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IMPACT OF CONVENIENCE VOIDS ON FREQUENCY VOLUME CHART ANALYSIS WITH ASSESSEMENT OF BLADDER SENSATION IN COMMUNITY-BASED STUDY

Hypothesis / aims of study

The frequency volume chart (FVC) is a standard assessment for lower urinary tract symptoms (LUTS) (1). Bladder sensation during daily life can be evaluated by scoring the grade of perception of fullness on FVCs (2). Recently, relatively new term, convenience void, which is described voiding episodes without desire to void for social reasons, have been advocated to be considered for inclusion in the FVCs used in research (3). The aim of this study is to assess the agreement between voided volume and bladder perception grade at voiding and impact of convenience void on FVC analysis with scoring of bladder sensation including urge incontinence episodes in community-dwelling 40 years or older women examined during a mass screening program in Japan.

Study design, materials and methods

A total of 310 women (mean 58 years old, range 40 to 83) were asked to complete 3-day FVC with grade of bladder perception during community-based study in Japan. The grade of perception was defined scores 0 to 5 as follows; 0=No bladder sensation, 1=Sensation of bladder filling without desire to void (voiding can easily be delayed for more than 60 min), 2=Desire to void (voiding can easily be delayed for more than 30 min), 3=Strong desire to void (voiding cannot be delayed for more than 15 min), 4=Urgent desire to void (voiding cannot be delayed for more than 5 min) and 5=Urge incontinence episode with urgent desire to void.

Results

Total of 5709 voids which completed the voided volume and bladder perception grade on 3-day FVC analysis were obtained. Table 1 shows the relation between bladder perception grade and voided volume. The voided volume was significantly increased according to bladder fullness assessed by the different grades of perception ($r=0.401$, $p<0.0001$). 7.1% of the voids were graded without desire to void (grade 0), determined to be convenience void. In contrast, 12% of the voids were graded with urge desire to void (grade 4 and 5). Interestingly, all but one with urgent incontinence reported no convenient void. The voided volume at grade 3 perception in the women with symptom of urgency (327.5 ± 148.0 ml) ($p<0.0001$) was significantly smaller than that in women without urgency (269.5 ± 124.6 ml).

Figure 1 Distribution of voided volume in relation to bladder perception grade and age. The mean voided volumes in both 4 and 5 grades decreased significantly with age ($p<0.01$).

Table 1 Relation between bladder perception grade and voided volume (n=5709)

Grade of perception	Mean (ml)	± SD	95% CI (ml)	Range (ml)	Number (%)
0	141	±91	132 - 149	15 - 690	7.1
1	185	±103	178 - 192	20 - 720	14.4
2	233	±115	229 - 238	20 - 1000	42.1
3	292	±137	285 - 299	20 - 1100	24.6
4	328	±150	316 - 340	30 - 910	10.5
5	404	±180	362 - 446	40 - 900	1.3

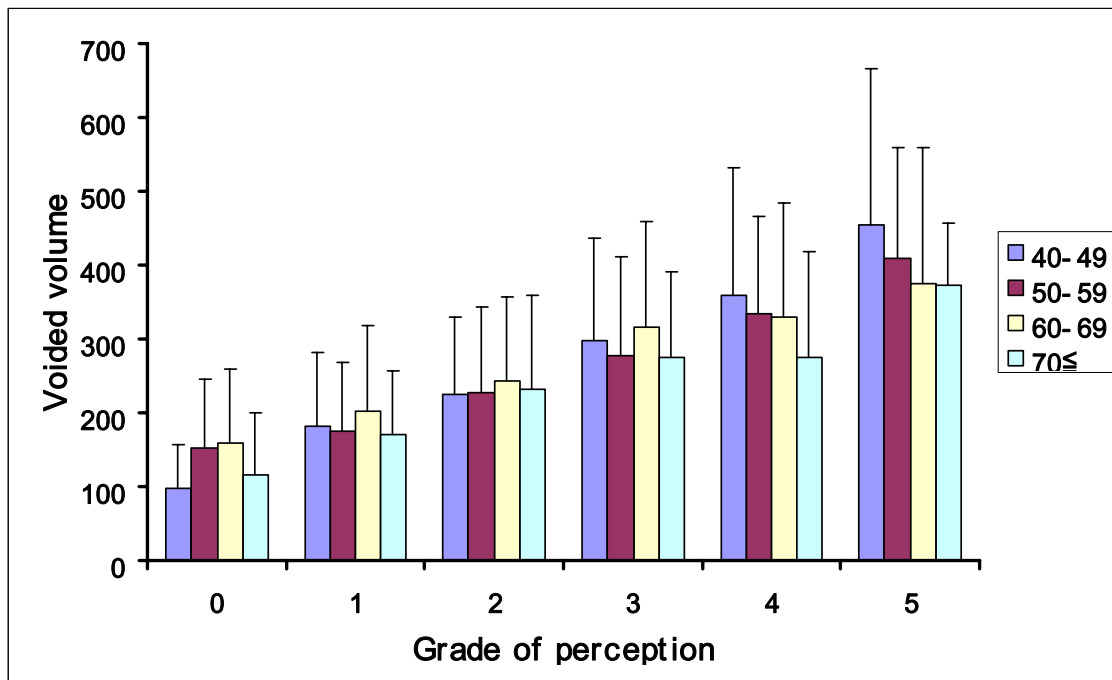


Figure 1 Distribution of voided volume in relation to bladder perception grade and age

Interpretation of results

This study suggested that the FVC with bladder perception grade is useful to evaluate voiding patterns including convenience voids and urgency. Concomitant use of bladder perception analysis on FVC should be considered to evaluate the patients with overactive bladder in women. Incidence of convenience void and voided volume distribution can be another indicator for severity of overactive bladder.

Concluding message

FVC analysis with bladder perception grade is useful to evaluate voiding patterns including convenience voids and urgency. Impact of convenient void on clinical practice needs further investigation. The parameters of voided volume with bladder perception on FVC analysis are important factors for assessment of overactive bladder in women.

References

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