Does prolapse surgery address the symptoms that concern women?

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Clinicians are constantly being challenged to improve services and the care provided for individual patients. This article looks at the current approach to the management of uterovaginal prolapse in women and explores new developments in the assessment of prolapse and related pelvic floor disorders.

Consensus is lacking as to what constitutes normal and abnormal pelvic organ mobility or prolapse in women, particularly as many women with clinically obvious prolapse are largely asymptomatic and many with mild degrees of prolapse may have debilitating pelvic floor symptoms. As a result, the true incidence of the condition is unknown. Despite this, a survey of over 15 000 American women found that by the age of 80 years, 11% had undergone prolapse surgery and nearly a third of these had undergone multiple procedures (Olsen et al, 1997).

Although the primary goal of pelvic floor surgery is usually the alleviation of symptoms and suffering, the impact of such surgical interventions in this context has not been well documented. This is a reflection of the lack of a good evidence base for many contemporary treatments in this field. Most reports in the literature are observational and have employed subjective, clinician-based outcome measures (Slevin et al, 1988; Present, 1991). Well-conducted clinical trials are rare; randomized studies with long-term valid patient-based outcomes are virtually non-existent.

SYMPTOMS

Women rarely present with unequivocal symptoms of prolapse. Symptoms are commonly multiple and their concerns diverse, including anxiety that a vaginal lump may be a cancer or a sign of old age and infirmity, heralding the onset of physical or social isolation, the end to sexual activity, the development of incontinence and institutionalization. Many of these views are unjustified; prolapse is a common, non-life-threatening condition, not exclusive to the elderly or infirm and prolapse-related symptoms are treatable.

Interventions for prolapse are principally directed at relieving symptoms, which may be usefully classified as vaginal, anorectal, urinary tract and sexual. It is recognized, however, that many of these symptoms are non-specific and may in fact be a result of other pelvic floor comorbidities (e.g. postmenopausal genital tract atrophy). One of the main challenges facing clinicians in this field is determining which symptoms are directly attributable to prolapse and therefore which symptoms are amenable to its treatment. The relationships between anatomical defects (e.g. prolapse) and functional abnormalities (e.g. incontinence) are complex and the lack of standardized instruments for the clinical assessment of these conditions has hampered a clear understanding of them. Without such an understanding, the impact of intervention is difficult to measure and therefore impossible to accurately predict.

The development of prolapse is most commonly attributed to pregnancy and vaginal delivery, but prolapse is also occasionally seen in nulliparae. Connective tissue disorders, congenital defects, neurological disease and conditions that result in chronically raised intra-abdominal pressure (chronic obstructive airway disease, constipation and obesity) have also been implicated; and, although treatments for these conditions are worthy of consideration, they are often disappointing.

CURRENT SURGICAL OPTIONS

There are three primary approaches to reconstructive pelvic surgery: vaginal, abdominal and laparoscopic. The choice of approach often depends on the surgeon's personal experience, expertise and preference. The need for hysterectomy with prolapse is often taken for granted but uterine prolapse itself is a reflection of loss of

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upper vaginal, rather than uterine, support. Vaginal hysterectomy (with or without vaginal wall repair) is a popular and relatively safe first-line surgical treatment for women with uterine prolapse and has been for many years. The approximation of the uterosacral ligaments from each side and securing them to the vaginal vault following hysterectomy may provide reasonable upper vaginal support. There is some evidence that sacrospinous hysteropexy is just as effective in the short term, particularly if uterine conservation is desired (van Brummen et al, 2003). The Manchester repair achieves shortening and approximation of the uterosacral ligaments without hysterectomy, but does involve cervical amputation and subsequent loss of fertility (Bierring and Bohn, 1957).

For women with vaginal vault prolapse and enterocoele following hysterectomy, several procedures are described, of which abdominal sacrocolpopexy appears to have the most evidence to support its use, with reported high success and low complication rates (Lindeque and Nel, 2002; Deval and Haab, 2003). Iliococcygeal and sacrospinous fixation also have their proponents, particularly when the less invasive vaginal route is preferred, and some have found good safety and efficacy in appropriately selected patients (Lovatsis and Drutz, 2003). However, there is uncertainty over the long-term success of this approach. Paravaginal repairs and the laparoscopic route are probably the least utilized owing to, in part, to the degree of technical difficulty associated with laparoscopic suturing. Vaginal repairs incorporating meshes remain controversial; non-absorbable meshes placed via the vaginal route carry a high and hard-to-justify risk of erosion, whereas absorbable materials risk poorer long-term results. More information is required before recommending the use of these materials outside clinical trials.

