

APPLICATION OF THE 1-HOUR PAD-TEST AND A NOVEL PICTORIAL QUESTIONNAIRE IN THE ASSESSMENT OF URINARY INCONTINENCE FOLLOWING SUCCESSFUL CLOSURE OF OBSTETRIC VESICOVAGINAL FISTULA

Hypothesis / aims of study

Although up to 90% of obstetric vesicovaginal fistulas (VVF) are successfully closed following surgical repair, a significant number of patients fall into the “continence gap”—continuing to suffer persistent urinary incontinence (UI) following VVF closure. Investigations using objective post-operative outcomes have found that 39-55% of patients remain incontinent [1,2]. However, little data exists regarding the severity of UI in this patient population and the ideal approach to treatment and management of these patients is unknown. Moreover, the use of currently available standardized questionnaires remains difficult due to the low literacy rate in VVF endemic populations. We aimed to utilize the 1-hour pad test to evaluate a novel pictorial questionnaire (the Post-VVF Incontinence Severity Scale [PFISS]) for use in the assessment of patient’s perceived severity of incontinence following successful VVF closure.

Study design, materials and methods

A panel of 7 figures each with 2 illustrations was developed. Each figure consisted of one illustration with a woman sitting on a bench accompanied by another illustration with the same woman standing where the back of her dress can be seen (Figure 1). In the first figure, the woman is completely dry. Subsequent figures show increasing amounts of urine leakage depicted by urine running down legs, puddle under bench, and area of dress soaked. Each figure was given a score ranging from 0 for the first figure to 6 for the seventh figure. To evaluate this questionnaire (PFISS), 56 consecutive patients with complaints of persistent UI following VVF closure in Ethiopia were recruited between November 2013 and February 2014. To provide further perspective regarding the severity of leakage, 2 randomly selected patients presenting unrepaired VVF (awaiting surgery) were additionally recruited (results from these patients were analysed separately). The PFISS was administered to each patient by a single nurse who occasionally was accompanied by a translator when the patient was fluent in a language other than the national language of Amharic. The nurse first described the panel of figures and then asked the patient to point to the leakage in various figures to ensure that the patient understood the questionnaire. The patient was then asked to select the figure that best described her severity of urine leakage. Subsequently, each patient underwent the standardized 1-hour pad test. The distribution of leaked volumes was assessed using histograms. PFISS scores were plotted against leaked volumes and analysed using linear regression models. Descriptive data was presented using mean \pm standard deviation, median and range, or percentages. P-values <0.05 were considered statistically significant.

Results

The mean age was 20.3 ± 10.3 years, the literacy rate was 0%, the median duration of labour was 3 (1 - 7) days, the median time since VVF closure was 7.2 (0.5 - 419) months, and the median VVF diameter was 3 (1 - 6) centimeters. The mean volume leaked during the 1-hour pad test was 126 ± 119 (0 - 415) ml, while the mean PFISS score was 3.3 ± 1.9 (0 - 6). There was a significant linear positive correlation between PFISS score and volume leaked on pad-test following regression analysis using individual patient data (Figure 1). Similarly, there was a significant positive correlation using average volume leaked for each PFISS score (Figure 2). Of the 56 patients, 50 (89%) had a positive pad-test as defined by an increase of 1 gram or more in pad-weight. Of the 6 patients who had a negative pad-test, 5 and 1 indicated a PFISS score of 0 and 2, respectively. Of the 28 patients that leaked greater than 92ml (the median volume of leakage observed), the mean PFISS score 4.4 ± 1.4 . The two patients with unrepaired VVF leaked an average of 245ml (255ml and 234ml), and both had PFISS scores of 6. Of the 56 patients with “closed” VVF, 9 (16%) leaked greater than 245ml. In these 9 patients, the mean volume leaked was 336 ± 41 ml (median=325ml), and the mean PFISS score was 5.3 ± 1.2 (median=6).

Interpretation of results

Overall, the severity of leakage in patients within the “continence gap” suggests a clinical scenario that may be characterized by unremitting continuous incontinence rather than simple stress urinary incontinence. These patients present with severe and varying degrees of UI, leaking an average 126ml during the standardized 1-hour pad test. Moreover, nearly a fifth of these patients may leak volumes greater than or comparable to patients with unrepaired VVF. Regression analysis using individual points and those averaged according to PFISS score both demonstrated a significant degree of correlation to the 1-hour pad test. Furthermore, there was adequate differentiation between each PFISS score (42ml increase in leaked volume for each incremental unit increase in PFISS score).

