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Influence of toileting behavior on the natural course of anterior vaginal wall prolapse. Kose I, Atik YT, Gul D et al. BMC Women's Health 2022;22:56-63. Doi:10.1186/s12905-022-01637-w.

Introduction:

- Activities that lead to increased intra-abdominal pressure has been cited as a potential cause of pelvic organ prolapse
 - Pelvic floor health and intra-abdominal pressure are essential components of voiding, defecation dysfunction and POP
 - Studies have concluded that defecation is physiological in the squat position
 - The squat position as an exercise can increase intra-abdominal pressure amounts in high-intensity intervals, however
- With defecation, squatting is the traditional position in Asia and Africa; in Westernized countries, sitting on toilet seats is the norm
- There are many studies on the effect of toilet position on defecation but information on the impact of toilet position on the natural course of pelvic organ prolapse is limited
- This study aimed to investigate the effect of toileting behaviors on the natural course of anterior vaginal wall prolapse (cystocele)

Methods:

- Retrospective review of 75 women who underwent surgery for symptomatic anterior vaginal wall prolapse
- Patients with a grade 2 or more prolapse were included
 - 2 groups
 - Squatting for defecation
 - This is a full squat (not modified with a squatty potty, ex)
 - Sitting for defecation
 - 44 patients in sitting; 31 patients in squatting
 - All patients in both groups did not perform strenuous work daily

Results:

- The POP-related VAS score was significantly higher in the squat group
- The time from initial symptoms to surgery was longer in the sit group
- No difference in POP-Q measurements between groups
- PFIQ and POPIQ scores were significantly higher in patients who voided and defecated in squatting positions

Conclusion:

- Voiding and defecation physiology are closely related to pelvic floor health.
- In patients with symptomatic POP, increased intra-abdominal pressure while performing the squat position during defecation and voiding may increase the severity of the patient's symptoms related to prolapse more than the sitting position

Discussion:

- Previous research has shown defecation in the squatting position is more physiological than in the sitting position
 - There is no study on the effect of toileting position on the natural course of POP
- Various factors influence the toileting behaviors of women
 - Social, cultural, medical
 - Women in various Asian and African countries void and defecation in a squat position in contrast to the sitting position widespread in Western countries
- Cystocele size is sensitive to maximum abdominal pressure and a decrease in the resistance of the levator ani muscle to stretching resulting in larger hiatal size
 - There is no established, evidence-based maximum intra-abdominal pressure threshold used to guide activity restriction for safety purposes
- Intrathoracic pressure, intraabdominal pressure and the Valsalva maneuver play important roles in ADL movements
 - IAP needed to maintain balance during trunk movement
 - IAP levels change in response to trunk asymmetry
 - There is no study on IAP during toileting
- Study limitations
 - IAP was not measured with a rectal manometer
 - Question of what other activities patients were performing outside of toileting that may have worsened prolapse

Discussion questions:

- Have you found that patients with cystocele symptoms struggle with defecation and position?

Additional research:

- Modi et al, in March 2019 (J Clin Gastroenterol), found using a posture modification device (squatty potty) positively influenced bowel movement duration, straining patterns and complete evacuation of bowels
- Ozturk et al, in Oct-Dec 2018 (Acta Gastro-Enterologica Belgica) found sitting during defecation increased the risk of colonic diverticulosis
 - This study used sitting on a toilet versus a full squat position
- Sakakibara et al, in April 2010 (Low Urin Tract Symptoms) found the greater the hip flexion achieved by squatting, the straighter the rectoanal canal will be, and accordingly, less strain will be required for defecation