analyzed, which will be compared to pre-intervention data and benchmarks, with the intent to improve guideline adherence and subsequently patient outcomes.

Results and Conclusions: To date, standardized chart abstraction has occurred for 23 of the 168 patients identified. Of these 23 patients, most have incomplete HF documentation while fewer are not receiving guideline-based HF therapy. Full results will be presented

MEDICATION SYNCHRONIZATION: IMPROVING MEDICATION ADHERENCE

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Background: Medication adherence is a growing problem. Adherence can be influenced by patients' relationship with pharmacy staff, affordability of medications, continuity of care, health literacy, side effects, and value placed on taking medications as prescribed. Chronic diseases account for roughly 86% of healthcare costs, yet only 1 in every 2 patients reports consistent medication adherence. Pharmacists have a unique opportunity to influence medication adherence at each pharmacy visit by educating and building relationships with patients. Data shows that patients who maintain strong relationships with pharmacists, pharmacy staff, and their healthcare provider report higher medication adherence rates. However, patients with multiple chronic conditions require frequent trips to the pharmacy and may be at increased risk for nonadherence. Patients receiving chronic disease medications from Bengal Pharmacy, a retail pharmacy offering telepharmacy services to rural communities in Idaho, may be at greater risk of medication nonadherence due to limited patient-pharmacist interaction. To improve medication adherence and counseling rates, an appointment-based medication synchronization program has been developed for implementation at Bengal Pharmacy. Medication synchronization allows patients to refill chronic medications on the same day each month. The appointment-based model enables participants schedule a 20-minute appointment each month on the day they would like to pick up their medications. During this appointment, the pharmacists reviews their medications and provides education on any new medications.

Objectives: The primary objective of this quality improvement project is to improve medication adherence rates following implementation of an appointment-based medication synchronization program. The secondary objectives are to determine if utilization of an appointment-based medication synchronization program will improve patient satisfaction and pharmacy revenue.

Methods: The Cardinal Health MedSync Advantage™ software was selected as the third-party medication synchronization vendor. The Cardinal Health MedSync Advantage™ program is used to identify potential patients who would benefit from medication synchronization. Patients taking diabetes, hypertension, or dyslipidemia medications are invited to enroll in the program. Patients are scheduled an appointment with the pharmacist for medication review. Change in medication adherence from baseline to three months post-appointment will be measured using percent of days covered (PDC) with medication. Patient satisfaction will be measured at baseline and at 3 months post-appointment using the modified diabetes disease state management questionnaire (DDSM-Q). Revenue will be determined by comparing the cost of drugs dispensed against the cost received from the insurance at baseline and at 3 months post-appointment.

Results and Conclusions: The appointment-based medication synchronization program is currently being implemented. Full results will be presented.

DRESS CODES IN US COLLEGES OF PHARMACY: RELATIONSHIP TO NAPLEX PASS RATE

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Objective: To survey the didactic curriculum dress code requirements for colleges of pharmacy in the United States and determine if there was any correlation between level of professional dress required and NAPLEX pass rates.

Methods: Every US college of pharmacy with a recorded NAPLEX pass rate in 2014 (as reported by the National Association of Boards of Pharmacy) was contacted. Representatives in the student affairs offices were asked "What type of dress code is enforced for your pharmacy students in their didactic curriculum?" All schools were categorized by the level of professional dress required, and the mean NAPLEX pass rates were compared.

Results: A total of 123 colleges of pharmacy were contacted. The majority (69%) reported no dress code requirements. Nineteen percent reported that students were required to wear "business casual" dress. Nine percent required professional dress, and the remaining 3% required a white coat to be worn in addition to professional dress. A Student's t-test analysis was performed, which revealed that students with professional dress codes had lower NAPLEX pass rates compared to groups with no dress codes or business casual dress codes ($p < 0.05$ for all).

Implications: The results were unexpected, given the widespread assumption that students who dress in a more professional manner will act in a more professional manner - and therefore perform better. The small sample size of those schools requiring professional dress may have been a methodological weakness, or those schools with lower pass rates may have reacted by instituting more restrictive dress codes.

COLLEGE OF PHARMACY INTERPROFESSIONAL EDUCATION: LESSONS LEARNED AND FUTURE DIRECTIONS

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Background: A change in pharmacy accreditation standards coinciding with a self-study and accreditation visit, necessitated immediate implementation of elements of interprofessional education (IPE) into the pharmacy curriculum. This need was beyond the existing infrastructure of the KDHS Interprofessional Affairs Council, and COP Curriculum Committee, so administrative responsibilities of Director of COP Interprofessional Education were assigned to a Meridian campus faculty member. Student led interprofessional initiatives have been and continue to be an effective driving force with concurrent faculty and student professional development necessary to keep pace.

Objective: To describe the fast-track incorporation of interprofessional competencies, lessons learned from this work in progress and future directions.

Scope: First steps were creation of a COP IPE Strategic plan, with metrics incorporated into the COP global strategic plan, faculty and student requirement for IPC on the run professional development modules, creation of an IPE syllabus with a student requirement for 20 hours of IPE completion prior to the end of their P3 spring semester for the classes of 2019-2020.

Results: A cross walk of COP educational outcomes to IPEC core competencies identified a gap in IPEC competency 2: Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations (roles/responsibilities), suggesting this and interprofessional team dynamics, education and practice would be appropriate pre advanced pharmacy practice experience IPE competencies. Qualitative assessment has guided pharmacy interprofessional curricularization. Efforts include bi-annual sponsored case study conferences, required attendance at ISU Research Day and Geriatric Symposium IPE case studies, multi-professional speaker events, class scheduling dedicated to IPE on Wednesday afternoons, a reflection student documentation tracking process, implementation of an IPE rubric for practice sites, student portfolio assessment, faculty documentation in Activity Insight, designation of a student interprofessional leadership team, preceptor development and introduction of an online introductory elective course on interprofessional foundations. Future directions include collaboration in KDHS graduate education, simulation and standardized patients, further work in mapping IPEC competencies with COP Co-Curricular requirements, IPE competency assessment, interprofessional continuing education expansion and a scholarship of teaching and learning focus.

Conclusions: Tiered implementation of new interprofessional requirements and patchwork incorporation into the curriculum has been dynamic. KDHS infrastructure and resources are an accreditation mandate. Opportunities vary by campus location, necessitating consistent communication. Interprofessional education is becoming more intentional, deliberate and purposeful as an IPE framework is being designed, implemented, assessed and resourced.

SALIVARY PH FOLLOWING THE USE OF E-CIGARETTES WITH FLAVORED, UNFLAVORED AND PLACEBO LIQUID INHALANTS

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Background: The health effects of electronic nicotine delivery systems (ENDS), or e-cigarettes, are unidentified and potentially harmful. Evidence of the long-term consequences of vaping will not be available for many years. Nearly 7,700 flavors of nicotine inhalant (e-juice, e-liquid) are currently for sale. Almost all e-liquids use a combination of propylene glycol and glycerin as a solvent. A large number of studies have shown that aldehydes are formed due to thermal degradation of the solvents in e-juice. A number of these e-liquids, especially those with flavorings, show high ranges of chemicals, causing concerns about potential toxicity with chronic exposure. Dental professionals need to be aware of the adverse oral effects, particularly the substances used to flavor the e-juice. To date, no studies have been done to evaluate the effect of e-juice on the pH of the oral cavity.

Purpose: The purpose of this randomized controlled trial is to identify the changes in salivary pH after using flavored and unflavored e-juice in ENDS when compared to a placebo.

Methods: This clinical trial will be conducted in the Dental Hygiene Clinic at ISU. Forty-five volunteers who use ENDS will be recruited and randomly assigned to Group A (flavored), Group B (unflavored) or Group C (purified water) e-liquid use. Subjects will use their own ENDS and the assigned e-liquid for a period of 10 minutes. Participants must be 18 years or older, English-speaking and have a minimum three-month history of use. Participation will be excluded if volunteers: wear full dentures, concurrently use tobacco products and ENDS and/or have moderate to severe xerostomia. Unstimulated saliva will be collected and the pH will be measured using a single electrode digital pH meter at baseline, 10 and 60 minutes post-ENDS use. The mean and standard pH for all three groups will be calculated and repeated measures ANOVA will be used to identify differences between means. Statistical significance will be set at a P value of <0.05 .

Implications: Dissemination of findings may help oral healthcare providers identify risk and better advise patients who use ENDS about the effects of e-juice on saliva. E-cigarette users may unknowingly be at higher risk for caries and other oral diseases due to adverse responses of the oral cavity. Consequently, studies determining the shorter-term oral effects of e-cigarettes are urgently needed.

EFFECT OF NONSURGICAL PERIODONTAL THERAPY ON BLOOD PRESSURE, PULSE, RESPIRATION AND OXYGEN SATURATION IN ADULTS WITH MODERATE TO SEVERE PERIODONTITIS

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Office of Medical & Oral Health, Dental Hygiene

Background: Monitoring of vital signs is a global method of observation for evaluating a patient's overall physical condition. Basic monitoring includes assessing blood pressure, heart and respiration rate and using pulse oxymetry to record oxygen saturation. In this way, both circulatory and respiratory functioning can be evaluated. The inflammatory response, initiated by periodontitis, has been shown to exert adverse effects on the regulation of blood pressure. Moreover, periodontitis may induce vascular inflammation by increasing vascular permeability and altering cytoskeletal elements in the endothelial cells, which leads to endothelial dysfunction. Hence, there is a potential association between periodontitis, vascular inflammation and hypertension. Recent evidence suggests periodontitis as a risk factor for stroke, peripheral artery disease, and coronary heart disease. Therefore, periodontal therapy and the arrest of inflammation may have a positive impact on vital signs.

Purpose: The purpose of this clinical study is to assess changes in blood pressure, pulse rate and oxygen levels in patients with moderate to severe periodontitis before and after nonsurgical periodontal therapy (NSPT).

Methods: Study subjects will be screened and recruited from individuals seeking dental or dental hygiene care at the ISU Dental Hygiene Clinic and Pocatello Family Dentistry. Eligibility criteria will include: adults 21 to 60 years-old in need of initial NSPT, a minimum of 12 natural teeth, and moderate to severe periodontitis defined as ≥ 2 interproximal sites with clinical attachment loss ≥ 4 mm, generalized sites with pockets depths ≥ 4 mm, and ≥ 2 interproximal sites with pocket depths ≥ 6 mm. Individuals receiving periodontal treatment in the preceding 6 months, those with a history of any cardiovascular condition or antibiotic therapy within 3 months, pregnant women, or people with clinically visible endodontic or orofacial infections will be excluded from participation. Baseline blood pressure, pulse, respiratory rate and oxygen saturation will be recorded prior to commencing with each participant's recommended dental hygiene care plan. Blood pressure, pulse, respirations and oxygen level will be taken at 2 and 6 months post-treatment. Participant demographics will be reported using descriptive statistics and repeated measures ANOVA will be used to identify differences in means between baseline, 2 and 6 month vital sign readings.

Implications: NSPT may have a positive impact on patients' vital signs. Future investigations should determine whether a more intensive approach to periodontal therapy, including regular periodontal maintenance schedules, may result in marked improvements in vital signs.

EFFECTIVENESS OF FLUORIDE VARNISH FOR CARIES CONTROL IN PATIENTS WITH SJÖGREN'S SYNDROME: A RANDOMIZED CLINICAL TRIAL

Foster, C., Hosman, K., Storey, C., Hiser, L.

