CONFERENCE PROCEEDINGS

Harnessing the Web: How Chiropractic Education Survives and Thrives During the COVID-19 Pandemic: Chiropractic Educators Research Forum (CERF), December 5, 2020

Chiropractic Educators Research Forum

ABSTRACT

This conference was convened by the Chiropractic Educators Research Forum (CERF) on December 5, 2020. This meeting provided a forum for the presentation of scholarly works in chiropractic education theory and practice. This conference specifically focused on research related to chiropractic education during the COVID-19 pandemic. During the December 2020 CERF meeting, presenters and panelists took an in depth look at how programs worked to meet program objectives, graduation requirements, accreditation, and other activities during the COVID-19 pandemic.

Key Indexing Terms: Chiropractic; Education; Congress [Publication Type]; COVID-19 [Supplementary Concept]

J Chiropr Educ 2021;35(2):222–228 DOI 10.7899/JCE-20-27

INTRODUCTION

The Chiropractic Educators Research Forum (CERF) held its first online conference on December 5, 2020. The focus of this meeting was about chiropractic education during the COVID-19 pandemic. After submission to a rigorous peer-review process, the following abstracts were accepted for presentation. They are listed in alphabetical order by first author's last name. Each abstract includes a link to the video abstract of the presentation that was delivered at the conference.

Booting up online education at NYCC

Ilija Arar, Jessica Walker, Dennis Homack

Objective: This report describes a mixture of asynchronous and synchronous models for the online delivery of basic and clinical sciences courses during the COVID-19 pandemic. Methods: New York Chiropractic College's (NYCC) Spring 2020 trimester involved the rapid transition to complete online course delivery. Recent student cohorts typically have previous experience using online educational tools and are heavily invested in social connectivity through online media, which shape their expectations for online learning. In response to these expectations, NYCC faculty used student feedback to maximize design efforts. Key areas involved simulating the classroom aesthetic online, including increased instructor contact and opportunities for live online interaction. Students also requested the flexibility to access recorded content. Using this knowledge, faculty employed a varied toolkit to facilitate active student participation and engagement by recreating and rethinking aspects of the classroom environment. Results: Technology was employed dynamically to create multi-faceted interactive course experiences using visual media, chat-based discussion, recorded course content, guest lectures, and demonstrations. A catalogue of high-quality recorded resources was also created to supplement online course delivery. Traditional classroom techniques were reimagined for effective transition into the online classroom environment and to encourage active student participation. Question-driven discussions employing scripted pauses and student feedback mechanisms such as quizzes and online polls were used to enhance student participation and investment in online learning. Conclusion: The implementation of online educational tools across the curriculum allowed for the attainment of institutional and programmatic goals and successful course delivery through the period of online education. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/d3aEK7lxch4

Navigating a shift in clinic education for chiropractic interns during the COVID-19 pandemic

Amanda Armington

Objective: The purpose of this report is to discuss the pivot in clinical education at University of Western States (UWS) Doctor of Chiropractic Program (DCP) during the coronavirus disease 2019 (COVID-19) pandemic. Methods: Due to the limitations and regulations presented with the COVID-19 pandemic, clinical internship at UWS involuntarily transitioned from a traditional face-to-face setting to structured virtual sessions, then back to in-person education over a span of 4 months. The interim curriculum was organized to replicate in-person intern and clinician interaction by meeting virtually daily for discussion around clinical cases and topics. Faculty designed cases by considering various assessments and meta competencies as outlined by the Council on Chiropractic Education (CCE). Each student participated in group discussion as well as 1:1 evaluation with the clinical assessment team. Results: Purposeful discussions based around a large variety of clinical topics provided an alternative format for delivery of chiropractic clinical education. While it was not an ideal situation for manual medicine type coursework, time was spent refining other important clinical skills such as, but not limited to, history taking, differential diagnosis discussion, complex case management, lifestyle modification, and active care protocols. Conclusion: During the COVID-19 pandemic, clinical interns were provided the opportunity to hone other important clinical skills by participating in this alternative format of clinical education. Modifying the curriculum provided students an opportunity for more in-depth case analysis, peer collaboration, and thoughtful discussion of evidence informed practices. Overall students responded well to the quick change in curricular delivery with general feedback being positive. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/Uu01TsQs_N4

Synchronous online course design in conjunction with asynchronous assignments increases student engagement

Kathryn Brown, Chad Lambert

Objective: The COVID-19 pandemic has necessitated course design adaptations for effective and engaging distance learning. The purpose of this report is to describe design that includes synchronous small and large group work paired with a follow-up asynchronous assignment to increase student participation and engagement. Methods: A 1-hour, upper-level journal club style course aimed at critically appraising literature by assessing the quality and findings of a study was delivered face to face prior to the COVID-19 pandemic. Due to the pandemic and shift in traditional course instruction, this course transitioned to a virtual setting using a combination of Zoom and Moodle, a learning management system. In weekly synchronous Zoom meetings, students were provided the same article and assigned to breakout rooms with each group assigned a specific set of parameters to evaluate the article. The class reconvened and volunteers from each group presented their findings. Following the synchronous discussions, students were assigned an asynchronous assignment which required them to synthesize the information presented by each small group. Results: Because students rely on information presented by their classmates to complete their asynchronous assignments, they are engaged and readily participate in an online learning environment more willingly than they did in the same course when it was presented face to face. Course evaluation feedback has been positive and supports these observations. Conclusion: Although the COVID-19 pandemic has been disruptive to both chiropractic

students and faculty, thoughtful online course design that requires students to synthesize information presented by their peers incentivizes them to engage in discussions and assignments. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/ymPyg1LD4mE

Manual skills teaching: How on earth do we continue one of the educational cornerstones under COVID-19 restrictions?