PROLAPSE-RELATED SYMPTOMS

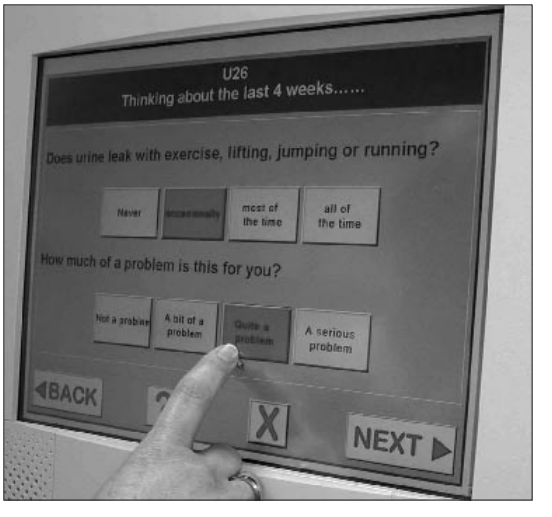
The presenting complaint of 'something coming down below' is not exclusive to women with pelvic organ prolapse, but when a clinician is also able to demonstrate significant prolapse, in these circumstances a reasonable expectation of improvement or resolution may be expected with reduction or repair with pessary or surgery. It is important to consider, however, that many women with prolapse are asymptomatic or unbothered by the condition; some are referred following the discovery of prolapse at a routine smear examination and the attribution to prolapse of non-specific symptoms, such as pelvic pain, dyspareunia and backache, is uncertain. For example, it is clear that sexual dysfunction may have multiple and complex underlying aetiologies and, although prolapse may be one of them, it is important to consider that vaginal scarring and narrowing following vaginal surgery may be another.

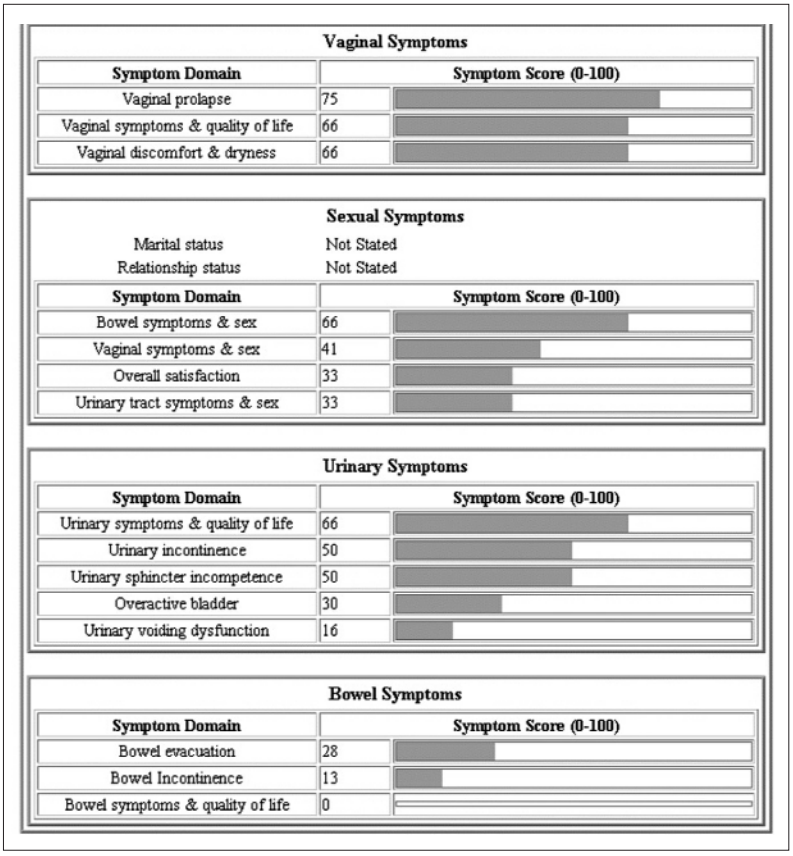
Rectoceles are commonly asymptomatic, although constipation is reported by up to 75% of women with rectocele and many also report incomplete bowel emptying and rectal pressure (Nichols, 1991). Symptoms commonly attributed to enterocoele include those related to the vaginal lump itself, dyspareunia, rectal fullness, pelvic pressure and pelvic pain. In women with advanced vault prolapse, approximately 50% report difficulty with walking and 50% have coital problems (Nichols, 1991). It has been suggested that 'bearing-down' symptoms and dragging abdominal pain are attributable to traction on the mesentery of pelvic organs (ovaries, bowel or omentum) within an enterocoele sac. Anorectal co-morbidity is, however, extremely common in women with enterocoele; investigations reveal 55% rectal intussusception, 38% rectal prolapse and 30% faecal incontinence (Nichols, 1991). These conditions, as well as urinary incontinence, voiding dysfunction and altered pelvic sensation may also have the same aetiology as prolapse, although if not directly attributable to the prolapse itself are unlikely to be resolved by its treatment.

