

VALOUR: Evaluation of a Novel Visual Analogue Uroflowmetry Score (VAUS) to Support Shared Decision-Making for Men with Lower Urinary Tract Symptoms and their Primary Care Physicians

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Summary

Lower urinary tract symptoms (LUTs) in elderly men are common problems seen by primary care physicians. This study aims to determine the prevalence of LUTs in the community, and the effect of the Visual Analogue Uroflowmetry Score (VAUS) on quality of shared decision making between patient and physician in those with moderate to severe symptoms, referral rates to a urologist, and the rate of any adverse outcomes such as acute urinary retention (AUR).

The study showed a prevalence of 32.6% of LUTs. Referral rates to specialist care for both patient and physician were similar between the group receiving VAUS (intervention) and not (control group). VAUS showed good correlation with IPSS scores and uroflowmetry peak flow values for men in the community. VAUS improved shared decision making for patients by improving their understanding of their condition and also the options available for treatment.

In conclusion, lower urinary tract symptoms secondary to BPH are prevalent in Singapore. Both IPSS and VAUS are important tools for evaluation of LUTs in the primary care setting. VAUS maintains good correlation with uroflowmetry peak flow rates and IPSS (international prostate symptom score) for men in the community. It also improves shared decision making between the physician and the patient.

Introduction

Lower urinary tract symptoms (LUTS) in elderly men are common medical problems but are often underdiagnosed in primary care. A common cause for LUTs in this population is from benign prostatic hyperplasia. Timely identification and quick severity assessment are essential for its optimal management. We postulated that a pictorial tool would facilitate LUTS identification, support decision-making in its management, and aid in right-siting of patient care. This is the first study conducted in the local population that investigates the use of a pictorial likert score for evaluation of LUTs secondary to BPH.

Aim

The study aims to determine the (1) prevalence of LUTS among men in primary care; and (2) in those with moderate-to-severe symptoms or symptomatic to the detriment of quality of life (QOL), the effect of the Visual Analogue Uroflowmetry Score (VAUS) (Fig 1) on quality of shared decision making (SDM) with their polyclinic physicians, referral rate to the urologist and rate of acute urinary retention (AUR) as outcome at 6 months.

Methods

A cross-sectional survey was conducted on 320 men aged 50 years and above attending a public primary care clinic for general consultations between April 2019 to Aug 2019. Men with indwelling catheters, incontinence requiring diapers, anuria due to end stage renal failure, and those with dementia were excluded. LUTS status was assessed using IPSS (International Prostate Symptom Score) scores.

60 men from this group with moderate-to-severe LUTS (IPSS ≥ 8 and/or QOL ≥ 3) then underwent a pilot unblinded, randomized controlled trial. Additional exclusion criteria at this stage included those on existing follow up for treatment of LUTs, gross haematuria, acute urinary retention, symptomatic urinary tract infection, severe visual or hearing impairment, and a digital rectal examination suspicious for prostate cancer. 30 randomly selected men had VAUS (intervention) and another 30 men did not. The intervention group used VAUS to discuss their symptoms with their primary care physicians while the control did not. Physicians were blinded to IPSS scores in both groups. After the consultation, physicians had to decide whether they would refer the patient to a urologist, recommend conservative treatment with either watchful waiting or behavioural modification, or to start medication and review at a second visit. Patients not referred to a Urologist at the end of the second visit were counted as not referred.

The outcome measures were referral rate to the urologists; quality of the SDM process using SDM-Q9 and SDM-Q-Doc questionnaires and rates of AUR based on electronic medical records up to six months after study enrolment.

SINGAPORE GENERAL HOSPITAL VISUAL ANALOGUE UROFLOWMETRY SCORE (VAUS)

Please select the image below that best fits your urine stream

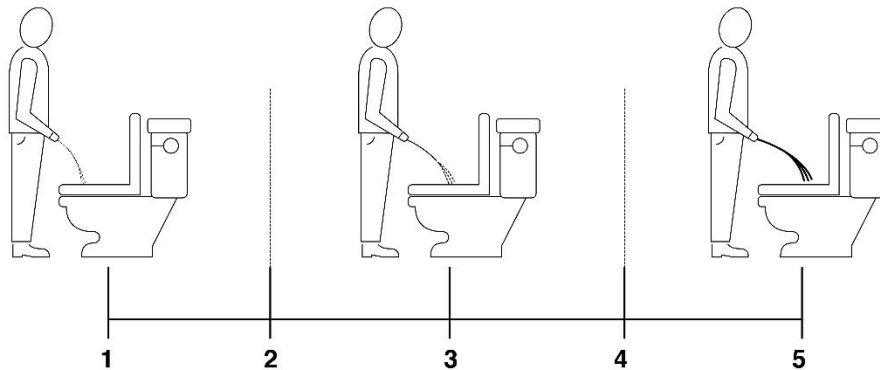


Fig 1. A VAUS score of <3 correlates with poor peak flow rates on uroflowmetry (<10ml/s for a voided volume of at least 100mls)

Results

Mean age of participants was 67 years (50-89). 89% were Chinese, 3.4% were Malay, and 7.2% were of Indian ethnicity. Most patients (54%) had secondary and post-secondary education (eg. Polytechnic, A levels), and a third (35.6%) had primary education. 32.6% of the men had moderate to severe LUTs. Referral rates to specialist care were similar between the group receiving VAUS (intervention) and not (control group), and was 0.36 and 0.40 respectively.

For all the patients that were referred to a Urologist, none required surgical intervention. The median prostate volume was 37mls (10-78) with Grade 2 intravesical prostatic protrusion (0-3). There was good correlation of VAUS values with the uroflowmetry peak flow rates (Q_{max}), with a spearman correlation coefficient of 0.77 ($p=0.11$). VAUS also showed good negative correlation with IPSS, with a spearman correlation coefficient of -0.51 ($p=0.001$).

Patients in the VAUS group scored better for 2 of the items in the shared decision making questionnaire (SDM Q-9). More patients in the VAUS group felt that their doctors shared the different options for treating their conditions ($p=0.07$) and that using a pictorial diagram like VAUS helped them to understand all of the information ($p=0.03$).

Conclusion

Lower urinary tract symptoms secondary to BPH are prevalent in Singapore. Both IPSS and VAUS are important tools for evaluation of LUTs in the primary care setting. VAUS maintains good correlation with uroflowmetry peak flow rates and IPSS for men in the community. The patient also has better understanding about his condition and the options of treatment available.

Future Areas to take care of/Going forward

The rate of referrals to a specialist was affected by confounding factors, such as elevated prostate serum antigen levels and resultant need for referral to exclude prostate cancer. SDM results are also influenced by many factors, including societal perceptions and traditional views of the physician versus the patient holding the locus of control of the latter's health. In our local population, many of the elderly who are less educated may leave most of the decision making to the physician.

Last but not least, the results are limited by our small sample size, and these results are best viewed as data from a pilot study in the local community. Going forward, we can validate these results in a larger sample population.

While we were not able to demonstrate that VAUS improved the referral rates, we demonstrated that VAUS showed good correlation with IPSS and uroflowmetry peak flow rates for men in the community, and not just in the specialist centre setting. It can potentially be an additional valuable tool for monitoring patients with LUTs secondary to BPH and for evaluation of improvement/deterioration of their condition with and without treatment.

Means of Official Announcement of Research Results

The results from this study have been submitted for presentation at Urofair 2020(local Urology conference) which will be held in April 2020. The abstracts submitted for the conference will be published in the Canadian Journal of Urology (Urofair edition).