



HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE

UFS·UV

**STUDENTE
NAVORSINGSFORUM**

**STUDENT RESEARCH
FORUM**

TUESDAY, 25 AUGUST 2015
DINSDAG, 25 AUGUSTUS 2015

KINE 1

BEOORDELAARS / ADJUDICATORS

Dr Lucia Meko
(Voorsitter / Chairperson)
Skool vir Aanvullende Gesondheidsberoepes
School for Allied Health Professions

Dr Bishnu Dawadi
Skool vir Geneeskunde
School of Medicine

Ds/Rev Cecilna Grobler
Skool vir Verpleegkunde
School of Nursing

Mnr/Mr Cornel van Rooyen
Departement Biostatistiek
Department of Biostatistics

PROGRAM / PROGRAMME

08:00 - 08:05 VERWELKOMING / WORD OF WELCOME
Mnr/Mr Arnold Zwane
Student Representative (Organising Committee)
Assisted by: Prof A Joubert
Voorsitter: Studente Navorsingsforum / Chairperson: Student Research Forum

08:05 - 08:15 OPENING
Prof Y Botma
Kerneels Nel Medalje wenner 2014 / Kerneels Nel Medal winner 2014
Beste navorsingsartikel in 'n onderwyskundige dissipline, wat in 'n publikasie verskyn het – Best research article in an educational discipline that have been published

SESSIE 1

Voorsitter/Chairperson: Ms Carina Meyer (assisted by Prof G Joubert)

- 08:15 - 08:30 (1) **THE PROFILE AND OUTCOME OF PERSONS WHO HAD UNDERGONE AMPUTATION OF A LOWER LIMB AT PELONOMI DISTRICT HOSPITAL DUE TO PERIPHERAL VASCULAR DISEASE**
C de Klerk, G du Plessis, JJ Fourie, A O'Neill, SJA Smit
Department of Surgery, School of Medicine
- 08:30 - 08:45 (2) **RELIABILITY OF ULNA LENGTH AS AN ESTIMATE OF HEIGHT IN HOSPITALISED PATIENTS IN BLOEMFONTEIN, FREE STATE**
J Bosch, D Brand, W Human, S Lawson
Department of Nutrition and Dietetics, School for Allied Health Professions
- 08:45 - 09:00 (3) **EXPLORING LIFE BALANCE: PERCEPTIONS AMONG CARETAKERS OF CHILDREN WITH CEREBRAL PALSY**
C Wessels, C Rossouw, I Erasmus, M de Klerk, N Visagie, R Hoon, W Potgieter, T van der Merwe
Department Occupational Therapy, School for Allied Health Professions
- 09:00 - 09:15 (4) **CHRONIC TRAUMATIC WOUND: MANAGEABLE TO HEALABLE**
A du Plessis, L Theron, A Venter, C van Wyk, T du Preez, S Botes, L Esterhuyse, S Steyn, C Felix, R Louw
School of Nursing
- 09:15 - 09:30 (5) **PATIENT PREFERENCES REGARDING THE DRESS CODE, CONDUCT AND RESOURCES USED BY DOCTORS DURING CONSULTATIONS IN THE PUBLIC HEALTHCARE SECTOR IN BLOEMFONTEIN, FREE STATE.**
J Ras, E-M Röscher, M Rugunanan, JW van der Merwe, BD Henderson
Division of Human Genetics, School of Medicine

- 09:30 - 09:45 (6) **THE PREVALENCE OF NEBULISER MASK COLONISATION AND CURRENT DECONTAMINATION PRACTICES THEREOF OUTSIDE INTENSIVE CARE UNITS.**
E da Silva Maia, D Davel, W Mienie, J van Staden, L van Tonder,
 K Claassen, M Nkafane
 Department of Physiotherapy, School for Allied Health Professions
- 09:45 - 10:00 (7) **PREFERENCE OF FONT SIZE AND FONT TYPE IN POWERPOINT PRESENTATIONS AMONGST FIRST YEAR STUDENTS AT THE UNIVERSITY OF THE FREE STATE**
WJ Holtzhausen, S Erasmus, CE Luis, AJ Botes, MP Modiba
 Department of Optometry, School for Allied Health Professions
- 10:00 - 10:15 (8) **THE EFFECTIVENESS OF AN ELECTRONIC REMINDER SYSTEM IN ACHIEVING OPTIMAL BOWEL PREPARATION BEFORE COLONOSCOPY AT THE GASTROENTEROLOGY UNIT, UNIVERSITAS HOSPITAL, BLOEMFONTEIN. FREE STATE, SOUTH AFRICA**
M Chavoos, M Singh, A Muhammad, W Simmonds
 Department of Internal Medicine, School of Medicine
- 10:15 - 10:30 TEE EN VERVERSINGS / TEA AND REFRESHMENTS

SESSIE 2

Voorsitter/Chairperson: Ms Riette van Rooyen (assisted by Ms Marizeth Jordaan)