Concluding message

We developed a culturally-compliant pictorial questionnaire (PFISS), which can be used irrespective of a patient’s literacy status, for the assessment of patients’ perceived severity of persistent UI following VVF closure. The PFISS scores were significantly correlated to volume of urine leaked during 1-hour pad tests. To date, little is known regarding optimal treatment and management of the “closed but wet” patient population

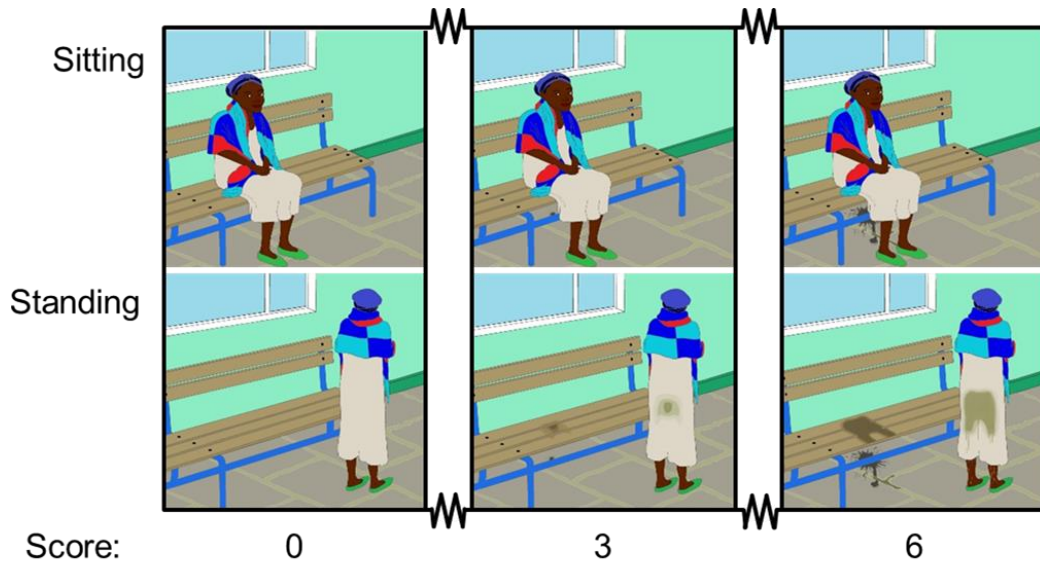


Figure 1. Condensed questionnaire showing only PFISS scores 0, 3, and 6.

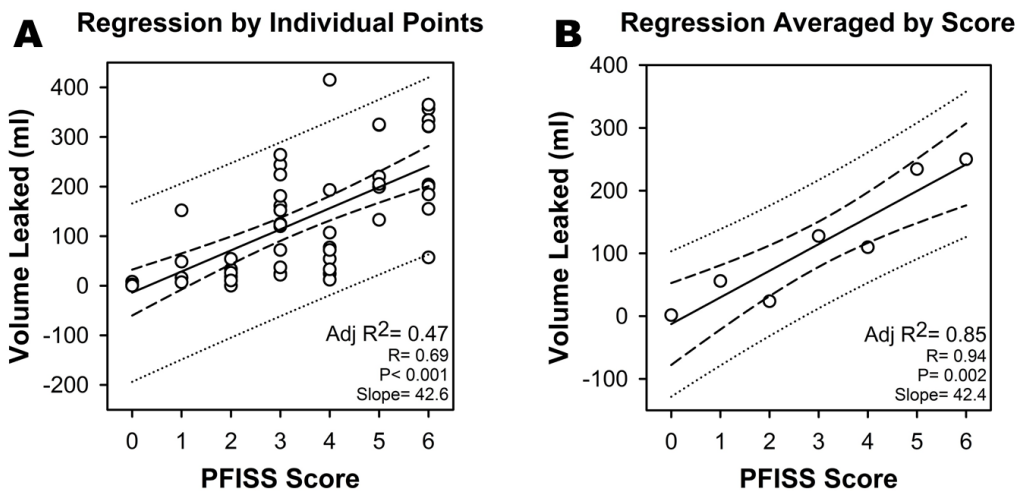


Figure 2. Linear Regression Results. (A) Regression results obtained by plotting each patient's volume leaked against her PFISS score. (B) Regression results obtained by averaging the volume leaked for each PFISS score.

References

1. Siddle K, Vieren L, Fiander A. (2014) Characterising women with obstetric fistula and urogenital tract injuries in Tanzania. *Int Urogynecol J.* 25(2):249-55.
2. Murray C, Goh JT, Fynes M, Carey MP. (2002) Urinary and faecal incontinence following delayed primary repair of obstetric genital fistula. *BJOG.* 109(7):828-832.

Disclosures

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