Office of Medical & Oral Health, Dental Hygiene

Background: Saliva promotes oral health by diluting harmful bacteria, buffering acids, and remineralizing the enamel of tooth surfaces. Sjögren's syndrome (SS) is a chronic autoimmune disorder in which the body's immune system mistakenly attacks its own moisture-producing glands and manifests in diminished salivary gland function. Salivary gland dysfunction associated with SS can cause dry mouth (xerostomia), which contributes to dental caries and can lead to serious and costly oral health complications. Although topical fluoride has been extensively used to prevent caries in children and older adults, little evidence has been reported for its efficacy with SS populations. Additionally, the International Sjögren's Syndrome Registry, funded by the National Institute of Dental and Craniofacial Research (NIDCR), has established goals to promote research on SS, with an emphasis on diagnosis, prevention and treatment.

Purpose: The purpose of this randomized clinical trial is to investigate the efficacy of fluoride varnish in preventing dental caries in adult patients with SS over a 24-month period.

Methods: Thirty participants will be recruited through the local chapter of the Sjögren's Syndrome Foundation in Boise, ID. Participants will be seen at the Family Dentistry Clinic located in the Idaho State University Meridian Health Science Center. Potential subjects must have a diagnosis of either primary or secondary SS, a minimum of 8 natural teeth, be 18 years of age or older and able to give informed consent. Participants will be randomly assigned to receive either 5% sodium fluoride varnish (treatment group) or 1.23% acidulated phosphate fluoride gel (control group) quarterly for 24 months. Baseline data will be collected using the International Caries Detection and Assessment System (ICDAS), the DMFT Index and the Streptococcus mutans Rapid Detection Test, followed by application of topical fluoride. Data collection and fluoride treatments will be continued every 3 months for a period of 24 months. Data will be analyzed using descriptive statistics and repeated measures ANOVA.

Implications: This clinical study holds translational applications that may help oral health professionals determine the best strategies for preventing caries due to dry mouth. Furthermore, the incidence of caries in patients with SS may be reduced with the use of topical fluoride and other preventive strategies.

IN VITRO ASSESSMENT OF TOPICAL CLOTRIMAZOLE AND CHLORHEXIDINE AGAINST CANDIDA SPECIES COMMONLY ASSOCIATED WITH DENTURE-ASSOCIATED STOMATITIS

Fowler, T., Garcia, M.

Office of Medical & Oral Health, Dental Hygiene

Background: Fungal infections of the oral cavity have increased in populations that are at high risk of opportunistic infections, especially in those who wear dentures. Denture-associated stomatitis (DAS) is an inflammatory reaction with multifactorial etiology that affects up to 85% of denture wearers. It is usually associated with *Candida* species, particularly *Candida albicans*, due to its high virulence, ability to adhere and form biofilms on oral cavity tissues, and affinity for the acrylic surface of dentures. Cells in this unique environment are equipped to withstand host defenses and survive antifungal therapy, leading to frequent, more severe re-infection. Denture age has also shown to be an important factor resulting from poor fit, roughness, inadequate hygiene, and accumulation of heavy plaque. Various topical antifungal agents, available in forms such as oral suspension, pastilles, troches, gels and rinses have been used in the treatment of DAS. However, no single drug is regarded as a standard treatment modality, and reports in the literature are ambiguous regarding the differences in efficacy of these drugs. Novel therapy approaches are needed to address emerging and reemerging fungal infections as well as with the rise of antimicrobial drug resistance.

Purpose: The aim of this proposed in vitro study is to compare the antifungal efficacy of 1% clotrimazole, 0.2% chlorhexidine and combined rinses against three *Candida* species commonly found in DAS.

Methods: Dr. Jim Lai, professor in the College of Biomedical and Pharmaceutical Sciences, will be a co-investigator for this in vitro study, and all procedures will be carried out in his laboratory. *Candida albicans*, *Candida glabrata* and *Candida tropicalis* will be obtained from the American Type Culture Collection and cultured according to recommendations. The cup-plate diffusion method will be used to evaluate the antifungal potential of the clotrimazole, chlorhexidine and combination extracts. Agar plates will be prepared with 8mm cups/wells and inoculated with approximately 100 μ L of each microbial strain and 100 μ L of each antifungal extract will be delivered directly into the wells of the inoculated plates. After incubation for 48 hours at 37°C, the plates will be examined for the presence of clear zones of growth inhibition surrounding the wells. Zones of microbial inhibition will be measured with a pair of vernier calipers and recorded. Measurements will be repeated four times and their mean used as the final measurement. The assay will be repeated three times. Data will be analyzed using ANOVA to determine differences in inhibition by the antifungal extracts.

Implications: This study may provide evidence for oral health professionals in the treatment of DAS.

PERIODONTAL PATHOGENS IN SUBGINGIVAL MICROBIOTA DURING PREGNANCY: A CASE CONTROL STUDY

Garabovic, E., Pahl, S., Sturtz, G.

Office of Medical & Oral Health, Dental Hygiene

Background: The exacerbation of gingival inflammation in pregnant women is well documented, both clinically and histologically. Moreover, maternal periodontal disease is considered to be an infectious risk factor for adverse pregnancy outcomes. Studies have shown that hormonal variations occurring during pregnancy may promote the overgrowth of pathogenic bacteria responsible for gingival inflammation. Specifically, a high prevalence of *Prevotella intermedia* have been implicated in the increased severity of gingivitis during pregnancy. However, there is little data regarding the composition of subgingival microbiota common in women who are pregnant. Therefore quantitative analysis of periodontal pathogens in clinical specimens is important for diagnosis, evaluation and risk assessment.

Purpose: The purpose of this study is to quantify periodontal pathogens found in the gingival sulcus of pregnant women during their 2nd or 3rd trimester and compare them to a cohort of women who are not pregnant.

Methods: Pregnant women receiving prenatal care at the Pocatello Women's Health Clinic will be recruited for this case control study. Non-pregnant women matched for age and general health will be enrolled as controls. All participants from 18 to 38 years of age displaying at least 15 natural teeth and pregnant women in their 2nd or 3rd trimester will be included. Women with chronic diseases, smokers, alcohol dependency or use of systemic antibiotics in the last three months will be excluded. Subgingival biofilm samples will be collected from the mesial buccal of two contralateral first or second molars by using two sterilized paper points inserted into the gingival sulcus for 30 seconds. Paper points will be transferred to a tube containing 300 µl of buffer and stored at -80°C. DNA amplifications of *Porphyromonas gingivalis*, *Prevotella intermedia*, *Treponema denticola*, and *Tannerella forsythia* will be performed at the ISU Molecular Research Core Facility by qPCR assay. Data will be analyzed using the Wilcoxon signed-rank test.

Implications: Given the possibility that periodontal disease might affect pregnancy outcomes, dental professionals may play a proactive role in the oral health maintenance of women who are pregnant. Also the identification of microbial agents that produce more severe periodontal diseases might help to develop effective programs aimed at risk assessment, diagnosis and treatment of these conditions in pregnant women.

COMMUNITY WATER FLUORIDATION ARGUMENTS ON THE INTERNET: A CASE REPORT OF WEBSITE PAGE VIEWS AND SOCIAL MEDIA POSTINGS

Garcia, A., Ramirez, E., Dibaba, F.

Office of Medical & Oral Health, Dental Hygiene

Background: Over ninety percent of Americans use the Internet, and seventy-two percent of those utilize it to access health information. Just as many are actively involved in posting on social media. The Internet and social media serve as primary sources of information on community water fluoridation (CWF) for the general public. Despite decades of data demonstrating safe and effective reductions in dental caries, anti-CWF arguments are posted globally. A Google search of "fluoridation" yields nearly a half-million items, mostly anti-fluoridation. Further, social media offers the ability to share information and connect with a wider audience than traditional means of communication. The Internet and social media may be portals of misinformation regarding the benefits and safety of this public health measure, and inaccuracies in online information may impact the continuation and implementation of CWF.

Purpose: The purpose of this case study is to determine the differences in the number and category of CWF postings on the Internet and three social media outlets between January 2014 and December 2016.

Methods: Online traffic to CWF websites and health organizations will be determined on a monthly basis, between January 2014 and December 2016. Four primary websites providing CWF information will be queried: the American Dental Association (ADA), Centers for Disease Control (CDC), Wikipedia "Water Fluoridation" and Fluoride Action Network. The number of page views per month to each site's fluoridation section will be tallied and categorized as either pro- or anti-CWF. A cross-sectional search of Facebook, Twitter and YouTube will be performed using the terms "fluoride" and "fluoridation" for two consecutive months (March/April and October/November) of each half-year between 2014 and 2016. Fluoridation information will be further classified according to 15 mutually exclusive subject areas. Differences in number of page views between the four websites will be analyzed by ANOVA. Differences in fluoridation information on Facebook and YouTube will be analyzed using a chi-square test of independence and information on Twitter will be assessed using a z-test.

Implications: The goal of this case report is to increase awareness among dental and public health professionals as to the extent and type of CWF information provided on the Internet and social media. It may help healthcare professionals and organizations to optimize their website presence on the Internet and in using social media to provide accurate information to the public at large.

ORAL HEALTH IN ADOLESCENTS WITH CLEFT LIP/PALATE: A CASE CONTROL STUDY

Jensen, M., Kulina, M., Cook, M.

Office of Medical & Oral Health, Dental Hygiene

Background: Children with clefts of the lip/palate (CLP) experience increased oral and dental complications. Affected children tend to have more decayed/missing teeth and poor oral health as compared to that of children with no clefting. Additionally, patients with CLP exhibit a higher frequency of both numerical and morphological dental anomalies and severe malocclusions are prevalent. Often, parents give precedence to surgical correction of their child's cleft and overlook their oral health needs. There is a lack of evidence, particularly with adolescent age groups, using a control cohort for comparison and a need for research that addresses a broad range of dental and oral conditions.

Purpose: The purpose of this case control study is to determine differences in caries experience, gingival health and prevalence of malocclusion and enamel defects among adolescent children (ages 9-12) with and without clefts in Ada County, Idaho.

Methods: Children, between the ages of 9 and 12 years, with clefts and their parents who are registered with the Cleft Lip and Palate Foundation of Smiles (Idaho) and/or patients of the Idaho Cleft Palate and Craniofacial Deformities Institute in Boise will be invited to participate. As a control group, age- (± 3 months) and gender-matched children without clefts from the same geographic area will be recruited. Children with systemic disease, disabilities other than CLP, or who are uncooperative with oral examination procedures will be excluded from the study. Written informed consent will be taken from the parent(s) and oral assent will be obtained from the child participant prior to initiation of the clinical exam and recording of data. Data collection instruments to be used are: Decayed-Missing-Filled-Teeth (permanent)/decayed-filled-teeth (primary) index (DMFT/dft) for caries experience, Simplified Debris Index (DI-S) and Gingival Index (GI) for gingival health, the presence or absence of open-bite and over-jet for malocclusion and Developmental Defects of Enamel Index (DDE) for enamel defects. Inter-rater agreement for all assessments will be repeated 1 week apart on 8 adolescents of the same age range and analyzed by Cohen's kappa coefficient. Differences in mean caries experience, plaque and gingival index scores will be compared using the Mann-Whitney U-test and a comparison of enamel defects and malocclusion will be assessed by chi-square tests.

Implications: Findings from this study may guide parents and healthcare professionals to incorporate an oral preventive program into the CL/P treatment in order to establish desirable habits and a favorable oral environment during the overall management of the child's cleft conditions.

