

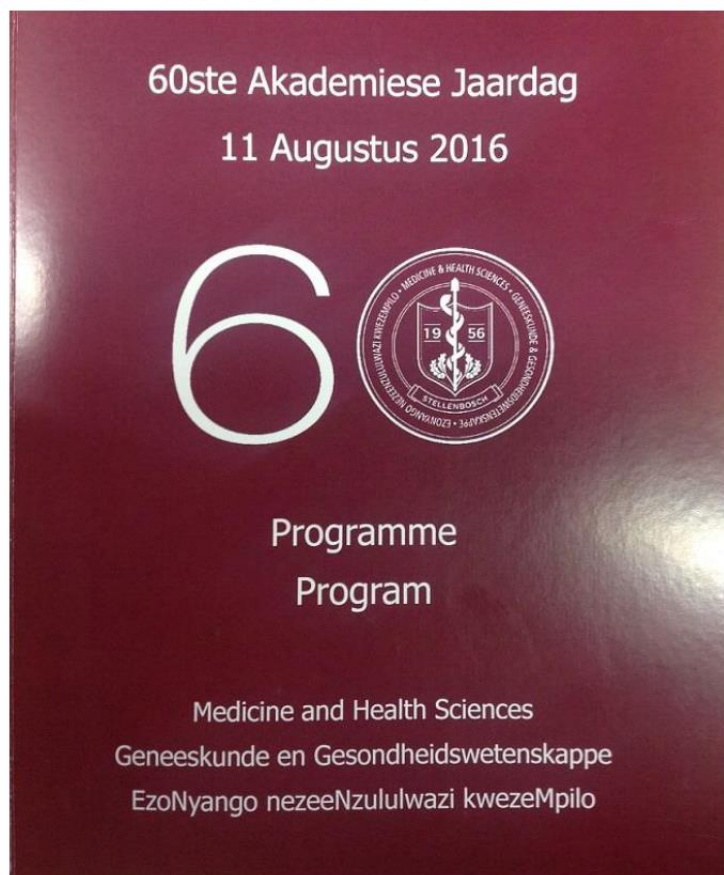
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Annual Academic Day

11 August

UNDERGRADUATE STUDENT PRESENTATIONS



TYGERBERG ACADEMIC AFFAIRS COUNCIL

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Health Systems Strengthening: ORALS (4)

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JEREMI SWANEPOEL



**MEASURING CLIENT SATISFACTION AT MGD STUDENT-
RUN PRIMARY HEALTH CARE CLINICS**

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HEALTH SYSTEMS STRENGTHENING (1)

MEASURING CLIENT SATISFACTION AT MGD STUDENT-RUN PRIMARY HEALTH CARE CLINICS

Jeremi Swanepoel

Undergraduate Student

Jeremi Swanepoel (Stellenbosch University Faculty of Medicine and Health Sciences - Division of Community Health, Department of Interdisciplinary Health Science), Dr Bart Willems (Stellenbosch University Faculty of Medicine and Health Sciences - Division of Community Health, Department of Interdisciplinary Health Science)

Background. The MGD (Maties Gemeenskapsdiens/Community Service) Primary Health Care Program of Stellenbosch University has been in existence for over 50 years and provides fully operational after hours voluntary student-run primary health care facilities to two underprivileged communities in the Western Cape namely Kalkfontein near Kuilsriver and Groendal in Franschoek, South Africa. Objective. To determine whether clients seen at MGD Student –run Primary Health Care clinics are satisfied with the services that are being provided. Methods. A cross sectional mixed-methods study was conducted at two MGD Primary Health Care clinic sites over a five month period utilising a researcher administered questionnaire adapted from the Health Systems Trust client satisfaction questionnaire to evaluate the seven domains of client satisfaction. The questionnaire contained dichotomised Likert scales and additional questions for collecting descriptive and qualitative data. The Likert scales were quantitatively analysed to determine the proportion of client responses per clinic and average scores per client satisfaction domain. Qualitative data was analysed thematically. Discussion. MGD clinics provide a controlled environment for medical and allied health science students to practice important clinical skills, to develop appropriate interpersonal skills and to gain insight into the importance of primary health care in underprivileged communities. Preliminarily the study shows that the majority of clients from both clinic sites appreciate and are satisfied with the health services that are being provided and feel that their complaints are being listened to and managed holistically. The majority of clients felt that they were treated with respect and dignity by clinic staff and were impressed with the students who, for the first time, thoroughly examined them. Clients also indicated learning new information pertaining to their personal health. Conclusion. Preliminarily MGD clinics appear to perform well in all seven domains of client satisfaction and patients are generally satisfied with the services provided.

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ANJE HORDIJK

**STUDENT HEALTH AND WELLNESS AT THE FACULTY OF
MEDICINE AND HEALTH SCIENCES, STELLENBOSCH
UNIVERSITY: CURRENT STATUS AND NEEDS ASSESSMENT**

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HEALTH SYSTEMS STRENGTHENING (2)

STUDENT HEALTH AND WELLNESS AT THE FACULTY OF MEDICINE AND HEALTH SCIENCES, STELLENBOSCH UNIVERSITY: CURRENT STATUS AND NEEDS ASSESSMENT

Anja Hordijk

Undergraduate Student

Anja Hordijk (Stellenbosch University - Division of Human Nutrition), Annaleen Joubert (Stellenbosch University - Division of Human Nutrition), Jana van Heerden (Stellenbosch University - Division of Human Nutrition), Janicke Visser (Stellenbosch University - Division of Human Nutrition), Jessie Venter (Stellenbosch University - Division of Human Nutrition), Katy Begg (Stellenbosch University - Division of Human Nutrition), Lauren Philips (Stellenbosch University - Division of Human Nutrition), Lisa Moore (Stellenbosch University - Division of Human Nutrition), Natasha du Preez (Stellenbosch University - Division of Human Nutrition), Nicole le Roux (Stellenbosch University - Division of Human Nutrition), Yolande Smit (Stellenbosch University - Division of Human Nutrition)