QUESTIONNAIRES

In the authors' current urogynaecological practice a self-completed electronic pelvic floor assessment questionnaire (e-PAQ) is now used to measure pelvic floor symptoms in women (*Figures 1 and 2*). This instrument is used with a

Figure 1. Using the electronic pelvic floor assessment questionnaire (e-PAQ).





Vaginal Symptoms

Symptom Domain	Symptom Score (0-100)
Vaginal prolapse	75
Vaginal symptoms & quality of life	66
Vaginal discomfort & dryness	66

Sexual Symptoms

Marital status: Not Stated
Relationship status: Not Stated

Symptom Domain	Symptom Score (0-100)
Bowel symptoms & sex	66
Vaginal symptoms & sex	41
Overall satisfaction	33
Urinary tract symptoms & sex	33

Urinary Symptoms

Symptom Domain	Symptom Score (0-100)
Urinary symptoms & quality of life	66
Urinary incontinence	50
Urinary sphincter incompetence	50
Overactive bladder	30
Urinary voiding dysfunction	16

Bowel Symptoms

Symptom Domain	Symptom Score (0-100)
Bowel evacuation	28
Bowel Incontinence	13
Bowel symptoms & quality of life	0

Figure 2. Example of an electronic pelvic-floor assessment questionnaire summary report: symptoms are summarized in their domains, with visual scales from 0–100. In this example they have also been ranked to show the most problematic areas towards the top of the page.

TABLE 1.
Symptoms and their impact in 73 women with uterovaginal prolapse

Symptom	Number of patients with symptom	% with symptom recording 'a serious problem'
Impaired sexual function	41	24
Difficulty emptying bladder	44	16
Prolapse outside vagina	42	14
Incomplete bowel emptying	44	14
Impaired enjoyment of life	60	13
Stress incontinence	60	13
Urinary urgency	68	12
Urge incontinence	66	11
Impaired physical activity	49	10
Stool leakage	21	10
Stool urge leakage	48	9
Stool urgency	31	9
Awareness of any lump	67	9
Abdominal pain	60	5
Back pain	66	5
Unable to pass motion	40	3

view to supporting clinical diagnosis and management, as well as documenting and monitoring symptoms and outcome.

If a symptom is present, a sub-question about its impact is presented. Items can also be skipped altogether if screening questions are negative, making the questionnaire interactive and reducing respondent burden. Help pages are provided with each item, to assist unsupervised self-completion.

THE E-PAQ REPORT

On completion of the questionnaire, a printout of the subject's pelvic floor symptoms is made available for clinical use. This also includes a single page summary presenting data in individual domains which may be meaningful and useful to both patients and clinicians.