- 10:30 - 10:45 (9) **THE SHORT TERM EFFECT OF A GROUP DRUMMING INTERVENTION ON AGGRESSIVE BEHAVIOUR AMONG ADOLESCENT GIRLS DIAGNOSED WITH CONDUCT DISORDER**
M Chelin, C van der Merwe, L Putter, J Herholdt, J van Druten, M Taylor, T Buitendag, E Janse van Rensburg, R Hattingh, C van Rooyen
 Department of Occupational Therapy, School for Allied Health Professions
- 10:45 - 11:00 (10) **A WOUNDED LIFE: LIVING WITH A CHRONIC LOWER LEG VENOUS ULCER**
M Raseroka, KJ Maleka, N Maphela, C. Adam, M Dlamini, MR Mokone, NR Msimanga
 Skool vir Verpleegkunde
- 11:00 - 11:15 (11) **EFFECT OF ARTIFICIAL SWEETENERS ON BODY WEIGHT, RESTING METABOLIC RATE AND GLUCOSE TOLERANCE IN FEMALE STUDENTS**
A Coetzer, AN Fincham, M Greyling, L Jacobs, J Swart
 Department of Nutrition and Dietetics, School for Allied Health Professions
- 11:15 - 11:30 (12) **PERCEPTIONS OF MEDICAL STUDENTS AND LECTURERS AT THE UNIVERSITY OF THE FREE STATE REGARDING PROFESSIONALISM AND PROFESSIONAL BEHAVIOUR OF MEDICAL STUDENTS**
 J Conradie, JW Mostert, MD Murray, LJ van der Merwe
 School of Medicine
- 11:30 - 11:45 (13) **DIE LEESBAARHEID VAN DOKTERS SE HANDSKRIFTE OP VOORSKRIFTE, IN NASIONAAL DISTRIK HOSPITAAL, BLOEMFONTEIN, DEUR GESONDHEIDSWERKERS EN TEGNOLOGIE**
A Botha, L Nicksch, R Terblanche, K Venter, H Brits
 Departement van Huisartskunde, Skool vir Geneeskunde

11:45 - 12:00 (14) **EFFICACY OF PEER-ASSISTED LEARNING IN PHYSIOTHERAPY SKILLS DEVELOPMENT ON SURGICAL ROTATIONS**

H van Schalkwyk, C de Klerk, TM du Plessis, H van Gessellen, S Gordon,
N Schroeder, V Kruger

Department of Physiotherapy, School for Allied Health Professions

12:00 - 12:15 (15) **VISUAL FORM PERCEPTION OF GRADE FOUR LEARNERS IN THE BLOEMFONTEIN REGION**

P Dusse, M Kramer, N Ludik, A Oosthuizen, P Vala

Department of Optometry, School for Allied Health Professions

12:15 - 12:30 (16) **THE USE OF SCREENCASTING AS A MEANS OF IMPROVING PRE-CLINICAL MEDICAL STUDENTS' ENGAGEMENT AT THE UNIVERSITY OF THE FREE STATE: AN EXPERIMENTAL STUDY**

PM Bester, HM Botha, M Meintjes, Z Nagel, MA Vorster, VJ Louw, CO Larson_

Department of Internal Medicine and Basic Medical Sciences, School of Medicine

12:30 - 12:45 (17) **TUBERCULOSIS IN ADOLESCENTS AGED 10-19 IN THE FREE STATE PROVINCE**

H Claassen, E Dreyer, L du Plessis, J Klinck, J Liebetrau, A van der Spoel van Dijk

Department of Medical Microbiology, School of Medicine

BEDANKINGS / ACKNOWLEDGEMENTS

Mr Arnold Zwane

BEKENDMAKING VAN PRYSWENNERS / ANNOUNCEMENT OF PRIZE WINNERS

Prof A Joubert

THE PROFILE AND OUTCOME OF PERSONS WHO HAD UNDERGONE AMPUTATION OF A LOWER LIMB AT PELONOMI DISTRICT HOSPITAL DUE TO PERIPHERAL VASCULAR DISEASE

C de Klerk, G du Plessis, JJ Fourie, A O'Neill, SJA Smit
Department of Surgery, School of Medicine

Background and aim: Peripheral vascular disease (PVD) is characterized by an atherosclerotic plaque that may lead to ischemic extremities. Advanced PVD is treated by amputation of the limb. Our aim was to determine the profile and outcome of persons who underwent amputations of a lower limb due to PVD, at Pelonomi District Hospital from 2008 to 2011.

Methods: Prospective data collection of a retrospective cohort study group was performed. Included in the study were patients who had PVD induced lower limb amputations. The target population's demographic and contact information were collected from the Meditech database. Mortality was determined using the Department of Home Affairs database and next of kin.

Results: Of the study population (n=224) only 119 had contact information and 49 patients or relatives were interviewed. Data (ID and/or interviews) of 158 people were available to determine status i.e. alive or dead. Of those 158 people, 113 patients (72%) were dead within 2 years after the amputation. Causes of death as determined during the interviews (n=31) were 71% vascular related. The cumulative mortality of these 31 patients showed that 16% demised within a month and 48% within 1 year post-amputation. Amongst the living amputees for whom information was available (n=18) 50% became unemployed permanently, 78% were in wheelchairs, 11% were on crutches and only 11% walked with a prosthesis.

