Original Article

Validity and reliability of pelvic organ prolapse simple screening inventory in women population of Faisalabad, Pakistan

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Objective: To assess the validity and reliability of Pelvic Organ Prolapse Simple Screening Inventory (POPSSI) in women population.

Methodology: This cross sectional study was conducted on 100 undiagnosed woman of POP with age 30 and above. An informed consent was taken from all study participants. All questions in the questionnaire were validated through previous literature. Questionnaires was provided to the respondents. Data were saved in a secure place to avoid any biasness.

Results: Pelvic organ prolapsed simple screening inventory had (Cronbach's alpha=0.753) indicating that it has a good internal reliability. It can be used as a screening tool for detecting pelvic organ prolapse.

Conclusion: Pelvic organ prolapsed simple screening inventory is valid and has good reliability of 0.753. (Rawal Med J 202;45:427-429).

Keywords: Pelvic organ prolapse (POP), Pelvic organ prolapse simple screening inventory (POPSSI), urogenital prolapse.

INTRODUCTION

Pelvic organ prolapse (POP) or vaginal prolapse occurs in women when the muscles and tissues that hold the pelvic organs in place begin to weaken. Subsequently, the uterus, bladder and rectum may press against the vaginal walls, causing them to protrude into the vagina. Prolapse development is multifactorial, with vaginal child birth, advancing age, and increasing BMI as most consistent risk factors.[1] POP can cause urinary incontinence, bowel disorders and swelling of vagina.[2]

It has an effect on half of parous women and nulliparous girls under the age of 60.[3] Pelvic floor weakness is frequently seen in more than one specific anatomic compartment, a wide range of symptoms that are related to specific compartments may occur.[4,5] Condition-specific questionnaires play an important role in assessing quality of life changes in women with POP.[1,6]

Pelvic Organ Prolapse Quantification framework (POPQ) alludes to a target, site explicit framework for depicting, evaluating, and organizing pelvic help in ladies. The POPQ framework portrays the topographic position of six vaginal locales and gives data with respect to perineal plunge and the adjustment in pivot of the levator plate dependent on increments in the genital rest and perineal body estimations. A couple of screening surveys for POP have been proposed and the best analyzed has been the Pelvic Floor Distress Index (PFDI).[7]

While the PFDI is a nitty gritty survey comprising of 20 addresses concentrating on prolapse, anorectic, and urinary symptomatology, the POPSSI comprises only 4 questions.[8] The POPSSI was at first considered in an Iranian people and it had 87.4% sensitivity for asymptomatic women and a 96.7% specificity among females with abstract POP.[6] The shame and trouble related with clinical assessment is in like way a fundamental confinement for the people.[9] A preliminary report showed that pelvic floor muscle preparing (PFMT) can improve POP.[10] The objective of this study was to find whether the POPSSI is a reliable and valid diagnostic tool for POP.

METHODOLOGY

This observational study has conducted at Social Security Hospital, Allied Hospital, Civil Hospital and Children's Hospital in 6 month period. Non-probability convenient sampling was used. The study population consisted of 100 women who sought gynecologic care at these hospitals. The sample size

was calculated at 95% level of confidence and was adjusted from 10% dropped rate. Inclusion criteria was undiagnosed POP both parous and nulliparous females having age of 30 and above. An informed consent was taken from the study participants.

A 4-items Questionnaire was used to diagnose POP. All questions in the questionnaire were validated through previous literature, Physical therapist and gynecologist. Questionnaires was provided and abstracted to the respondents as pamphlet. After collection, data was saved in a secure place to avoid any biasness.

RESULTS

Out of 100 women, 12 were nulliparous and 88 multiparous. Out of 100, 80 women were diagnosed with POP and 20 women were identified with no prolapse. Women having prolapse had median parity of 3.59%. POPSSI had Cronbach's alpha of 0.753, which means it has a good internal reliability for POP. Question no 3 has the lowest coefficient alpha= .676 while Question no 4 has the highest coefficient alpha = .745, which indicates it has strongest internal reliability among all the other questions.

Table 1. Descriptive statistics of items of POPSI.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
do you feel urinary incontinence with laughing, sneezing and coughing?	1.66	1.358	.580	.366	.678
do you feel urinary urgency?	1.68	1.351	.581	.337	.677
do you feel pain during defecation?	1.75	1.341	.582	.367	.676
do you feel or see a buldge in a vagina?	1.66	1.479	.455	.219	.745

Table 2. Diagnostic test reality.

		Reality		
		Negative	Positive	Total
Negative	Count	16	25	41
	% within reality	80.0%	31.3%	41.0%
Positive	Count	4	55	59
	% within reality	20.0%	68.8%	59.0%
Total	Count	20	80	100
	% within reality	100.0%	100.0%	100.0%

POSSI question no.1 has coefficient alpha= 0.678, question no. 2 coefficient alpha has value of 0.677, question no.3 coefficient alpha=0.676 but question no. 4 has the highest coefficient alphas value = 0.745, indicating its strongest reliability for POP (Table 1). Sensitivity of POPSSI was 68.8% while specificity was 80% (Table 2). For question no 4 (do you see a bulge in vagina?), 59% women answered in yes of while 41% women answered in no.

DISCUSSION

This study has assessed the internal reliability of POPSSI alongside its validity. It showed that stress urinary incontinence has (Cronbach's alpha=0.678), urinary urgency has 0.677, pain during defecation has 0.676 reliability and feel bulge in vagina had Cronbach's alpha=0.74. The overall reliability of POPSSI has (Cronbach's alpha=0.753), proved that it has a good reliability for POP.

A study was done on Ethiopian women of 45 years or older to support POPSI so it might use in poor resource settings where POP-Q exam is not feasible. The sensitivity and specificity of POPSSI was 91.7 and 60%, respectively. 109 individuals took part in it who was resolved to have POP. POPSSI recognized 90% of affected patients with 60% accuracy.[3]

Another community based study was conducted in 2011, purpose of this research was to investigate screening of the pelvic organ prolapse without a physical examination on screening of pelvic organ prolapse without a physical examination identified the sensitivity and specificity as 45.5 % and 87.4%, respectively. The sensitivity and specificity of POPSSI for detection of POP in overall public were 45.5 and 87.4%, rspectively. This examination demonstrated that network put together screening investigations with respect to POP could be encouraged by utilizing the POPSSI, the affectability of which would be upgraded through leading of open mindfulness programs.[11]

Limitations of study are that the study was done on small sample size. There should be a large sample size. Other things like patient willingness to take an interest in program and limited resources and patient education are principle impediments.

CONCLUSION

It was concluded that Pelvic Organ Prolapse Simple Screening Inventory (POPSSI) is a valid and reliable non clinical tool for Pelvic organ prolapse patients. The POPSSI can detect POP in affected patients in our clinical setting. Cronbach's alpha value for this scale is 0.753, which indates it to be a reliable screening tool. POPSSI has 75% reliable variance and 25% error variance. Specificity of POPSSI is 80% while sensitivity is 68.8%. A future community based study should attempt to validate and use POPSSI in general population of Pakistan.

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