David Byfield, Annabel Kier, Karl New

Objective: The purpose of this presentation is to explore how manual skills teaching will be conducted under strict COVID-19 conditions. Methods: The delivery of manual skills teaching at all levels was suspended due to the COVID-19 pandemic. University of South Wales has planned a blended learning delivery on campus where class sizes will be limited depending on the teaching space and social distancing measures including the use of personal protective equipment (PPE) for both staff and students in their chiropod bubbles. These recommendations will restrict chiropractic student manual skills learning as there will have less practical time. Psychomotor skill learning and development will continue to be taught in conjunction with the science based cognitive skills that underpin the therapeutic rationale and clinical application of manual therapy. Innovative methods of teaching manual skills using high quality video presentations via Panopto will be added to monitor skill development. Force sensing table technology has been introduced to overcome social distancing restrictions using high fidelity mannequins and an instrumented table to assess skill progression at all academic levels. Anatomage Virtual Anatomy Dissection Table technology also provides an additional tool to manual skills learning. Results: It was decided that only year 3 would return to practical classes and all other years in January 2021 due to COVID-19 risk. Use of personal protective equipment, social distancing, dedicated chiropods, use of videos of manual techniques and multiple teaching rooms have contributed to commencing manual skills instruction. Conclusions: The current system will be monitored throughout the academic year and changes implemented depending on pandemic requirements. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/KFwsLw13_0Q

Re-opening the Welsh Institute of Chiropractic outpatient training clinic under COVID -19 restrictions: The birth of chiropods

David Byfield, Steph Davey

Objective: The purpose of this presentation is to describe how the Welsh Institute of Chiropractic (WIOC) outpatient training clinic was re-opened under strict COVID-19 control measures following the lockdown period. Methods: Re-commencing clinical training at the WIOC presented a complex challenge to ensure pre-COVID-19 training standards. In order to comply with Covid instructions set down by the Welsh Government, Public Health Wales, and University of South Wales, the entire clinical training programme had to be reconstituted to ensure the health and safety of students, staff and patients. The plan included 90 final year students divided into groups of 10 (chiropods), who would remain together for the entire academic year. The plan contained a series of risk assessments (social distancing, infection control, personal protective equirpment, 1-way system) and return to work narratives to ensure that the student experience was clinically relevant and equivalent to pre- COVID-19 benchmarks. Students would engage in face to face care, Telehealth, online clinical rounds, online case discussions, clinical skills review, online rehab workshops, online public health topics and an expanded portfolio of activity to document the required clinical skills and competencies. Results: The clinical programme required a significant amount of planning and scheduling incorporating all available resources. The plan was approved by the University and identified as a template for good practice shared across the institution. Conclusion: The clinic staff are confident that the reformatted programme will provide the final year students with an equivalent clinical training experience and expand their exposure to important public health and evidence based clinical practice. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/BqPbfyegrlM

Transforming the clinic exit proficiency exam to an online format at the Welsh Institute of Chiropractic

David Byfield, Steph Davey, Sophie Meace, Annabel Kier, Karl New

Objective: The purpose of this presentation is to describe the process of transforming the final clinic exit proficiency exam to an online format following institutional lockdown during the COVID-19 pandemic. Methods: Transferring the clinic competency exit exam online presented a formidable challenge. The first task was to communicate with other UK chiropractic institutions to discuss a collaborative approach. An online case-based format to assess clinical competencies was agreed and presented to the General Chiropractic Council (GCC) for approval. The second task required a discussion with members of clinic staff and administration to determine the logistics, but maintain high professional standards. The faculty's technology enhanced learning partner was consulted to determine a suitable digital platform to conduct this assessment. Blackboard Collaborate was identified as the most appropriate tool and training was scheduled for both clinical staff (24) and final year students (57). To ensure the assessment was robust and equivalent to the existing model, Head of Clinic and the clinic supervisors adapted cases, which were internally moderated for QA purposes. Results: The GCC supported the unified approach and commended this work as an example of good practice to manage student progression and maintain standards of patient care and safety. All 57 students were successfully assessed online on the day. Conclusion: Collaboration with all stakeholders including the regulatory body was essential during this exercise. The knowledge and experiences gained has formed the basis of the current Telehealth service, which has assisted final year students to complete their clinical requirements and graduate on time. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/wX5cGTBtIjI

Clinic entrance proficiency assessment: Moving to an online experience due to COVID-19

David Byfield, Annabel Kier, Sophie Meace, Karl New

Objective: The purpose of this presentation is to describe how the clinic entrance proficiency exam was moved from an Objective Structured Clinical Examination (OSCE) format to an online delivery. Methods: Prior to COVID-19 the clinic entrance examination was conducted by a series of OSCE stations to test various aspects of clinical knowledge, skills and behaviour to ensure that students moving from pre-clinical learning are competent to progress to clinical training under professional supervision in the training clinic. COVID-19 has resulted in cancelled face to face assessments unless strict social distancing and hygiene are in place. To manage higher number of students, an online time dependent clinic entrance assessment was formulated to assess aspects of neuro-orthopaedics, radiology, general diagnosis, manual technique theory and code of practice. Blackboard Test Tool platform was identified as the online vehicle; however no clinical skills were assessed using this format. Results: 85 year-3 students were successfully assessed online using this format. A number of students were granted a re-take that was conducted 1 week later. Feedback from staff involved and students was positive with a few minor issues reported. Conclusions: Blackboard Assessment provides an ideal platform for an assessment of this nature under timed constraint conditions. Clinical and academic staff were confident that any knowledge and skill deficiencies not assessed under these conditions were covered in other modules and would be identified and addressed during the additional clinical teaching in the final year. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/KHmxlAsTHnk

Instructing information literacy in an asynchronous environment

Suellen Christopoulos-Nutting

Objectives: The purpose of this presentation is to discuss the assessments, assignments, instruction, and grades of an information literacy class for chiropractic students during the COVID-19 pandemic that resulted in greater retention of information and increased grades. Methods: Providing information literacy instruction in an asynchronous setting. The instructor employed online methodologies to ensure students were engaging with each other, to aid in forming a community of learners, the material, to complete the step by step assignments to become expert researchers, and gaining the skills needed to be considered information / technology literate, as defined by Council on Chiropractic Education meta-competency 6. Lectures were recorded providing step by step instruction on accessing the learning management system, library resources from off campus, using authentication methods, worksheets to complete assignments, and use of online tools like VoiceThread, and presentation tools like Preziand PowToon, were provided using Screencast, and uploaded to YouTube. Results: By using YouTube the instructor was able to track views, and based on communications with students was able to separate those students that did and did not watch the videos. Overall, there was an increase in grades, superior projects, and comprehensive knowledge retention of information and technology literacy. Conclusion: This oral presentation will focus on how information and technology literacy skills and abilities were greater in the asynchronous environment due to student's necessity in watching the lectures, YouTube videos, and how that necessity of individual learning and retention resulted in higher grades, superior projects, and comprehensive knowledge retention of information and technology literacy. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/mHcM2EtgEDU

Attitudes to returning to on-site teaching following COVID-19 lockdown

Christina Cunliffe, Adrian Hunnisett

Objectives: The aim of this study was to understand student views and expectations following a return to on-site training following closure due to COVID-19, and then how these expectations were met. Methods: Following appropriate approvals, surveys were developed, validated and sent to a cohort of students a week before they returned to the college for their first on-site practical training weekend post-lockdown, and then a week following this event (n=144). Both surveys were designed as simple closed question instruments with a 5-point Likert scale answer. The pre-return questionnaire covered expectations and concerns regarding coming back into college, and the post-return questionnaire assessed whether expectations had been met and how the students felt about the return to college. Results: Response rates for the pre and post surveys were 70% and 55% respectively. Prior to return, a minority (18%) indicated personal safety concerns, but 98% respondents were keen to return to practical teaching.

