



**STUDENT ACADEMIC YEAR DAY**  
**STUDENTE AKADEEMIESE JAARDAG**



*12 August 2014*

*14:00 – 16:30*

*Lecture Hall 12*

## Project 1

### **Assessing the knowledge of health care workers and care givers on the road to health booklet, as well as the implementation thereof in the western cape province, south africa, focusing on the immunisation and developmental milestones sections in infants 0 to 36 months of age.**

*Klara Strydom, Estelle Strydom, Chia-Chia Tina Lee, Yi-Chieh Yeh*

Department of Human Nutrition, Stellenbosch University

#### **Abstract**

To keep track of a child's health, the new Road to Health Booklet (RtHB) was implemented by the Department of Health in 2011. Two components of improving a child's health are receiving age appropriate immunisations and undergoing regular development screening. Both are featured in the RtHB and its implementation was assessed through this study.

Primary health care facilities (n=41) representing the West Coast (WC) and Overberg (OB) Districts were visited and infants (n=714) and their care givers (CGs) (n=728), as well as health care workers (HCWs) (n=70) present on the day of the clinic visit were observed and asked to complete questionnaires, after obtaining informed consent.

It was found that 42.2% of the CGs understood everything of the RtHB and only 75.7% of the HCWs had received formal training on the RtHB. The overall completeness of the immunisation section was 97.7% for date given, 97.6% for signature and 94.8% for batch number, even though 26.5% of the HCWs had a negative attitude towards immunisations.

Based on the information in the RtHB, general milestones were checked during every clinic visit in 43.4% of cases for hearing, 34.5% for doing and 52.1% for sight. Although 90% of HCWs reported that they assess and record developmental milestones during each consultation, only 26% did so on the days of our visit. The main identified barriers that influence the completeness of the relevant sections included staff shortages, not having enough time and an increased workload. This results in the RtHB not being entirely explained to the CGs. Comparing the various results of the two Districts shows that overall the WC has a better implementation of the RtHB than the OB.

In conclusion, this study is only an observation of the current situation of the implementation of the RtHB and shows there is a need for improvement. Therefore, future studies need to be conducted in order to make further improvements. Some recommendations for better implementation of the RtHB are educating CGs on the contents of the RtHB, employing more HCWs and ensuring all staff is trained on the implementation of the RtHB.

## Project 2

### The Effectiveness of Low-Level Laser Therapy on Pain, Self-Reported Hand Function and Nerve Conduction Compared to Placebo or “Sham” Treatment for Adults with Carpal Tunnel Syndrome: A Systematic Review

*Amy Abel; Andrea Damon; Anisha Bansda; Marinique Wakens; Réna Kriel*

Division of Physiotherapy, Stellenbosch University

#### Abstract

**BACKGROUND:** Carpal tunnel syndrome (CTS) is one of the most common peripheral neuropathies in the upper extremity and is caused by entrapment of the median nerve in the carpal tunnel. The cause may be primary idiopathic or secondary systemic. No systematic review (SR) has been done to determine the effectiveness of low-level laser therapy (LLLT) for the treatment of CTS.

**OBJECTIVE:** The aim of this review was to systematically for and critically appraise and evaluate the available literature for the effectiveness of LLLT on pain, self-reported hand function and nerve conduction compared to sham treatment in adults with CTS. **METHODOLOGY:** Seven computerized bibliographical databases were searched through the Stellenbosch library services, namely: *Cinahl*, *Cochrane Library*, *EBSCOhost*, *PEDro*, *PubMed*, *Science Direct* and *Scopus*. Key search terms for this review were: carpal tunnel syndrome, laser AND/OR low level laser, physical therapy AND/OR physiotherapy. Specific inclusion and exclusion criteria were applied to include relevant articles. The methodological quality of each study selected was appraised using the PEDro scale. Data was extracted and captured on an Excel spreadsheet and assessed for homogeneity and heterogeneity. The heterogeneity of the intervention used made statistical pooling inappropriate for this review. Results were subsequently summarized in the narrative form.

**RESULTS:** The seven studies included in this review were randomized controlled trials and scored between 6/11 and 10/11 on the PEDro scale. Six studies reported on pain as measured by visual analogue scale, only 2/6 reported significant improvement. Six studies reported on symptom severity score as measured by Levine or Boston questionnaire, 2/6 reported significant improvement. Four studies reported on hand grip strength measured by a dynamometer, 3/4 reported significant improvement. Two studies reported on pinch grip strength measured by a pinch gauge, both of them reported significant improvement. Four studies reported on self-reported hand function measured by Levine or Boston questionnaire, 1/4 reported significant improvements. Seven articles reported on motor and sensory nerve conduction studies. Amongst the seven articles, a combined total of 26 nerve conduction studies were reported on, of which 9/26 were reported to be significant. **CONCLUSION:** The heterogeneous nature of the interventions of the included research papers made it difficult to synthesize and compare the outcomes of the various studies. Hence, no strong evidence exists concerning the effects of LLLT on CTS in adults for pain, grip strength, self-reported hand function and nerve conduction.