Conclusions: Losing a leg due to PVD is indicative of a very poor prognosis. According to our study, only 28% of lower limb amputees survive 2 years after the operation. Amongst the living amputees, the picture is probably as grim since restoration to ideal mobility was achieved in a minority of cases who could be contacted.

* * *

RELIABILITY OF ULNA LENGTH AS AN ESTIMATE OF HEIGHT IN HOSPITALISED PATIENTS IN BLOEMFONTEIN, FREE STATE

J Bosch, D Brand, W Human, S Lawson
Department of Nutrition & Dietetics, School for Allied Health Professions

Introduction and goal: A patient's height is needed to estimate nutritional requirements. In patients who are unable to stand, it is however often difficult or even impossible to measure height accurately. This study tested the reliability of an indirect method to estimate height from ulna length which has been validated on European populations, in patients admitted to regional hospitals in Bloemfontein.

Methods: Standing height, ulna length and weight were recorded for all patients 19 to 60 years, admitted to medical, surgery, pulmonary, orthopaedic, cardiovascular and general wards at Pelonomi, Universitas and National Hospitals during two study weeks in March 2015, who were able to stand up straight and who gave informed consent. Estimated height was calculated from ulna length using Malnutrition Universal Screening Tool (MUST) equations, and compared to standing height by Bland Altman analysis, using Statistical Analysis Software.

Results: The final sample comprised 200 participants (48% female; median age: 42 years). The median height estimated from ulna length (170.2 cm; range: 154.2 - 213 cm) was 7.3 cm longer than the median standing height (163.9cm; range: 145.1-188.4 cm); this difference was statistically significant (95% CI [-7.7;-6.1]). The Bland Altman analysis indicated that the 95% limits of agreement between the two methods ranged from -19.8 to 5.7 cm. The median BMI based on estimated height (20.1 kg/m²; range: 8.6 - 51.7 kg/m²) was 1.8 kg/m² lower than the median BMI calculated from standing height (21.8 kg/m²; range: 12.6 - 53.7 kg/m²); this difference was statistically significant (95% CI [1.6; 1.9]).

Conclusion: The ulna length, used in MUST equations, overestimated height, and underestimated BMI in this population. This may have clinical implications, particularly for critically ill patients, when energy and nutrient requirements are based on height estimated in this way from ulna length.

* * *

EXPLORING LIFE BALANCE: PERCEPTIONS AMONG CARETAKERS OF CHILDREN WITH CEREBRAL PALSY

C Wessels, C Rossouw, I Erasmus, M de Klerk, N Visagie, R Hoon, W Potgieter, T van der Merwe

Introduction: In line with the continuous strive for social justice and client-centered practice it is important for the occupational therapist to have an in-depth and qualitative understanding of the perceptions and meanings of occupational balance of caregivers of children with disabilities as people who are socio-economically and culturally marginalised. A need arose to explore perceptions regarding occupational balance of caretakers from an African and collectivist worldview.

Aim: The study aims to explore and describe how caregivers of children (4-10yr) with Cerebral Palsy perceive life balance in their daily lives in order to further gain understanding of contextually bound occupational meaning-making and adjust or improve intervention accordingly.

Method: The study design is based on a phenomenological qualitative approach. A Photovoice-method with concomitant semi-structured interviews were used to generate data. Seven participants were selected using convenient sampling.

Findings: The participant's perceptions of life balance resulted in the following themes, (1) fulfilling duties and responsibilities, (2) social justice, (3) renewed energy and (4) interconnectedness. The findings of the study highlight the importance of a client's subjective perception and choice in occupational engagement, further encouraging contemporary OT practice to shift towards a more contextually-bound approach in intervention.

* * *

CHRONIC TRAUMATIC WOUND: MANEAGEABLE TO HEALABLE

A du Plessis, L Theron, A Venter, C van Wyk, T du Preez, S Botes, L Esterhuysen, S Steyn, C Felix, R Louw
School of Nursing

Goal and purpose of study: To investigate whether old-age could prevent a wound from progressing from manageable to healable in a single case study.

Introduction and background: A 95 year old female, residing in a senior citizen care facility, struggled with a traumatic chronic wound on the anterior aspect of her left lower leg for 20 weeks. The wound began as a deep scratch of the fingernail that had increased in size. Local factors influencing wound healing included the topical application of inappropriate wound care products, slough on the wound bed and skin maceration due to poor moisture balance control. The client suffered from hypothyroidism, diminished immunology related to her advanced age. She had an APBI of 0.84mmHg, which indicated an insignificant deficit in peripheral arterial circulation. Wound healing was promoted by addressing these local and systematic factors and the application of wound care products that lead to a decrease in the bio-load of the wound.

Treatment: An antimicrobial foam semi-permeable dressing, containing silver, was applied. A hydrogel to promote effective and gentle debridement was added. The wound bed was irrigated with a polihexanide- betaine solution. This product prevented the formation of a biofilm. Emulsifying ointment was applied to hydrate the dry surrounding skin. Health dialogue between the client and health care providers included passive and active exercises, prevention of injury and an increase in oral fluids.

