evidence to recommend mobility aids [1]. Published papers voice frustration regarding the lack of "evidence" even when faced by relatively common situations [2]. However, there are other, structured approaches to evaluating clinically-relevant literature that do not use the EBP format.

Purpose: To increase awareness of clinically relevant information synthesis strategies when the EBP approach provides insufficient guidance for patient care.

Methods: Information was evaluated from current, physical therapy-related literature. "Information" was defined as knowledge derived from facts or experiences that can affect patient-care behaviors, decisions, or outcomes by increasing understanding or decreasing uncertainty [3]. Where information was published but not in keeping with EBP criteria, it was categorized according to published strategies.

Results: The Osteoarthritis Research Society used consensus (relatively weak) to recommend walking aids for people with knee osteoarthritis despite lack of randomized trials [4]. The American Academy of Orthopaedic Surgeons did not find strong evidence for their 29 questions related to treatment of distal radial fractures, but that did not prevent them from using a risk-benefit approach to recommend hand exercises [5]. Subirats et al. [6] used an experiential model to describe the development and implementation of a social network for over 2500 people with neurological impairments. Kjeken et al. [7] used a casuistic (science-based) model, as recommended by Torelli [8], to extrapolate theories of exercise to people with hand osteoarthritis. Malay and Chung [9] used the Bradford Hill [10] causation approach to assess whether vitamin C should be used to prevent chronic regional pain syndrome after radial fractures. Rutten et al. [11] used a knowledge translation (relatively strong) approach supplemented by theories of change to implement low back pain guidelines.

Conclusion(s): Ultimately, information relates to the effectiveness of patient-specific care. Diversity of information allows policy makers and clinicians to evaluate strengths, weaknesses and potential risks systematically by prioritizing information. Examples from published papers can be used as templates for problem-solving when EBP is uninformative or information is ignored.

Implications: Physical therapists should consider collecting wide-ranging information and evaluating the nature of that information according to several synthesis approaches. Each method has strengths and weaknesses that might be useful in the context of problem-solving.

Keywords: Evidence based practice; Information synthesis; Clinical reasoning

Funding acknowledgements: No funding was received for this study.

Ethics approval: No ethics approval was required for this study.

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http://dx.doi.org/10.1016/j.physio.2015.03.1780

Research Report Poster Presentation
Number: RR-PO-18-16-Mon
Monday 4 May 2015 13:00
Exhibit halls 401–403

MANAGEMENT OF LOW BACK PAIN AT PRIMARY CARE LEVEL IN SOUTH AFRICA: UP TO STANDARDS?

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Background: Primary Health Care (PHC) is well suited for management of acute, subacute or chronic low back pain (LBP). Prevalence of (chronic) LBP is suspected to be high among visitors of the South African primary care centers, but currently no information exists on prevalence or guideline adherence.

Purpose: To establish if treatment received for LBP in public PHC in the Cape Town area compares with international evidence based guidelines.

Methods: A cross sectional study was conducted to address the study aim. Cluster randomization determined the 8 community health centres where the study took place. The Primary Health Low Back Pain Questionnaire (PHLBPQ) was developed and validated for this population. Descriptive analysis and logistic regression analytical techniques were applied.

Results: 489 participants (mean age: 44.8) were included in this study. The larger part of the sample (67,5%) were of very low socio economic status (< $100 per month). Lifetime prevalence of LBP was 73.2% and 26.3% suffered from chronic low back pain (CLBP). Pain medication was the only

form of treatment received by 90% of the sample. Interventions received seemed to be unrelated to type of LBP (acute, sub acute and chronic). Referral to physiotherapy, education and advice to stay active were rarely done. Participants expressed low satisfaction with treatment.

Conclusion(s): Current management of LBP at PHC level appears to be ineffective and not conform guidelines. Further South African research should focus on barriers as well as measures to be taken for implementation of LBP guidelines.