Before the introduction of this technology, the authors developed and validated a 23-item, paper-based questionnaire, specifically designed to address prolapse-related symptoms and their impact in women. In the initial validation study, which had the approval of the South Sheffield Research Ethics Committee, short-form (SF) 36 quality-of-life domain scores and prolapse questionnaire responses (both in women with prolapse) were compared with a control group of women without prolapse. Women with prolapse had lower (worse) mean scores in seven of the eight quality-of-life domains, with the greatest differences in physical function and role limitation. Quality of life scores correlated positively with scores in lifestyle, bladder and bowel domains of the prolapse questionnaire ($r=0.3–0.6$, $P<0.05$). The severity of bowel symptoms increased with increasing degrees of prolapse ($r=0.5$, $P<0.05$). However, other symptoms did not correlate with the degree of prolapse found on examination. Sexual dysfunction was the symptom most likely to be considered 'a serious problem' (24%). Awareness of a lump was the most prevalent symptom, but this was regarded as a serious problem by only 9% of women.

IMPACT OF SURGERY ON SYMPTOMS

In the authors' study, 41 women underwent surgical intervention for prolapse and completed the prolapse questionnaire at a median interval of 6 months postoperative. Symptoms were significantly improved in all areas, with improvement most commonly reported in relation to the lump itself (82%), effect on life style (75%) and sexual activity (66%), whereas resolution of bowel and bladder symptoms was less common.

It is well recognized that clinical interview data lack a degree of reliability, particularly in

the elderly, and the authors' findings illustrate some of the potential advantages of using self-completed questionnaires when evaluating disease severity, quality of life and outcome. Questionnaires are becoming increasingly popular, not only for research purposes, but also in the clinical setting to improve standardization, objectivity and reliability (Kline, 1986; Jackson et al, 1996). In benign disorders such as prolapse, a measure of both symptoms and their impact is desirable to support clinical decision-making, when the degree of bother may be the single most important consideration. The application of individual condition instruments (such as the Sheffield Prolapse Symptoms Questionnaire) in clinical practice is limited by their relatively narrow specification, which necessitates the use of multiple questionnaires to adequately address all the pelvic floor symptoms (including vaginal, bowel, urinary and sexual symptoms). Such a battery of questions carries a high respondent burden and is unfeasible, particularly in an unscreened population using conventional paper questionnaires. In addition, safe handling of the huge volumes of data generated with this approach is prohibitively expensive and impractical.

THE FUTURE

Computer systems have an increasing role in health-care delivery at a number of levels, including the forthcoming electronic patient record, communications and service organization. The greater availability and accessibility of this technology now provides the opportunity to create informatics systems of genuine clinical value. Previous work has shown that electronic questionnaires compare favourably with paper-based equivalents in terms of levels of missing data and ease of use (Velikova et al, 1999). Reliability and validity also appear to be comparable, with superior efficiency and cost for electronic systems, particularly in large surveys (Arslanian and Bond, 1996; Lofland et al, 2000).

The computerized electronic pelvic floor assess-ment questionnaire (e-PAQ) has been designed to be intuitive and interactive, enabling subjects to answer in private and without supervision, providing comprehensive assessment of symptoms, immediate data entry and instantaneous data analysis. The instrument includes urinary, bowel, vaginal and sexual dimensions and documents the frequency of symptoms as well as their impact.

Local research ethics committee approval was granted for a study which evaluated the psychometric properties, acceptability and feasibility of using the e-PAQ in primary and secondary care. Completion times for the e-PAQ were generally less than 20 minutes (mean = 16 minutes, standard deviation = 6) and satisfaction levels were high; 73% of women stated that they actually enjoyed completing the questionnaire and 93% felt that it was helpful and relevant during their clinic visit (*Figures 3 and 4*).

The psychometric properties of the questionnaire have also been established, including the validity and reliability of its domain structure and screening items (Radley et al, 2003). It is apparent that this system could assist in meeting many of the current and future health-care demands in this field, providing valuable information for the full and accurate assessment of symptoms, as well as improving the quality of

Figure 3. Patient acceptability of using the electronic pelvic-floor assessment questionnaire (e–PAQ) in an outpatient gynaecology clinic. Patients were asked if they agreed or disagreed with the statement 'I enjoyed filling in the questionnaire'.

