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RELIABILITY AND VALIDITY OF THE TIMED UP AND GO TEST AND TEN-METRE TIMED WALK TEST IN PREGNANT WOMEN WITH PELVIC GIRDLE PAIN

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Background
Pelvic girdle pain (PGP) during pregnancy occurs in 20-70% of all pregnancies and often leads to walking difficulties and sick leave. There is a lack of functional objective tests available to diagnose and measure functional status in this population. Clinical outcome measures should reflect the patient's main problems. While it is well documented that pregnant women with PGP experience difficulties walking, there is currently no outcome measure of walking function with demonstrated reliability and validity available for use in the clinical setting in this population. Such an outcome measure may assist in determining the extent of functional disability, in identifying patients most in need of treatment and may be useful to evaluate interventions. For manual therapists (and doctors) in Norway, a performance-based outcome measure of gait may also assist in decision making regarding the inclusion of “walking difficulties” on a referral for treatment and the need for sick leave. The Timed Up and Go test (TUGT) and Ten-metre Timed Walk Test (10mTWT) are two walking tests that may be suitable to use in the clinical setting in pregnant women with PGP. Both tests are quick to administer, inexpensive, require little space and would likely be achievable by most women with this condition. The TUGT requires the subject to stand up from a chair, walk three metres, turn around and walk back to the chair and sit down again. The 10mTWT assesses gait speed over a 10 metre distance.

Aims and research questions
The purpose of the present study was to evaluate test-retest reliability, intertester reliability and concurrent validity of the TUGT and 10mTWT in pregnant women with PGP. The research questions investigated were: a) What are the test-retest reliability and intertester reliability of both the TUGT and 10mTWT in pregnant women with PGP? b) What is the concurrent validity of the TUGT and 10mTWT in pregnant women with PGP when scores are compared with performances on the Active Straight Leg Raise (ASLR) test and the Pelvic Girdle Questionnaire (PGQ)? c) What is the association between performances on the TUGT and 10mTWT in pregnant women with PGP?
Methods
18 pregnant women with PGP were tested on two occasions one-week apart. Subjects undertook one practice trial and two test trials of the TUGT and 10mTWT at Session 1, and one practice trial and one test trial on each of the walking tests at Session 2. Intertester reliability was established between two assessors at Session 1 on separate trials. Performances on the TUGT and 10mTWT were undertaken at maximum pace and were compared with scores achieved on the ASLR test and PGQ to establish concurrent validity.

Results
Test-retest reliability (n = 17) using the intraclass correlation coefficient (ICC 1,1) was excellent for the TUGT (0.88) and 10mTWT (0.82). Intertester reliability (n = 14) was also excellent for both walking tests (TUGT: 0.94, 10mTWT: 0.96). The standard error of measurement was low for all reliability results. High correlations were found using the Spearman’s rank correlation coefficient (r_s) between the TUGT and ASLR test (r_s = 0.73, p = 0.001) and between the 10mTWT and ASLR test (r_s = -0.65, p = 0.003). Relations between the TUGT and PGQ were moderate (r_s = 0.41 to 0.52) and between the 10mTWT and PGQ low to moderate (r_s = -0.25 to -0.57). High associations were demonstrated between performances on the TUGT and 10mTWT (r_s = -0.78 to -0.85, p <0.001).

Conclusion
The TUGT and 10mTWT are reliable and valid objective functional tests of the pelvis in pregnant women with PGP.

Implications
Both the TUGT and 10mTWT are feasible for use in the clinical and research setting. It is recommended that one of these two walking tests is included in the clinical examination of pregnant women with PGP.

Key words
Pelvic girdle pain; pregnancy; gait; walking; reliability; validity; Timed Up and Go Test; Ten-metre Timed Walk Test; Active Straight Leg Raise; Pelvic Girdle Questionnaire.

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