

# Comparison between visual prostate symptom score and international prostate symptom score in males older than 40 years in rural Indonesia

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**Purpose:** To evaluate the effect of education and literacy status on completion of the Visual Prostate Symptom Score (VPSS) and the International Prostate Symptom Score (IPSS) in males aged over 40 years in a rural Indonesian area.

**Methods:** We enrolled 103 men who had visited Tc-Hillers Maumere Hospital. Four questions related to frequency, nocturia, weak stream, and quality of life (QoL) were presented by pictogram in the VPSS. Data on age, educational level, and literacy status were analyzed to determine associations with the capability to complete the IPSS and the VPSS questionnaires. Correlation test was used to identify correlation between the VPSS and the IPSS.

**Results:** The median age of the 103 respondents was 60 years. A total of 69 patients (67.0%) were able to read, 99 patients (96.1%) understood the Indonesian language, and 52 patients (50.5%) had an education grade > 9. The IPSS was completed without assistance by 55 patients (53.4%) and the VPSS by 82 patients (79.6%). None of the patients who could not read could complete the IPSS without assistance, whereas 15 patients (44.1%) who could not read could complete the VPSS without assistance ( $P < 0.001$ ). In the analysis of education level, 40 of 51 patients (78.4%) with an education grade  $\leq 9$  required assistance to complete the IPSS compared with 8 of 52 patients (15.4%) with an education grade > 9 ( $P > 0.001$ ). In the same groups, 19 of 51 patients (37.3%) compared with 2 of 52 patients (3.8%) required assistance to complete the VPSS ( $P < 0.001$ ). Total VPSS, VPSS obstructive symptoms, VPSS irritative symptoms, and VPSS QoL scores significantly correlated with the total IPSS, IPSS obstructive symptoms, IPSS irritative symptoms, and IPSS QoL, respectively (correlation coefficient,  $P$ -value: 0.675, < 0.001; 0.503, < 0.001; 0.731, < 0.001; and 0.823, < 0.001, respectively).

**Conclusions:** The VPSS correlated significantly with the IPSS and could be completed without assistance by a greater proportion of men with low levels of education. The VPSS might be useful in evaluating men with lower urinary tract symptoms in rural Indonesian areas with a high level of illiteracy and low level of education.

**Keywords:** Aged, Lower urinary tract symptoms, Male, Nocturia, Prostate

## INTRODUCTION

The World Health Organization agreed to use the symptom index for benign prostatic hyperplasia (BPH) developed by the American Urological Association (AUA) in 1992 as a worldwide system assessment tool. That assessment tool is called

the International Prostate Symptom Score (IPSS). The IPSS is a validated questionnaire for evaluating lower urinary tract symptoms (LUTS) in men with BPH [1].

Previous study has shown that the IPSS questionnaire is a valid measurement of disease severity in well-educated and literate patient populations. A patient with low education and

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literacy, however, cannot correctly self-report his symptoms by use of the IPSS questionnaire [2]. Thus, in developing countries, where the level of illiteracy is high, administration of the IPSS becomes problematic [3]. Furthermore, the majority of men with BPH are aged 60 to 80 years and have visual and cognitive impairment [4]. Because of the complexity of the IPSS, the patient often asks the doctor or nurses for an explanation of the question. This could introduce a bias in the patients' responses [5]. Study has shown, however, that there is no difference in the information obtained between self-administration and physician administration of the IPSS [6]. The IPSS questionnaire printed in a small font size also causes difficulty in elderly men with visual impairment.

To overcome the problems with the IPSS, van der Walt et al. [7] developed a Visual Prostate Symptom Score (VPSS) representing frequency, nocturia, and weak stream. The fourth pictogram is about the quality of life (QoL) of patients regarding their urinary symptoms. The VPSS has advantages because it is simpler and easier to understand, especially for elderly men [8]. Studies in African and Korean populations have shown that a greater proportion of patients can complete the VPSS without assistance [8,9]. Previous studies showed significant correlations between total VPSS and total IPSS, QoL VPSS and QoL IPSS, VPSS irritative symptoms and IPSS irritative symptoms, and VPSS obstructive symptoms and IPSS obstructive symptoms. In a population with greater language diversity and limited education, the VPSS takes significantly less time to complete than the IPSS [10].