## Project 3

### **An Exploration of Play within a Rural Community**

*Alex Dunnell, Michelle Bartie, Jesse Kaplan, Dianka Oosthuizen, Danielle Smit, Anchen van Dyk*

Division of Occupational Therapy, Stellenbosch University

#### **Abstract**

This study aimed to discover the nature and experience of after-school play of Grade R children from a low socio-economic, rural community in South Africa. The area in which the study took place was Avian Park, Worcester, a low socio-economic, rural community. The investigators worked from a qualitative paradigm, and used the data collection methods of participant observation, photographs and informal interviews, within a phenomenological approach, to achieve this aim. The data collection was carried out over a period of one week and the study was conducted in the participants' home environments. The participants of the study consisted of three boys and three girls aged five to six years who were living in Avian Park. After analysing the data, five categories, and two main themes emerged. The first theme which emerged was *Neighbourhood Children Find Ways to Play*, and included the categories *Social Play*, *Object Play*, *Gross Motor Activities*, and *Playing Indirectly*. The second theme which emerged was *Context Influences Play*, which contained the category *Contextual Influences*. The results that were found in this study could be used to gain better insight into children's play, as there is little literature available regarding this topic within a South African context. Through an understanding of a child's occupation of play, play as a meaningful tool may be applied in Occupational Therapy intervention in rural communities which are similar to the community wherein this study was conducted. In addition, these results may also be used as a basis for further research in the same field.

## Project 4

### **The effectiveness of whole body vibration training in addition to a pulmonary rehabilitation program compared to a standard pulmonary rehabilitation program in patients with chronic obstructive pulmonary disease to improve exercise tolerance, functional performance of the lower limbs and health related quality of life. A SYSTEMATIC REVIEW**

*Annelize Theron, Helanie Pool, Ilana Dormehl, John-William Durr, Karissa Nell, Lara Wessels*

Division of Physiotherapy, Stellenbosch University

#### **Abstract**

##### Background

A pulmonary rehabilitation (PR) program is included in the management of chronic obstructive pulmonary disease patients. The use of whole body vibration training (WBVT) in addition to a PR program, has been investigated. To date, no systematic review has been published to appraise the available evidence for the effectiveness of this intervention to increase exercise tolerance, functional performance of the lower limbs and HRQoL.

##### Objective

To critically appraise the best available evidence for the effectiveness of WBVT, in addition to a standard PR program, on exercise tolerance, functional performance of the lower limbs and HRQoL, in patients with COPD, compared to a standard PR program.

##### Methodology

Seven computerized bibliographical databases accessed through the Stellenbosch library services were included; *Cinahl, Cochrane Library, Pubmed, PEDro, Science Direct, Scopus and ProQuest Medical Library*. The key search terms used were: Chronic obstructive pulmonary disease, chronic obstructive airway disease, whole body vibration training, pulmonary rehabilitation program, exercise tolerance/endurance, lower limb strength and health related quality of life. Articles were independently screened by researchers at title, abstract and full text level. Articles were included based on pre-defined inclusion criteria. The methodological quality of the studies was determined via the PEDro scale. The adapted JBI Data Extraction Form was used to extract data from selected. Results are presented in narrative form and where applicable, statistical pooling was used and represented in a forrest plot.

##### Results

Of the papers identified, all three included studies were randomized controlled trials and had an average PEDro score of 6/11. The findings suggest that the intervention is statistically and clinically significant in improving exercise tolerance and functional performance of the lower limbs in addition to a standard PR program. No evidence of an improvement in HRQoL was obtained.

## Project 5

### **The Assessment Practices of Community Service Occupational Therapists working with Patients with Physical Dysfunctions in South Africa**

*Chrismarie Cordier, Celice Groenewald, Ledene Louw, Nina van Tonder, Lauren White, Bianca Zunckel*

Division of Occupational Therapy, Stellenbosch University

#### **Abstract**

This study was conducted to investigate the current usage of assessments among community service occupational therapists during the year 2014, working with adults with physical dysfunctions. The reasons for not using certain assessments were also investigated. The researchers used a cross-sectional survey research design, implementing an electronic questionnaire that was specifically designed for the purpose of the study.

Completed questionnaires were submitted by 73 community service occupational therapists working with adults with physical dysfunctions, in a variety of settings, namely tertiary, secondary, primary and community health clinics. The final response rate was 28% (73 of a 262).

The questionnaire contained 50 assessments and respondents had to state whether they use these assessments or not. They were required to state their reasons for not using assessments contained in the questionnaire. Of the ten most used assessments, eight were non-standardised, and of the ten least used assessments all were standardised assessments. The two most prominent reasons offered for not using the assessments, revealed that respondents are not familiar with the assessments and that the assessments are not available in their clinical settings.

The results of this study revealed that few of the respondents use standardised assessments. The reasons provided show a possible lack in education at undergraduate level regarding standardised assessments and subsequent limitations in creating evidence for practice. Reasons also show that there may be limited resources available to community service occupational therapists working in the public healthcare sector.

