Diaries – are they valid?

Frost R1, McClurg D2, Brady M2, Williams B2

1. University College London, 2. Nursing, Midwifery and Allied Health Professions Research Unit, Glasgow Caledonian University

Adherence

Adherence is vital in unsupervised home-based therapeutic activities to maximise treatment outcomes. It can be defined as:

The extent to which a patient follows recommendations agreed with the provider or
As components of the prescribed behaviour e.g. adherence to frequency, intensity, duration and the type or accuracy of behaviour

Diaries did not significantly differ in validity, reliability or acceptability, but validity and reliability varied widely within and between participants (see Table 1). Both diaries were rated as low burden and equal numbers favoured each diary or were neutral.

Table 1. Optimised Non-optimised

<table>
<thead>
<tr>
<th></th>
<th>Optimised</th>
<th>Non-optimised</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean difference (95% LOA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Validity</td>
<td>3.09%</td>
<td>-0.34%</td>
</tr>
<tr>
<td>(-103 to 110)</td>
<td>(-131 to 131)</td>
<td>p=0.732</td>
</tr>
<tr>
<td>Reliability</td>
<td>-13.5%</td>
<td>-5.42%</td>
</tr>
<tr>
<td>(-69.9 to 42.9)</td>
<td>(-60.4 to 49.5)</td>
<td>p=0.147</td>
</tr>
</tbody>
</table>

The model was therefore revised in light of the results and interviews:

Diaries

+ Require limited retrospection
+ Can measure a wide range of behaviours in differing levels of detail
+ Display patterns of change over time
+ Economical and simple to administer

- Reduced validity from back- and forward-filling, social desirability and simple forgetfulness
- Missing data arising from non-completion and non-return

Aims

1) To explore how the variation in adherence diary validity, completion and return arises and develop ways to optimise adherence diaries
2) To evaluate whether one or more of these increased the validity and completeness of diary data

Methods

1) Developing ways to optimise diaries

- Interviews with trialists: experiences and opinions regarding return rates and validity of diaries
- Publications: return rates and contextual information
- Multiple case study: n=7 PT, OT and SLT pilot and full trials (including 1 PFM trial)
- Model of trial-, activity- and diary-specific factors

2) Evaluating diary designs

Using a randomised crossover trial, we compared a diary optimised according to several model components (left) to one non-optimised diary (right).

Healthy older adults (n=33) undertook a home-based eight-week walking program, completing each diary for four weeks and recording walk duration and frequency.

Primary outcome: validity of self-reported adherence to walking duration (compared to ActiLife accelerometer)
Secondary outcomes: test-retest reliability and acceptability (questionnaire and interviews).

Conclusions

• Group level diary data is likely to be accurate; individual data is likely to be inaccurate
• Different designs appear to be interchangeable, though this study was underpowered to detect a difference
• We need to discuss with service users what they can record in diaries prior to using them
• Design appears to be less important than the type of activity recorded, a positive experience from trial participation or the emphasis placed upon the diary
• Self-report questionnaires have little data to support their use; electronic methods need validating

References


www.nmahp-ru.ac.uk