ORAL HEALTH KNOWLEDGE, ATTITUDES AND PRACTICES AMONG SYRIAN REFUGEES RELOCATED IN BOISE, IDAHO

Levdanskiy, A., Mazzaferro, K., Nelson, N., Hix, S.
Office of Medical & Oral Health, Dental Hygiene

Background: Refugees often arrive in the United States with unmet health needs and significant barriers to accessing care. In particular, oral health problems have been identified as the most common health problem of newly arrived refugee children and second most common among refugee adults. Oral healthcare is often limited to tooth extractions for these populations. As refugees adopt a Western diet, they may become more susceptible to poor oral health, particularly if they do not have adequate access to dental care or have not adopted Western oral hygiene guidelines. Over eleven thousand Syrian refugees were admitted into the U.S. from Oct. 1, 2015 to Sept. 9, 2016, and nearly 200 of those were relocated in Boise, Idaho. Many health professionals lack a clear understanding of refugee families' perceptions of oral health and research to inform policymakers and practitioners concerning their oral health needs is limited.

Purpose: The purpose of this descriptive study is to assess the level and aspects of knowledge, attitudes and practices (KAP survey) related to oral health among refugees from Syria who have relocated to Boise, Idaho.

Methods: Participants will include adult Syrian refugees currently living in the greater Boise area. A recruitment ad will be placed on the Refugees Welcome in Idaho Facebook page. The study will be carried out in collaboration with the Idaho Office for Refugees (IOR) and three other resettlement agencies in Boise. Participants must be 18 years or older and have Basic English language skills. IOR staff will administer hardcopy surveys at their Jefferson Street office location. The questionnaire will be adapted from a previously validated KAP survey and divided into four sections: 1) demographics; 2) knowledge; 3) perceptions/attitudes; and 4) traditional/current oral hygiene practices. Prior to administration of the survey to participants, instrument reliability will be established using a test-retest with 3 adult Syrian residents. Cronbach's alpha will be used to identify internal consistency. Descriptive data analysis will be performed using means, frequencies and percentages.

Implications: Results of this study may inform legislators, health practitioners and organization staff as to guidance and policy planning in terms of information, education efforts, and service delivery. Findings may also identify specific areas of need for future research on the oral health of refugees.

GENERATING DISCUSSION ABOUT SOCIAL ISSUES UTILIZING CURRENT EVENTS: MEANING DERIVED BY COUNSELOR EDUCATORS IN MULTICULTURAL COURSES

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Education literature acknowledges the usefulness incorporating current events into the classroom to introduce social issue concepts at all levels of education (Deveci, 2007; Galczynski, Tsagkaraki, & Ghosh, 2011; Grise-Owens, Cambron, & Valade, 2010; Rooks, 2014). Addressing higher-level education, Galczynski, Tsagkaraki, and Ghosh (2011) propose incorporating current events into curricula to encourage critical thinking and questioning to familiarize students with diversity topics. They asserted that through the discussion and dissection of current events, these issues move from theoretical concepts to real world issues that are relevant and relatable (Grise-Owens, Cambron, & Valade, 2010). It also encourages greater awareness of how knowledge is created and disseminated, thus promoting critical analysis of the world students occupy (Grise-Owens, Cambron, & Valade, 2010). Rooks (2014) highlights the importance of intentionality and experience when integrating current events into the college classroom, reporting that it is possible to do more harm than good when introducing sensitive class discussions.

Counselor education literature is lacking a discussion about the use of current events when teaching about diversity topics, while calling for effective and innovative teaching methods to introduce the topics of power and privilege, and facilitate multicultural competence. There is also a shortage of literature about the experience of the educators taking on the task of facilitating difficult conversations while utilizing relevant, real world examples. The researchers of this study intend to examine experiences of counselor educators who incorporate current events into multicultural classes with master's level counseling students and determine how individual meaning is created from the intentionally chosen education practice.

This qualitative study will utilize the methodology of interpretive phenomenological analysis (IPA) to examine the meaning and experiences of participants. There will be two rounds of interviews with participants, paired with a member check between the first and second round of interviews. In utilizing IPA, analysis of the data must be "thorough and systematic" (p. 29) and once the data is collected the researchers will utilize the steps outlined by Smith, Flowers, and Larkin (2009) to interpret the data.

The first round of interviews and coding will have been conducted at the time of the presentation. Themes will be discussed.

At the time of the presentation, the study will not be concluded. Overall themes will be discussed and possible implications will be explored.

RELIGIOUS LGBT AT RISK FOR SUICIDE: COMPETENT COUNSELING PRACTICES

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Background: Recently, there was a rise in suicidality among individuals identifying as both LGBT and as members of the Church of Jesus Christ of Latter-day Saints. This may be the result of the church's attitudes and statements regarding the LGBT identity. We wanted to look at the effect that non-affirming religions have on the mental health of these individuals, as well as how to be supportive and ethical counselors.

Purpose: To inform about competent counseling practices and considerations when working with LGBT individuals who may identify with a religion that is non-affirming of the LGBT identity via literature review. Educate on what practices are ethically and empirically supported.

Conclusions: Identification with a religion may serve as a protective factor against negative mental health outcomes and may be an important source of support for LGBT individuals. Additionally, when a religion is not affirming of one's other identity as an LGBT individual, internalized homophobia may increase, which is associated with higher rates of current suicidality.

Affirmative therapy is the only empirically supported and ACA ethically approved response to distress relating to sexual orientation, and has been shown to lower suicide risk. (Ginicola & Smith, 2011). Individuals seeking counseling as a result of conflict in identities as a religious individual and as LGBT may choose one of several outcomes. It is the counselor's role to provide a safe space for the client to explore options and feelings.

DIETARY ENRICHMENT WITH POLYPHENOLS AND PROBIOTICS FOR BONE HEALTH DURING AGING

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Background: Nutrition is a primary modifiable determinant of chronic noncommunicable disease, including osteoporosis. An etiology of osteoporosis is the stimulation of cells that resorb bone by reactive oxygen species (ROS). Dietary polyphenols (bioactive compounds in grapes) and probiotics (beneficial bacteria) protect bone by blocking ROS formation and suppressing the activity of bone-degrading cells. Further, probiotic bacteria transform dietary polyphenols to metabolites with more potent antioxidant capacity than the parent compounds.

Purpose: This project tests the effect of dietary enrichment with grape powder and probiotics on bone integrity in a mouse model of age-related osteoporosis.

Design: Groups (n=7 each) of 10-month-old (early middle age) male mice are being fed one of six diets for 6 months (to age 16 months, advanced age): Control; 10% (by weight) grape; 20% grape; 10% grape + 1% probiotic; 20% grape + 1% probiotic; and 1% probiotic. Bone architecture will be examined by micro-computed tomography to evaluate structural integrity of vertebrae, tibia, and femur. Grape polyphenol absorption and metabolism will be quantified by measurements of urine hippuric acid using high-performance liquid chromatography. Mixed models ANOVA will be performed to compare bone response across treatment groups.

Expected Results: Findings will contribute evidence toward identifying dietary strategies that preserve bone during aging. If shown to be effective in this project, dietary grape + probiotic interventions could be developed for human use in the primary prevention of age-related osteoporosis. A food-based, low-cost, non-pharmaceutical approach to managing osteoporosis is highly desirable considering the prevalence of this disease and concerns surrounding current drug therapies.

STEVIA RESEARCH REEXAMINED: DOES STEVIA INFLUENCE METABOLIC OUTCOMES OR WEIGHT IN ADULTS?

Byington, C.¹, Barnett, J.², Crane, K.², Humphreys, A.², Landon, M.², Madsen, K.², Petersen, K.², Porter, A.², Teich, A.², Wagner, D.²

¹School of Health Professions, Dietetics, ²Dietetic Intern

Background: A review of the literature examining if there is evidence regarding the influence of stevia on metabolic outcomes and/or weight in adults was conducted using articles from 2002 to June 2009. Five randomized control trials found minimal if any effects on blood glucose and insulin levels; one trial found no significant changes in baseline serum glucose or HbA1C levels of individuals with type 1 or type 2 diabetes; one trial reported reduced postprandial blood glucose; stevia was found to have non-significant results in individuals with normal to low or stage 1 hypertension. One two-year trial in Chinese subjects with mild hypertension resulted in blood pressure decreases. This research sought to re-examine the question using literature published after June 2009.

Methods: A total of 2 published reviews were examined. Inclusion criteria included peer reviewed articles in English with a publication date from June 2009 - May 2016, participants from age 12 months and up, a minimum of 10 in each study group, a dropout rate of less than 20%, and included stevia.

Results: Two reviews, 1 systematic and 1 narrative, were included in this review. One review concluded that consuming stevia before a meal does not modify post-prandial glycemic and insulin responses; data shows either a lack of effect of Stevia extracts on glucose control in healthy & diabetic subjects or a slight significant decrease in BG in healthy and hypertensive subjects. The author concluded that "The literature on steviol glycosides is still sparse and should be enhanced..." The second review concluded that stevia could improve blood glucose levels and enhance insulin sensitivity.

Conclusion: Minimal research on stevia and its effect on metabolic outcomes and/or weight in adults has been conducted from June 2009 through May 2016. Results of the published reviews indicate minimal effects and therefore a conclusion that stevia is beneficial for metabolic outcomes and/or weight in adults cannot be clearly stated. Further research on stevia's effect on metabolic outcomes and/or weight in adults should be performed.

A MODEL FOR NURSING & HEALTH EDUCATION IN THE 21ST CENTURY

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Background:

Nursing and health professional practice and education face a growing number of challenges. As the population ages and as technology and pharmaceutical science advance, patients present for care with multiple conditions. Patient acuity is higher than ever; consequently, nurses and other health professionals must care for multiple patients who are seriously ill. Health profession students must acquire the ability to manage multiple complex patients during school in order to be practice-ready upon graduation. Nurses and other health professionals also manage larger numbers of diagnostic and patient-care technologies. This requires increased technological competence on the part of health professionals, students, and educators. Nursing practice and education are facing these challenges with a rapidly decreasing workforce as large numbers of nurses and nurse faculty reach retirement age. Nursing and health professional education can help meet these challenges by preparing graduates who possess strong critical thinking and synthesis skills and who are able to evaluate new evidence as a foundation for best practice.

Purpose:

To present Belliston's Modified Intellectual Community Model for Nursing and Health Professional Education as a means of addressing educational needs for the changing health care environment and workforce.

Scope:

This poster focuses on addressing current issues in health professional practice and education, including the increased incidence of multiple co-morbidities, polypharmacy, changing technology in patient care and information management, and a diminishing workforce in a time of increasing demand. It reviews how issues in practice parallel issues in education and discusses how professional education can prepare students to meet the needs of a changing health care environment. The poster includes the contributions of ancient philosophers Confucius, Aristotle, and Socrates, and modern theorists Benner and Knowles in the education of highly capable health professionals.

Results:

The following key components of the intellectual community for health professionals were identified: Students, nursing & health specialty knowledge, technology, faculty, community partners, and patient communities.

Conclusions:

Nursing and health professional education are tasked with preparing graduates to successfully navigate the increasingly difficult health care landscape. Health professionals face a growing number of challenges: an aging population, advancing technology, financial constraints, and a shrinking workforce. These challenges are met by educators who are willing to be servant-leaders. Methods of teaching critical thinking date to antiquity and are still relevant as teachers question and discuss content with students in order to facilitate their discovery of truths. Belliston's Modified Intellectual Community Model for Nursing and Health Professional Education addresses educational needs for the changing health care environment and workforce.