Literature indicates that health science students may experience an overall health deterioration during their studies. Over the last decade there has been increased emphasis on student 'wellness programmes' worldwide. The study objective was to assess the current health status of students at the Faculty of Medicine and Health Sciences (FMHS), Stellenbosch University, which included an assessment of student wellness needs. This descriptive, cross-sectional study was conducted by performing both a basic health screening (anthropometric/biochemical measurements) and an online, self-administered questionnaire. Summary statistics, correlation co-efficients and appropriate analysis of variance were used to describe and analyse data. The screening study population (n=536) had a mean age of 20.59 ± 2.17 years (71.0% female). Mean screening values for all variables fell within normal reference ranges. A positive correlation showed an increase in mean BMI as year of study increased ($r=0.08$, $p=0.05$). Similarly, as the year of study increased, total blood cholesterol increased ($r=0.14$, $p=0.00$). The online survey yielded an 18% response rate (n=330) and the majority of participants (73.1%;n=234) perceived their body weight to be normal. Campus-residing students spent significantly more money on food compared to private students ($p=0.00$). Students reported needing help with making food choices (47%;n=155) and expressed a desire for a student wellness programme (94%;n=310). Student wellness should remain a priority at the FMHS. This study highlights the importance of student health screening and constant communication in creating awareness of wellness promotion. Gathered data provides baseline information that will enable planning and implementation of targeted activities to improve student wellbeing on campus.

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PAIGE MOOLMAN, JADE JACKSON AND KRISTINE GOSSOW



**ASSESSING THE FOOD AND NUTRITION SECURITY OF
STELLENBOSCH UNIVERSITY MAIN CAMPUS
UNDERGRADUATE STUDENTS**

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HEALTH SYSTEMS STRENGTHENING (3)

ASSESSING THE FOOD & NUTRITION SECURITY OF STELLENBOSCH UNIVERSITY MAIN CAMPUS UNDERGRADUATE STUDENTS

Paige Moolman

Undergraduate Student

Paige Moolman (Stellenbosch University - Division of Human Nutrition)

Nutrition insecurity has been reported at some South African universities. Experiencing hunger has a potential negative impact on academic performance of a student. This cross-sectional study assessed the food and nutrition security of Stellenbosch University main campus undergraduate students, living in university residences or private accommodation. The questionnaire consisted of a screening section followed by 4 sections assessing: 1) socio-demographic and -economic factors affecting nutritional well-being; 2) a 24-hour dietary recall to calculate a Dietary Diversity score (DDS); 3) Food and Technical Assistance (FANTA) Hunger scale and 4) Shortened International Physical Activity Questionnaire (IPAQ). An electronic survey (SunSurvey) was available for online completion for a period of 4 weeks. Data was transferred to an Excel datasheet and analysed. Participants (n=2197) were 63% female and 37% male, had a mean age of 19 years, were in their first year of studying (41%), living in private accommodation (45%) and residences (41%). Twenty one percent of students only ate one or two meals per day. Students (77%) ate fast food more than once per week. Participants (15%) had less than R500 per month for living expenses thus had a lack of resources to get food (15%), went to bed hungry due to lack of food (11%) and reported going without eating anything for 24 hours (3%). The mean DDS was 5.22 (SD= 1.78), considered a medium score, yet fruit and vegetable intake was low. Significant relationships between DDS and socio-demographic and socio-economic factors were found. The majority of students engaged in moderate (41.5%) to high activity (48.2%). Strong correlations were found between activity levels, gender, body image, accommodation and financial status. The results of this study confirm that food insecurity exists amongst SU undergraduate students and requires attention and appropriate measures to address the problem.

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**CROUS, A., HANEKOM, A., JANSEN VAN RENSBURG, E.,
LOUBSER, C., SMALBERGER, S.**



**A MIXED METHODS STUDY OF SOUTH AFRICAN
OCCUPATIONAL THERAPISTS' VIEWS AND PREFERENCES
REGARDING SPECIALISATION IN OCCUPATIONAL
THERAPY**

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HEALTH SYSTEMS STRENGTHENING (4)

A MIXED METHODS STUDY OF SOUTH AFRICAN OCCUPATIONAL THERAPISTS' VIEWS AND PREFERENCES REGARDING SPECIALISATION IN OCCUPATIONAL THERAPY

Elisna Jansen van Rensburg

Undergraduate Student

Elisna Jansen van Rensburg, Adel Hanekom, Annandie Crous, Chantelle Loubser, Simone Smalberger (University of Stellenbosch - Occupational Therapy)

Specialisation has been a topic of debate amongst occupational therapists for the last two decades. Occupational therapists are regarded as generalists due to the holistic nature on which the profession is based. Specialisation may pose a possible threat to this holistic nature, although some therapists feel that intervention is currently not being practiced in such a manner. There is no specialisation structure for South African occupational therapy or other allied health science professions. The aim of the study was to investigate the views and preferences of South African occupational therapists regarding specialisation, which may better inform the occupational therapy regulatory body to assist in the development of a specialisation structure for occupational therapy. A mixed method study, sequential exploratory design was used in this study. A total of 6 interview participants' expert opinions were used to compile a survey to determine the views and preferences of South African occupational therapists regarding specialisation. The survey population (N=4046) consisted of all HPCSA registered occupational therapists. The sample size (n=536) proved a response rate of 13.25%. Within the qualitative phase of the study four themes emerged that were quantified to develop the survey. The most prominent trends that occurred during the quantitative phase were the following: most participants (85.8%) felt that there is a need for specialisation within the South African context. The majority of participants (70.1%) felt that the advantages of specialisation outweigh the disadvantages. Thereafter, 63.4% of participants indicated that they would specialise if a specialist register were to be made available by the HPCSA. Most participants (83.3%) suggested that additional qualifications should be added to the current register if a specialist register for occupational therapy were to be implemented, in contrast with a separate register which implies being removed from the generalist register.