Results: A decrease in the wound size was documented over a treatment period of ten weeks and viable granulating tissue was present. The client experienced chronic wound pain (3/5) which was completely resolved at week seven. It became evident that despite old-age, a chronic traumatic wound may become healable when holistic and evidence based practice guidelines are used. The wound was successfully treated without the occurrence of a wound infection.

* * *

PATIENT PREFERENCES REGARDING THE DRESS CODE, CONDUCT AND RESOURCES USED BY DOCTORS DURING CONSULTATIONS IN THE PUBLIC HEALTHCARE SECTOR IN BLOEMFONTEIN, FREE STATE.

J Ras, E-M Röscher, M Rugunanan, JW van der Merwe, BD Henderson
Division of Human Genetics, School of Medicine

Introduction and aim: The doctor-patient relationship is one of the most important influencing factors determining the quality of healthcare provided by the doctor. This study intended to identify the preferences of patients with regard to the dress code, conduct and resources used by doctors during consultations in the public healthcare sector in Bloemfontein, Free State as these are three major influences in establishing a healthy doctor-patient relationship.

Methods: A descriptive, cross-sectional study was conducted using self-administered questionnaires available in English, Afrikaans and Sesotho. The questionnaires were distributed at National District Hospital, Bloemfontein to patients aged 18 years and older, who were waiting in the pharmacy and consultation queues.

Results: Of the 500 questionnaires distributed 410 were used for analysis. Patients prefer doctors to wear formal attire. For female doctors this includes a neat blouse, a pair of smart pants or straight-cut jeans and a pair of smart shoes. Dresses should extend below the knee. Patients prefer male doctors to wear collared shirts with a pair of smart pants or straight-cut jeans and a pair of smart lace up shoes. Running shoes are also acceptable. Short hairstyles and no piercings or tattoos are preferred. It is preferred that doctors address patients using the patient's title and surname. Doctors should introduce themselves with the title "Dr" followed by the surname. Patients do not condone eating and drinking by doctors during consultations, and only work-related calls are deemed acceptable. The use of a technological resource is not preferred, although its use does not instil doubt regarding the doctor's ability. The patients would prefer to view the screen if its use is required. Gloves should be worn during the consultation should an examination take place.

Conclusion: Patients in the public healthcare sector desire a formal, strictly professional consulting environment which is determined largely by both the attire of the doctor, as well as the conduct of the doctor during the consultation.

* * *

THE PREVALENCE OF NEBULISER MASK COLONISATION AND CURRENT DECONTAMINATION PRACTICES THEREOF OUTSIDE INTENSIVE CARE UNITS.

E da Silva Maia, D Davel, W Mienie, J van Staden, L van Tonder, K Claassen, M Nkafane
Department of Physiotherapy, School for Allied Health Professions

Introduction: Nebulisation is a popular form of inhalation therapy which is used by many health care professionals. As semi-critical devices, nebuliser masks should be clean at all times. There is however insufficient information to prove that nebuliser masks in use are clean at all times.

Aim: To determine prevalence of colonisation of nebuliser masks outside intensive care units, and to determine if there were any decontamination practices in place to address this, after usage.

Methodology: This descriptive study consisted of 29 participants for nebuliser assessment and six for matron assessment. No sampling was done, all participants who met the criteria were included during four visits of data collection. Swab samples, assessment forms and structured questionnaires were used for nebuliser assessment and matron interviews. Swabs were cultured on blood agar plates. All results were analysed using means and percentages.

Results: 29 Nebuliser masks were swabbed, 62.07% (n=18) were colonised and 37.93% (n=11) were found to be clean. *Staphylococcus aureus* (*S aureus*) constitutes 5.56% of the colonising micro-organisms. The *Coagulase-Negative Staphylococci* (*CoNS*) group, makes up 88.89% of the colonising micro-organisms. The remaining 5.56% of the micro-organisms were found to be *Micrococcus*. *S aureus* of the three micro-organisms, is the only inherently pathogenic bacteria, the other two are opportunistic bacteria which thrive in immunosuppressed patients. Six matrons were interviewed, none of who could indicate a formal decontamination plan. All 29 nebuliser masks were open to the environment when stored. All the nebuliser masks and matrons were unevenly divided between two local government hospitals and spread across 12 wards in these two hospitals.

Conclusion: The majority of nebuliser masks are colonised and no formal decontamination practices have been identified which may therefore suggest that current clinical practices are not adequate to sufficiently decontaminate nebuliser masks after use.

* * *

PREFERENCE OF FONT SIZE AND FONT TYPE IN POWERPOINT PRESENTATIONS AMONGST FIRST YEAR STUDENTS AT THE UNIVERSITY OF THE FREE STATE

WJ Holtzhausen, S Erasmus, CE Luis, AJ Botes, MP Modiba

Department of Optometry, School of Allied Health Professions

Background: Electronic visual presentations (e.g. PowerPoint, Prezi, Keynote) are commonly used as a teaching tool. In order to fully benefit from this learning experience, research has to be conducted in order to optimise these presentations. The purpose of this study was to determine the most preferable font size and type used in presentations amongst first year students at the University of the Free State (UFS).