EARLY RECOGNITION OF BULLYING BEHAVIOR IN ADOLESCENTS

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School of Nursing

Background

Bullying is the act of intentionally harming someone physically, verbally or psychologically. Bullying often involves a power imbalance which manifests in the form of physical and psychological torment of the victim. Bullying is often repeated over time and can continue into adulthood. Bullies and victims have increased risk for young adult depression, panic disorder, agoraphobia, and suicidality. Bullies specifically are at risk for antisocial personality disorder (Copeland, Wolke, Angold, & Costello, 2013).

Purpose

Our goal was to study predictive associations between bullying and victimization in adolescents ages 10-19 and occurrence of antisocial type behavior disorders in early adulthood.

Methods

We searched databases including CINHALL, EBSCO host, and Google Scholar. We used the www.stopbullying.gov and Medline websites as references. We used key words such as: bullying, adolescents, adulthood, and antisocial type behavior in adulthood. We found www.stopbullying.gov to be the most useful and inclusive source.

Results

We found that there is a distinct link between bullying behavior in adolescents and demonstration of antisocial type behavior disorders in adulthood. We also found that there are several recognizable behavioral cues to suggest an adolescent may be demonstrating bullying behavior.

Conclusion

Bullying behavior is often persistent and associated with severe emotional, behavioral, and social problems. Early recognition and intervention should be implemented to promote optimal long term behavioral health outcomes.

SEXUAL ASSAULT IN FEMALE VETERANS

Bisheimer, H., Marshall, G., Ramsdell, H., Hochstein, M., Haliburton, B., Frazier, M.
School of Nursing

Background

"A woman who signs up to protect her country is more likely to be raped by a fellow soldier than killed by enemy fire." At least 25% of U.S. military women have been sexually assaulted and at least 80% have been sexually harassed. 5%- 20% of people will get the flu (on average), this goes to show that women in the military have a higher chance of getting raped than getting the flu if they were in the general public. Few things have been done to address this problem, but the establishment of the Sexual Assault Prevention and Response (SAPR) program may be contributing to lower rates of military sexual assault.

Purpose

Our purpose is to bring attention to the epidemic that is sexual assault in female veterans. From a map of the U.S. that was published by Nicholas Kurch in 2015, we can see that Idaho is among one of the top states that enlists young adults between the ages of 18 and 24 to the armed forces (Kurch, 2015). We want to understand why the sexual assault rates are so high in female soldiers and determine if anything can be changed to decrease these statistics. We also want to make sure that women who are serving now or in the past know where to go if they are struggling with military sexual assault trauma.

Methods

We searched the databases CINHALL and EBSCO host for articles being published after 2010. We found peer-reviewed articles published between 2014-2016 that were relevant to our topic. Key words included: Female veterans, sexual assault, childbearing, infertility, military sexual assault (MSA), posttraumatic stress disorder (PTSD), depression, combat, and deployment. We also searched some government based websites targeted to get help to veterans.

Results

While we could not find results directly for Idaho, our results show that there are many factors that impact why sexual assault in the military go unreported. These factors include fear of being discharged, fear of retaliation, and the fear of being targeted and revictimized. In our research, we also saw a recurring observation, two-thirds of the people who did report their MSA were dissatisfied with the complaint outcome.

Conclusion

23% to 33% of all women have reported military sexual assault. 80% of all women have been sexually harassed at some point during their military career. The establishment of the Sexual Assault Prevention and Response (SAPR) program in 2004 and the availability of services for the last decade may have contributed to fewer incidents of sexual assault. We have seen that because there is limited research on this subject, it is difficult to prove for certain the SAPR has helped reduce sexual assault in the military. The best way to serve our communities is to ensure all women enlisting in the military and veterans are properly educated on MSA and know what resources are available to them.

THE ROLE OF THE SANE NURSE IN PEDIATRIC NURSING

Burnett, K., Dang, H., Doss, J., Piranfar, D., Schmitt, A., Walker, A., Wyman, R.,
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Background

1,674 Idaho children suffered from abuse or neglect in 2013. Of these, nearly 6% were sexually assaulted. These statistics only include reported cases. Typically, these patients are seen in the emergency department and are assessed by law enforcement, emergency department personnel and others. A sexual assault nurse examiner (SANE) is a specialist with training in examination, treatment, evidence gathering, justice and emotional support for individuals who have been sexually assaulted. SANEs are important resources to have available to meet the needs of the vulnerable pediatric population.

Purpose

Our purpose is to educate about the prevalence of sexual assault and the role of the SANE nurse as a resource for individuals who have experienced a sexual trauma. Pediatric sexual assault is not limited to one specific demographic and is multicultural. If not treated appropriately, the effects of sexual assault can be seen throughout the lifespan. Over the last three years, the state of Idaho has seen an increase in reported incidences of pediatric sexual assault. Our goal is to understand the effectiveness of the SANE nurse in providing holistic care for this population and determine whether or not hospitals are utilizing this resource

Methods

We searched the databases CINAHL, EBSCOhost, Medline. Key words included: pediatric sexual assault, abuse, sexual assault nurse examiner, outcomes and Idaho. We also reviewed statistics from the state of Idaho on pediatric assault.

Results

Overall, SANEs have been proven to be a beneficial resource for hospitals and communities. Child sexual abuse incidents reported in Idaho declined from 2006 to 2011 and peaked in 2012. Local sexual assault programs play a significant role in providing interventions for this population. Local programs in the Pocatello, Idaho area include: Bright Tomorrow's, Bingham Crisis Center, and Family Services Alliance of Southeast Idaho. These programs provide child protection, advocacy, treatment, counseling, as well as others. A breakdown of race or ethnicity of children seen at child advocacy centers found White 1501, Hispanic/Latino 397, American Indian/Alaska Native 53, Black/African American 49, Asian/Pacific Islander 13, Other 65, Undisclosed 87.

Conclusion

Pediatric sexual assault exists among all cultures and children of all ages can be affected by this crime. Sexual assault can affect an individual for the rest of their life; therefore early intervention is needed and this can start with the examination by the SANE. In order to help our communities, it is important to increase awareness about the role SANEs play in the care of those who have been sexually assaulted. It is also important to encourage facilities to employ individuals who have undergone specialized training programs for pediatric sexual assault.

FACE-TO-FACE LECTURE VS. ONLINE CLASSROOM LECTURE: A REVIEW OF LITERATURE

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This presentation is a review of 12 articles that examine face-to-face classroom lecture (traditional) vs. online classroom delivery. Traditional classroom lecture has been the long-standing standard for content delivery but with technology and resource availability, lecture has shifted to online delivery methods. However, college students are taught from Pre-K-12 in a traditional lecture environment and then need to adjust and learn how to learn in online formats. This review of articles will examine the differences between traditional and online lectures, as well as examine learning needs for each delivery format. Finally, this presentation will over areas for further research.

BREAST CANCER AND THE MINORITY POPULATION

Davis, J.

School of Nursing

Background: While breast cancer is most common among Caucasian, minority women, especially African-American women, are more likely to die from the disease. They are 40 percent more likely to die of breast cancer than Caucasian. Mortality rates are also higher in other minority groups as well. The gap in mortality rate may be related to several factors including not getting regular mammography and a delay in follow-up care after an abnormal mammography result.

Purpose: This poster presentation has been created to highlight the etiology, diagnosis, treatment, and the incidences of Breast cancer among the minority population. Barriers for screening and treatment and nursing care of the minority population are also explored.

Methods: Research conducted for this poster included information from the Centers for Disease Control, and Idaho Health Sciences Library oneSearch federated database search tool were used to search for evidence-based research and practice guidelines. Peer reviewed articles and information from 2012 to the current year were included.

Results: The incidence of lateen stage Breast cancer in the minority population is considerably higher than in Caucasian women resulting in higher rates of mortality. This is related to several barriers in the minority population.

Conclusions: Cancer is a disease in which cells in the body grow out of control. When cancer starts in the breast, it is called breast cancer. Except for skin cancer, breast cancer is the most common cancer in American women. Mammograms are the best way to find breast cancer early, when it is easier to treat and before it is big enough to feel or cause symptoms. Challenges to successful screen and treatment among minorities includes lack of education, cultural barriers, language barriers, lack of insurance, low income, fear of bad news or pain from the procedure, and lack of a usual health care provider to name a few.

SIMULATION STANDARDS: IMPACT ON PARTICIPANTS

Esplin, C.

School of Nursing

Simulation has become an integral part of health care learning. Within an educational facility, the exploration of best standards affects the development and the application of the simulation. Educators who understand and implement standards can achieve a strong level of learning comparable to clinical experiences. Furthermore, learners experience applied knowledge in a safe environment that permits reflection and reinforces classroom learning.

SUICIDE AWARENESS AND PREVENTION IN TEENAGERS

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Background

Suicide is the second leading cause of death for Idahoans from ages 15-24. Idaho is ranked top in the nation for cyber bullying and second highest for kids bullied on school grounds. Advocacy for this population is in demand because it doesn't get talked about like it should. Giving people resources and current education has been shown to help decrease suicide rates.

Purpose

As teenagers are increasingly tethered to technology and social networking, suicide ideation has significantly increased amongst adolescents. Our purpose is to bring attention to Idaho's suicide rate, how it is overlooked within the community and explore effective methods of prevention. Suicide is a public health concern that can be preventable with education, and recognition of risk factors.

Methods

We searched the databases CINHALL & Google Scholar for related articles published after 2010. Key words included: suicide, prevention, adolescents AND awareness. We also searched local news stations, suicide awareness and prevention agencies such as SPAN (Suicide Prevention Action Network of Idaho), YSPP (Youth Suicide Prevention Program) as well as Idaho Health and Welfare.

Results

Throughout our research we were able to find data directly related to Idaho. We were able to find the suicide statistics for each county and some of the major cities. We found that 31.6% of Idaho high school students report feeling sad or hopeless and 19.8% reported feeling suicidal. We also found that there are many resources available for those experiencing suicidal feelings, but that information is not always readily available. We also found programs within other states that have helped decrease suicide rates. We found that in March of 2016 the Idaho legislature established funding to assist with suicide prevention, it is not much but it is a start.

Conclusion

We were able to gather data that was specific to our state about children who are at risk for suicide ideation. After putting together our data, suicide is preventable. Educating our peers and our parents of suicidal behaviors is a huge way of helping. We need more advocacy for the young population here in the state of Idaho. As evidence by our statistics, this vulnerable population is in high demand because suicide needs to be discussed more in our schools and community. The best way to help our schools and community is by giving all people resources. This has been shown to help decrease suicides. A suicide hotline has been implemented as well as a few programs like SPAN, but having a better system in our schools could help our youth deal with suicide. By talking about it and teaching proper skills to all, we can try to decrease our suicide completion statistics as well as suicide attempts. Suicide is Preventable!