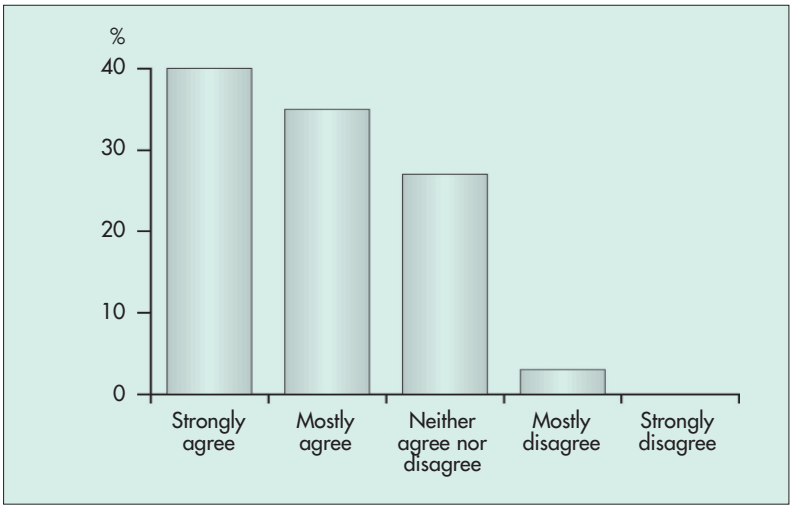
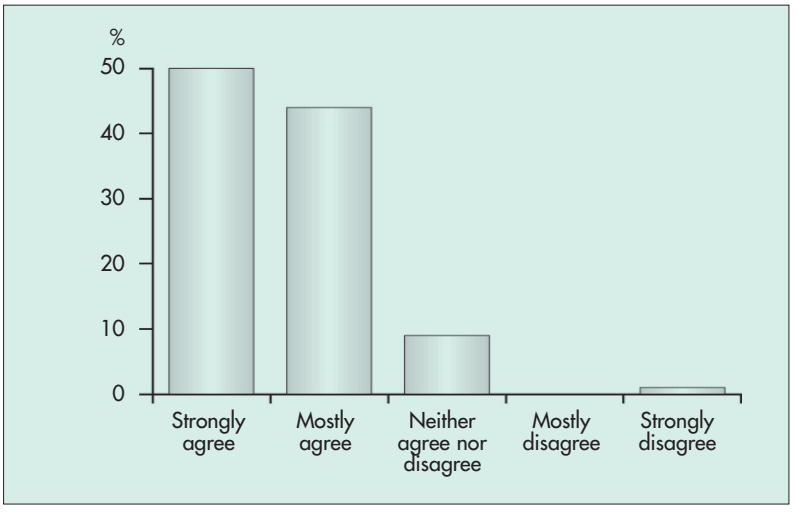


Figure 4. Patients' views on the value of using the electronic pelvic-floor assessment questionnaire (e-PAQ) in an outpatient gynaecology clinic. Patients were asked if they agreed or disagreed with the statement 'the questionnaire was helpful during my clinic visit'.



the clinical episode from the patient's perspective. The system's aim is to comprehensively measure, document and analyse symptoms associated with conditions such as prolapse, as well as their impact and it is hoped it ultimately yield greater insight into the effects of surgery on the symptoms that concern women.

CONCLUSIONS

Prolapse, bowel, bladder and sexual symptoms contribute substantially to the impaired quality of life associated with pelvic floor dysfunction. The selection of the type of surgery needs to be individualized according to the patient's symptoms and expectations, an assessment of pelvic support defects, as well as the functional status of the patient's urethra, bladder, bowel and vagina.

The assessment of outcome may be multifaceted. However, in benign conditions such as prolapse, patient-based outcomes, evaluating symptoms and their impact on quality of life, should be paramount. In this regard, the use of reliable, valid and clinically meaningful questionnaires provides relevant and accurate data on the impact of treatment on the symptoms that bother women most. The e-PAQ aims to make this process feasible by providing a user-friendly system for routine clinical use. HM

KEY POINTS

- Prolapse surgery is commonly undertaken in approximately 11% of women.
- Repeated surgery is commonly required in these women.
- Symptom assessment needs to be comprehensive and include urinary, bowel, vaginal and sexual function.
- New treatment modalities require critical evaluation in terms of these symptom outcomes.

Conflict of interest: none.

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