Objective: The aim of this study was to determine what font size and type is most preferred by first year students. This was achieved by presenting PowerPoint presentations during which a sans-serif (Arial) and a serif (Times New Roman) font was compared, along with different sizes of these fonts.

Methods: An observational descriptive study was done during which 103 students were evaluated. Distance visual acuities of each student were measured, after which they were assigned a specific seat. A questionnaire and a rating sheet were completed for each presentation. The named tests were performed in a lecture hall in the medical faculty of the UFS under controlled environments.

Results: The ages of the students ranged between 17-21 years (median: 19). Times New Roman (TNR) size 12 was the most difficult to read, 3.88% of students could not read the slide. Followed by Arial size 12, 2.91% could not read the slide. Arial size 36 was the easiest to read, 99.03% of students had no problem reading the slide. The most preferred font was TNR. 87.38% of students preferred the slides in paragraph form, 81.55% preferred it in bullet form and 72.82% preferred it in headings.

Conclusion: For electronic visual presentations we recommend TNR size 36. These results are in contradiction with previous research which found Arial font to be most preferred.

* * *

THE EFFECTIVENESS OF AN ELECTRONIC REMINDER SYSTEM IN ACHIEVING OPTIMAL BOWEL PREPARATION BEFORE COLONOSCOPY AT THE GASTROENTEROLOGY UNIT, UNIVERSITAS HOSPITAL, BLOEMFONTEIN, FREE STATE, SOUTH AFRICA

M Chavoos, M Singh, A Muhammad, W Simmonds
Department of Internal Medicine, School of Medicine

Introduction and aim: Bowel preparation prior to a colonoscopy procedure is vital in the diagnosis of visible abnormalities in the bowel. Suboptimal bowel preparation may negatively impact on the diagnosis of bowel abnormalities. The aim of this study was to determine whether an SMS reminder system can increase the quality of bowel preparation before colonoscopy at the Gastroenterology Unit, Universitas Academic Hospital, Bloemfontein, Free State, South Africa.

Methods: Patients receiving colonoscopies in this setting were included in this randomized controlled trial after providing written informed consent. Patients in the experimental group received SMS reminders. Bowel preparation was graded on the Harefield Cleansing Scale by a gastroenterologist.

Results: Three patients were randomised in the experimental group and 2 in the control group. 66.7% of the experimental group had an A grading and 33.3% achieved a B grading. None of the patients in the control group achieved an A grading while 100% had a B grading. All the patients to whom SMSs were sent arrived for their appointments while 50% of scheduled colonoscopy patients who did not receive SMSs arrived for their appointments.

Conclusions: The results of this study are not conclusive primarily due to the small sample size. There was a correlation between SMSs sent and improved bowel preparation. The SMS reminder system also assisted in keeping appointments and clarifying matters for patients regarding their bowel preparation.

* * *

THE SHORT TERM EFFECT OF A GROUP DRUMMING INTERVENTION ON AGGRESSIVE BEHAVIOUR AMONG ADOLESCENT GIRLS DIAGNOSED WITH CONDUCT DISORDER

M Chelin, C van der Merwe, L Putter, J Herholdt, J van Druten, M Taylor, T Buitendag, E Janse van Rensburg, R Hattingh, C van Rooyen

Background & aim: Aggressive behaviour is a primary symptom of conduct disorder and is one of the strongest predictors of criminality for individuals with conduct disorder. There is a need for appropriate interventions targeting aggressive behaviour among adolescents with conduct disorder that is relevant to the diverse South African population. This study reports on the short term effect of a group drumming intervention program on aggression among adolescent girls diagnosed with conduct disorder at a school for girls with behavioural problems in the Free State.

Methods: An experimental, randomised pre-test post-test control group design was used. The intervention group (n=13) was exposed to a three week drumming intervention while their matched controls (n=13) continued with their normal daily program. Both groups completed the Aggression Scale (AS) questionnaire before and after the intervention.

Results: The median AS score of the intervention group showed a marked decrease from 20 to 7 from the pre-test to the post-test, although this difference was not statistically significant (95% CI [-13;5]). The median difference between the post-test scores for the control and intervention groups did, however, reveal a statistically significant difference in the levels of aggression experienced by the respective groups after the intervention (95% CI [-28;-3]).

Conclusion: This study therefore delivered promising results suggesting that group drumming can be an effective intervention for the reduction of aggression among adolescent girls diagnosed with conduct disorder.

* * *

A WOUNDED LIFE: LIVING WITH A CHRONIC LOWER LEG VENOUS ULCER

M Raseroka, KJ Maleka, N Maphela, C Adam, M Dlamini, MR Mokone, NR Msimanga
School of Nursing

Introduction and goal: Chronic is something you live with for a lifetime; having a chronic wound means having your life revolve around and being dominated by the wound. The purpose of the study was to identify the impact of a chronic lower leg venous ulcer on the individual's lifestyle and the specific causes for reoccurrence.

