A Service Evaluation of an Online Intervention for Adults with Learning Disabilities

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**Accessible Summary**

- An online intervention was developed to help people access support quickly to learn skills to feel better.

- At the end, people with a learning disability and their caregivers told us how they found the intervention. They filled in questionnaires about their wellbeing and self-esteem.

- People with a learning disability enjoyed the online intervention. It helped them learn ways to manage their feelings, improve their relationships and build their self-esteem. They also liked talking to new people.

- For the service, it was a cost and time effective way of providing intervention for low-risk referrals to help manage the demand.
Abstract

A mixed methods service evaluation explored the feasibility and effectiveness of an online intervention for people with learning disabilities in a rural county. Psychological wellbeing and self-esteem were compared pre and post-intervention for twelve participants. Thematic analysis of semi-structured telephone interviews with five participants and seven caregivers was conducted. Outcome measures showed general improvement although not meeting significance. Qualitative feedback was positive, stating the intervention was beneficial in developing emotional and interpersonal skills and increasing confidence. Service benefits included interventions for referrals that might otherwise be declined or placed on a waiting list, with little time demand on facilitators.

Key words

Learning disability, online intervention, psychological wellbeing, self-esteem
Introduction

It is estimated that 40% of people with learning disabilities (LD) in the UK experience mental health difficulties, which is higher than the general population (National Institute for Health and Care Excellence, 2016). Reduced coping skills may lead to poorer wellbeing when experiencing difficult life events (Bond et al., 2019). Coupled with health and social inequalities, access to appropriate support can be challenging (Gregson et al., 2022). The use of digital technology is embedded within national policy for mainstream mental health services; however, this is not the case for people with LD where research into the use and accessibility of similar technologies remains sparse (Sheehan & Hassiotis, 2017). Possible barriers include cognitive, or communication limitations associated with LD (Sheehan & Hassiotis, 2017), financial constraints (Public Health England, 2016), or ‘risk-adverse’ care staff (Clifford Simplican et al., 2017) who people with LD are reliant on for accessing support. Despite this, a systematic review by MacHale et al. (2023) concluded there is an emerging consensus that online interventions have the potential to support people with LD, with the Covid-19 pandemic accelerating digital technology use in mental health services. However, they also highlighted the voice of individuals with LD often remains absent, as research typically involves carers, family members or professionals.

NHS Context

Specialist NHS mental health services have found themselves facing recruitment challenges and a significant increase in referrals since the pandemic, with an estimated 1.4 million people awaiting treatment in 2021 (Acumentice, 2022). People with lower socio-economic status are disproportionately affected, including people with LD (Care Quality Commission, 2022). Adaptations to service provision are needed to meet this growing demand and reduced capacity of clinicians.

Service Context

This LD Specialist Health Team is an NHS service providing healthcare to adults with LD aged 18 years and over in a large, rural county in Southwest England. The multi-disciplinary team supports
individuals with physical and mental health needs, either directly or indirectly via caregivers. A barrier for people with LD accessing mental health support is the limited access to reliable transport (McGuire et al., 2007), particularly relevant in a rural county, therefore the service was keen to explore the utility of an online intervention for this population.

Throughout this article, ‘caregiver’ refers to any individual who regularly provides support and care for a person with LD, including paid (carers/support workers) and unpaid support (family members).

**Intervention Content**

An online intervention was developed to address the above challenges and aimed to increase wellbeing through developing emotional awareness and regulation, promoting safe relationships, and improving self-esteem. Table 1 presents the intervention overview. The intervention was informed by cognitive behavioural therapy techniques of graded exposure and behavioural activation, psychoeducation and grounding skills from dialectic behaviour therapy and compassion-focused therapy. These approaches demonstrate positive outcomes when adapted for people with LD (Dagnan et al., 2018; Safitri, 2020; Willems et al., 2022).

The format followed a mixed delivery of pre-recorded videos with accompanying workbook to complete with a caregiver, and online group sessions facilitated by two Assistant Psychologists to consolidate the material and provide opportunities for reflection, social interaction, and mindfulness practice.

**Table 1**

*Intervention Overview*

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Online Session 1</td>
<td>Introductions and overview, session rules and creating a safe space</td>
</tr>
<tr>
<td>2</td>
<td>Video 1</td>
<td><em>Understanding Feelings:</em> Identifying feelings and how they affect thoughts and behaviour</td>
</tr>
</tbody>
</table>
This evaluation aimed to explore the effectiveness and feasibility of the online intervention and hypothesised that psychological wellbeing and self-esteem will improve post-intervention and be maintained at follow-up.