MULTICULTURAL CARING ASPECTS IN MENTAL HEALTH NURSING: APPLICATION OF THE CAHPS MODEL

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Background

Psychiatric nurses are determined to engage in quality care to all patients and are held to professional standards of practice in assessing cultural differences and establishing therapeutic relationships. When working with multicultural populations it is critical to understanding cultural factors that influence patients' health beliefs, behaviors, and responses to the issues such as depression and suicide. When implementing the Consumer Assessment of Healthcare Providers and System (CAHPS) model from the Agency for Healthcare Research and Quality (AHRQ) there can be improved quality in multicultural patient satisfaction from communication skills of providers and improved access to health care services. When applications of the CAHPS model are consistently utilized there can be improved and enhanced relationships and shared decision making in the behavioral health within multicultural populations. 16.3% of Hispanic adults, 18.6% of Black adults, 13.9% of Asian adults, and 28.3% of American Indians/Alaska Natives live with a mental illness. LGBTQ individuals are two or more times more likely as straight individuals to have a mental health condition. NAMI, (2012).

Purpose

To demonstrate the favorability in application of the CAHPS Model in multicultural behavioral health patients and families. Culturally competent care is defined by AHRQ as care that is responsive to diversity in the patient population and cultural factors that can affect health and health care, such as language, communication styles, beliefs, attitudes, and behaviors.

Methods

MEDLINE®, CINAHL®, Consumer Health Complete-EBSCOhost-Publications, and Agency for Healthcare Research Quality (AHRQ), databases were searched from January 2006 to January 2017 for review of the literature in cultural competence, health care providers, and mental healthcare.

Results

Applications of CAHPS have demonstrated significant improvement in patient centered care, patient safety, healthy living, and effective treatment since 2013 as reported in the 2015 National Healthcare Quality and Disparity Report from AHRQ

Conclusion

There is favorable evidence that the CAHPS Model application in multicultural populations can improve patient and family satisfaction and the lived experience of behavioral health treatment in hospital and community settings.

ANXIETY IN THE ADOLESCENT AND YOUNG-ADULT HOMOSEXUAL POPULATION, AGES 16-25

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Background

In recent years, attitudes towards the homosexual population have greatly improved, encouraging adolescents and young adults to accept their sexual preferences and embrace their unique lifestyles. However, the decision to announce their sexuality to friends and family can still be a source of anxiety and even a deterrent to "coming out". This is especially common in more traditional households and social situations where homosexuality is not a readily acceptable lifestyle. As of 2014, 40.1% of respondents to an academic study still considered homosexuality to be 'wrong', which is an improvement over the 54.8% studied in 2008, but still measures a significant proportion of people who may react poorly to a family member or friend revealing themselves as homosexual (Glick, Cleary, and Golden, 2015). It is important that medical professionals understand the anxiety that comes with announcing homosexuality, and processing the complex emotions related to accepting and practicing one's own sexuality.

Purpose

Our purpose is to understand the prevalence, consequences, and treatment options for those suffering from anxiety related to homosexuality and the stress of "coming out" to family and friends with anti-homosexual sentiments. With the national rates of acceptance improving, we are hoping to find that the occurrence of anxiety in this population has decreased over recent years. We would like to focus on the different treatment options and the success rates related to them.

Methods

We focused our searches in databases such as CINAHL, PubMed, and Google Scholar (though not exclusively). Our information is retrieved from articles written within 5 years of 2017. Some of the keywords and phrases used included, "homosexuality in the United States", "anxiety related to homosexuality", "adolescent AND anxiety related to homosexuality".

This project was a collaborative effort between all authors listed.

Results

Anxiety is a prevalent disorder in the homosexual population. According to Jacobson, Cohen, and Diamond (2015), upwards of 8.8% of homosexual men feel significant social anxiety as compared to 3% of heterosexual men, with homosexual females experiencing a similar phenomenon. This anxiety is related to the discrimination, alienation, and victimization that this population is regularly faced with. With national opinions of homosexuality becoming more positive, the anxiety experienced in this population may continue to decrease. Psychological health professionals have generally recognized that treatment for people with anxiety is important, and have recognized the importance of treating the homosexual population the same as the general population. Treatment options follow practice standards and are related to the severity of the anxiety being experienced. Possible options include psychotherapy, group therapy, and pharmacological interventions. Additionally, resource centers, such as the Anderson Gender Resource Center on the Idaho State University Campus help empower homosexual individuals and provide education to the community to help reduce stigma. As community becomes educated, stereotyping and anti-homosexual sentiments decrease, which in turn helps homosexual individuals feel less anxiety related to their sexual orientation.

Conclusion

Homosexual adolescents and young adults often experience anxiety related to the reactions of others toward their sexual orientation. This anxiety can be debilitating, decreasing the quality of life and possibly triggering the homosexual individual to participate in risk related behaviors which affect their life as well as those of family and friends. To best serve the homosexual adolescents and young adults in our area, treatment options and resources need to be made readily available to the homosexual population. Education also needs to be made available to all members of the community so that a supportive environment can be created and maintained.

MULTICULTURAL CONSIDERATION AND CARES FOR KOREAN YOUNG ADULT MALE SUICIDE

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Background

Nurses take care of many cultures and a cultural understanding is important for a therapeutic relationship. There is a higher likelihood of satisfied patient outcomes with nurses that are culturally competent. The population we are focusing on is young Korean males between the ages of 18-24 that are suicidal or completed a suicide. A culturally competent model is Madeleine M. Leininger's Sunrise Model. Her model takes the perspective that each culture has a social structure that is built with the language and the environment that they are raised with. For Leininger's model to provide congruent nursing care, it must include folk as well as the professional system. Although there are no suicide rates solely for the Korean culture in the United States, the American Psychological Association states that Asian-Americans have a higher rate of death by suicide compared to all the racial groups combined. In the ages between 15-34 years of age, it was the second leading cause of death. The Korean culture is complex when it comes to suicide, this is because it is considered permissible to commit suicide and rude to stop one from committing the act. Nurses can provide multicultural caring that will hopefully put an end to suicide acceptance and start to reach out to people who need help.

Purpose

Our purpose for this research project is to identify epidemiology of suicide among minority groups, more specifically in the Korean ethnicity. The Asian population is one of the minority groups that has the highest suicide rate within the nation. Our project is focused on the common causes of suicide in this community, as well as cultural and other related demographic factors that contribute to their suicide prevalence. Also, we want to look at culturally-sensitive interventions to prevent suicidal attempts of this patient group and possible treatment options for them.

Methods

Our group searched for different articles addressing multicultural consideration and suicide care for young Korean adult males in United States. We narrowed our search to articles after 2012 because this allows for more reliable information. The three databases that we used to search for articles were CINAHL, Google Scholar and EBSCO host. We used following keywords in all possible combinations: suicide, suicidal, Korean, culture, sunrise model and Asian-American. As a group, we searched about the myths and statistics of Asian-American suicides in the American Psychological Association's website.

Results

The results that we found can be applicable for providing culturally sensitive care to young males in the Korean suicide population. These results show that culturally competent care is a major factor in decreasing suicide rates in this population. Implementation of the sunrise model can help an interdisciplinary team provide satisfactory care for people in different cultures.

Conclusion

Young adult male Koreans have a higher rate of suicide than any other racial group. Due to cultural norms, suicide is considered to be permitted and it is considered offensive if someone interrupts anyone who is attempting to commit suicide. The research we found shows that the sunrise model can help to provide culturally congruent care to different populations. By using the sunrise model and becoming more culturally aware, nurses can more easily reach out to those populations in need, specifically young adult Korean males, and help to prevent suicide.

ACT TEAMS: PROMOTING COMPLIANCE IN SMI

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Background:

Serious mental illnesses (SMI) are becoming more and more prevalent in the US, and can have devastating affects on the individual's ability to function in everyday life. Continuous psychiatric care, treatment, and follow-up is essential to promoting a normal life in patients suffering from SMIs. Unfortunately, adherence to medications and therapy is an ongoing problem, specifically for patients with SMIs. Although certain SMI's have a higher prevalence in certain genders, cultures, ethnicities, and sexual orientations, adherence to medication is not a problem that is confined to one specific demographic, but is ubiquitous in patients with SMIs.

Purpose:

Nurses need to be trained with skills that promote compliance with the patient's plan of care and be able to identify barriers to care. Specific barriers to care may include low socioeconomic status, poor access to healthcare, low health literacy, and the inability to recognize the benefits of care. Another issue that may affect a patient's compliance is poor adherence to medications and therapy. Patients discontinue medications because they feel they are cured after taking them for a period of time, they do not like the side effects, they cannot afford their medications any longer, or they don't have appropriate follow up care to promote compliance. Our purpose is to identify why compliance to medication and therapy in those with SMIs is poor and how to promote compliance of therapy and medications.

Methods:

We used research provided to us by our professor and searched CINAHL and PubMed for articles published after 2012. Key word search included: ACT and adherence, ACT and compliance, ACT and SMI, ACT medication compliance serious mental illness.

Results:

Our results from researching this particular topic yielded good information. From our research we were able to discover Assertive Community Treatment and how it is used to benefit patients. We feel that educating those with SMIs about ACT teams and resources to help them attend therapy, pay for medications, and appropriate follow-up care will greatly increase medication and therapy compliance.

Conclusion:

Nurses caring for patients with SMI's may want to refer the patient to an Assertive Community Treatment (ACT) team since they are a great resource for continuity of care and improved compliance. ACT teams are interdisciplinary teams, typically comprised of a psychiatrist; nurse; and other professionals such as family, vocational, wellness self-management, and substance abuse specialists, depending on the care each individual requires. ACT increases the patient's access to health care, reduces costs associated with hospital care, and allows for more frequent follow-up assessments. ACT teams improve the patient's overall quality of life and societal functioning by encouraging compliance with medications and therapy and managing symptoms of their SMI.

THE MULTICULTURAL EFFECT OF ANXIETY

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Background

Anxiety is a psychological disorder that leaves the person with feelings of uneasiness or worry about a discernable event or problem. Among 25 million Americans suffer from some type of anxiety disorder (Black, 2017). Common symptoms of anxiety are include restlessness, feeling wound up, fatigue, irritability, and muscle tension. Risk factors include being shy, being female, being divorced or widowed, having low socioeconomic status, having a history of mental/anxiety disorders, and being exposed to stressful or life-changing events during childhood (National Institute of Mental Health, 2017).

Purpose

Our purpose is to understand how different cultures are affected by anxiety. We also are interested in what types of comorbidities are more common in each ethnicity, and whether gender plays a role in their expression. Another goal is to understand how these cultures perceive anxiety and how that influences their coping strategies, as well as which treatment options are available

Methods

We searched the databases PsycINFO, PsycTESTS, and CINAHL for articles that were published after 2010. Keywords included: culture, anxiety disorders, treatments, and cross-culture. These terms were searched alone and in combination with other terms such as comorbidities, gender, and anxiety.

Results

One study showed Asian Americans were consistently lower in exhibiting symptoms of anxiety disorders. Caucasian Americans had a 12.6% occurrence of social anxiety disorder, a 8.6% occurrence of generalized anxiety disorder, and a 5.1% occurrence of panic disorder. African Americans had a 8.6% occurrence of social anxiety disorder, a 4.9% occurrence of generalized anxiety disorder, and a 3.8% occurrence of panic disorder. Hispanic Americans had a 8.2% occurrence of social anxiety disorder, a 5.8% occurrence of generalized anxiety disorder, and a 4.1% occurrence of panic disorder (Hofmann & Hinton, 2014). Studies consistently show that anxiety disorders are more prevalent in women; however, no gender differences reflect the age onset or chronicity of anxiety disorders (Mclean, Asnaani, Litz, & Hofmann, 2011). Treatment options for anxiety across all cultures are fairly and include behavioral therapy, medication, and relaxation and breathing exercises (Anxiety and Depression Association of America, 2016).