## Project 6

### **Assessing the implementation of the new road to health booklet in public health care facilities in the western cape (overberg and west coast districts) with a specific focus on the human immunodeficiency virus and tuberculosis sections**

*Tanja Pienaar, Nina Evans, Stephanie Rohrs, Anzelle van De Venter*

Department of Human Nutrition, Stellenbosch University

#### **Abstract**

This study is the 3<sup>rd</sup> phase of a larger study which aims to observe and report on the implementation of the new Road to Health Booklet (RtHB). This paper reports on the knowledge, attitudes and practices pertaining to the Human Immunodeficiency Virus (HIV) and Tuberculosis (TB) sections in the booklet.

This observational cross-sectional study was conducted in January 2014 on a representative sample of 41 public health care facilities in the Overberg and West Coast districts. Study tools included self-administered questionnaires for the Health Care Workers (HCW's) (n=70) and researcher administered questionnaires for the Primary Care Givers (PCG's) (n=728). An observational checklist was completed for each PCG and child's (0-36 months) booklet where possible (n=714).

Eighty-eight percent (n=641) of PCG's indicated that they were comfortable with both the recording of HIV and TB statuses in the RtHB. The majority of HCWs (94%) (n=66) indicated that protocols/policy documents regarding counselling of mothers on infant feeding options in the context of HIV were available in the relevant facilities, and 64% (n=42) of these HCW's always refer to these protocols. Seventy-nine percent (n=54 of 68) indicated that they record TB statuses and 66% (n=46) HIV statuses in the booklet. Sixty-one percent (n=33 of 54) of the TB statuses are recorded in the correct place ('well child' section). Forty-eight mothers (7% of n=703) were recorded to be HIV positive. However, the status of the mother was not recorded 43% (n=302) of the time. This study reported a total of 57 (8%) 'HIV exposed' children. Of these 57 children, 51% (n=29) had a Polymerase Chain Reaction test done at 6 weeks. Only 1 child was recorded to be HIV positive and referred for anti-retroviral therapy. No child was recorded to be retested at 10 weeks. Hospital admissions were recorded for 12 (2%) children, whilst 122 PCG's (17%) reported previous admissions. A total of 63% (n=437 of 696) children had clinical notes documented.

Results gathered from this study show inadequate completion of the HIV and TB sections in the RtHB and require more focus and consideration for optimal benefit of the RtHB in the future.

## Project 7

### *The effectiveness of low level laser therapy and exercise compared to exercise alone on pain, range of motion and shoulder function in patients with Subacromial Impingement Syndrome. A Systematic Review*

*Tania Allison, Ziyaad Fredericks, Sheenagh Jordaan, Nicholas Moffitt, Jaco Visagie*

Division of Physiotherapy, Stellenbosch University

#### **Abstract**

**Background:** Shoulder pain is the most prevalent pathology second to lower back pain and affects 16-21% of the population. Sub-acromial Impingement Syndrome (SAIS) accounts for 44% to 60% of patients presenting with shoulder pain within the range of 60°-120° abduction. SAIS is the compression of the suprahumeral structures against the antero-inferior aspect of the acromion and coracoacromial ligament. Research has shown that initial treatment for SAIS includes rest for a period of time from any activity that worsens symptoms. The current rehabilitation programs are aimed towards improving range of motion as well as reducing pain and disability. Evidence shows that Laser therapy may be effective in reducing pain and improving shoulder function in patients with SAIS, but the evidence for its additive effects when used in combination with therapeutic exercise is minimal.

**Objective:** To critically appraise and evaluate the evidence for the effectiveness of low level laser therapy (LLLT) and exercise, in comparison to exercise alone, in reducing pain, improving ROM and function in the treatment of patients with Subacromial Impingement Syndrome.

**Methodology:** Seven computerized bibliographical databases accessed through the Stellenbosch University library services was searched, namely; Cinahl, Pubmed, PEDro, Science Direct, ProQuest, Scopus and Cochrane Library. The main search terms included: "Subacromial impingement syndrome" OR "Subacromial syndrome, Laser Therapy AND/OR Low-Level laser, Exercise. The review studies had to meet specific inclusion/exclusion criteria to be included in this review. The Pedro scale was used to critically appraise the methodological quality of the review studies selected. The adapted "JBI Data Extraction Form" was used to extract data from the selected articles. Data extraction was done for clearly defined aspects. The heterogeneity of the data obtained in the review studies did not allow for comparable and statistical pooling; therefore results were summarized in a narrative format.

**Results:** The five studies included in this review were all RCT's with an average score of 7.8/11 on the PEDro scale. All five review studies showed significant improvements within intervention and control groups for all outcome measures used, only two of the studies reported statistical significant results in favour of the LLLT and exercise group. These two studies only reported on outcome measures used to assess pain and range of motion.

**Conclusion:** In summary, the current evidence is suggesting that the addition of low level laser therapy to an exercise program is not more effective than using an exercise program alone in treating patients with SAIS. Variations in laser parameters, length of interventions, sample sizes and stage of condition of patients presenting in the review studies may be factors responsible for the variation in the results reported. The implementation of laser therapy can be costly for both clinicians and patients, whereas patients can benefit equally from a comprehensive exercise program.