Method: A qualitative descriptive study was conducted using a case study method on a 49 year old, hypertensive woman struggling with a chronic recurring lower-leg venous ulcer for 6 years. A holistic approach was taken to ensure optimal wound healing.

Results: The wound was dressed between once and twice a week for 6 weeks and the progress was monitored. Wound healing as well as the factors that impacted on the wound will be discussed.

Conclusion This wound was very challenging as it was a chronic wound and the patient was disheartened and mistrustful of the health care system. It was an emotional issue to the patient and a challenging journey for us treating this wounded life. We learnt how to uncover the different possible causes of the re-occurrence.

* * *

EFFECT OF ARTIFICIAL SWEETENERS ON BODY WEIGHT, RESTING METABOLIC RATE AND GLUCOSE TOLERANCE IN FEMALE STUDENTS

A Coetzer, AN Fincham, M Greyling, L Jacobs, J Swart
Department of Nutrition and Dietetics, School for Allied Health Professions

Introduction and goal: Artificial sweeteners have been used for many decades, but their effect on body weight, resting metabolic rate (RMR) and glucose tolerance remains controversial. This study assessed the effect of artificial sweetener use on body weight, resting metabolic rate and glucose tolerance in female students.

Methods: An experimental before-after-study on twenty healthy, third and fourth year, female dietetic students, not using artificial sweeteners, were conducted. Weight, height and RMR were measured. To calculate the Homeostasis Model Assessments – insulin resistance (HOMA-IR) score, fasting insulin and glucose levels were measured. After one month's artificial sweetener use, the same procedures as baseline were followed.

Results: Mean weight was significantly higher (63.6 kg) after one month's use of artificial sweeteners than at baseline (62.8 kg) ($p=0.0007$). Sixteen participants gained weight, while only four lost and/or maintained weight. An equal number of participants were classified as having slow (30%), normal (35%) and fast (35%) RMR at baseline. Mean RMR at baseline was 5990.5 kJ/day compared to 6348.7 kJ/day post-intervention. The increase of 357 kJ in RMR between baseline and post-intervention; was not statistically significant ($p=0.08$). At baseline, 13 (65%) participants were classified with normal insulin resistance, 6 (30%) with moderate insulin resistance and one (5%) as severely insulin resistant. Although mean insulin resistance score improved from 2.63 to 2.24 post-intervention ($p=0.34$), this improvement was not statistically significant.

Conclusion: The use of artificial sweeteners in this study were associated with a significant increase in body weight, with eighty percent of participants gaining weight. Although not statistically significant, mean RMR increased and mean insulin resistance score decreased after artificial sweetener use. The high incidence of insulin resistance in this young and healthy study sample is however a concern.

* * *

PERCEPTIONS OF MEDICAL STUDENTS AND LECTURERS AT THE UNIVERSITY OF THE FREE STATE REGARDING PROFESSIONALISM AND PROFESSIONAL BEHAVIOUR OF MEDICAL STUDENTS

J Conradie, JW Mostert, MD Murray, LJ van der Merwe
School of Medicine

Introduction and aim : Professionalism and professional behaviour are required competencies for medical students, healthcare professionals and academic staff. As the task of developing professionalism in students may fall on academic staff, assessing the perceptions regarding these competencies is relevant. The aim of this study was to determine the perceptions of medical students and lecturers at the School of Medicine, University of the Free State (UFS) regarding professionalism and professional behaviour among medical students.

Methods: A cross-sectional study design by means of a questionnaire survey which was completed by students (first to final years) and lecturers was used. Students in the target population completed a voluntary anonymous survey during an academic contact session. Lecturers in the target population were requested by e-mail to complete the questionnaire.

Results: Due to a low response rate, MBChB IV participants were excluded. Overall, 447 participants were included: 427 medical students (256 in the pre-clinical group [first and second-year]; 171 in the clinical group [third and fifth year]) and 20 lecturers. More than 70% of students and lecturers regarded respect, responsibility, integrity and dedication as essential qualities of professionalism. Signing for another student in class was considered unprofessional behaviour (> 70%) and a dirty white jacket unprofessional appearance (> 80%). Significantly more clinical than pre-clinical students considered casual shoes, T-shirts, short skirts as unprofessional appearance. All considered clinical interactions and role modelling as best methods (> 40%) to develop professionalism.

Conclusion: Pre-clinical and clinical students and undergraduate lecturers at the UFS agreed on the essential qualities of professionalism. Pre-clinical and clinical students differed significantly on certain aspects considered unprofessional behaviour and appearance. Professionalism may best be taught by clinical interactions and role modelling.

* * *

DIE LEESBAARHEID VAN DOKTERS SE HANDSKRIFTE OP VOORSKRIFTE, IN NASIONAAL DISTRIK HOSPITAAL, BLOEMFONTEIN, DEUR GESONDHEIDSWERKERS EN TEGNOLOGIE

A Botha, L Niksch, R Terblanche, K Venter, H Brits
Departement Huisartskunde, Skool vir Geneeskunde

Inleiding en doelwit: Daar word algemeen aanvaar dat dokters onleesbare handskrifte het. Ons doel was om vas te stel of dokters se handskrifte op voorskrifte wel onleesbaar is vir gesondheidswerkers, in Nasionaal Distrik Hospitaal, Bloemfontein, en of 'n IntelliPen® die dokters se handskrifte beter kan interpreteer as gesondheidswerkers. Die IntelliPen® is 'n klein digitale pen wat in staat is om geskrewe woorde en sketse op te neem, te stoor en na digitale vorm om te skakel.