Health Systems Strengthening: POSTERS (1)

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MEGAN DE LA BAT, JONÉ VREKEN, MELINDIE VAN DEN BERG, DR. NICOLA PLASTOW, CECILE MICHAU, JANIKA VAN DEN BERG



OCCUPATIONAL THERAPY IN HOMES FOR THE AGED: A SURVEY OF PRACTICE IN SOUTH AFRICA

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HEALTH SYSTEMS STRENGTHENING (poster)

OCCUPATIONAL THERAPY IN HOMES FOR THE AGED: A SURVEY OF PRACTICE IN SOUTH AFRICA

Cecile Michau

Undergraduate Student

Cecile Michau, Joné Vreken, Megan de la Bat, Janika van den Berg, Melindie van den Berg, Nicola Plastow
(Stellenbosch University - Occupational Therapy)

Background and aim: Little is known regarding the role of occupational therapists in homes for the aged in South Africa. The aim of this study is to better the understanding of what the role of occupational therapy entails in the specific domain of practice in care homes for older adults in South Africa. Methods: A quantitative cross-sectional online survey was used in this study to gather the required data. Participants from 9 provinces were recruited by using convenience sampling and snowballing simultaneously. The participants completed an online survey. Data were analyzed using the IBM SPSS 22.0.0.0. Results: 30 respondents completed the online survey. The majority of participants worked on a part time basis in more than one type of setting with older adults. The method of intervention (indirect or direct) used most by participants was seeing residents together as a group (median=3.4). The service provided most often was enhancing the participation in meaningful and social activities. The activities used most frequent by participants during intervention were enhancing leisure time, monitoring decline in functioning, exercise groups, social activities, treatment of specific conditions, create a free and supportive environment and record keeping. Conclusion: This study showed that there is a role for occupational therapy in care homes in South Africa. The role of occupational therapy can be seen as allocating and conducting the appropriate assessment for older adults in care homes. Secondly, choosing a method of intervention which consists out of direct- or indirect methods. Thirdly the role can be described as the services occupational therapists deliver most in care homes and the activities they use to deliver these services. When the findings of this study are used it could contribute to improve the quality of service being provided by occupational therapists in care homes in South Africa.

Maternal & Child Health: ORALS (3)

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ANELA VOLOFU



**KNOWLEDGE ABOUT NEONATAL JAUNDICE IN
POSTNATAL MOTHERS AT TYGERBURG HOSPITAL (TBH),
IN THE WESTERN CAPE**

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MATERNAL & CHILD HEALTH (1)

KNOWLEDGE ABOUT NEONATAL JAUNDICE IN POSTNATAL MOTHERS AT TYGERBERG HOSPITAL, SOUTH AFRICA

Anela Volofu

Undergraduate Student

Anela Volofu (Stellenbosch University), Charles i. Okwundu (Stellenbosch University - Centre for Evidence-Based Health Care)

BACKGROUND: Neonatal Jaundice is a very common condition in newborns. Jaundice refers to the yellowish discoloration of the sclera and skin and occurs as a result of hyperbilirubinemia. Jaundice is usually a benign condition in the newborn. However, in some cases severe neonatal jaundice can lead to kernicterus or even death in newborns. In many settings mothers and their newborns are usually discharged home within the first 24 hours, and before jaundice usually appears. Most newborns will develop jaundice while they are already at home. Therefore, mothers play a crucial role in recognizing jaundice and taking the correct steps towards the treatment.

OBJECTIVES: We aimed to assess the knowledge of neonatal jaundice amongst postnatal mothers at Tygerberg Hospital. **METHOD:** In this descriptive cross-sectional study, we recruited a total of 407 mothers. The mothers were interviewed using a structured questionnaire. **RESULTS:** About 75% of the mothers have heard the word jaundice. However, more than 60% did not know what it is and how it presents in the newborn. Up to 72% did not know how jaundice is treated in the newborn. About 63% mothers didn't know the causes of jaundice. For those that knew about neonatal jaundice, up to 70% thought that jaundice is caused by eating oranges or curry during pregnancy, and so they avoided oranges or curry during the pregnancy. Up to 90% did not know of any potential complications of jaundice in the newborn. **CONCLUSION:** This study reveals that the post-natal mother among our study population limited knowledge of neonatal jaundice. It is therefore crucial for health care providers to give more health education on neonatal jaundice during their antenatal visits. This will help in the early recognition and prompt treatment of jaundice in newborns to prevent potential complications.

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NINA STEYN



**GALACTOGOGUES: A CROSS-SECTIONAL DESCRIPTIVE
STUDY AMONG PATIENTS VISITING INTERNATIONAL
BOARD CERTIFIED LACTATION CONSULTANT PRIVATE
PRACTICES IN CAPE TOWN.**

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MATERNAL & CHILD HEALTH (2)

GALACTOGOGUES: A CROSS-SECTIONAL DESCRIPTIVE STUDY AMONG PATIENTS VISITING INTERNATIONAL BOARD CERTIFIED LACTATION CONSULTANT PRIVATE PRACTICES IN CAPE TOWN

Nina Steyn

Undergraduate Student

Nina Steyn, Eric H. Decloedt, Moleen Zunza (Stellenbosch University - Faculty of Medicine and Health Sciences, Undergraduate student)

Background: Failure to exclusively breastfeed is often caused by a perception of insufficient breast milk supply. Galactogogues are frequently prescribed in these circumstances, but this is supported by sparse scientific data with safety concerns for both mother and infant. The exact extent of galactogogue use in South Africa is not well known. Objective: We aimed to assess breastfeeding behaviour, galactogogue use and perceived galactogogue side effects. Methods: We administered a self-developed, expert reviewed questionnaire in 5 International Board Certified Lactation Consultants (IBCLC) private practices within the Cape Town Metropole. All clients attending during an 8 week period were invited to participate. Results: We included data from 104 participants. An exclusive breastfeeding rate of slightly more than 50%, associated with greater parity ($p=0.029$), was found. Perceived lack of breast milk predicted galactogogue use ($p=0.013$). There was a high prevalence of galactogogue use (54%) with 80% of these participants using non-prescription medication. Sulpiride was the most common prescription medication used. Increased milk production was reported by 41% ($n=23$) of galactogogue users while 30% ($n=17$) reported no effect. Most reported side effects were minor. Conclusion: Prevalence of galactogogue use exceeded other published data. Sulpiride was most frequently prescribed, despite not being recommended during breastfeeding. A large group of participants reported poor efficacy. The effect of vaginal delivery and immediate skin-to-skin contact after delivery on milk production might be smaller in a motivated population than previously reported. Health care practitioners should acknowledge breastfeeding mothers' concerns regarding insufficient milk supply and emphasise correct breastfeeding technique.