A small minority (2%) felt that the return was too early. Local spikes of infection, shielding vulnerable relatives and potential distancing difficulties were the major concerns. However, respondents felt well informed about the college arrangements and trusted the college management to ensure safety. The post-survey the majority of respondents (92%) indicated that expectations were met, safety arrangements were appropriate and that a return to practical teaching was considered important and valuable. Conclusions: This study indicates that students want to return to practical classes, although fears around infection and adequate safety measures remain. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/VPvK9JYK0a0

Online practical training in chiropractic education during the COVID-19 pandemic: A pilot study

Christina Cunliffe, Laura Pendleton, Adrian Hunnisett

Objectives: The aim of this study was to develop a method of maintaining student psychomotor skills and practical abilities during a period of college closure during the COVID-19 pandemic. Methods: Following appropriate approvals, an online delivery method for practical review and assessment was designed, using Microsoft Teams as a delivery platform. It was not possible to teach any new material or observe students practising adjustments on other students during these sessions. However, small group (n=6 maximum) practical sessions were designed with tutors observing students online performing various aspects of palpation techniques and preparing appropriate "set-ups" for specific adjustments. In addition, exercises were designed that involved demonstrating requisite psychomotor skills to the tutors. Assessment was achieved by adapting the usual assessment procedure and forms and using them for recording focussed formative feedback at each session. Results: These sessions were primarily designed to ensure that the students' practical skills were kept fresh and this aim was realised. Online attendance was 100% The formative assessment indicated good progress with the student groups despite the closure of college. Student feedback from the sessions indicated that these sessions offered an effective, valuable and useful alternative in the current COVID-19 lockdown situation. Conclusions: This pilot study indicates that it is possible to provide an effective practical subject delivery in an online situation with good student motivation and engagement. Further work is in progress to refine and extend this work. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/bKH4CxVqWkY

Utilizing Zoom to create virtual "practice days" in skills-based diagnosis classes

Ashlee Drover, Michelle Drover

Objectives: The purpose of this presentation is to describe courses (Physical Diagnosis and Neuromusculoskeletal Diagnosis) that required 2 days a week of hands-on practice sessions to supplement the lectures. For these 2 courses, practice sessions provided opportunities for learners to see demonstrations of the required procedures, to practice on peers, and to receive feedback on the skills. As the COVID-19 pandemic required us to transition to remote instruction, we faced the dilemma of how to engage the students with practice sessions in a virtual environment. For many students, required quarantine meant that they did not have another person available to practice with, which was an additional challenge. Methods: To best replicate the in-person practice sessions, we scheduled Zoom meeting practice days. Utilizing Zoom allowed for multiple cameras to be active and visible simultaneously, which was not something supported by the learning management system. The instructor demonstrated skills for the students, then asked them to practice on a friend or family member on camera. For those students with no human available, we were able to create "dummy" bodies using pillows, clothing, and drawings of the required body parts. Results: Students were able to practice in real time, with the instructor available to provide feedback and answer questions. Seeing peers practicing was an added benefit for those who did not have access to a live human being. Conclusion: Student feedback was overwhelmingly positive, and course evaluations revealed that the Zoom sessions were one of the most helpful strategies for learning and engagement in the courses, given the circumstances. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/5wVcUEcjIFQ

Creating videos of examination skills to enhance remote learning

Ashlee Drover, Robert Rowell, Tracey Littrell

Objectives: Physical examination skills are a critical component of chiropractic education. Skills are discussed in lectures, then demonstrated and practiced in skills labs. Due to the COVID-19 pandemic, content was delivered fully online, making in-person labs impossible. The purpose of this presentation is to describe short videos that were created demonstrating each physical examination skill to assist remote learning. Methods: With just 2 days to prepare for online instruction, the instructors collaborated to record short demonstration videos. The urgency meant having limited resources and support. The videos were created using a Microsoft Surface tablet. Other resources included examination equipment, exam table, practice manikins, faculty colleagues, and 1 instructor's child. Videos were made quickly with little to no editing, necessitating careful pre-planning. The videos were accessible on our learning management system throughout the term. Results: Students reported the videos were very helpful in learning to perform examination skills. Each skill was discussed during lecture with text and images on PowerPoint slides. The videos showed students how to perform the examinations correctly. Conclusion: In-person demonstrations are the preferred method of teaching and learning physical examination skills, but video demonstrations had many positive attributes. Student reported positives included: availability for viewing at any time (eg, the night before an exam); ability to review as often as necessary; and unobstructed views of the demonstration. Using a tablet computer and with no technical experience, in a short period of time, numerous short videos were made which students found extremely helpful, and that can now be assigned as required viewing prior to classroom practice sessions. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/62JkBswoaQw

Assessing clinical examination skills via video conferencing

Ashlee Drover, Tracey Littrell, Robert Rowell

Objectives: Physical diagnosis courses in the chiropractic curriculum allow students to perform physical examination procedures, with peer students as patients, under the supervision of instructors. In a typical in-person learning environment, students demonstrate physical examination skills during hands-on practical examinations and receive formative and summative feedback from upper level students and instructors. The purpose of this presentation is to describe the alternative methods of assessing physical examination skills that were utilized since the COVID-19 pandemic required remote learning. Methods: Students' examination skills were assessed remotely by using live video conferencing in small group meetings of 1 to 4 students with their instructor. Students performed components of the physical exam on either a simulated patient or an inanimate substitute while the instructor and other students observed. The assessments were designed to be formative rather than summative, though students were required to demonstrate proficiency of skills to pass the class. Results: Instructors were able to successfully evaluate students' skills and provide corrective feedback in real time. All students performed the examinations with proficiency. Student feedback about the process was positive, with many reporting the requirement to achieve proficiency in skills demonstrations required thorough preparation for each session. Students appreciated the real-time feedback from the instructor and reported it gave them the confidence to know they were performing the exams correctly. Conclusion: While in-person summative assessment is the preferred method of evaluating physical examination skills, utilizing video conferencing to evaluate student performances proved to be a useful formative assessment alternative and could be utilized again, if in-person evaluations cannot be accomplished. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/0spp-akpmO0