Limited data are available regarding the applicability of the VPSS in different cultural and population backgrounds. There are no data about the applicability of the VPSS in an Indonesian population, especially in a rural area. Until now, the VPSS had been tested only in a selected group with LUTS in a tertiary teaching hospital. The present study was therefore conducted to compare the IPSS and VPSS in a rural Indonesian area in a secondary hospital setting.

### MATERIALS AND METHODS

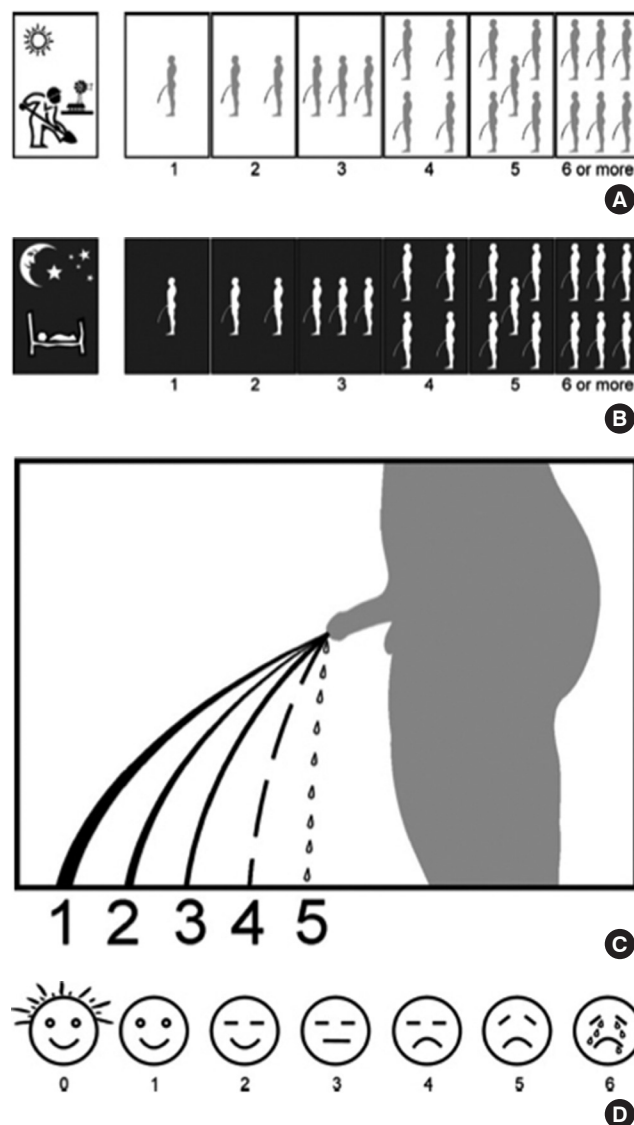
This study was conducted in Tc-Hillers Hospital (one of the public hospitals in the rural area of Nusa Tenggara Timur, Indonesia). This study enrolled 103 male patients over 40 years of age who visited the outpatient clinic during the time period of January to April 2014.

Patients were requested to complete the validated Indonesian version of the IPSS questionnaire, which consist of 7 questions: Q1, incomplete emptying; Q2, frequency; Q3, intermittency; Q4, urgency; Q5, weak stream; Q6, straining; and Q7,

nocturia. The total score of the IPSS was obtained by summing all 7 questions; the sum of Q2, Q4, and Q7 related to irritative symptoms; and the sum of Q1, Q3, and Q5 related to obstructive symptoms. Q8 was related to the QoL of patients because of their urinary symptoms.

The patients were also requested to complete the VPSS questionnaire. The VPSS consists of 4 pictograms to evaluate the following domains: Q1, frequency; Q2, nocturia; Q3, force of urinary stream; and Q4, QoL of patients. The sum of Q1 and Q2 related to irritative symptoms, and Q3 represented obstructive symptoms (Fig. 1).

The demographic characteristics of the respondents was evaluated, including age, level of education, income, literacy status, and ability to speak the Indonesian language. Evalua-



**Fig. 1.** Visual Prostate Symptom Score (VPSS) consisting of pictogram to evaluate (A) frequency, (B) nocturia, (C) force of the urinary stream, and (D) quality of life.

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