Metodologie: Die studie was 'n vergelykende studie. Die teikenpopulasie het bestaan uit die dokters wat die voorskrifte geskryf het, asook die dokters, verpleegkundiges en aptekers wat die voorskrifte geïnterpreteer het. Die studie het reeds bestaande voorskrifte van twintig dokters gebruik. Die geselekteerde dokters, verpleegkundiges en aptekers is dan gevra om die voorskrifte te interpreteer, terwyl hul antwoorde opgeneem is per selfoon. Elke voorskrif is deur vyf dokters, verpleegkundiges en aptekers gelees. Nadat die datavorm ingevul is, is daar vir elke voorskrif 'n persentasie uitgewerk van hoe onleesbaar die voorskrif was. Verder het die studie behels dat dieselfde dokters 'n datavorm met 'n IntelliPen® invul. Op die vorm het die dokters die letters a-z en die getalle 0-9 geskryf. Daar is ook 'n paragraaf deur die dokters oorgeskryf.

Resultate: Die dokters het die voorskrifte die beste gelees met 'n mediaan van 87.7%, gevolg deur die verpleegkundiges (81.1%) en die aptekers het die swakste gelees met 'n mediaan van 75%. Die voorskrif wat die mees onleesbaar was deur gesondheidswerkers, was 34.8% onleesbaar. Daar was twee voorskrifte wat slegs 6.3% onleesbaar was. Vir die IntelliPen® was die letters 52.7% leesbaar en die paragraaf 49.4% leesbaar.

Gevolgtrekking: Die lees van die voorskrifte deur die gesondheidswerkers was 18.5% onleesbaar, terwyl die paragraaf vir die IntelliPen® 50.6% onleesbaar was. Dus sal ons nie die IntelliPen® aanbeveel as 'n oplossing vir onleesbare handskrifte nie. Volgens die studie lees die dokters die voorskrifte beter as die aptekers.

* * *

EFFICACY OF PEER-ASSISTED LEARNING IN PHYSIOTHERAPY SKILLS DEVELOPMENT ON SURGICAL ROTATIONS

H van Schalkwyk, C de Klerk, TM du Plessis, H van Gessellen, S Gordon, N Schroeder, V Kruger
Department of Physiotherapy, School for Allied Health Professions

Introduction: Physiotherapy is a practical profession, requiring the development of skills incorporated into evaluation, demonstration and facilitation. The impact of Peer-Assisted Learning (PAL) on these proficiencies has not yet been extensively researched, which leaves many unanswered questions regarding the challenges faced by the students during these opportunities, as well as their opinions of the feedback and emotions felt during their evaluations.

Aim: This study aimed to identify the benefits gained by Physiotherapy students exposed to the PAL opportunities.

Method: This quantitative, descriptive study, using a self-compiled questionnaire (translated into English and Afrikaans), was conducted on a convenience sample of forty 3rd year Physiotherapy students at the UFS. Thirty questionnaires were completed correctly and were used in the study. The data collected from these questionnaires was analysed by means of descriptive statistics, namely percentages and frequencies, as well as standard deviations for continuous data.

Results: Ninety percent agreed that PAL will assist them in gaining further experience and knowledge and was thus seen as a new strategy to improve learning by 80% of participants. Approximately 76% felt that PAL would provide more opportunities for assessment of clinical skills, regardless of the level of Physiotherapy qualification of the assessor (lecturer or peer). 90% supported the suggestion of incorporating PAL, in combination with orthodox teaching, into the Physiotherapy course, transforming static learning into a more inter-active learning experience.

Conclusion: A PAL program, including a revised rubric, an explanation of implementation from the lecturers as well as compliance from the students, would be a beneficial tool to use in the advancement of the clinical skills development of Physiotherapy students at the UFS. Further studies could implement PAL into larger populations within Allied Health professions, as well as multiple year groups.

* * *

VISUAL FORM PERCEPTION OF GRADE FOUR LEARNERS IN THE BLOEMFONTEIN REGION

P Dusse, M Kramer, N Ludik, A Oosthuizen, P Vala
Department of Optometry, School of Allied Health Professions

Background: Visual form perception is the process that is responsible for the perception and cognition of visual stimuli. The visual perceptual skills enable a person to interpret and understand what was seen. The visual perceptual skills develop with age and most developmental changes take place during the first four to five years of primary schooling.

Objectives: The objectives of the study is to determine visual perceptual skills namely; Discrimination, Memory, Spatial Relationships, Form Constancy, Sequential Memory, Figure Ground and Closure amongst grade four learners in four Bloemfontein schools.