A randomized controlled trial protocol for a mobile-app mental well-being intervention for students during the COVID-19 pandemic

Alister du Rose, Victoria Wheeldon, Caroline Cooke, Francis Longstaff, Zoe Dimov, Fiona Mellor

Objectives: Students in higher education are reporting increased levels of stress due to COVID-19 and universities need to enhance their support using methods other than face to face. Whilst mobile applications (apps) are recommended to support mental wellbeing, they typically have limited functionality, require payment, and are not aimed specifically at the student community. The Fika app is designed for students and includes fitness exercises which can be carried out with a pre-recorded "personal trainer" or in a guided multiuser online experience. The aim of this presentation is to describe a trial protocol that aims to determine the effectiveness of the Fika 'Bounce Back' programme as an intervention for student mental wellbeing. Methods: This 4-week, single-blind randomized controlled trial will examine the effectiveness of Fika by comparing individuals randomly allocated to participate in the mobile app programme (n = 100) to a control arm (n = 100). The intervention group will receive short online sessions 5 days per week for 4 weeks. The active control group will use the Day One app. Two psychometric instruments will be administered at baseline, 1 month and 2 months after baseline: Perceived Stress Scale and Warwick-Edinburgh Mental Wellbeing Scale. Students using Fika will also be asked to comment on its acceptability of use. Data will be analysed through descriptive and inferential statistical analysis. Results: The results of this RCT will examine whether targeted mobile-app mental wellbeing training is an effective intervention in addition to standard university support mechanisms. Conclusion: A successful outcome of the trial may indicate a role for the app to be used more widely. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/oNoxVEigMIw

Using rubric-guided video assignments and peer evaluation to refine manual skills in remote learning

Carrie Ebling

Objective: The purpose of this intervention was to create innovative student-centered strategies that provide meaningful feedback of manual skills in the courses of extremity muscle testing and spinal rehabilitation during COVID-19 remote learning. Methods: The extremity muscle testing and spinal rehabilitation courses were pivoted to an online platform in which course content was delivered both asynchronously and synchronously. Asynchronously, pre-recorded lectures and video demonstrations of each required skill were posted (eg, individual muscle test grading procedures for extremity muscle testing and soft tissue techniques and

stabilization protocols for spinal rehabilitation). Weekly assignments and online quizzes tested student knowledge and promoted course structure. Synchronously, 2 instructors participated in weekly Zoom sessions with breakout rooms for a total capacity of thirty students. Each session focused on discussion of clinical presentation and management of common musculoskeletal pathologies, observation of manual skills, and facilitation of peer evaluation. Students submitted video assignments and performed peer evaluations to demonstrate skill competency and gain personalized feedback. Rubrics were utilized for muscle test grading, soft tissue techniques and stabilization protocols to promote success in the course and their future clinical internship. Results: Students were polled 4 weeks into the term to provide perspective on which activities were most effective. Weekly formative quizzes, peer evaluations and video assignments were highly rated. The most useful reported activity was the creation of muscle testing videos as they required repetition and review. Conclusion: Although the COVID-19 pandemic has diminished in-person assessments of manual skills, rubric-guided peer evaluation and recorded demonstrations offer effective ways to evaluate skill development. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/KGQQkP7hdS0

Combining the old and the new: Observations in using a virtual microscope in online histology lab

Jayme R. Gallegos

Objective: The purpose of this presentation is to describe the benefits and drawbacks of using a virtual microscope for a histology lab during COVID-19. Methods: COVID-19 challenged many basic science courses to shift to online labs. The pandemic provided a unique opportunity to test the success of a virtual microscope website in a histology lab that was traditionally taught in person. Results: Online labs included weekly laboratory objectives and instructor guidance with videos and use of the virtual microscope by the instructor over Zoom. The open source virtual microscope website navigated similarly to a traditional scope. The students worked in teams of 5 and submitted weekly lab study guides with images taken with the virtual microscope. The instructor provided feedback on these study guides as a shared course resource. This method was used in Spring of 2020. The grades on the lab exams and in the histology course were similar to using a traditional microscope. The students' learning process was comparable to an in-class experience. Students appreciated the detailed feedback and the videos but reported that the requirement to learn an additional technology during COVID-19 added to their stress level. Conclusion: The use of a virtual microscope in histology labs was a success. This observational study includes information and insights for other faculty who might consider using a virtual microscope in their anatomy or histology courses. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/ndQ_yeRocAI

Efficacy and engagement with a flexible academic delivery during the COVID-19 pandemic: A pilot study

Adrian Hunnisett, Philip Yalden, Christina Cunliffe

Objectives: Following physical closure of the campus, a rapid change to a more flexible delivery of learning was established to continue student education. The aim of this study was to explore student engagement, preferences and perceptions with the online delivery of Anatomy & Physiology (Year 1) and Biomedical Sciences (Year 2). Methods: Following appropriate approvals, academic subjects moved to a completely online delivery, using Microsoft Teams. A total of 98 students were involved in this pilot study. The academic delivery of Anatomy & Physiology and Biomedical Sciences consisted of a mixture of online synchronous didactic lectures and self-directed asynchronous sessions using pre-recorded lectures. The latter were followed up with synchronous online seminar/tutorial sessions to check understanding of the topic. Knowledge acquisition was assessed using the usual practice of multiple-choice-quiz tests at the end of the sessions and comparing with outcomes from the "pre-COVID-19" face-to-face sessions. Focus group discussions were held to gauge opinions on the delivery model. Results: Engagement with online delivery was greater than with face-to-face delivery (98% vs 91%; p=0.043). No significant difference was demonstrated in knowledge acquisition between face-to-face and online delivery (p=0.77). Student opinions indicated that the online sessions were effective and well organised and attracted increased satisfaction for academic subject compared to face-to-face delivery. Conclusions: This pilot study indicates that academic subjects are well received and effective in an online interactive mode with some benefits for the student experience improving attendance. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/7iS2vPJ_vc4

Perceptions and attitudes of University of Johannesburg students toward the COVID-19 motivated approach from blended learning to e-learning

