47

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FEASIBILITY AND RELIABILITY OF PHYSIOTHERAPISTS MEASURING PROLAPSE USING THE PELVIC ORGAN PROLAPSE QUANTITATION (POP-Q) SYSTEM

Hypothesis / aims of study

The pelvic organ prolapse quantitation (POP-Q) system is an objective, standardised measure of pelvic organ prolapse (POP) recognised by the International Continence Society and is commonly used by practicing medical clinicians. The reliability of the POP-Q has been examined previously in two studies; one reported a substantial correlation (τb=0.7) between medical examiners with different levels of experience (1), the other reported substantial agreement (kappa=0.79) between a gynaecologist and a nurse (2).The POP-Q is predominantly used by, and has been validated for, medical clinicians. However, a survey of specialist women's health physiotherapists working in the UK reported that 92% of respondents were treating women with POP, yet no common outcome measure was used to assess the effect of their intervention (2). Therefore, there is the potential for extending the use of the POP-Q into the research and clinical practice conducted by physiotherapists. This study aimed to investigate the feasibility of physiotherapists using the POP-Q in a clinical situation, and to assess the reliability of the use of the POP-Q by physiotherapists.

Study design, materials and methods

Six physiotherapists, with varying experience, and two consultant gynaecologists took part in the study. All study physiotherapists completed a standardised training programme in the use of the POP-Q based on the American Urogynecolgical Society POP-Q DVD, and clinical observation and practice. Women were recruited from three urogynaecology and gynaecology outpatient clinics based in two hospitals. Participants were attending for various reasons, including some with symptoms of POP. Two POP-Q examinations were performed for each participant at this clinic; one by the consultant gynaecologist which formed part of their routine care; and one by a study physiotherapist. Participants then attended the hospital a week later at the same time of day, and two further POP-Q examinations were performed; one by the same physiotherapist from the previous week; and one by another study physiotherapist. The order of the examiner was allocated randomly at both clinic visits so that aspects such as discomfort or any tiredness experienced by the women from bearing down did not affect the outcome. The duration of each examination was timed by the attending chaperone. Participants were asked to complete a short questionnaire regarding their experience after each examination.Primary outcome measures were the agreement between examiners in POP-Q stage, comparison of duration of the examination undertaken by different examiners, and the questionnaire responses of the women associated with different examinations. Reliability, in terms of agreement on POP-Q stage, was assessed between pairs of raters using the weighted kappa statistic. Interrater reliability was assessed between the physiotherapist and the consultant gynaecologist ratings from the first clinic; the latter group was considered to provide the gold standard. From the second clinic ratings, interrater reliability between two physiotherapists was assessed. Intrarater reliability was assessed by comparing POP-Q stage as measured by the same physiotherapist in the same women at the first and second clinic visits.

Results

Forty-five women were recruited to the study [median age 59, range 32 to 87 years]. Their primary presenting complaint was POP (n=22), urinary incontinence (n=15), other conditions (n=7), or was not reported (n=1). Data analysis was based on 45 participants at the first clinic, and 39 of these participants who then attended the second clinic. In total 120 POP-Q examinations were performed by study physiotherapists.The agreement in POP-Q stage between the gynaecologist and physiotherapist was substantial, with a weighted kappa statistic of 0.63 (table 1). Weighted kappa was 0.67 for interrater agreement between two different physiotherapists; and 0.71 for intrarater reliability for a single physiotherapist.

Examiner		**Physiotherapist**					
	Stage	**0**	**I**	**II**	**III**	**IV**	**Total**
Gynae-cologist	**0**	0	1	0	0	0	1
	I	2	7	3	0	0	12
	II	1	8	12	0	0	21
	III	0	0	4	6	1	11
	IV	0	0	0	0	0	0
	Total	3	16	19	6	1	45

Table 1: Agreement in POP-Q stage between gynaecologist and physiotherapist.

The mean duration of examination was significantly shorter by 53 seconds ($p<0.01$; paired t-test) for gynaecologists [(mean) 171±51 seconds (standard deviation)] compared with physiotherapists for those same examinations [224±52 seconds].All participants who expressed an opinion reported both that the examination itself and the time taken to conduct the examination were acceptable. Participants predominantly rated the levels of discomfort as none or mild (table 2), with few differences between the rating given for gynaecologists and for physiotherapists. Two participants experienced severe pain during one examination, one of which was caused by a cyst.

Discomfort level of examination	**clinic 1** (n = 44)		**clinic 2** (n = 34)	
	Doctor	**Physiotherapist**	**Repeat Physiotherapist**	**New Physiotherapist**
none	27	27	18	16

mild	17	17	15	17
severe	0	0	1	1

Table 2: Questionnaire responses regarding level of discomfort during the examination.

Interpretation of results

The feasibility of physiotherapists using the POP-Q in a clinical situation was confirmed. Six physiotherapists, two of whom were non specialists, successfully completed 120 examinations. The kappa statistics indicated a substantial agreement between the raters. It is difficult to directly compare kappa statistics between studies, however the agreement between raters in this study was of a similar magnitude to that found between two examiners (a nurse and a gynaecologist; k=0.79) in another study (2).There was no difference between gynaecologists and physiotherapists in the reported experience of the participants during the examinations. Gynaecologists, on average, conducted the examinations approximately one minute faster than the physiotherapists. This difference was clearly acceptable to the participants.

Concluding message

The POP-Q is a feasible and reliable measure for use by physiotherapists. Its use both as a research tool and in clinical practice to assess physiotherapy interventions would prove to be a useful development for the profession, and would encourage multiprofessional working via the application of a common standardised measurement system.

References

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HUMAN SUBJECTS: This study was approved by the Southern Glasgow Local Research Ethics Committee and followed the Declaration of Helsinki Informed consent was obtained from the patients.