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**MARONE COAD, HESTER HELENA KRIEL, JOLANE VAN
NIEKERK**

**AN INVESTIGATION INTO ISIXHOSA- AND KAAPS-
SPEAKING GRADE TWO LEARNERS' SYMBOL PREFERENCE
AND INTERPRETATION OF 25 COMMON NOUNS**

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MATERNAL & CHILD HEALTH (3)

AN INVESTIGATION INTO ISIXHOSA- AND KAAPS-SPEAKING GRADE TWO LEARNERS' SYMBOL PREFERENCE AND INTERPRETATION OF 25 COMMON NOUNS

Marone Coad

Undergraduate Student

Marone Coad, Hester Helena Kriel, Jolane van Niekerk (University of Stellenbosch - Speech, Language and Hearing Therapy)

BACKGROUND: Augmentative and Alternative Communication (AAC) refers to the arena of clinical and educational practice, which offers a set of strategies and approaches in the form of special symbol sets to augment natural speech and/or handwriting, and sometimes to even replace it (Lloyd, Fuller, & Arvidson, 1997). The majority of previous research has failed to consider the impact of culture and ethnicity, as well as linguistic background on individuals' perception of symbols used in AAC intervention (Huer, 2000). Knowledge of the nature and extent to which culture can therefore optimize AAC intervention can have an impact on the interpretation of symbols. The purpose of this research study is to describe the symbols typically developing IsiXhosa and Kaaps-speaking Grade two students prefer to represent 25 common nouns, and to determine the reason for the participants' preferences.

METHODS: This study makes use of a mixed research design. Quantitative data analysis is used to determine the participants' symbol preference. Qualitative data analysis focuses on the identification of patterns and trends with regards to why participants chose certain symbols. The Xhosa-English medium school is located in the Cape Town Metropole, while the Afrikaans medium school is located on the Cape Flats. **RESULTS:** The research study is still in progress, i.e. data analysis is still taking place at the moment. Thus, there are no final results available yet.

CONCLUSION: Since the research is still in the data analysis phase, no conclusions can be made at this stage. The researchers, however, seek to make a conclusion about how cultural and linguistic background influences symbol preference of both groups based on the interpretations made from the data collected. They also seek to make suggestions on how symbols of AAC intervention can be adapted to account for the cultural and linguistic influence.

Mental Health & Neurosciences: ORALS (2)

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**DOMINIQUE ROBERTS, MICHELLE UYS, KIRSTY
ECKERSLEY, TENILLE BREWER AND TRACY-LEE SAM**



**AN EXPLORATION OF PATIENT VIEWS OF THE
SUCCESSFUL ELEMENTS OF AN OCCUPATIONAL THERAPY
OUTPATIENT CRAFT GROUP**

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MENTAL HEALTH & NEUROSCIENCES (1)

AN EXPLORATION OF PATIENTS' EXPERIENCES OF THE VALUE OF AN OCCUPATIONAL THERAPY OUTPATIENT CRAFT GROUP

Michelle Uys

Undergraduate Student

Dominique Roberts (Stellenbosch University - Occupational Therapy), Kirsty Eckersley (Stellenbosch University - Occupational Therapy), Michelle Uys (Stellenbosch University - Occupational Therapy), Tenille Brewer (Stellenbosch University - Occupational Therapy), Tracy-Lee Sam (Stellenbosch University - Occupational Therapy)

Mental Health is a discipline within the health sciences that has compelled many professionals to explore it. According to the World Health Organisation, mental health is defined as a state of well-being whereby the individual realizes their own potential and are able to contribute to society. Poor mental health compromises a person's well-being and the ability to realize the individual's potential. It may also limit the person's ability to work productively and contribute to society. Support groups held for patients post discharge from acute treatment offer an opportunity for mental health consumers to receive ongoing therapeutic intervention while living at home. Standardized outcome measures in occupational therapy are available for in-patient groups. However, they measure the impact of interventions offered to in-patients. Outpatient interventions differ in quantity and quality to inpatient groups. A different outcome measure is therefore needed to measure the impact on occupational performance for outpatient mental health consumers attending outpatient occupational therapy craft groups. In the absence of an outcome measure for outpatient occupational therapy group programmes, working towards the development of such a measure is important. The first step towards achieving this is to be able to use a research process to identify what the constructs to be measured could be. This study aims to contribute towards the development of such an outcome measure by exploring and describing the experiences of mental health consumers attending an outpatient occupational therapy group at a local public health psychiatric institution. An Appreciative Inquiry qualitative design will be used to explore the value of an outpatient occupational therapy craft group. This study aims to contribute towards the exploration of the value of outpatient craft groups of mental health hospitals across the province. This way empirical evidence will support patient anecdotes of enhanced meaning and participation in occupational therapy craft groups.

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**ANÉ RAS, ANNEMARIE WESSELS, STEPHANIE EKSTEEN,
ORISSA ANNA MEADEN, WARDA EBRAHIM**



**EFFECT OF EXERCISE ON FITNESS MEASURES,
DEPRESSION, ANXIETY AND QUALITY OF LIFE IN
PATIENTS WITH PREVIOUS METHAMPHETAMINE
DEPENDANCY: A SYSTEMATIC REVIEW**

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MENTAL HEALTH & NEUROSCIENCES (2)

EFFECT OF EXERCISE ON FITNESS MEASURES, DEPRESSION, ANXIETY AND QUALITY OF LIFE IN PATIENTS WITH PREVIOUS METHAMPHETAMINE DEPENDENCY: A SYSTEMATIC REVIEW

Ané Ras

Undergraduate Student

Ané Ras, Annemarie Wessels, Stephanie Eksteen, Orissa Anna Meaden, Warda Ebrahim (Stellenbosch University - Physiotherapy)