Method

A mixed methods service evaluation was conducted to evaluate outcomes of the intervention and consider patient and caregiver experiences.

Participants

Participants were referred for the intervention by healthcare professionals. Inclusion criteria were individuals requiring support with emotions, relationships, or self-esteem and an ability to sustain attention for more than 20 minutes. Participants needed technology to access the internet, Microsoft Teams and 1:1 support from a caregiver. Exclusion criteria included severe self-harm, expressing suicidality or a being perpetrator of domestic violence. Those who did not meet the inclusion criteria were offered alternative support. 15 participants were selected for the online intervention across four groups. Two participants discontinued the intervention after the introductory session due to not liking the online format. Figure 1 displays the process of determining the final sample.
Consent

Informed consent was obtained for all participants via an easy read leaflet and consent form.

The project was registered with the NHS Trust’s Research and Development team as a service evaluation.

Measures

Participants completed two outcome measures administered via telephone at three time points: pre-intervention, post-intervention and delayed. The outcome measures included:

- The Adapted Rosenberg Self-Esteem Scale (Dagnan & Sandhu, 1999). A self-report measure validated for the LD population (Park & Park, 2019) which demonstrates adequate reliability ($\alpha = 0.68$, Dagnan & Sandhu, 1999). The maximum score was 30 with higher scores reflecting higher self-esteem.
- The Clinical Outcomes in Routine Evaluation – Learning Disability (CORE-LD, Brooks et al., 2013) is a 14-item self-report measure of psychological wellbeing and change over time. A total score
and clinical score were obtained. The CORE-LD is validated within the LD population and demonstrates good internal consistency ($\alpha = 0.80$, Brooks et al., 2013). This measure was utilised due to its routine use within the service to evaluate clinical outcomes where higher scores reflect poorer psychological wellbeing.

Qualitative feedback was gathered following the intervention via semi-structured telephone interviews, one with participants (supported by their caregiver) to gain their perspective and one with caregivers to explore their experiences of supporting someone with a mental health intervention.

**Data Analysis**

Group means, and pre and post scores were compared to determine change in wellbeing and self-esteem. Reliable Change Index (RCI, Jacobson & Truax, 1991) was also conducted. RCI is considered a superior evaluation method with small or idiosyncratic sample sizes, or in clinical settings (Zahra & Hedge, 2010). It was hoped scores would decrease on the CORE-LD and increase on measure of self-esteem post-intervention. Qualitative data was analysed using Braun and Clarke’s (2006) thematic analysis. A Clinical Associate Psychologist and Trainee Clinical Psychologist independently generated initial codes which were then shared, discussed, refined, and definitions agreed. Descriptive statistics were used to analyse closed question responses.

**Missing data**

All participants completed the pre-intervention measures and at least one follow-up measure (post-intervention or delayed). Clinical scores were used for the CORE-LD, which takes an average from the questions answered to account for omitted items.

**Results**

**Demographics**
For one participant, follow-up measures were completed with a caregiver instead of the participant, reducing the validity so were removed from the analysis. The final sample consisted of 12 participants whose ages ranged from 21 to 50 years ($M = 32.33, SD = 9.79$). Table 2 shows additional demographics. All participants received 1:1 support from the same individual across the seven weeks.

**Table 2**

*Participant demographics*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>$n$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White British</td>
<td>11</td>
</tr>
<tr>
<td>South African</td>
<td>1</td>
</tr>
<tr>
<td>Accommodation</td>
<td></td>
</tr>
<tr>
<td>Mainstream</td>
<td>6</td>
</tr>
<tr>
<td>Supported living</td>
<td>1</td>
</tr>
<tr>
<td>Accommodation with other care support</td>
<td>5</td>
</tr>
</tbody>
</table>

**Quantitative results**

Table 3 shows clinical scores and descriptive statistics for the CORE-LD and Adapted Rosenberg Self-Esteem Scale across three time points. On average, the scores on the CORE-LD reduced from pre to post. Despite a slight increase on average from post to delayed scores, the average scores show an overall improvement at the delayed time point when compared to pre-scores.

**Table 3**

*Participants’ Scores at Pre, Post and Delayed, and Descriptive Statistics*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Measure/time</th>
<th>Pre</th>
<th>Post</th>
<th>Delayed</th>
<th>Pre</th>
<th>Post</th>
<th>Delayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CORE-LD</td>
<td>5</td>
<td>3.57</td>
<td>-</td>
<td>20</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>CORE-LD</td>
<td>5</td>
<td>-</td>
<td>3.57</td>
<td>20</td>
<td>-</td>
<td>22</td>
</tr>
</tbody>
</table>
RCI was calculated to compare pre and post-intervention scores. Table 4 shows RCI analysis for the CORE-LD with nine participants showing improvement however only one met significance. One participant showed no change. Table 5 shows RCI analysis for the Adapted Rosenberg Self-Esteem Scale. Seven participants showed improvement, with three being significant. Two participants showed significant deterioration in scores although distress was not evident during the group sessions and the CORE-LD showed no change for these participants. Caregivers indicated external factors contributed to deterioration in scores for these participants.