Conclusion

Anxiety disorders are common across multiple cultures, with the greatest occurrences being in Caucasian Americans, and the lowest occurrences being in Asian Americans. Patients may present to us with signs and symptoms involving different body systems that may actually be the result of anxiety, so we must do our best to distinguish the real problem and be sure to find out how the patient is feeling emotionally. No matter the culture those with anxiety often have comorbidities that need to be addressed, as nurses we can advocate for proper care and treatment of our patients in these circumstances.

IMPROVING THE CHLAMYDIA AND GONORRHEA SCREENING PROCESS USING THE SHARED DECISION MAKING (SDM) MODEL

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Background: Chlamydia and gonorrhea are a growing problem nationally with significant health consequences, particularly in the childbearing population. Funding for sexually transmitted disease preventative screening has decreased nationally, particularly through the Public Health Department entities, with initiation of pay for service which has resulted in a significant number of young women refusing this screening. Nurses in the public health system have identified a need for educational development to enhance decision making and risk reduction in young women presenting for wellness support services. The Shared Decision Making (SDM) provides a framework to efficiently communicate with patients about health options and associated risk, and verify understanding of these for informed decision making. The SDM approach can be learned and utilized by public health nurses and can be used during time-pressured medical interactions. As a patient education approach, SDM acknowledges the patient's preferences, allows the patient to make informed choices, shows respect for the patient's decisions, and is associated with improved satisfaction with healthcare decisions. If collaboration and deliberation could be achieved routinely, it is proposed that well-informed preference-based patient decisions might lead to safer, more cost effective and patient centered healthcare approach. Visual aids (VAs), in a graphic format, incorporated in the shared decision making approach offers one of the most promising methods for efficiently communicating risk with diverse populations. Specifically, VAs are helpful for young adults with low numeracy and high graph literacy. When compared to usual care, the use of VAs increases individual involvement in decision making and is used to build knowledge with the nurse or provider serving as the mentor, assisting the patient to be more confident in choices of health care options. This DNP project is designed to educate and support the Public Health Nurse (PHN) in their use of SDM in nurse/patient interactions during women wellness exams. A graphic visual aid was created to be used by the PHN in educating the patient regarding risk of chlamydia and gonorrhea, value of routine screening, and options for intervention.

Purpose/Objective/Hypothesis: The purpose of the presentation is to discuss the implementation of a pilot designed to enhance the screening process for sexually transmitted disease prevention, implemented in collaboration with Public Health Nurses (PHNs) in the use of the Shared Decision Making Model. The project has incorporated SDM communication strategies and visual aids designed to support mutual (nurse and patient) decision making in the STD screening process during a wellness exam.

Design/Methods/Scope: The project is being conducted across an eight county area in eight local public health departments collaborating with PHNs.

Results: TBD

Conclusions: TBD

DELIRIUM SUPERIMPOSED ON DEMENTIA IN THE ELDERLY

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Background: Delirium continues to pose a threat to hospitalized elderly patients and can remain a risk for rehospitalization if not detected prior to discharge. Dementia is a risk factor for delirium. Delirium superimposed on dementia (DSD) can affect hospitalized and community dwelling individuals usually age 65 and older. Risks of DSD include accelerated cognitive decline and functional abilities, greater need for supervision or assistance, greater risk for re-hospitalization, and increased risk for mortality. It is important to understand the signs and symptoms of DSD and how to implement permanent assistance for elderly patients diagnosed with delirium superimposed on dementia.

Purpose: Our purpose is to understand how to detect delirium superimposed on dementia regarding the signs and symptoms presented and the high mortality risk in this population. We want to help educate healthcare professionals about the evidence supporting the need for better assessment skills.

Methods: We reviewed the literature through the databases CINAHL, and Google Scholar, for articles published after 2012. Key words used were: delirium, dementia, and superimposed. Two peer reviewed articles were looked at.

Results: This professional poster will provide information to healthcare professionals and research day participants about delirium superimposed on dementia.

Conclusion: Alarming amounts of risk of mortality in vulnerable elderly patients that have delirium superimposed on dementia. More information needs to be available about continually assessing patients with dementia for signs of delirium.

DISPARITIES AND SEGREGATION: CARE OF THE RACIAL/ETHNIC MINORITY OLDER ADULTS IN NURSING HOMES

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Objectives: The purposes of this study are to examine the quality of care received by the minority racial groups of residents in nursing homes (NHs), compare and contrast the racial disparities in quality of care, and examine the relationship between NHs segregation and residents' care.

Background: Nursing homes continue to provide care services for the older adult residents on a long term basis. Generally speaking, care delivery processes and outcomes have been concerning to NHs stakeholders due to quality deficiencies and less than optimal clinical outcomes for the residents. Segregation and disparities of care are evident among the different racial groups of residents in and across nursing home facilities.

Data Sources: Databases such as CINAHL Plus, CINAHL Complete, Medline Complete, Academic Search Complete, Science Citation Index, and Google Scholar were used as sources for information.

Review Methods: Research studies on nursing homes care quality, care deficiencies, disparities, segregation, and care of the minorities were reviewed for data. Residents' care delivery and outcomes within and across NHs were studied to examine the disparities and segregation of NHs operations.

Results: The minority racial/ethnic groups, who are now increasingly using nursing homes services, are experiencing worse treatment, segregation, and disparities of outcomes at both the facility and residents' levels of care. Although level of quality deficiencies and proportion of facilities with serious deficiencies minimally decreased across all categories of nursing homes between 2006-2011, disparities in outcomes continue to exist within and between facilities. Nursing homes with larger concentration of minorities were found to be characterized with inadequate staffing, larger size, for-profit ownership, higher percentage of Medicaid payments, and are located in more competitive markets. Compared to the Hispanic and Black nursing homes, all whites nursing homes are more likely to have twice higher free use of restraints, decreased deficiency scores, higher percentage of deficiency free, and less likely to have poor quality performance. Specific findings showed that non-White are less likely to receive special dementia care, receive inadequate depression treatment, are less likely to be vaccinated for influenza, and are more concentrated in poor quality homes. Racial disparity was equally related to poor cardiovascular/diabetes outcomes among the residents in Veteran Centers.

Conclusion: Disparities and segregation of health care processes and outcomes pervade across nursing homes in the country. Racial/ethnic minorities are differentially treated and experience poorer care within and across facilities. It is important that stakeholders advocate for reforms that will close the gap and ensure better care for all residents.

SUBSTANCE ABUSE AND MULTICULTURAL CARE IN RURAL IDAHO NATIVE AMERICAN ADULTS

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Background

Substance abuse is a pattern of harmful use of alcohol and drugs that causes physiological altering, such as addiction and withdrawal. American Indians have disproportionately high rates of substance use disorders. Illicit drug use in Native Americans has risen to 12.3% and alcohol use in Native Americans is 37.3% (Substance Abuse and Mental Health Services Administration, 2016). For these reasons, a goal of Healthy People 2020 is to reduce substance abuse to protect the health, safety, and quality of life for all (Healthy People 2020, 2017). It is important to understand and educate rural Idaho Native American adults about options for treatment and community support.

Purpose

Our purpose is to understand how substance abuse in Native Americans affect rural tribes in Idaho. The need for alcohol or illicit drug use treatment is at 17.5%, which is almost double to other races (Substance Abuse and Mental Health Services Administration, 2016). We want to understand why the substance abuse percentages are higher for Native American adults. As well as, the treatment they receive for substance abuse. We also want to look at what other health related concerns, which are caused from substance abuse in this population.

Methods

We searched the databases CINAHL, Idaho Falls Public Library, Google Scholar, and EBSCO host for articles being published after 2011. Key words included: substance use, Native Americans, Shoshone, treatment, rural, and Idaho. We also searched the most recent US government census and government surveys. We will also make a trip to Fort Hall reservation to conduct an interview.

Results

While we couldn't find information pertaining just to rural Idaho, we found that many factors contribute to substance abuse in Native American tribes. These factors include poor or inadequate substance abuse prevention, socioeconomic conditions of individual reservations, poor living conditions, and early introduction to drugs and alcohol (Beauvais, 1998). We also found that successful treatment of substance abuse is found when cultural based programs and interventions are used (Rowen et al., 2014). Shoshone-Bannock Tribe offers culturally based interventions such as individual counseling, treatment groups, traditional arts, cultural/spiritual activities, sweat lodge, family treatment, and after-care services (Shoshone-Bannock Tribes, 2015).

Conclusion

Substance abuse shows a higher prevalence in rural Native American adults. Several factors that influence this correlation have been identified. Once these factors are identified there is a greater understanding of this condition. The next step is to apply cultural relevant information to the particular population. By using Shoshone-Bannock specific interventions that are targeted towards the causative factors better care can be provided.

THE USE OF PSILOCYBIN IN TREATING MALE VETERANS WITH PTSD BETWEEN THE AGES OF 18-30

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Background

As of September 2014, there are about 2.7 million American veterans of the Iraq and Afghanistan wars. Post-traumatic stress disorder (PTSD) can occur after a traumatic event in which one thinks themselves or others' lives are in danger. During the traumatic event, one may feel they don't have control over what is happening, and can naturally feel extreme fear for themselves or others' safety and/or survival. 50% of those with PTSD do not seek treatment, and out of the half that do, only half of them get "minimally adequate" treatment (RAND Study). There are currently about 35,000 troops serving in the 20 nations in the Middle East region that make up the U.S. Central Command area of responsibility, according to Commander Elissa Smith, press officer for the Middle East at the Office of the Secretary of Defense. About 3,200 of those U.S. forces are in Iraq. The figures reported here include personnel serving in the U.S. Army, Navy, Marine Corps. and Air Force (TIME Magazine).

Purpose

Our project focuses on those that have experience in combat, specifically veterans from the current war waging in the Middle East. Our purpose is to understand the use of psilocybin (mushrooms) to treat PTSD.

Methods

We searched the databases CINAHL, Google Scholar & EBSCO host for articles being published after 2010. Key words included: PTSD treatment, psilocybin and PTSD treatment, mushrooms and PTSD treatment. We also searched in google, as this is a relatively new method of treating PTSD.

Results

Research has shown that psilocybin is a viable treatment for PTSD patients. Although this treatment is not FDA approved, and doesn't have the longevity that other therapies do, there have been reports of positive results.

Conclusion

In some ways, the action of psychedelics are well known. All trigger a flood of neurotransmitters, notably the chemical serotonin. Essentially, the drug molecules mimic the shape of the serotonin molecule and are taken up by specific receptors in the brain. Research continues for this method of treatment. There are also studies done on the treatment of depression using psilocybin, which we may be able to tie into this topic as depression is often a comorbidity of PTSD.

SLEEP DEPRIVATION IN UNIVERSITY STUDENTS: APPLICATION OF EVIDENCE IN SLEEP HYGIENE

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Background

Sleep hygiene is a set of behavioral and environmental recommendations used to promote healthy sleep and was originally developed to treat insomnia. There is evidence that sleep hygiene is poor amongst university students and is associated with psychological, behavioral and cognitive problems. Increased stress from both academic work load and environment have been shown to affect university students' sleep-wake cycle, increased daytime sleeping, and delayed bedtime/wake time on non-university days. It is important to keep good sleep hygiene as a way to combat sleep deprivation in a high stress environment. A key factor that impacts sleep hygiene is academic demands. Grades need to be kept up in order to get into graduate school, to maintain loans, and to provide satisfaction to the student. In combination with academic pressure, students are exposed to temptations to experiment with alcohol, sex, and drugs. Students may also need to find a job to help pay for college expenses. A mixture of these variables lead to lack of sleep in the traditional university student population.