Implications: Ineffective management strategies for LBP, a highly prevalent condition in South African primary health care centres, may lead to increased costs, increased cases of chronicity and disability, lack of motivation among health care workers as well as lack of patients' compliance.

Keywords: Low back pain management; Primary care; South Africa

Funding acknowledgements: We thank the faculty of Health Sciences, Stellenbosch University for providing funding for the costs of this research.

Ethics approval: Ethical approval obtained by the Committee for Human Research, Department of Research Development and Support, Stellenbosch University (Project nr: N08/05/148).

http://dx.doi.org/10.1016/j.physio.2015.03.1781

Research Report Poster Presentation
Number: RR-PO-06-14-Mon
Monday 4 May 2015 13:00
Exhibit halls 401–403

EFFECT OF LEG LENGTH DISCREPANCY ON THE DYNAMICS OF STRIDE INTERVAL DURING SELF-PACED WALKING

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Background: Though human walking is highly stereotyped, stride intervals fluctuate from one stride to the next. The variability of the stride interval exhibits long-range correlation. This observation has supported the hypothesis that the step-to-step variability exhibits fractal-like behavior rather than uncorrelated stochastic noise superimposed on regular dynamics. The variability of stride interval may be caused by a number of factors related to physical body and nervous system. Especially, the variability of stride interval was influenced by central nervous system based on integrative sensory feedback from visual, vestibular, proprioceptive, and other sensors. It is not clear that whether the changes of dynamics of the stride interval produces or not with leg length discrepancy.

Purpose: The purpose of this study was to examine the effect of leg length discrepancy on the dynamics of stride interval.

Methods: Subjects were 20 healthy young women (age: 21.5 ± 1.2 years, height: 159.4 ± 5.6 cm, weight: 54.4 ± 4.3 kg). The subjects walked on 20 m pathway of 8-shaped line (straight line length = 5m + 5 m, arc length = 5m + 5 m) for 10 minutes with three different conditions of leg length discrepancy (0 cm, 2 cm, and 4 cm). All subjects were right-foot dominant. The leg length discrepancy was given by attaching rubber to shoe sole of right foot. Waking speed was set at 40% of fluid velocity calculated from left leg length. Time series data of the stride interval derived from four tri-axial accelerometers placed on seventh cervical vertebra, third lumbar vertebra, right heel, and left heel. Scaling exponent α and approximate entropy (ApEn) were calculated from the time series data of stride interval ($N = 600$ strides) derived from each placed tri-axial accelerometer. Scaling exponent α and ApEn can quantify the long-range correlation and regularity of the time series data, respectively. Scaling exponent α and ApEn were compared using repeated measures analysis of variance with Shaffer's post hoc tests (R ver.2-8-1). Significant level was set at $p < .05$.

Results: Walking speed was no significant difference between three different conditions of leg length discrepancy. Scaling exponent α of the right heel in 4 cm leg length discrepancy was significantly lower than those in both 0 cm and 2 cm leg length discrepancies. ApEn of right heel in 4 cm leg length discrepancy was significantly higher than those in 0 cm and 2 cm leg length discrepancy.

Conclusion(s): Leg length discrepancy made the dynamics of stride interval change to be less long-range correlation and to be less regularity during self-paced walking. The long-range correlation and the regularity did not change until 2 cm leg length discrepancy in normal subjects. Recording the stride interval from heel with greater leg length was appropriate to detect the change of dynamics of stride interval.

Implications: Scaling exponent α and ApEn were useful parameters to detect the change of dynamics of stride interval by leg length discrepancy. We consider that the changes of dynamics in stride interval are changes in walking pattern. Therefore, scaling exponent α and ApEn may be useful parameters to detect the abnormal walking pattern in clinical practice. Further research on clinical practice is indicated.

Keywords: Stride interval; Leg length discrepancy; Scaling exponent

Funding acknowledgements: This study was received no financial support.

Ethics approval: This study was undertaken in accordance with the Declaration of Helsinki Ethical approval and all participants gave informed consent.

http://dx.doi.org/10.1016/j.physio.2015.03.1782