Fatima Ismail, Christopher Yelverton

Objective: The study aimed to explore and compare the perceptions and attitudes of chiropractic students on the COVID-19 necessitated shift from a blended learning offering in 2019 to an e-learning approach in 2020. Methods: An exploratory descriptive study of 4th year BHSc Chiropractic students enrolled in the Clinical and Applied Biomechanics 4 module in 2019 (n=31) and 2020 (n=33) was conducted with the use of a Lickert scale questionnaire collected between 29 July to 14 August 2020. Data was analysed using frequencies and descriptions, exploratory factor analysis and reliabilities. Trends and interrelationships of and between student attitude, satisfaction, social influences, ease of use, accessibility and effectivity were investigated for each year and compared between successive years cohorts. Results: The majority of students were female (76.6%), aged between 20-24 years (84.4%). The 2020 e-learning group showed positive trends relating to effectivity (p=0.016) and ease of use (p=0.038) over the 2019 blended cohort. Student attitudes and satisfaction showed similar trends in both cohorts. Strong correlations were demonstrated in both cohorts between accessibility and satisfaction to attitude, effectivity and ease of use. Face to face time with the lecturer was shown to be more important to the bended learning group (p=0.006). Conclusion: Findings indicate some similarities between the student cohorts but significant differences suggest that students are now more receptive to an e-learning approach, where they may not have been previously, which may be as a direct consequence of the response to COVID-19, and the adapted offering of the curriculum. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/jrOn3Dt1a5g

LMSing around: Adapting a group presentation online

Siri Leech, Barbara Mansholt

Objective: In March 2020, COVID-19 restrictions forced chiropractic professional education (both didactic and psychomotor skills classes) into a virtual learning environment. The purpose of this presentation is to describe the approach to transitioning a live, in-class Grand Rounds presentation to an online format. Methods: Using the campus online learning management system (LMS) and other technology, faculty reorganized a previously in-person Grand Rounds case presentation into first a synchronous learning environment and then next an asynchronous recorded case presentation to accommodate competing student clinician time constraints. The Grand Rounds presentation, ideally representing a case that students participated in treatment with during their clinical experience, was a major assignment of the students during their third year of chiropractic education. Results: We successfully adapted utilizing an LMS system and PowerPoint while allowing both students and instructors to view the presentations; all students were successful in uploading complete presentations to share asynchronously with their peers. We will explore the advantages and disadvantages using this online system. Conclusion: We were able to utilize different software systems and learning management tools to create a live recorded presentation, allowing for flexibility and social distancing during COVID-19 when lecture classes were transitioned to online learning. While we consider it a highly successful project, there are pros and cons which should be weighed while moving forward after risk of in-person classes has receded. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/U5UgARSX8Ho

First person video experiences as a vicarious, virtual alternative to in person science labs

Christine Major, Kara Burnham, William Borman

Objective: The purpose of this study is to describe the shift from teaching basic sciences laboratories in a face-to-face setting to teaching entirely online during the COVID-19 pandemic. Methods: Laboratory classes provide important active learning opportunities that enhance learning and retention of information presented in the classroom. Preservation of content and the active nature of labs was of utmost importance during remote learning. Laboratories for gross anatomy courses, neuroanatomy, and clinical microbiology adapted by creating videos that allowed the students to view experiences through the eyes and hands of the faculty. This first-person perspective mimics the active learning the students do in person. Results: Videos for gross anatomy, neuroanatomy, and clinical microbiology laboratories mimicked the student experience through the camera lens as labs were performed by faculty engaged in either dissection, viewing structures or doing experiments, respectively. In gross anatomy, the faculty member completed each dissection activity by sequentially following the course dissection guide while narrating the process and virtually quizzing students along the way. In neuroanatomy, students watched as the instructor highlighted structures on whole and prosected specimens while discussing function. Students were later able to label structures on images of specimens. In clinical microbiology, students were asked to read the results of experiments the following week, answer questions and complete a lab report. Conclusion: Utilization of video technology allowed faculty to mimic the student experience of being in laboratory, and, importantly, allowed the student to virtually participate in the experience. This allowed laboratory learning objectives to be met in an online environment. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/eIeVJ0i7mzY

Pivoting to online education: Responding to student concerns during COVID-19

Cecelia Martin, Martha Kaeser, Catherine Sybrant, Denise Dallmann

Objective: This institute was committed to addressing the Doctor of Chiropractic Program (DCP) students' concerns due to the urgent transition to remote education during the COVID-19 pandemic beginning in Spring, 2020. Methods: During the spring and summer quarters, select DCP students took part in focus

groups. Questions focused on how the students were coping with the remote education. Additionally, summary course evaluation questions were modified to address the online educational experience. Data were coded and summarized. Results: Focus group participants expressed concerns about online educational experiences and social isolation. Student course evaluations provided some support related to social isolation, with nearly a quarter of respondents reporting they lacked opportunities to interact with classmates. Through a coordinated effort, the Center for Teaching and Learning provided faculty development, administration provided necessary resources, and student services worked to ensure students had access to mental health care. During the summer quarter, DCP courses were redesigned and structured in the learning management system using a standardized weekly template, and student workload was addressed through a coordinated effort using technology. During follow-up focus groups, the student experience had improved. Conclusion: Multiple departments came together quickly to ensure that the institute's core value of being student focused and committed to using student feedback to improve academic and co-curricular experiences was upheld. Quarterly focus groups, student course evaluations, and satisfaction surveys will continue to ensure the institution is meeting the educational expectations of students during the COVID-19 pandemic and well into the future. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/G_wwLiLulSQ

Teaching cadaver lab online during COVID-19 pandemic

Scott Meisel, Xiaohua He

Objective: The purpose of this presentation is to discuss the challenges of teaching and converting a face to face chiropractic anatomy cadaver lab to a fully online cadaver lab within 3 weeks due to the COVID-19 pandemic and minimize losing personal instructional contact with the students and maximize students' interests in learning cadaver anatomy. Methods: To convert traditional cadaver anatomy labs into online format, 2 ways were used based on students' experience and expectation. For lower quarter students, multi-angle short videos by modules with live virtual labs were used; for upper quarter students, anatomy live zoom virtual labs were used. In conjunction to the cadaver labs, the Complete Anatomy app and Anatomage table videos were used as supplemental lab learning materials. In addition, live virtual labs were done to discuss and review all anatomical structures. Results: During the course, we constantly asked for feedbacks from students. Overwhelmingly, students were quite positive to the format and appreciated the human cadaver anatomy lab. They expressed that the online cadaver experience enhanced their understanding of the human body, since they could not attend the anatomy lab in person. The most difficult challenge was testing. Students could test in groups with the aid of their notes, textbooks, and other materials, because all testing was done remotely and un-proctored. Conclusion: Most students were satisfied with the online cadaver lab. With technology and extra effort, instructors can keep their students engaged in learning. Un-proctored testing is a weakness that needs to be addressed and resolved if online lab instruction becomes the new normal. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/Ke0BepLTDEE