Purpose

Our purpose is to understand the application of sleep hygiene in nursing school students experiencing sleep deprivation. We want to understand how the application of good sleep hygiene can affect nursing students, what barriers to good sleep hygiene exist, and how large of an impact sleep hygiene has on nursing students.

Methods

We utilized CINHALL, EBSCOhost and ISU's onsource databases to find our information. Articles were selected based on being within the last 5 years. Key words utilized included: nursing students, sleep, sleep hygiene, sleep deprivation, university and sleep health. We also utilized articles provided to us by our behavioral health professor.

Results

While we could not find any data directly related to university students, there were several studies that supported the idea that poor sleep hygiene and sleep deprivation exists in university students. Poor sleep hygiene has been linked to increased burn-out rates in students, poor cognitive functioning, behavioral issues and psychological impact. We also found that there is a link between use of stimulants, such as caffeine and nicotine, and depressants such as alcohol to poor sleep hygiene and increased sleep deprivation.

Conclusion

It is important to identify factors that decrease sleep hygiene in university students. Poor sleep hygiene is linked to increased sleep deprivation, increased burn-out rates, poor cognitive functioning and overall decreased health. To improve student education, measures should be taken to educate the population about good sleep hygiene

NEURO AND PSYCHOPHYSIOLOGICAL CORRELATES OF FLUENT AND DISFLUENT SPEECH

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Introduction/Statement of Problem:

Stuttering is a speech disorder characterized by involuntarily repeating or prolonging sounds, or blocking when trying to speak. Our study will measure brain activity during a control trial (production) and fluency-enhancing conditions (imitation and pantomime) to demonstrate neural differences of timing and functional measures between people who stutter and fluent speakers. Previous studies have used electroencephalography (EEG) and timing have measured mu rhythm indication of sensorimotor/neural contributions/integration and the contributions to stuttering. The altered mu rhythm with less time occurring before production indicate that foundations of stuttering appear to be in the motor/sensorimotor system. Our study will further this research and study brain differences in fluency-enhancing conditions and production tasks.

GRAMMATICAL ACCURACY AND SYNTACTIC COMPLEXITY OF ORAL AND WRITTEN NARRATIVES

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Background: Children use narratives to share experiences and to express ideas in school, at home, and on the playground. Narratives have even been shown to be a good predictor of literacy skills, because more advanced language skills improve literacy skills (Miller, Heilmann, Nockerts, Iglesias, Fabiano, & Francis, 2006), and narratives are essential to school success (Riley & Burrell, 2007). To better understand the characteristics of child language, it is necessary to look not only at a child's oral narratives, but also at their written narratives since the oral and written modalities are highly associated.

Purpose: This study examined the similarities and differences in productivity, grammatical accuracy, and syntactic complexity between oral and written narratives produced by fourth graders with typically developing language.

Method: In this study, 21 typically developing fourth graders ages 9;1-10;7 produced a written and oral narrative. Prior to writing or telling their own narratives, the examiner orally provided the children with a model narrative using the narrative, the Dragon Story from the Test of Narrative Language (TNL; Gillam & Johnston, 2004). After hearing the Dragon Story told by the examiner, the children were reminded that, "Stories have a beginning, things that happen, and an ending," and were asked to, "Tell a story that's as good as one in your favorite book." They were then provided with one of two picture prompts and the prompt of "Last week Miss Clarkson's fourth grade class" The children were encouraged to take a minute or two to think before they began.

After testing was completed, SLP graduate and undergraduate students transcribed and coded both the written and the oral narratives for standard conventions as well as lab specific conventions. Additionally, the author reviewed all of the transcripts, coded all of the dependent clauses by clause type, and calculated two measures of clausal density namely subordination index (SI) and clausal index (CI). The SI was calculated based on the number of occurrences of full subject-verb clauses (i.e. adverbial, nominal, and relative). CI was calculated using both the full clauses and predicate clauses (i.e. infinitive, participle, and other complements) that do not have their own overt subject.

Results: The student's productivity was significantly higher in the oral narratives when compared to the written narratives. All three measures of productivity including total T-units, total number of words, and number of different words were greater in the spoken stories. For fourth graders, the mechanics and modality of writing are difficult and cumbersome.

REHABILITATION OF A PATIENT AFTER ORIF OF A TIBIAL PLATEAU FRACTURE WITH HISTORY OF DVT AND VENOUS RETURN DISORDER.

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Background: Tibial plateau fractures are normally caused from high energy, direct trauma to the proximal tibia, though there are cases in which compression from axial loading on the joint can cause this type of fracture. There are multiple surgical procedures used to stabilize the bone and allow for proper healing. Regardless of the method, the procedure used to stabilize the tibia and allow for healing is complicated and varies depending on the classification of the injury.

Case Description: The patient suffered a high-energy trauma injury to the proximal tibia secondary to a direct valgus force creating a type 2 Schatzker tibial plateau fracture with a lateral shear fracture and depression of the tibial plateau medial to the fracture in the left leg. Patient had a history of previous deep vein thrombosis and venous insufficiency disorder in bilateral lower extremities. The surgery performed was an ORIF with a left lateral meniscectomy.

Discussion / Outcomes: The exercise protocol used had fair results, but in the future it would be more beneficial to make the exercises more functional towards the patients work and activities of daily life. Regarding the research, there was a lack of evidence in the POC of patients with secondary conditions and effective ways to monitor them.

Conclusion: There is no "one treatment fits all" approach to the physical rehabilitation of tibial fractures. Evidence suggests greater outcomes with protocols adjusted to meet specific functional needs of the patient rather than using the standard protocols. Most patients have positive short to mid-term outcomes, but long term outcomes show the possibility of reduced levels of function and increased risk of osteoarthritis.

PHYSICAL THERAPY MANAGEMENT OF A PATIENT WITH RIB PAIN FOLLOWING GOLF INJURY: A CASE REPORT

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Background: Intercostal strain is a common injury in sports that require high-energy rotational forces of the trunk and upper extremities and results in pain between ribs that worsens with movement, breathing, and coughing. This case report presents the physical therapy (PT) management of a patient who sustained an intercostal strain while golfing.

Case Description: A 43-year-old female presented to PT with left anterior chest wall pain exacerbated by lifting, raising the left arm, coughing, sneezing, and breathing in. She showed deficits in left upper extremity and trunk pain-free motion and strength due to pain, tenderness to palpation, and weak scapular stabilizing musculature bilaterally. PT interventions included manual therapy, therapeutic exercise, patient education, and modalities as needed for pain relief.

Discussion/Outcomes: After 7 visits, the patient met 4 out of 6 goals and was progressing well toward the remaining two. Her trunk and left upper extremity pain-free motion and strength increased and she was able to lift, reach, cough, and sneeze without pain. Patient demonstrated less tenderness to palpation and significant improvements in her Numeric Pain Rating Scale and Patient Specific Function Scale scores. Patient requested to be discharged due to improvement and an absence of pain, and was planning on returning to golf in the weeks following discharge. Factors influencing her outcomes included high motivation levels, activity modification, compliance to the plan of care, and adherence to the home exercise program.

Conclusion: Patients who sustain an intercostal strain may benefit from physical therapy to facilitate return to function and sport. This case report provides a foundation for future research to determine effectiveness of physical therapy interventions for patients with this condition.

**EXPLORING THE INTENSITY, FREQUENCY, AND DURATION OF CONSTRAINT INDUCED MOVEMENT THERAPY
PUBLISHED RESEARCH: A CONTENT ANALYSIS**

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Background: Regardless of the setting, one task of an occupational therapist is to determine the dosage when establishing the plan of care for their clients. Dosage may be defined as the combination of the frequency of treatment sessions, intensity of the intervention provided, duration of the episode of care, and the type of intervention or interventions applied (Kolobe et al., 2014). A commonly used intervention that is widely accepted as an effective within the profession of occupational therapy to increase upper limb function for individuals with acute and chronic neurological conditions is constraint-induced movement therapy (CIMT) (Gillen, 2016).

Purpose: The purpose of this study was to perform a content analysis of the current literature related to dosage (duration, frequency, and intensity) for CIMT in the adult population of individuals with chronic neurological dysfunction.

Design: The research team used content analysis and descriptive statistics.

Methods: The research team searched for refereed CIMT based outcomes studies from the years 1995 to 2015 using Google Scholar, EBSCOHost, CINAHL, Medline, OT Seeker, and AOTA SIS. A research designed matrix was used to identify and track the reported information (number of sessions, length of plan of care and session, type of delivery, setting, and intervention type) from the CIMT outcome studies. A minimum of at least two raters verified the data captured from each article.

Results: The research yielded 62 scholarly articles. Results were outlined using descriptive statistics, including range, median, mean, and standard deviation. Results were further categorized into treatment settings to define differences in dosage including use of all three components of CIMT (repetitive and/or task-oriented training, home practice strategies, and constraint of the less affected upper extremity).

Conclusions: The data analysis provides groundwork for evidence based application for clinicians in the application of CIMT dosage with consideration of settings and CIMT components.

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MOT AND SLP STUDENT ATTITUDES OF USING COMMUNITY VOLUNTEERS ENHANCE CLINICAL REASONING SKILLS AS A PART OF LABORATORY COURSEWORK.

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Objectives:

1. By the end of the session, participants will be able to describe the pedagogical structure of the community volunteer based laboratory experience.
2. By the end of the session, participants will be able to discuss the attitudes of the 2nd year MOT and SLP students who took part in the laboratory experience.

Purpose: Anecdotally, students and Fieldwork Educators are needing/demanding that students have more clinical experience and exposure prior to their level II fieldwork rotations. Idaho State University uses an interprofessional education clinical model (Gee et al., 2016) which evaluation protocol were adapted to an occupational therapy and speech language pathology and a course laboratory. The clinical model includes client intake (community volunteers), evaluation, home evaluation, and consultation and follow up. Students worked in partners with clients and mentored by two faculty members. The purpose of this pilot study was to evaluate student attitudes and perceptions of a structured laboratory based, student participatory model to facilitate engagement in the occupational therapy process with community volunteers living with chronic neurological conditions.

Design: A survey was administered to 2nd year MOT and 1st year SLP students who had recently completed an intervention lecture and laboratory-based course focused on adult neurological conditions and interventions. The survey was voluntary and anonymous with a total of eight students who completed the survey.

Method: Descriptive statistics were conducted in order to synthesize the raw survey data as well as narrative qualitative coding was used to manage the textual portions of the survey tool.

Results: 1) 100% of the respondents indicated that the overall pedagogical activities increased their understanding of individuals with chronic neurological conditions, 2) greater than 50% of the respondents indicated that the process increased their understanding of the evaluation process, 3) approximately 80% of the respondents indicated that they valued being able to observe and review (videotaped) sessions of their peers engaging in the evaluation and consultative process of the laboratory activity and 5) 100% of the respondents indicated that they were able to integrate content from other intervention based preparatory courses. Additionally, consistent thematic elements emerged from students' attitudes regarding the strengths and opportunities of the laboratory delivery method: 1) evaluating and treating real clients and seeing the observable aspects of their neurological condition, 2) hearing the clients' stories, 3) application of recently acquired skills (evaluation/intervention and therapeutic use of self), and 4) development/enhancement of clinical reasoning (procedural & conditional).