Methods: An observational descriptive study was used. The convenient sampling method was used to select the study population. The four schools; Wilgehof, Brebner, Fauna and Eunice were chosen by stratified simple random sampling. A questionnaire was provided to the parents of the learners to determine if the learners adhere to the inclusion criteria. The Test of Visual Perceptual Skills (TVPS-3) was used to measure the seven visual perceptual skills.

Results: Two hundred and forty two learners whose ages ranged from 10 and 11 years were included in the study. The mean percentile ranks of all the learners were 30% for spatial relationship, 27% sequential memory, 23% figure ground, 20% closure, 17% discrimination and memory and 11% for form constancy. The age equivalent is seven years for spatial relationship and sequential memory, six years for figure ground, closure, discrimination and memory, and five years for form constancy. Eunice learners performed better than the other learners. Females performed better than males in all tests, except form constancy and sequential memory. There was a statistical difference between males and females ($p < 0.05$) in the performance of the memory test.

Conclusion: All learners performed below the norms for their age group as set by normative studies on learners from the United States of America. A further study has to be conducted among different age groups and more schools.

* * *

THE USE OF SCREENCASTING AS A MEANS OF IMPROVING PRE-CLINICAL MEDICAL STUDENTS' ENGAGEMENT AT THE UNIVERSITY OF THE FREE STATE: AN EXPERIMENTAL STUDY

PM Bester, HM Botha, M Meintjes, Z Nagel, MA Vorster, VJ Louw, CO Larson

Departments of Internal Medicine and Basic Medical Sciences,
School of Medicine

Introduction and aim: Many studies quantify the effect of screencasting as an e-learning tool based on students' emotional and behavioural engagement, but insufficient evidence exists regarding the effect of screencasting on students' cognitive engagement. The aim of this study was to determine whether watching a screencasting video instead of reading a hard copy hand-out before a traditional Physiology lecture session, could increase the cognitive and emotional engagement of first year medical students at the University of the Free State.

Methods: In this randomised controlled trial 145 consenting first year medical students were randomised by class (Afrikaans or English) to watch the screencasting video or read the hard copy hand-out. The cognitive engagement of the students during the lecture session was assessed by comparing the marks achieved by the students in a pre-and a post-test (written before and after the lecture session, respectively). The students' emotional engagement was assessed using an anonymous questionnaire.

Results: The study reflected a significant increase in emotional engagement of the participants who viewed the screencasting video, but this did not correlate with greater cognitive engagement.

Conclusion: These results are comparable to the findings of a study reporting that the use of screencasting as teaching technique yielded greater emotional and behavioural engagement without a significant increase in final Pharmacology semester results.

* * *

TUBERCULOSIS IN ADOLESCENTS AGED 10-19 IN THE FREE STATE PROVINCE

H Claassen, E Dreyer, L du Plessis, J Klinck, J Liebetrau, A van der Spoel van Dijk
Department of Medical Microbiology, School of Medicine

Introduction and aim: South Africa (SA) is categorised by the WHO as having a high Tuberculosis (TB) (450 000 cases) and multi-drug resistant TB (MDR-TB) burden (6 900 cases). However there is a lack of knowledge regarding TB in adolescents in SA and the Free State (FS) specifically, where this group contributes 18.3% to the overall population. Therefore the aim of this study was to determine the extent and compile a profile of TB in adolescents (10-19 years) in the FS.

Methodology: During the course of the study, phases of the Knowledge Discovery and Data Mining process was used as a guide to extract and analyse data for adolescents 10 – 19 years from the DISA database of the National Health Laboratory Service's (NHLS) central branch in Bloemfontein, for June 2011 to May 2014. An observational descriptive study design was used to compile a profile of TB in the study population.

Results: In the time period June 2011 to May 2014 the NHLS laboratory carried out diagnostics tests for TB for 4002 adolescent patients. Of these patients, 65.6% were female and 558 tested positive for TB (13.9%). Of the 558, 42.3% were between 18 and 19 years old. Resistant profiles were determined for 461 of the positive isolates and 13.4% were MDR-TB cases. Of these TB patients, 35.3% were highly infective being positive using auramine staining.

Conclusion: The significantly high TB burden of 13.9% in tested adolescents, with 35.3% of them being at high risk of transmission, is worrisome especially with a burden of 13.4% of MDR-TB. Further studies to compile a per year profile of TB in adolescents would be of great value to assist with initiatives to limit transmission and implement effective treatments in this vulnerable age group.

* * *

DEELNEMENDE FIRMAS EN PERSONE

PARTICIPATING FIRMS AND PERSONS

Opregte dank vir finansiële steun word aan die ondervermelde Vereniging en persone betuig vir hul gewaardeerde deelname aan die Studente Navorsingsforum van die Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat, op 26 Augustus 2015.

We express our heartfelt thanks to the undermentioned associations and persons for their financial support and valued participation in the Student Research Forum of the Faculty of Health Sciences, University of the Free State, 26 August 2015.

* Prof G Joubert
Departement Biostatistiek
Department of Biostatistics

* Skool vir Verpleegkunde
School of Nursing

* Skool vir Aanvullende Gesondheidsberoepes
School of Allied Health Professions

* Geneeskunde Studentevereniging
Medical Students Association