Building a new chiropractic course during the COVID-19 pandemic: considerations from 2 universities in the United Kingdom

Daniel B. Moore, Kenneth J. Young

Objective: Developing a new, university-based course during the pandemic has provided different challenges than those faced by existing courses. The authors of this paper are the leaders of 2 of these courses. Teesside University is enrolling its first students in September 2020 and the University of Central Lancashire commences in 2021. The purpose of this paper is to relate the accommodations made to working remotely, and examine valuable lessons learned from our experiences during COVID-19. Methods: Both authors had less pressure than some staff and therefore had a better ability to manage increased workloads as they did not have teaching or assessment duties. Both authors were new to their respective universities and had little time to understand the cultures of the institutions or build professional networks before having to transition to working remotely. Author 1 had a week in his office prior to lockdown, then developed the teaching materials for Year 1, recruited the first cohort of students from home, and will begin teaching remotely as well. Author 2 developed the entire course as well as the materials for accreditation on his own at home. Results: For both authors, this period highlighted the importance of strategic planning, transparent leadership, tactical flexibility, and the importance of intra- and inter-professional collaboration. There was no opportunity for often valuable coffee room chat, or corridor meetings. Instead, all communication was formal and intentional, requiring increased effort. Conclusion: We conclude that embracing the technology available to us, and proactively seeking professional collaboration opportunities aided our relative achievements throughout this pandemic. (This is a conference presentation abstract and not a full paper.)
Video Abstract: https://youtu.be/5FMYxPQYGcI

Venipuncture assessment methods using access database versus video assignment during phases of COVID-19

Mark E. Murdock

Objectives: The primary aim of this study was to determine differences between assessments during different phases of COVID-19 with different teaching and testing methods (COVID-19 Phase, Teaching Method, Testing Method): A. Phase 0, Open Lab, Database Objective Structured Clinical Examination (OSCE); B. Phase 1, Closed Lab, Video Assignment; C. Phase 2, Hybrid Lab, Database OSCE, Phase 2. The secondary aim was to determine which items students struggle with while performing these CLSI based venipuncture assessments. Methods: Comparison of raw grades were analyzed between the groups using ANOVA via R statistics program. Planned comparisons were performed between groups. Results: Phase 1, Closed Lab, Video Assignment grades were exaggerated due to student's ability to perform the OSCE multiple times until they got the desired results. Differences between group A and C were minimal without MCID established. Chart is provided to show procedures and areas of struggle. Conclusions: Degree of learning may be exaggerated by video assignment in comparison to OSCE. Consider online OSCE as an alternative. Further research is suggested. Multiple variables limit the studies ability to establish causality. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/-1U7z7PkbTo

Rapid development and implementation of new activities for learning normal radiographic anatomy in a remote learning environment

Melinda Novak

Objective: The purpose of this presentation is to describe the development and implementation of new remote learning activities for the normal radiographic anatomy series in the Chiropractic Program as a response to the COVID-19 pandemic. Methods: Instruction for normal radiographic anatomy was shifted to remote learning in March 2020. Typically, students attended 1 hour of lecture and 1 hour in a computer lab each week. In the lab, students could view annotated radiographs in a supervised environment. There was open access to the instructor and immediate individual feedback on each activity. New activities were quickly developed to continue providing individual feedback in the remote environment. In addition to the pre-annotated radiographs, students were sent a series of non-annotated radiographs as a PDF and a list of anatomical structures or landmarks that the student needed to identify. Students would use their iPads to draw on the PDF and outline each structure on the list and would submit their annotated images. Specific and individualized feedback from the instructor was given for each student. Results: Feedback from students has been overwhelmingly positive for these new digital activities. Students received individualized feedback, but also had fun while stimulating deeper learning compared with their previous experience. Conclusion: These activities have been a successful addition the normal radiographic anatomy series in the remote digital learning environment and will likely become a permanent addition when back on campus. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/huzvXwMR-y4

Development of a mannequin lab for clinical training in a chiropractic program

Edward Owens, Lydia Dever, Ronald Hosek, Brent Russell, Stephanie Sullivan

Objective: The COVID-19 pandemic led to student remote learning 2 weeks before the end of the winter session. Education and exams were switched to remote delivery, and continued for the spring session. However, clinical education for chiropractic students requires psychomotor skills. We sought to develop methods for training palpation and adjustment skills while maintaining COVID-19 safety. Methods: The college already had developed a prototype full-spine mannequin for manual skills training and decided to build copies for use in summer session. We assembled a construction studio staffed by students, employees, and faculty for assembly, and outside contractors for special electronic and molding tasks. We also utilized the services of a local special-effects studio. Results: The project produced 20 full-spine mannequins in 7 weeks. Each mannequin has a fully articulated skeletal system including a skull, spine, rib cage, pelvis and thighs. Skeletal elements are connected with cords and elastic elements and are cast in a torso with tough silicone to simulate skin, deep muscles, and soft tissue. An array of 64 pressure sensors mounted directly on bony landmarks interfaces with a logic network managed by a micro-controller, and a display screen to show locations of contact points on a skeletal image. Conclusion: Beginning summer session, faculty and students are becoming acquainted with 'PAT' (Palpation and Adjustment Trainer) and developing methods and protocols for training in the early palpation classes and later adjustment courses. Class sizes are limited and many manual skills can now be taught through human-mannequin contact. (This is a conference presentation abstract and not a full paper.)
Video Abstract: https://youtu.be/0yD1ACoyqh0

Conscientiousness personality trait and academic performance before and after COVID-19 teaching conditions

Pablo Pérez de la Ossa

Objectives: It has been described that the personality trait of conscientiousness correlates well with academic performance. This study aimed to describe if this trait could be equally useful to identify students at risk of obtaining low marks both under normal, on site teaching and in an online teaching environment, such as during COVID-19. Methods: a 13-item questionnaire was created using questions related to conscientiousness from HEXACO-60. Questions related to the trait of creativity were included as control. Semester I teaching and

assessment was onsite, whereas most of the teaching and all assessments in Semester II was done online. Semester grade point average (GPA) was calculated as the weighted average all of assessments taken in each semester. Pearson correlation was calculated between semester GPA and conscientiousness and its facets (organization, diligence, perfectionism and prudence). High and low terciles were compared using T-test. Results: There was a moderate correlation between both semester's GPA and scores of conscientiousness, although slightly higher for semester II. The analysis of the individual facets showed a higher correlation for second semester. The comparison between high and low terciles showed similar significant differences. Conclusion: A simple 10 items questionnaire may provide information about students at risk of obtaining low marks. This seems to be even more relevant for online teaching during COVID-19. Colleges may want to explore specific support for those students who score low levels of conscientiousness, especially if online courses are being considered. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/vSJ44GN7F1g

