Assessing quality of life with incontinence

In this article...

- The different ways of measuring incontinence
- Review of questionnaires to assess quality of life and severity
- Recommendation of the best questionnaires to use

Authors
Ann Hewison is study nurse, Epidemiology and Cancer Statistics Group; Dorothy McCaughan is research fellow; Ian Watt is professor of primary and community care, all at Department of Health Sciences, University of York.

Abstract
Assessing quality of life with incontinence.
Nursing Times; 111: 22, 21-23.
This article reports on an evaluation of commonly recommended questionnaires to measure symptom severity and quality of life in women with urinary incontinence. Three questionnaires outperform the others and a robust assessment concludes that the International Consultation of Incontinence Questionnaire is the most practical tool for the busy practitioner.

It is estimated that 25%-45% of women worldwide are affected by urinary incontinence (Buckley et al, 2010; Minassian et al, 2003). The condition leads to physical symptoms but can also have a substantial effect on quality of life (Minassian et al, 2003). Several questionnaires are available to assess symptom severity and quality of life in women with urinary incontinence. Three questionnaires outperform the others and a robust assessment concludes that the International Consultation of Incontinence Questionnaire is the most practical tool for the busy practitioner.

Three main sets of guidance include advice about urinary incontinence questionnaires: the fourth International Consultation of Urinary Incontinence (Staskin et al, 2009), the National Institute for Health and Care Excellence (2006) and the Scottish Intercollegiate Guidelines Network (2004). These recommendations are based on an assessment of the psychometric properties of each questionnaire.

NICE has since updated its guidance (NICE, 2013), while SIGN withdrew its guidance in February 2015 as it was outdated. These changes are discussed below.

Psychometrics are used to measure factors individual to the person, such as quality of life, which cannot be assessed by a simple test (Rowling, 2005). To assess the psychometric quality of the questionnaires authors usually examine reliability, validity and responsiveness to change. Staskin et al (2009) describe reliability as the ability of the questionnaire to “produce similar results when assessments are repeated”. Reliability tests measure how well the questionnaire matches or

In this article...

- The different ways of measuring incontinence
- Review of questionnaires to assess quality of life and severity
- Recommendation of the best questionnaires to use

5 key points

1 Urinary incontinence is common in women and affects quality of life
2 Quality of life/symptom severity questionnaires should be used in the assessment of urinary incontinence in women
3 Questionnaires should be chosen according to reliability and validity, but also their applicability to practice
4 Three questionnaires outperform the others and are recommended in international and national guidance
5 The International Consultation of Incontinence Questionnaire is a good choice for everyday practice

Incontinence can impact on quality of life
correlates with other questionnaires, different administrations of the same questionnaire (test-retest reliability) and also between questions within the questionnaire (Bryman, 2008).

Bowling (2005) describes validity as “the extent to which an instrument is really measuring what it purports to measure”, and responsiveness to change, as how well the questionnaire responds to changes in the subject over a period of time. So for a patient successfully treated for incontinence, we would expect the questionnaire to reflect this change by an improvement in the patient’s score.

Besides measuring psychometric quality, the questionnaire must be easy to use by time-pressured practitioners. Research shows that assessment and management of women’s symptoms of urinary incontinence needs improvement in practice (Gerrits et al, 2008; Wagg et al, 2011).

An audit of continence care in the UK found only 28% of women aged 65 years and above and 40% of those aged under 65 years had received a quality-of-life questionnaire as recommended by NICE (2006) guidance (Wagg et al, 2011). However, recommended quality-of-life or symptom-severity questionnaires may include a complicated scoring system, be lengthy to complete and may not be applicable to the general female population.

Assessing and managing urinary incontinence can also be influenced by lack of time, competence and knowledge, and by practitioners’ education, attitude and personal characteristics (Gerrits et al, 2008; Saxer et al, 2008; Albers-Heitner et al 2007; Vinses et al, 2001).

Results
Our review covered 13 questionnaires. Only two were recommended by all three sets of guidance: the Urinary-Incontinence-Specific Quality-of-Life Instrument (I-QOL) and the King’s Health Questionnaire (KHQ). These were the most frequently used in clinical trials and, with the International Consultation of Incontinence Questionnaire (ICIQ), had the most validation reports.

Reliability and validity
Validation reports showed that most of the questionnaires had good test-re-test reliability and internal consistency, the other measure of reliability. The most common tests of validity were comparing the questionnaires with other commonly used, quality-of-life questionnaires.

Another test of validity was to compare the questionnaire with the “gold standard” test of pad weight. Pad testing measures the volume of urine lost by weighing an incontinence pad before and after a patient has passed urine (Staskin et al, 2009). However, there is a lack of evidence on the accuracy of this method (NICE, 2006).

Method
We conducted a review of commonly recommended questionnaires from the three sets of guidelines that measured symptom severity and/or quality of life in women with incontinence (Staskin et al, 2009; NICE, 2006; SIGN, 2004).