Table 4

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-score</th>
<th>Follow-up score</th>
<th>Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>3.57</td>
<td>1.43</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>3.57</td>
<td>1.43</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>13.57</td>
<td>-3.57</td>
</tr>
<tr>
<td>6</td>
<td>7.14</td>
<td>2.86</td>
<td>4.28</td>
</tr>
<tr>
<td>7</td>
<td>8.57</td>
<td>7.14</td>
<td>1.43</td>
</tr>
<tr>
<td>8</td>
<td>1.43</td>
<td>2.86</td>
<td>-1.43</td>
</tr>
<tr>
<td>9</td>
<td>12.86</td>
<td>6.43</td>
<td>6.00*</td>
</tr>
<tr>
<td>10</td>
<td>5.71</td>
<td>4.29</td>
<td>1.42</td>
</tr>
</tbody>
</table>
Table 5

Reliable Change Index for The Adapted Rosenberg Self-Esteem Scale

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-score</th>
<th>Follow-up score</th>
<th>Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>18</td>
<td>-2</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>13</td>
<td>-5**</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td>23</td>
<td>5*</td>
</tr>
<tr>
<td>7</td>
<td>22</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>20</td>
<td>26</td>
<td>6*</td>
</tr>
<tr>
<td>9</td>
<td>17</td>
<td>21</td>
<td>4*</td>
</tr>
<tr>
<td>10</td>
<td>22</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>20</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>24</td>
<td>19</td>
<td>-5**</td>
</tr>
<tr>
<td>14</td>
<td>25</td>
<td>24</td>
<td>-1</td>
</tr>
<tr>
<td>15</td>
<td>20</td>
<td>18</td>
<td>-2</td>
</tr>
</tbody>
</table>

Note. * Clinically significant improvement. **Clinically significant deterioration

Qualitative Feedback

Descriptive statistics were used to explore closed question responses from the qualitative feedback (see Table 6). Overall, responses from both participants and caregivers were positive. All participants found the intervention helpful and enjoyed the videos. However, there were mixed responses about whether they liked the online sessions. All caregivers said the intervention helped improve their confidence in supporting the individual with their mental health.

Table 6
Descriptive Statistics for Closed Feedback Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Responses</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Don’t know</td>
</tr>
<tr>
<td><strong>Participant feedback</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The course has been helpful</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I liked the videos at home</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I liked the online courses</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Caregiver feedback</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you feel more confident to support them with their mental health?</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Qualitative results

Four main themes were established from the qualitative data: developing skills, overall experience, delivery method and content. Within these, several sub-themes were identified and are described.

**Theme 1: Developing Skills**

The first theme was ‘Developing Skills’ and reflected the aims of the intervention; to improve psychological wellbeing and self-esteem. This encompassed sub-themes of managing feelings, interpersonal skills and carer’s confidence and skills. Caregivers reported noticing improvements in the person they support being able to manage their feelings such as “… taking control of [their] feelings more. Managing challenging situations better than before. Also [they] used to pick and bite [their] fingers, however, has not done so in the last two months and [they are] talking through [their] feelings more” (caregiver 1) and “[they] found it useful to talk about [their] current issues which has affected the way [they have] been feeling” (caregiver 12).

Developing listening and talking skills, involving appropriate turn-taking in conversation was also commented on, reflecting development in interpersonal skills including “When I asked people what they
liked about me it was nice to hear... I liked talking about my feelings’’ (participant 9) and “… [they] appear more confident around others, feels that [they have] more trust in others’’ (caregiver 5).

Caregivers reflected on their improved confidence providing support with mental health including “feel it is easier to talk about [their] mental health’’ (caregiver 6), “it’s given good talking points and we can refer back to the workbook’’ (caregiver 9), and “it was useful to hear the health professionals talking to [them] and learning how they encouraged [them] to open up’’ (caregiver 15).

Theme 2: Overall Experience

The second theme reflected the overall experience of participants and caregivers and included sub-themes of benefits, other influences, and wider implementation. Participants made positive comments, stating “it was all useful’’ (participant 7) and caregivers were “very grateful for this course and feel [they have] really benefitted from it’’ (caregiver 1). Other influences included feeling unwell and outside distractions that impacted participants ability to engage in the online sessions. Finally, there were suggestions about wider implementation such as “a course in putting it into practice, rather than just building up knowledge’’ (caregiver 6).