Online clinical training during the COVID-19 pandemic: A pilot study

Daniel Ruby, Kalim Mehrabi, Christina Cunliffe, Adrian Hunnisett

Objectives: The purpose is to describe the development process that allowed clinical teaching to continue online during the COVID-19 lockdown until the clinic could re-open safely. Methods: Following appropriate ethical approvals, an online approach comprising 2 different elements was designed and delivered using Microsoft Teams to groups of clinic interns. The elements consisted of 1. A role-play exercise choreographed from real life patient records. 2. With patient consent, a recorded live-streamed new patient interaction. Both elements were led by a clinical supervisor (maximum of 4 interns per group with 1 clinical supervisor). In each part, interns would take responsibility for questioning, approach to examination, talking through their clinical reasoning, justifications for investigations and diagnoses. The supervisor would provide appropriate answers and further questioning to facilitate the sessions. Academic outcomes were assessed from graded case presentations, submitted after the sessions. The case presentations were also discussed within the cohort to allow learning from each other's cases. Results: Student engagement with the process was excellent with 100% attendance at the sessions. From feedback sessions, motivation and satisfaction were rated very highly. Initial analysis of the marked case assessments suggests that there were no significant differences between the online sessions and the usual "pre- COVID-19" live patient case presentations. Conclusions: This pilot study indicates that elements of clinical training can be delivered effectively in an online interactive mode. This has the benefit of maintaining the interns' progress during the academic year. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/_EeFiPQA3GY

Using constructive learning theory to construct chiropractic online education

Misty Stick-Mueller

Objective: The purpose of this presentation is to explore how chiropractic clinical education was altered to allow students to continue to progress through the curriculum and meet graduation requirements while still delivering strong educational content, utilizing constructivist learning theory. Methods: The COVID-19 pandemic forced a brick-and-mortar hands-on curriculum to transform to an online program with minimal pre-planning. The conversion of clinical chiropractic education proved to be a difficult endeavor when trying to maintain patient care while also striving to develop student skills to meet graduation requirements. To allow students to take control of their learning, constructivist learning theory was used. During the campus shut-down, students were exposed to several new virtual learning experiences to develop their chiropractic management skills. Using constructivist theory, faculty met with students via video-conferencing equipment to discuss varying aspects of clinical care with immediate feedback. In this retrospective study, the changes to clinical education in terms of meeting graduation and course requirements are explored as they affected student educational goals. Results: As a result of new and temporary curriculum changes, several new methods of student-driven instruction were developed to allow for virtual chiropractic education. Conclusion: Through virtual instruction and collaboration of faculty, staff and administration across 3 campuses, the curriculum was altered to allow students to continue to learn their practical skills with faculty input using constructivist theory. While not an ideal situation, some of the learning techniques will continue to be modified for use during the on-going pandemic and beyond. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/9fWmasXUnUc

Using self-examination as an online asynchronous teaching tool for heart auscultation and blood pressure in a physiology lab as a response to COVID-19

Steven Taliaferro

Objective: The purpose of this study is to describe how performing self-examination of heart auscultation and blood pressure can be used as an online asynchronous teaching tool for physiology lab in response to COVID-19 until students can return to hands-on activities on campus. Methods: Students were required to watch a lecture on each subject followed by a procedure video. They were asked to complete a formative quiz to receive points for the lab. The procedure videos were recorded while performing the procedures on myself and describing proper technique and patient positioning. For heart auscultation I used an anatomically correct shirt of the rib cage to demonstrate proper positioning for each of the heart valves in the appropriate second and fifth intercostal spaces while describing the different heart sounds. For blood pressure I demonstrated proper cuff placement and patient positioning while describing systolic and diastolic pressures. Results: All students were able to complete the activities and pass the quiz to receive credit for the lab. Positive feedback was received in students' responses in course evaluation. Conclusion: Moving quickly to an online teaching format in response to COVID-19 made it difficult to teach practical hands-on procedures, such as heart auscultation and blood pressure in a lab setting. This study demonstrates how students can be introduced to these procedures and concepts regarding the procedures by performing them on themselves. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/lMnQ8OLMIPY

Teaching clinical neurology to master of chiropractic students in the COVID-19 pandemic

Stephney Whillier, Martin Frutiger, Jack Sahagian

Objective: The aim of this descriptive report is to share the experience of our sudden adjustment to COVID-19 restrictions in a chiropractic unit of clinical neurology that relies on face-to-face teaching, and how we survived. Methods: On 17 March 2020 Macquarie University halted week 4 of semester 1 teaching, and brought forward the mid-semester break. This gave conveners 2 weeks to adjust all teaching to a web form of delivery. All further lectures were recorded using ECHO technology and uploaded to a learning management system (iLearn). Weekly Zoom slots were opened for real-time drop-in clinics in which students could ask questions on course content after watching the recorded lectures. Weekly tutorials were held live via Zoom, and the teaching team in their respective homes demonstrated the clinical neuroexamination tests and procedures on available family members. Objective Structured Clinical Examination assessments of student competency were moved to web recordings which were uploaded to TurnitIn on the iLearn system. Results: Students responded to our empathic approach, and showed enormous flexibility. No students dropped out and grades were maintained. However, the level of competency in the neuroexamination required a catch up in semester 2, when on campus tutorials returned. Conclusion: The sudden acquisition of web technologies required to adjust to remote teaching was stressful and difficult for teaching staff. However, the lessons learnt can be used for future blended teaching. The undeniable fact remains that skills require hands-on learning and there is no substitute for this in cyberspace. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/ZPEw3JR8TvY

Using short videos and short cases to engage in learning outcomes for distance learners