Background: Methamphetamine is a highly addictive psychostimulant substance that causes various physiological effects in the body and is used by approximately 52 million people worldwide. In the short-term methamphetamine use improves productivity, attention-span, energy levels and even reduces anxiety. In contrast, however, chronic methamphetamine use causes a decrease in dopamine stores in the brain and damages the ability of dopamine and serotonin to bind to their terminals. Recent evidence shows that the damage to the brain of previous methamphetamine users may actually be reversible. There has been no systematic review conducted recently to determine the influence of including an exercise program in the management of methamphetamine dependents who suffer from depression and anxiety or who are prone to depression and anxiety. Objective: The aim of this systematic review was to identify, clinically appraise and evaluate available evidence for the effectiveness of exercise on decreasing depression and anxiety symptoms as well as fitness measures in methamphetamine users compared to CBT, education and/or standard care. Methodology: Seven computerized bibliographic databases accessed through the Stellenbosch University library services was searched, namely Scopus, Cochrane Library, Pubmed, PEDro, CINAHL, MEDLINE and ScienceDirect. The following search terms were used: exercise AND methamphetamine AND fitness measures; exercise AND methamphetamine AND depression AND anxiety. Articles had to meet specific criteria to be included or excluded from their search results in this review. The PEDro scale was used to appraise the methodological quality of each study. Data was extracted from the relevant articles using the adapted JBI data extraction form and included the following categories: reference, type of study, participants (including baseline characteristics of participants), outcome measures, interventions (for both the treatment and the control group), results, as well as post-intervention clinical status and the implications thereof. Revman was used to create Forest Plots which were used to graphically present the data. Where forest plots were not applicable the data was presented in a narrative form. Results: The three studies included in this review were two RCT's and one pilot study which scored an average of 6,66/11 on the PEDro scale. The pooled results showed that exercise resulted in significantly lower anxiety- and depression scores. Balance showed significant improvement in the Tai Chi group. Moreover, right hand grip, left hand grip, one-leg stand with eyes closed and blood pressure showed significant improvements in both the exercise and education groups. However, heart rate, BMI ($p=0.00001$) and body fat levels ($p=0.008$) did not show any significant differences between the intervention and control groups. Conclusion: There is level I and III evidence suggesting that exercise has shown to have an effect in reducing anxiety and depression in previous methamphetamine users and in addition improving some fitness measures. Further research is recommended using larger sample sizes and focusing on enhancing post methamphetamine dependence rehabilitation in particular the role of physiotherapy in the rehabilitation process.

Noncommunicable Diseases: ORALS (3)

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DOMINIQUE BREakey AND BIANCA KROUKAM



**STAFF HEALTH AND WELLNESS AT THE FACULTY OF
MEDICINE AND HEALTH SCIENCES, STELLENBOSCH
UNIVERSITY: CURRENT STATUS AND NEEDS ASSESSMENT**

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NONCOMMUNICABLE DISEASES (1)

STAFF HEALTH AND WELLNESS AT THE FACULTY OF MEDICINE AND HEALTH SCIENCES (FMHS), STELLENBOSCH UNIVERSITY (SU): CURRENT STATUS AND NEEDS ASSESSMENT

Dominique Breakey

Undergraduate Student

Dominique Breakey (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Janus Coetzee (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Bianca Kroukam (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Lethabo Mogashoa (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Sharon Ryan (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Lindiwe Skhosana (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Nelene Koen (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University), Evette van Niekerk (Stellenbosch University - Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University)

The aim was to determine staff health and wellness at the FMHS, SU. Objectives were to compile a basic health profile of staff; to determine attitudes and perspectives towards health and wellness and to conduct a needs assessment regarding facilities and implementation of a wellness program. A retrospective review aimed at the re-evaluation of basic health profile data from Discovery Wellness day reports (2010-2015) was done. Additionally, a descriptive cross-sectional study with an analytical component was conducted. Data was collected utilizing an online survey from current staff at the FMHS, SU. An average of $n=130$ ($SD \pm 34.1$) FMHS staff members participated in the Discovery Wellness days. Reports from the past 6 years revealed that at least 60% of all staff who participated annually were overweight or obese and at least a quarter (ranging from 25% – 57%) had high cholesterol. More than 65% of participants did not meet the recommendation for being physically active for each year. Three hundred participants completed the survey (51.0% academic; 48.9% administrative). Administrative staff are more likely to consume sugary drinks per week ($p=0.02$) and consume fewer portions of fruits and vegetables per day ($p<0.01$). Seventy percent of staff often or always feel under pressure at work and almost a quarter (22.9%) work >50 hours per week. For both findings ($p<0.01$), significantly more academic staff members were affected. Significantly more academic staff (32.2% vs. 14.4%) do not take tea breaks ($p<0.01$) or do not perceive their environments to be supportive of these breaks ($p<0.01$) compared to administrative staff (30.0% vs. 16.8%). Staff reported that an on-site (30.6%) and holiday child care centre (35.0%) is needed. Staff was found to be generally unhealthy and interventions to help with food choices and managing pressure within the workplace are needed.

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ANNEMIE JACOBS



A REVIEW OF WARFARIN TOXICITY IN TYGERBERG HOSPITAL

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NONCOMMUNICABLE DISEASES (2)

THE PREVALENCE AND CAUSES OF WARFARIN TOXICITY IN TYGERBERG HOSPITAL

Annemarie Jacobs

Undergraduate Student

A Jacobs (University of Stellenbosch - Division of Clinical Pharmacology, Department of Medicine), FC Bassa (University of Stellenbosch - Division of Hematology, Department of Medicine), EH Decloedt (University of Stellenbosch - Division of Clinical Pharmacology, Department of Medicine)