INFANT AND MATERNAL RECIPROCITY AS EXPRESSED THROUGH PLAY PERFORMANCE AND PARTICIPATION, CO-OCCUPATION, SENSORY PROCESSING, AND FINE MOTOR DEVELOPMENT.

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Objective

1. By the end of this presentation participants will demonstrate the ability to describe the categories of coding for play performance and participation.
2. By the end of this presentation participants will demonstrate the ability to discuss the implications of play performance and participation on day to day clinical practice of children at risk or who demonstrate developmental difficulties.

Rationale/Background

The purpose of this study was to identify and track frequency and duration of infant/maternal bi directional reciprocity related behaviors play performance and participation via video analysis of infant/maternal interactions. The categories of play performance and participation included play construction, play purpose, play object choice and play type. These were based upon the work of Knox et al., (2008), Pierce et al., (2009) and Harness and Bundy (2001). Findings from a broader study looking at maternal/infant reciprocity with motor, co-occupation, emotional reciprocity, and language suggested that developmental trajectories could be tracked through behavioral observation and coding and aligned with criterion referenced assessments (Swann et al., 2016).

Participants 16 mothers and their infant's from a larger sample of 20 infant/mother dyads.

Methods to Obtain Data using a play lab at a university in a rural portion of the United States, mothers and their infants were observed and audio/video recorded as the interacted in a lab for an hour at a time at the infants age of 8, 12, and 16 months.

Analytical Methods Using Datavyu, the infant/maternal interactions and behaviors during the middle 20 minutes of the session were coded using coding schemes developed via experimental and clinical psychology and occupational therapy. Behaviors, movements, interactions, etc. were coded tracking duration and frequency of behaviors related to play performance and participation

Results/Conclusion

Across the two maternal/infant (typically developing) dyads the frequency of play construction, play purpose, and play object choice frequency (number of times) and duration (in minutes) from increased over time. The infants play type decreased in both frequency and duration decreased as the infants matured into a two categories (sensory motor and construction). The greatest increases were in the area of play construction with an average increase of 7:30 minutes and play object choice with an average increase of 2:40 spanning the three 20 minutes observation sessions.

Discussion - Tracking the frequency and duration of sub constructs related to typical infant/maternal bi directional reciprocity provides a novel representation of how play performance and participation evolves over a small window of time. Using the constructs of play construction, purpose, object choice and type provides a simple framework of evaluating play based behavior as they relate to the interaction between caregiver and infant. Additionally, the constructs that can be coded to evaluate change over time also proved to be valuable in documenting the change in developmental trajectory.

EXPLORING THE EFFICACY OF WEIGHTED BLANKETS WITH SLEEP QUALITY AMONG CHILDREN WITH AUTISM SPECTRUM DISORDERS.

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Objectives

1. By the end of this presentation the participants will demonstrate the ability to compare and contrast the application and dosage of weighted blankets with children who demonstrate sleep disturbances.
2. By the end of this presentation the participants will demonstrate the ability to discuss the weighted blanket findings that support sensory processing, sleep and behavior in children with ASD.

Rationale/Background: Sleep and rest disturbances are important self-care challenges that are commonly faced by many individuals with ASD with 44 to 83 per cent of individuals with an ASD reporting sleep disturbances (Tumiran et al., 2013). Such disturbances are characterized by diminished duration of sleep due to difficulty falling asleep and difficulty staying asleep. Occupational therapists may work with individuals to establish healthy sleep routines in their clients, commonly including children with ASD and their families.

Design - An ABA single subject design was employed for this study. A(1) baseline data collection (up to 7 days), B phase implemented the weighted blanket (14 days), and A(2) phase withdrawal of the intervention (7 days).

Participants - Four participants were selected for the study based upon the following criteria: The child was required to: a) carry a diagnosis of ASD; b) evidence a sleep disturbance according to the Child Sleep Habits Questionnaire; c) struggle with sensory over- reactivity as evidenced by achieving a threshold score on the Sensory Processing Measure; d) be between the ages of 3 and 6; and, e) live within a reasonable driving distance of the offices of the PI.

Methods to Obtain Data -During each phase (ABA) of the study, caregivers completed a daily survey assessing sleep quality, time to fall asleep, sleep duration and behavioral ratings upon waking that were completed by the participant's caregiver. Sleep quality and movement were tracked using an external monitoring device attached to the participant's bed.

Analytical Methods - Data was analyzed through visual analysis of repeated measure graphs that were generated. Visual analyses of the data points and the trend lines was conducted.

Results/Conclusion

Moderate improvement of the measured constructs related to sleep quality in the four participants were observed. The participants exhibited evidence of an increase in total amount of sleep per night as well as a slight decrease in time to fall asleep. However, morning mood did not consistently improve with the use of the weighted blanket between the two of the four participants. Based on the online survey and the movement tracking device it was determined that the participants slept between one and three extra hours a night as a result of the weighted blanket.

OUTPATIENT PHYSICAL THERAPY MANAGEMENT OF AN ADULT FEMALE WITH FEAR-AVOIDANCE BEHAVIORS FOLLOWING REPAIR OF A TRAUMATIC HIP LABRAL TEAR

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Background: Acetabular labral tears frequently result from unknown causes, but occasionally result from trauma. Arthroscopic repair of the labrum is a common surgical intervention. Current physical therapy (PT) protocols focus on protecting newly repaired tissue and regaining function. However, fear-avoidance behaviors may be an unanticipated outcome post-operatively and can have deleterious effects on PT outcomes and should be addressed to improve patient outcomes.

Case Description: Patient was a 25-year-old female status post right hip arthroscopy performed to repair a traumatic labral tear. Impairments noted were decreased range of motion (ROM), weakness, and pain in right hip. Additionally, patient was fearful of weight bearing on right lower extremity (LE) and relied heavily on use of crutches, despite physician's recommendation to weight bear as tolerated; therefore, in addition to standard post-operative hip arthroscopy protocol, a modified version of graded in vivo exposure (GivE) was used to reduce fear-avoidance behaviors.

Discussion / Outcomes: Patient regained full strength, ROM, reduced pain, and began returning to normal activities over five weeks utilizing post-operative hip arthroscopy protocol. Modified GivE interventions were successful in treating fear-avoidance as demonstrated by discontinued use of crutches, normalized gait pattern, proper performance of therapeutic exercise, and patient self-report. Patient demonstrated residual lack of neuromuscular control in right hip following this case study; therefore, it was recommended she continue her current plan of care.

Conclusion: In addition to following a post-operative protocol, physical therapists must consider how fear can constrain intended therapeutic effects of interventions. Therefore, addressing fear-avoidance behaviors is necessary. A modification of GivE was successful in reducing fear-avoidance behaviors.

EFFECT OF EXPLICIT GRADING OF DISCUSSION SESSIONS ON PARTICIPATION BEHAVIORS OF GRADUATE STUDENTS

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Background: Critical thinking is a goal of higher education and classroom discussions are often used to facilitate critical thinking. Many professors have specific expectations for participation and many assign participation grades. Perceptions of fairness and explicitness in grading may impact the participation of students in the class discussions.

Hypothesis: With fairness and explicitness in grading in mind, we decided to explore two questions. Question 1: What is the effect of a professor's method of explicit tallying on student participation in classroom discussions? Question 2: What are student perceptions on a professor's use of explicit tallying, assigning daily participation grades, and providing timely feedback?

Methods: Researchers recruited a convenience sample of 16 graduate level occupational therapy students on a voluntary basis from a Masters of Occupational Therapy graduate class. Students were told they would receive a weekly participation grade for their comments during each class session based on frequency of comments. During the baseline period the students were unaware of how the professor assigned participation grades. During the experimental period the professor introduced a tally sheet and told the students he would be tallying their comments in order to assign grades. Data on frequency of comments was gathered by researchers via digital recordings of the classroom discussions. After the study, participants filled out a questionnaire and provided comments on their perceptions of the effect of the grading system.

Results: Three categories emerged from analysis of the data on the introduction of the explicit tallying: positive change in frequency of comments, no change in frequency, or undetermined or variable changes in frequency. The individuals in the positive change in frequency of comments group all showed declining rates of participation during the baseline period. On the questionnaire 14 students reported that the grading method impacted the frequency of their comments. Daily grade was chosen by most students as the most influential component of the class design. Twelve students reported checking their grade one or more times a week, and 10 students reported participating more in discussions in this class than in other classes. Subjectively the majority of the participants felt that the design of the class facilitated class discussion.

Conclusions: Quantitatively, an overall effect for all students was not observed, but we did conclude that, for students with declining rates of participation during baseline, tallying seemed to have an effect that encouraged increased participation. Overall subjective comments and responses on the questionnaire showed a positive perception of the method of grading. We feel that this study did support the benefits of having an explicit method of grading class discussions.

APTITUDE OF NASAL METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) SCREENING TO RULE OUT MRSA PNEUMONIA

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Background: Current guidelines recommend patients at risk of MRSA pneumonia be treated empirically pending culture results. However, de-escalation can prove challenging given the low yield of sputum cultures. Studies have shown that nasal colonization with MRSA, determined by polymerase chain reaction (PCR) nasal screening, has strong (>95%) negative predictive value with MRSA pneumonia making this test a valuable tool in the decision to de-escalate MRSA-directed antibiotics.

Objectives: The primary objective of this study will be to determine the aptitude of PCR MRSA screening to rule out MRSA pneumonia. Secondary outcomes include potential reduction in costs and antibiotic treatment days associated with implementation of a MRSA screening protocol.

Study Design: This study was approved by the Divisional Investigational Review Board and informed consent was waived. This is a retrospective, multi-center, cohort study at the HCA Mountain Star Division between September 1, 2014 and August 31, 2016. All medical records from Eastern Idaho Regional Medical Center, Ogden Regional Medical Center and Brigham City Community Hospital were queried to identify patients ≥18 years old, who had MRSA screening performed by PCR, bacterial cultures (blood, sputum, or bronchoalveolar lavage), and had an ICD9 or ICD10 pneumonia diagnosis code billed within the study period. Medical records of patients meeting these criteria were reviewed for clinical confirmation of pneumonia and the following information: age, sex, pneumonia type, MRSA-directed antibiotic(s) prescribed, days of therapy, and culture data. Patients were excluded if they didn't have clinically confirmed pneumonia or if the nasal screening sample was obtained more than one month prior to bacterial cultures for patients presenting from outpatient settings, seven days prior to bacterial cultures for inpatients, or more than three days after bacterial cultures.

Results: 160 patients were included in the study. The negative predictive value (NPV) was 100% (95% CI: 0.966 to 1.00), the positive predictive value (PPV) was 9.52% (95% CI: 0.016 to 0.318), sensitivity was 100% (95% CI: 0.197 to 1.00) and specificity was 87.9 (95% CI: 0.816 to 0.924). There were 495 total days of therapy with MRSA-directed antibiotics in study patients. Excluding patients with a positive PCR nasal screen resulted in 395 treatment days, with 310 treatment days in 85 patients being preventable by implementing a policy of discontinuing MRSA-directed antibiotics within 24 hours of PCR screening results. The potential cost savings that would result from this policy would be \$415.6/patient.

Conclusions: The use of PCR nasal screening can be a valuable tool to rule out MRSA pneumonia and to accelerate the de-escalation of MRSA-directed antibiotics. The cost savings associated with early discontinuation of MRSA-directed therapy is significant.