NICE has since updated its guidance and SIGN has withdrawn its guidelines. However, the questionnaires NICE recommends remain unchanged in its updated document (NICE, 2013).

Our review included all recommended questionnaires except those for use in male patients or limited to a particular type of incontinence, such as overactive bladder. We followed this with a literature review to find articles that reported on the psychometric properties of each questionnaire. We also considered the applicability of each questionnaire to practice, including ease of use for patient and practitioner. For example, many require users to calculate an overall score, and this varies in complexity.

Finally, we did a literature search to find out how often the questionnaires had been used in clinical trials as another indicator of the applicability to a practice setting.

### TABLE 1  THREE BEST-PERFORMING FEMALE INCONTINENCE QUESTIONNAIRES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures</td>
<td>● Symptom severity</td>
<td>● Quality of life</td>
<td>● Symptom severity</td>
</tr>
<tr>
<td></td>
<td>● Quality of life</td>
<td></td>
<td>● Quality of life</td>
</tr>
<tr>
<td>Number of questions</td>
<td>3</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td>Number of trials</td>
<td>13</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>Number of validation reports</td>
<td>12</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Reliability overall</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Validity overall</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Responsiveness to change</td>
<td>Significant change in score following treatment</td>
<td>Significant change in score following treatment</td>
<td>Significant change in score following treatment</td>
</tr>
<tr>
<td>Scoring</td>
<td>● Simple summation</td>
<td>● Calculation required</td>
<td>● Calculation required</td>
</tr>
<tr>
<td></td>
<td>● Guidance on severity of score provided</td>
<td>● Clinically meaningful differences in score provided</td>
<td>● Clinically meaningful differences in score provided</td>
</tr>
<tr>
<td>Applicability to practice</td>
<td>● Developed on large, mixed sample</td>
<td>● Developed on widely distributed sample</td>
<td>● Developed on women under hospital care</td>
</tr>
<tr>
<td></td>
<td>● Short, few missing responses</td>
<td>● High response rate</td>
<td>● High response rate</td>
</tr>
</tbody>
</table>

Our review included all recommended questionnaires except those for use in male patients or limited to a particular type of incontinence, such as overactive bladder. We followed this with a literature review to find articles that reported on the psychometric properties of each questionnaire. We also considered the applicability of each questionnaire to practice, including ease of use for patient and practitioner. For example, many require users to calculate an overall score, and this varies in complexity.

Finally, we did a literature search to find out how often the questionnaires had been used in clinical trials as another indicator of the applicability to a practice setting.
calculations, which can be time consuming. Interpreting scores can also be difficult. Kelleher et al (2004) claim scores may not be “well understood”. For example, a patient’s score may reduce after treatment, yet the patient may not feel this improvement.

Some validation reports commented on the ease of completion of the questionnaire and frequency of non-completion, which also helped to assess usefulness.

Finally, we looked at the population on which the questionnaire was based. Many were developed using small samples of women in a hospital clinic setting. Others, based on larger samples of women from the community as well as hospital settings, seemed more applicable to the general female population.

Discussion

Three questionnaires outperformed others in the criteria used in this review: frequency of use in trials, validity, reliability and applicability to practice. These were the KHQ, I-QOL and ICI (Table 1). However, despite seeming better than other questionnaires, in some areas their performance was still variable.

The KHQ and I-QOL are relatively long and require a score calculation, while sample of 285 women used to develop the KHQ were under hospital care. A wider sample was used for the I-QOL, but it only included 62 adults, of whom 68% were women. The KHQ and I-QOL developers reported high response rates, and there is guidance on clinically meaningful changes in score (Yalcin et al, 2006; Kelleher et al, 1997). However, there has been no development of levels of severity indicated by the score.

The ICIQ was developed using a large, mixed sample of 634 (72% were women), and has been shown to be easy to self-administer at home (Hajebrahimi et al, 2004). Unlike the I-QOL and KHQ, it is not recommended by all three sets of guidelines, and is used less frequently in clinical trials, but this may be because it was developed relatively recently.

It has a simple scoring system, and there is guidance on the severity indicated by this score (Klonig et al, 2009). It is also shorter than the other two questionnaires.

All three questionnaires perform well in terms of validity and reliability. However, applicability to everyday practice is equally important for practitioners, and in this respect the ICIQ appears to outperform both the KHQ and I-QOL. Tannenbaum and Corcos (2008) recommend it for clinical practice in their review.

Conclusion

The I-QOL and KHQ are well used in clinical trials and are good quality in terms of psychometric properties. However, when choosing a questionnaire to routinely use in practice, it is also important to consider ease of use and scoring for the nurse, and whether the questionnaire can be easily used by the general population of women.

The ICIQ has fewer validation reports and is used less in clinical trials, but it does show itself a more practical tool for the busy practitioner.


References


Royal College of Nursing (2006) Improving Continence Care for Patients: the Role of the Nurse. Tinyurl.com/RCNcontinuedcare


