

A SHORTER 2-DAY VOIDING DIARY IS AS RELIABLE AS THE 3-DAY VOIDING DIARY

Hypothesis / aims of study

The International Continence Society recommends that voiding diaries be recorded for a minimum of 3 days, when used as an outcomes measure for voiding function. Recording the volume of each urination event for a 72-hour period requires a high degree of compliance. Patients not enrolled in clinical trials may be less motivated and receive less reinforcement to complete such a request. Our goal was to evaluate whether a single day or first 2 days of each diary could reliably predict the outcome of the full 3 day diary. This could improve compliance and decrease the burden on the patient.

Study design, materials and methods

For a one year period, October 2004 to September 2005, diaries requested and received were prospectively logged. Voiding diaries were requested after initial consultation with the treating physician (N.I or M.F). Each patient received a toilet hat for volume measurements. The following data was recorded: intake volume, pads used, incontinent episodes, and individual voided volumes for each 24-hour period.

Each patient served as his own control. Single day, 2-day and 3-day averages were calculated for each diary parameter. Pearson correlation coefficients with 95% confidence intervals were calculated, comparing the 1-day and 2-day to the "complete" 3-day diary.

Results

We requested 176 diaries, and 103 completed diaries (3 separate 24-hour periods) received, yielding a 59% compliance rate. 26% were not returned (n=46), 14% completed only 2 days of the diary (n=25), and 1% did not include oral intake recordings (n=2).

Diary indications were any overactive bladder syndrome (n= 93), incomplete emptying (n= 10) or stress incontinence (n=10). 94% (n= 97) of patients were women.

The 2-day diary highly correlated to all parameters ($r > 0.95$), with the exception of oral intake. The 1-day diary was less reliable.

Diary Variable	2-day vs. 3-day Correlation Coefficient (r)	95% Confidence Intervals	1-day vs. 3-day Correlation Coefficient (r)	95% Confidence Intervals
Intake volume	0.897	0.851 - 0.929	0.233	0.041- 0.408
Total volume voided	0.977	0.966 - 0.984	0.917	0.880- 0.943
Mean voided volume	0.982	0.973 - 0.988	0.930	0.898- 0.952
Smallest voided volume	0.950	0.927 - 0.966	0.866	0.808- 0.907
Largest voided volume	0.978	0.967 - 0.985	0.878	0.824- 0.916
Number of voids	0.989	0.983 - 0.992	0.957	0.936- 0.970
Incontinent episodes	0.994	0.991 - 0.996	0.970	0.957- 0.980
Pads used	0.995	0.993 - 0.997	0.983	0.975- 0.989

Interpretation of results

In patients being evaluated for lower urinary tract dysfunction, there is a high degree of correlation between the 2-day diary and the 3-day diary for voided volumes, voiding frequency, incontinent episodes and pad usage. The shorter duration may increase compliance and willingness to complete this highly useful tool without compromising the quality of information obtained.

Concluding message

The 2-day diary highly correlated ($r > 0.90$) with the longer 3-day diary except for intake volume. As might be expected the 1-day diary was less reliable.

FUNDING: NONE

DISCLOSURES: NONE

HUMAN SUBJECTS: This study was approved by the Mayo Institutional Review Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.