Cortny Williams

Objective: This presentation describes how to integrate microlectures with targeted and interactive clinical correlates to enhance student engagement in online learning 1 granular learning objective at a time. Methods: An on-ground traditional lecture course in endocrine physiology was redesigned to engage remote learners during the COVID-19 pandemic. A granular learning objective mapped to course outcomes was created to guide a 4 to 10-minute pre-recorded microlecture. A clinical correlate reflecting the information in the microlecture was created with questions to prompt case evaluation for use during synchronous meetings. Students prepared for meetings by viewing the microlectures and reading the accompanying clinical correlates. During synchronous meetings held twice per week, students entered breakout rooms to discuss 3 clinical correlates. Next, debriefing was facilitated using the question prompts and teams were selected at random to answer the questions and elaborate on their collaborative experience. These interactive sessions were used to prepare students for weekly assessments and cumulative case-based learning activities. To measure effectiveness, quantitative and thematic analysis of course evaluations were cross-referenced with assessment performance, comparing the outcomes of this cohort to a prior cohort experiencing the on-ground learning experience. Results: Students value the short videos and short cases because the approach both facilitates and motivates learning. Performance on select assessment items improved 10 percent or more compared to prior cohorts. Conclusion: Supplementing microlectures with granular objective-driven and interactive clinical correlates increases student satisfaction and performance. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/ivpz8DFr2Vs

Exploring student learning adaptions during the COVID-19 pandemic

Cortny Williams, Jenny Nordeen, Chris Browne, Brent Marshall

Objective: Learning experiences abruptly pivoted from on-ground to wholly online in the COVID-19 pandemic. Here we report a thematic analysis of how students adapted their study space, study time, and approach to learning. Methods: One hundred five students in their second year of the doctor of chiropractic program were invited to participate in an anonymous survey to

explore how the COVID-19 pandemic influenced their approach to learning. The survey merited a 1.5% increase in their final grade for 1 course in spring of 2020 and 52 students participated. The survey asked students to select their primary study strategy from a list of options and prompted students to explain how the COVID-19 pandemic influenced their study space, use of technology, study time, and metacognitive cycle of planning, monitoring, and evaluating their approach to learning. Results: Nearly all students described a challenge in adapting their study space, study time, or approach to learning. Students report that use of technology did not change because assessments and resources were electronic prior to the pandemic. Students who selected high impact study strategies like self-quiz or who demonstrated evidence of well-developed metacognition were able to adapt their approach to learning more effectively than students who selected low impact study strategies like re-read text or who did not show evidence of metacognitive development. Conclusion: Students with well-developed metacognitive skills were better able to adapt to the change in learning experiences brought on by the COVID-19 pandemic. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/e9KIO1QI4FE

Delivering clinical experiences at the Canadian Memorial Chiropractic College during the COVID-19 pandemic

Jacquelyn Wingrove

Objectives: The purpose of this presentation is to describe the actions taken at the Canadian Memorial Chiropractic College during the COVID-19 pandemic. While virtually welcoming in the Class of 2021, all portions of the curriculum were delivered online. Hands-on clinical experiences would typically make the majority of their internship year, so the Division was challenged with developing new opportunities for interns to advance their practical skills. Methods: As provincial regulations allowed for more in-person interactions, the Division created a number of additional experiences for interns to compensate for their lost time in clinic. Results: These programs include an externship, experiences with clinical faculty in their private practices and opportunities for interns to work on their manual skills in a supervised environment. Conclusion: These programs have been well received and appreciated by the interns and many are seeing improvement in their manual skills and competence in delivering chiropractic care. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/NF1psCZsZ1Q

COVID-19 clinical hygiene and safety principles at the University of Johannesburg: Implementation, monitoring, and feedback

Christopher Yelverton, Fatima Ismail

Objectives: In the South African context, the government implemented lockdown, saw the discontinuation of contact training at all universities from 18 March 2020 with clinical training at the University of Johannesburg (UJ) resuming on 20 July 2020. Standard operating procedures were developed by the Department of Chiropractic prior to commencement of clinical training. These focused on the following areas: transmission of disease, personal protection equipment (PPE), mechanisms to ensure social distancing (for staff, students and patients) and changes in clinic protocols (patient information, booking systems, case presentation and treatment approaches). Methods: Compulsory training prior to return regarding usage of PPE, online recorded lectures and additional pertinent information regarding COVID-19 (such as published articles), and direct online discussion on standard operating procedures was completed by related staff and students. As part of the quality assurance process, an anonymous online feedback questionnaire relating to students and staff perception of the adapted clinic processes was conducted after 1 month. Results: The majority of students and staff felt the processes implemented allowed for compliance and a safe return to clinical training within the parameters of COVID-19. Conclusions: Preparation prior to re-establishing clinical training is a key factor in the process of ensuring compliance and understanding of adapted training. Measures and systems introduced at the UJ Chiropractic Clinic appear to be effective strategies in support of clinical training during COVID-19. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/xaqkTVwtH6s

A comparison of virtual and in-person instruction in a physical examination course

Niu Zhang, Xiaohua He

Objective: The purpose of this presentation is to compare virtual and in-person physical examination (PE) learning among chiropractic students during the COVID-19 pandemic. Methods: Pre-existing assessment data from 69 students enrolled in a Head and Neck PE course was analyzed for this study. The course was comprised of 3, 50-minute labs and a single 50-minute lecture each week. Students had the option to attend the lab class in-person or online. Virtual classroom was broadcasted simultaneously with the in-person class. Relevant class materials including PowerPoint slides and videos were available to all students on Brightspace. Student performance was evaluated through 8 weekly quizzes and 2 Objective Structured Clinical Examinations (OSCEs). Data for after school practice and learning for each topic were also collected. Results: Our results indicated that OSCE and weekly quiz scores were positively correlated with in-person class attendance ($p = .000$, $r = .619$ and $p = .000$, $r = .488$, respectively). Participants were broken down into 2 groups: 1) higher than 50% attendance rates and 2) 50% or lower attendance rates. The mean OSCE ($p = .000$) and quiz scores ($p = .001$) for group 1 ($49.41 \pm .72$ and 22.48 ± 1.06) were statistically significantly higher than those for group 2 (48.13 ± 1.30 and 21.22 ± 1.29). By contrast, the mean number of videos watched was lower for group 1 in comparison to group 2 (3.23 ± 2.61 vs. 5.70 ± 3.35, $p = .011$). There was no significant difference in the number of practice sessions between 2 groups ($p = .18$). Conclusion: Students who participated in in-person PE learning outperformed those using virtual learning in this study. (This is a conference presentation abstract and not a full paper.) Video Abstract: https://youtu.be/Q603eUhYG-w

FUNDING AND CONFLICTS OF INTEREST

Publication of the proceedings was funded by CERF. No conflicts of interest were reported for the publication of these proceedings.

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