BACKGROUND: Warfarin is a widely used anticoagulant for prevention and treatment of thromboembolism. Warfarin toxicity is a frequent complication. **OBJECTIVES:** To determine the prevalence, causes and management of warfarin toxicity in Tygerberg Hospital. **METHODS:** We conducted a retrospective clinical record review of patients admitted to Tygerberg Hospital with warfarin toxicity from June 2014 to June 2015 as identified through the National Health Laboratory Service (NHLS). We included patients presenting with warfarin toxicity, defined by an admission INR >5, and requiring at least one additional inpatient INR measurement. **RESULTS:** We identified 467 patients of whom 126 met the inclusion criteria. 60% (76/126) were female with a mean (SD) age of 59 (15) years. Mean admission and discharge INRs were 8.12 and 2.38 respectively. 15% (19/126) died before discharge. The cause of warfarin toxicity was identified in 16.6% (21/126) of cases. 44% (10/21) were due to dosing errors, 14.3% (3/21) drug-drug interactions, 9.5% (2/21) acute illnesses and 9.5% (2/21) inability to control INR despite best effort. 28% (35/126) presented with major bleeding, 18% (23/126) non-major bleeding, and 54% (68/126) without bleeding. The most frequent sites were upper gastrointestinal (31%, 18/58), haemoptysis (19%, 11/58), and epistaxis (17%, 10/58). Seven cases (12%, 7/58) of intracranial haemorrhage were reported. The average number of interventions were 1.6 with 33.3% (42/126) patients receiving no interventions, 35.7% (45/126) and 23.8% (30/126) receiving one and two interventions respectively. The most frequently used interventions were vitamin K (45), fresh frozen plasma (FFP) (43) and packed red blood cells (RBC) (34). **CONCLUSION:** In majority of patients presenting with warfarin toxicity, the cause was not identified. The most frequent cause was dosing errors. The majority of patients did not present with bleeding, the most frequent sites were the gastrointestinal and respiratory tracts. Vitamin K, FFP and packed RBC were the most frequently used interventions.

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LUDO VAN HILLEGONDSBERG



**MAGNIFYING MOVEMENT: USING EULERIAN VIDEO
MAGNIFICATION TO ENHANCE THE DETECTION OF
MUSCLE FASCICULATIONS IN ALS**

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NONCOMMUNICABLE DISEASES (3)

MAGNIFYING MOVEMENT: THE USE OF EULERIAN VIDEO MAGNIFICATION TO ENHANCE DETECTION OF MUSCLE FASCICULATIONS IN ALS

Ludo van Hillegondsberg

Undergraduate Student

Ludo van Hillegondsberg (Stellenbosch University - Faculty of Medicine and Health Sciences - Internal Medicine - Division of Neurology), Jonathan Carr (Stellenbosch University - Faculty of Medicine and Health Sciences - Internal Medicine - Division of Neurology), Naeem Brey (Stellenbosch University - Faculty of Medicine and Health Sciences - Internal Medicine - Division of Neurology), Franco Henning (Stellenbosch University - Faculty of Medicine and Health Sciences - Internal Medicine - Division of Neurology)

Background: Muscle fasciculations is an early and typical sign closely associated with amyotrophic lateral sclerosis (ALS). Detecting fasciculations is difficult and is classically done through clinical inspection, needle EMG and ultrasonography. However these techniques have significant limitations, including patient discomfort, screening only one muscle at a time, and cost. Scientists at Massachusetts Institute of Technology recently developed software termed Eulerian Video Magnification (EVM). It reveals detail in video footage by exaggerating differences in pixels over time, making changes that are otherwise invisible, visible. Objectives: To determine whether the use of EVM increases the detection of fasciculations in video footage of muscle groups of people with ALS (PALS), compared to direct clinical observation (DCO). Methods: 7 PALS and 7 controls with non-neuromuscular disorders were recruited, and thirty-second long video recordings were made of 9 regions (bilateral arms, thighs, hamstrings, calves, and back), with fasciculations counted by DCO during the same period. These recordings were then motion-magnified, and both the original and magnified recordings were reviewed randomly by 2 independent assessors, recording the number of fasciculations visible per video. Results: In muscle groups of PALS, the median fasciculation count was 1 by DCO (range 0-10) and 3 in the magnified recording (range 0-15; $p < 0,0001$). EVM revealed more fasciculations than DCO in 37 (61%) muscle groups. In muscle groups of controls, the median fasciculation count was 0 for both DCO (range 0-4) and EVM (range 0-6). EVM revealed more fasciculations than DCO in 7 (11%) muscle groups. Conclusions: Compared to DCO, EVM significantly increased the detection of fasciculations in muscle groups of PALS, but not controls. The technique is non-invasive, requires no specialized equipment, and can be used to screen large areas of muscle at once. If used to supplement clinical examination, EVM has the potential for earlier identification of fasciculations in ALS.

Perioperative Sciences: ORALS (1)

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KIRSTEN KINGMA



**A COMPARISON OF FOUR METHODS OF ENDOTRACHEAL
TUBE PASSAGE IN SIMULATED AIRWAYS – IS THERE
ROOM FOR IMPROVED TECHNIQUES?**

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PERIOPERATIVE SCIENCES (1)

A COMPARISON OF FOUR METHODS OF ENDOTRACHEAL TUBE PASSAGE IN SIMULATED AIRWAYS - IS THERE ROOM FOR IMPROVED TECHNIQUES?

Kirsten Kingma

Undergraduate Student

Kirsten Kingma (Stellenbosch University - Undergraduate), Ross Hofmeyr (University of Cape Town - Anaesthesia), Irene Zeng (Counties Manukau - Biostatistics), Christin Coomarasamy (Counties Manukau - Biostatistics), Andrew Brainard (University of Auckland - Emergency Medicine)

Background / Aims: Passage of an endotracheal tube (ETT) into the trachea is an essential portion of airway management. Four different methods aid ETT are frequently advocated: a 'naked' ETT without adjuncts, a preformed stylet inside an ETT, a bougie followed by a railroaded ETT, and an ETT with preloaded bougie. There is currently minimal evidence to support which method is best for first pass success rate (FPS). We aimed to demonstrate which method has the highest FPS and shortest time to endotracheal intubations (ETI). Methods: This is a cross-sectional, prospective, cross-over manikin study design. Participants performed timed ETI on "easy" and "difficult" airway models. The primary outcome was defined as FPS. The secondary outcomes include time taken for ETI and participants' preferred technique. ETI times were measured from commencement of laryngoscopy until first ventilation. Pre- and post-tests surveys recorded participant experience and perceptions of the four methods. Results: Preliminary data was collected on a 111 participants (888 ETI attempts). Of these participants, 54 worked in anaesthesia, 33 in emergency medicine, and 24 in out-of-hospital environments. In the "difficult" airway, FPS was 32% using the naked ETT. Stylet, railroaded bougie, and preloaded bougie had 96%, 78% and 91% respectively. Mean time to ETI was faster in the stylet technique (25 seconds) with the railroaded bougie technique being the slowest (42 seconds). 79% of participants stated that they would change their practice. A significant increase in preference of 38% towards the preloaded bougie. Conclusions: The continued use of a naked ETT for ETI in the difficult airway is not recommended. ETI was most rapid using a stylet or preloaded bougie. This study shows that ETI with adjuncts such as a stylet or a bougie is both superior in achieving FPS and faster in a difficult airway model.