Theme 3: Delivery Method

The third theme was ‘Delivery Method’ which included the sub-themes use of technology, alternative delivery method, and additional support and reflected the aim of exploring the feasibility of this intervention. Several participants and caregivers commented on the use of technology being positive “I liked being online and on camera’’ (participant 13) and “I liked the videos; they explained what you needed to do beforehand’’ (participant 12). Others shared preferences for other formats including “I would prefer it if it was in person, but I did still like it on camera and got used to it’’ (participant 13). Caregivers commented on the need for material adaptations as “some of the concepts
were in depth for [them] to grasp and difficult to explain, but we did get there and got them all” (caregiver 7).

**Theme 4: Content**

The final theme was ‘Content' with the sub-themes therapy content and accessibility. Positive comments were received on the usefulness of specific elements including the self-esteem section, positive thinking circle and workbook. Various comments were made about the accessibility of the content. The feedback reflected positives such as “big pictures helpful” (participant 1) and “the virtual videos were easy to follow as they were directed” (caregiver 15). Challenges and improvements to consider included “they struggled with the video because it’s quite abstract” (caregiver 9), “less words – more easy read” (caregiver 1) and “some of the language used was difficult for [them] to understand but I appreciate it is hard to gear it to all individuals that attend. The actual virtual videos were easy to follow as they were directed.” (caregiver 15).

**Discussion**

This study evaluated the effectiveness and feasibility of delivering an online intervention. Although only some participants showed reliable change on outcome measures, overall scores showed general improvement. Furthermore, qualitative feedback provides valuable insight into the experiences of people with LD accessing online interventions. Both participants and caregivers commented on developing skills in managing feelings, improved interpersonal skills and increased confidence in discussing issues relating to mental health. There were positive and constructive comments about the accessibility of materials, which will be addressed within the service.

Overall, most participants successfully engaged with, and reported enjoying the online intervention, supporting other findings regarding the use of online platforms for this population (Bakkum et al., 2022). Several participants indicated that although they would have preferred a face-to-
face intervention, they still enjoyed being online, especially once more familiar with it. Preference for face-to-face work may stem from a lack of familiarity with online platforms, due to long-standing digital exclusion (Chadwick et al., 2022). Given opportunities to develop skills in using online platforms and interacting virtually, individuals’ confidence is likely to increase.

**Clinical Implications**

As well as the positive experiences reported, the feedback indicated some participants found certain elements difficult therefore it is worth considering amendments to the intervention content, using further co-production. Introducing an online intervention had numerous operational benefits i.e., offering a county wide intervention enabled participants to be seen sooner rather than waiting for adequate locality referrals, seeing more patients at once and reducing travel time and expenses for clinicians. Consequently, online interventions are likely to continue to form part of service provision, particularly considering current recruitment challenges in the NHS. As a low-level intervention, this can be delivered by Assistant Psychologists, alleviating capacity challenges for qualified clinicians.

Parchomiuk (2022) suggests the pandemic helped improve competence with technology for people with LD which may aid the continuation of virtual service provision considering the current cost of living crisis. Wider adoption of this way of working may help to address health inequalities for this population and increase accessibility of services. It remains important therefore, for services to be flexible regarding service delivery when inequality exists (Gregson et al., 2022) and to utilise online interventions to enhance service delivery rather than a substitution to cut costs (Zaagsma et al., 2020).

**Limitations**

There are several limitations to consider. Firstly, although outcome measures used were validated for this population, it is possible that more appropriate tools exist which are sensitive to more subtle or subjective changes. Some participants struggled with the reversed wording of some items of the Adapted Rosenberg Self-Esteem Scale and may explain why some showed significant decline as no
significant decline was mirrored on the CORE-LD for these participants. Therefore, the outcome measures adopted should be reviewed. The authors acknowledge the small sample limits the generalisability of results beyond this service however, given the evaluation took place within a clinical context, it demonstrates the reality of delivering interventions which may encourage other services to explore this type of intervention. It was anticipated that without this intervention, participants self-esteem and wellbeing may deteriorate however the lack of comparator group limits our understanding of the degree of change attributable to the intervention.

Conclusion

The findings suggest that people with LD can benefit from online interventions with pre-recorded content. The views of people with LD were captured and will add to the growing literature regarding the utilisation of online interventions. From a service perspective, this intervention has resulted in individuals being seen in a timelier and cost-effective manner and has been useful as a stepped care approach. It is hoped other services consider adopting similar provisions.
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