Violence, Injuries, Trauma & Rehabilitation: ORALS

(3)

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**GINIE LE ROUX, ELAINE MOOLMAN, LARA PUCHERT,
DELENE SMUTS, CARLA VAN DEN WORM**



**OCCUPATIONAL THERAPISTS' PERSPECTIVES REGARDING
THE ENABLERS AND BARRIERS TO SCHOOL RE-
INTEGRATION OF ADOLESCENTS WITH TRAUMATIC
BRAIN INJURIES WITHIN THE WESTERN CAPE.**

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VIOLENCE, INJURIES, TRAUMA & REHABILITATION (1)

ARBEIDSTERAPEUTE SE PERSPEKTIEWE EN ERVARINGS RAKENDE DIE BEMAGTIGERS EN HINDERNISSE MET DIE HERINTEGRASIE VAN ADOLESSENTE, IN DIE WES-KAAP, MET TRAUMATIESE BREINBESERINGS (TBB) TOT DIE SKOOL

Carla van den Worm

Undergraduate Student

Lara Puchert, Elaine Moolman, Carla van den Worm, Delene Smuts, Ginie le Roux (University of Stellenbosch - Occupational Therapy department)

Inleiding: Traumatiese breinbeserings (TBB's) is 'n toenemende toestand onder adolessente in die Wes-Kaap en word hoofsaaklik veroorsaak deur substansemisbruik, misdaad asook motorongelukke. TBB's lei tot gevolge wat gedurende Arbeidsterapie-behandeling die herintegrasie tot die skool kan bemagtig of belemmer. Doel van studie: Die navorsingstudie poog om die perspektiewe van Arbeidsterapeute, rakende die invloed van bemagtigers en hindernisse op die herintegrasie van adolessente met TBB's tot die skool, te verken. Metode: 'n Kwalitatiewe studie is uitgevoer, waartydens 'n kollektiewe gevalstudie tradisie gevolg is om inligting te verkry van tien Arbeidsterapeute vanuit die Wes-Kaap. Die seleksie kriteria vir die studie was 'n minimum van twee jaar werkservaring in Neurochirurgie en registrasie by die HPCSA. Die data is verkry d.m.v. semi-gestruktureerde onderhoude met die deelnemers. Bevindinge: Die data van die onderhoude is getranskribeer en geanaliseer. Kategorieë het ontstaan, waarna tema's ontwikkel is, naamlik die Voorbereidingsproses tot herintegrasie, Bemagtigers tot herintegrasie, Hindernisse tot herintegrasie en Aanbevelings van die Arbeidsterapeute. Daar is gemeld dat die hoof hindernisse tot herintegrasie die tekort aan LSEN skole is asook die finansiële aspekte betrokke by die rehabilitasie en herintegrasie proses. Daar is ook verwys na die oneffektiewe kommunikasie tussen rolspelers en die beperkte kennis van onderwysers rakende die hantering van die adolessente met TBB's. Die hoof bemagtigers wat deur die Arbeidsterapeute identifiseer is, is die ondersteuning gebied aan die adolessente deur die familie asook die fasiliterende invloede by die skool. Verder het die adolessente se motivering tot behandeling as dryfkrag tot herintegrasie gedien, tesame met die afwesigheid van fisiese- en kognitiewe uitvalle. Aanbevelings: Die bevindinge, asook die aanbevelings is waardevol ten einde die toepassing deur rolspelers te bewerkstellig. Dit kan verseker dat herintegrasie van adolessente met TBB's spoedig en suksesvol kan plaasvind, die adolessente bemagtig om hul skoolloopbaan te voltooi en dus die adolessent se ontwikkeling te optimaliseer.

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Wii® AND TBI GROUP (PHYSIOTHERAPY)

**THE USE OF NINTENDO Wii® AS REHABILITATION FOR
PATIENTS WITH TBI – SYSTEMATIC REVIEW**

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VIOLENCE, INJURIES, TRAUMA & REHABILITATION (2)

THE EFFECTIVENESS OF A NINTENDO Wii®- UTILISED BALANCE PROGRAMME IN IMPROVING STATIC AND DYNAMIC BALANCE IN PEOPLE WITH BRAIN INJURIES COMPARED TO A TRADITIONAL PHYSIOTHERAPY BALANCE PROGRAMME

Wii and TBI Group

Undergraduate Student

Wii and TBI group (Stellenbosch University - Physiotherapy Division)

Introduction: Globally, brain injuries contribute to a high occurrence of mortality resulting in 140,000 deaths annually, with a notable prevalence for disability among those who survive. The presentation of acquired as well as traumatic brain injuries varies greatly depending on the mechanism of injury, locality and severity. The use of gaming consoles as an adjunct to therapy is a very new concept, resultantly there is limited research in this field. To date, there is no systematic review comparing a Nintendo Wii®-based programme to a traditional physiotherapy balance programme in improving static and dynamic balance in individuals with either an acquired or traumatic brain injury. Objective: To critically appraise, evaluate and establish the best available evidence for the effectiveness of a Nintendo Wii®-utilised balance programme in improving static and dynamic balance in people with brain injuries compared to a traditional physiotherapy balance programme. Methodology: Seven computerised databases were searched by the seven researchers through the Stellenbosch library. These databases were inclusive of the following: Pubmed, Cochrane Library, Ebsco Host (SPORTDiscus, CINAHL, pre-CINAHL), PEDro, SCOPUS and Google Scholar. The primary search terms used included: *traumatic brain injury, acquired brain injury, balance, Nintendo Wii® and physiotherapy or physical therapy*. The articles included in this review were required to meet specific criteria, and were further appraised according to the PEDro scale. The adapted "JBI Data Extraction Form" was used to extract data from the included articles. The use of RevMan® Review Manager Software was not possible due to the heterogeneity of the data. Therefore, the results of the study were summarized in a narrative form and illustrated using tables as statistical pooling was rendered inappropriate. Results: The two studies that qualified for this review were RCT's and according to the PEDro scale both scored 6/10. Individually a Nintendo Wii-based balance programme as well as a traditional physiotherapy programme showed improvement in static balance. The results did however show a greater improvement in Nintendo Wii® but it proved no significance compared to traditional physiotherapy. With regards to dynamic balance, there was conflicting results found in different outcome measures. Ultimately it showed to prefer a traditional physiotherapy balance programme more compared to a Nintendo Wii®-based. Conclusion: No firm conclusion on the effectiveness of a Nintendo Wii-based balance programme on balance can be made based on these results. Further research is therefore required in order to conclusively state whether it will be beneficial to implement this intervention in a clinical setting. Future studies should shift their focus towards more functional outcome measures rather than measures based on improving performance in therapy. Additionally, other gaming consoles, which challenge the patients' functional balance, would be beneficial to explore.

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A DIPPENAAR

**EFFECTIVENESS OF PARTIAL BODYWEIGHT SUPPORTED
TREADMILL TRAINING VS. PHYSIOTHERAPY AND/OR
OVERGROUND GAIT TRAINING IN CHILDREN WITH CEREBRAL
PALSY: A SYSTEMATIC REVIEW**

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VIOLENCE, INJURIES, TRAUMA & REHABILITATION (3)

EFFECTIVENESS OF PARTIAL BODYWEIGHT SUPPORTED TREADMILL TRAINING vs PHYSIOTHERAPY AND/OR OVERGROUND GAIT TRAINING IN CHILDREN WITH CEREBRAL PALSY

Mr A Dippenaar

Undergraduate Student

Mr A Dippenaar (Stellenbosch University - Interdisciplinary Health Sciences), Ms B Fell (Stellenbosch University - Interdisciplinary Health Sciences), Ms M Fourie (Stellenbosch University - Interdisciplinary Health Sciences), Mr S Hime (Stellenbosch University - Interdisciplinary Health Sciences), Mr E Janse van Rensburg (Stellenbosch University - Interdisciplinary Health Sciences), Gakeemah Inglis-Jassiem (Stellenbosch University - Interdisciplinary Health Sciences)

Background: Cerebral Palsy (CP) is a common cause of physical disability in children and affects activities of daily living. Children with CP have problems with ambulation and balance. Partial bodyweight supported treadmill training (PBWSTT) is an intervention that provides task specific gait training. Objective: Determine if PBWSTT is more effective, in improving function and gait in ambulatory children and adolescents with CP compared to physiotherapy and/or overground gait training. Methodology: Seven databases namely CINAHL, Cochrane, OT Seeker, PEDro, Pubmed, Science Direct, and Scopus were searched by five reviewers through the library of Stellenbosch University. Search terms included treadmill training, Cerebral Palsy, Physical Therapy OR Physiotherapy, partial body weight, function, gait OR walking. The adapted "JBI Data Extraction Form" was used to extract data from the selected articles and results are presented in narrative form and where applicable, statistical pooling was used. Results: The four RCTs used for this SR scored an average of 7/11 on the PEDro scale. The results show an improvement for all outcomes in the PBWSTT group as well as the physiotherapy group, but there was no significant difference between the two groups barring one. The only outcome that showed a significant difference was gait speed, where treadmill training proved to be the more favourable treatment in the short-term (2-4 weeks). It indicates a statistically significant difference which favours PBWSTT group compared to the physiotherapy group ($p = 0.04$). Conclusions: In conclusion there is high level evidence (II) that suggest that PBWSTT has no clinical significant advantage over physiotherapy and/or overground walking. Statistical significance was only found for short-term effects in gait speed with the use of PBWSTT for children with CP.

**Violence, Injuries, Trauma & Rehabilitation:
POSTERS (1)**

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MARK GALANTE

THE EFFECTIVENESS OF PROPRIOCEPTIVE AND NEUROMUSCULAR TRAINING COMPARED TO BRACING IN REDUCING THE RECURRENCE RATE OF ANKLE SPRAINS IN ATHLETES

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VIOLENCE, INJURIES, TRAUMA & REHABILITATION (poster 1)

THE EFFECTIVENESS OF PROPRIOCEPTIVE AND NEUROMUSCULAR TRAINING COMPARED TO BRACING IN REDUCING THE RECURRENCE RATE OF ANKLE SPRAINS IN ATHLETES

Mark Galante

Undergraduate Student

Mark Galante, Danielle Foot, Dane O'Connor, Demi Dreyer, Shameem ZalganKir, Roscoe Fisher (Stellenbosch University - Department of Interdisciplinary Health Sciences)

BACKGROUND: Ankle sprains are common musculoskeletal injuries in which the ligaments of the ankle partially or completely tear due to sudden stretching. Internationally, nearly one-half of all ankle sprains occur during athletic activity in field and court sports, with basketball being the most commonly involved sport. **OBJECTIVES:** To establish the best available evidence to determine if PNT is more effective compared to bracing in reducing the recurrence rate of ankle sprains in athletes. **METHODOLOGY:** The following seven computerised bibliographic databases, accessed via the Stellenbosch University Library and Information Service, were searched by six researchers. The main search terms used were “ankle sprains”, “proprioceptive training”, “neuromuscular training” and “bracing”. The quality of the trials included were critically appraised according to the PEDro scale. The RevMan 5© software was used to pool results from the included articles and illustrate the combined data in the form of forest plots. **RESULTS:** Three studies met the inclusion criteria and the quality according to the PEDro scale ranged from 5/10 – 7/10. The pooled data showed no difference between PNT and bracing in reducing the recurrence rate of ankle sprains in athletes at 12 months after initiation of the study. **CONCLUSION:** This systematic review of the overall effect suggested that current evidence does not favour the use of PNT over bracing in reducing the recurrence rate of ankle sprains, however both are individually equally effective in this regard. The quality of the trials included in this review qualifies it as level II evidence. Physiotherapists are advised to use either PNT or bracing according to the patients preference and their own expertise. Further studies should be conducted to determine the effect of PNT and bracing in reducing recurrence rate of ankle sprains, as well as patient-reported outcomes such as pain, ankle instability and severity of injury.