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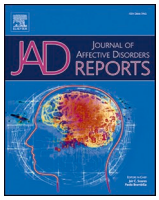

Research Paper

Assessing emotional blunting in a psychiatric population: Psychometric properties of the Swedish version of the Oxford Depression Questionnaire

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ABSTRACT

Objectives: Emotional blunting is frequently reported among depressed patients treated with antidepressants. A validated measure of this phenomenon would be of great value to clinicians and researchers in order to augment treatment for depression. To date, there has been no such measure in Swedish. This study aimed to explore the psychometric properties of the Swedish version of the Oxford Depression Questionnaire (ODQ-Swedish) in a psychiatric setting.

Methods: Ninety psychiatric outpatients treated with antidepressants for depressive disorders were administered the ODQ-Swedish, the Hospital Anxiety and Depression Scale and a 'gold standard question'. Thirty-nine participants completed a follow-up administration of the ODQ-Swedish.

Results: Correlations between the depressive symptom anhedonia and the domains of the ODQ-Swedish followed the patterns found in previous studies when the previously validated ODQ-English confirming the validity of the ODQ-Swedish. The internal consistency and the test-retest reliability were also satisfactory. Sensitivity-to-change analysis indicated that the ODQ-Swedish could detect changes in emotional blunting, as quantified by the 'gold standard question'. Furthermore, the completion rate (98%) suggested high acceptability.

Conclusions: The fact that the ODQ is the only validated measure of emotional blunting for patients medicating with antidepressants is both a strength and a limitation. There is a need for measures that can monitor emotional changes. However, the lack of another measure also limits the assessment of contruct validity. Despite certain limitations, this study indicates that the Swedish translation has good psychometric properties and that the ODQ can be used as a self-report measure in a psychiatric population.

Depression is a major public health issue across the world, with approximately 264 million people affected (James et al., 2018). Antidepressant medication is considered an effective treatment for depression (Cipriani et al., 2018; Cleare et al., 2015), and more than 10% of the population in the United States and several European countries, including Sweden, are medicating with antidepressants (Brody, 2020; Lewer et al., 2015; Socialstyrelsen, 2021). However, non-adherence to treatment with antidepressants is substantial (Lingam and Scott, 2002), and side effects are a common cause of discontinuation (Bolling and Kohlenberg, 2004; Goethe et al., 2007; Rosenblat et al., 2019). Additionally, residual symptoms among responsive patients and patients in remission are common (Israel, 2010) and increase the risk for relapse (Nierenberg et al., 2010; Pintor, 2003).

Studies have found that about half of all depressed patients treated with antidepressants report feeling emotionally blunted, that is, experiencing a restricted range of emotions and reduced emotional responsiveness, and many affected patients believe this to be a side effect of their medication (Christensen et al., 2022a; Goodwin et al., 2017; Ma et al., 2021; Marazziti et al., 2019; Read et al., 2014, 2020; Read and Williams, 2018; Sansone and Sansone, 2010). Furthermore, there are indications that some antidepressants are more associated with emotional blunting than others (Fagiolini et al., 2021; Goodwin et al., 2017; Ma et al., 2021). Emotional blunting negatively affects the well-being and functionality of patients, even when in remission from depression (Christensen et al., 2022b; Fagiolini et al., 2021; Price et al., 2009) and is a common reason for withdrawal from treatment with antidepressants (Christensen et al., 2022a; Ma et al., 2021; Rosenblat et al., 2019). Apart from the severe consequences for the individual

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patient, the functional impairment and high prevalence of emotional blunting may also imply decreased productivity and increased costs for society.

Though earlier studies have shown that patients frequently relate their experience of emotional blunting to their antidepressants, it is yet unclear whether this is an accurate attribution (Aşçibaşi et al., 2020; Goodwin et al., 2017; Ma et al., 2021; Marazziti et al., 2019). A recent study showed that depressed patients also relate emotional blunting to their depressive disorder (Christensen et al., 2022a), and several studies have found a correlation between emotional blunting and depression (Goodwin et al., 2017; Price et al., 2012). Hence, emotional blunting has also been suggested to be a residual symptom of depression which antidepressant medications fail to address (Peters et al., 2022) and frequently used patient-related outcome measures (PROMs) of depression fail to capture (Aşçibaşi et al., 2020; Christensen et al., 2021; Fagiolini et al., 2021; Goodwin et al., 2017; Ma et al., 2021).

Given the vast numbers of people suffering from depression and emotional blunting, further knowledge of the latter is crucial to enhance treatment. To the best of our knowledge, there is only one validated measure of emotional blunting: the patient-centered self-report measure the Oxford Depression Questionnaire (ODQ) (Price et al., 2012). The ODQ is neutral to the causes of the phenomenon (Goodwin et al., 2017), and the psychometric properties, such as validity, reliability and sensitivity to change, of the ODQ 'English version for the United Kingdom' (ODQ-English) have been found satisfactory (Christensen et al., 2021; Price et al., 2012). So far, the ODQ has been validated in mixed samples from primary and psychiatric care (Christensen et al., 2021; Price et al., 2012), and there is, to our knowledge, only one validated translation (Chinese version) (Chen et al., 2022) of the ODQ.

1. Aim of the study

Regardless of its causes, emotional blunting affects patients' quality of life and adherence to treatment. The aim of this study was to assess the primary psychometric properties of validity, reliability and sensitivity to change of the Oxford Depression Questionnaire–Swedish version, for Sweden in a psychiatric population.

2. Methods

2.1. Participants

Participants were recruited from three psychiatric outpatient units of the Department of Psychiatry for Affective Disorders at Sahlgrenska University Hospital, Gothenburg, Sweden. Inclusion criteria were (a) a primary diagnosis of depressive disorder (depressive episode, major depressive disorder or dysthymic disorder) diagnosed by a psychiatrist, (b) treatment with antidepressant(s) (agents of the selective serotonin reuptake inhibitor, serotonin norepinephrine reuptake inhibitor, tricyclic antidepressant and other [agomelatine, bupropion, mirtazapine, vortioxetine] antidepressant drug classes) (c) ability to comprehend written and spoken Swedish. Exclusion criteria were comorbidity with severe psychiatric disorders (bipolar disorders, psychotic disorders, personality disorders, neuropsychiatric disorders, substance-related disorders or PTSD) or pharmacological treatment used for such disorders (mood stabilisers, antipsychotics or central nervous system stimulants). Patients recently hospitalised and/or patients assessed as having an increased risk for suicide were also excluded for ethical reasons.

Average age of participants was 44.7 (SD = 12.3, range = 18–71) years. Further demographics are presented in Table 1. The demographics of the 39 participants completing the follow-up were similar to the initial administration, with an average age of 43.4 (SD = 12.5, range = 22–71) years and gender distribution of 76.9% women ($n = 30$).

Table 1
Demographic and clinical data.

	n (%)
Gender	
Men	29 (32.2)
Women	59 (67.8)
Occupational status[1]	
Employed	36 (32.1)
Unemployed	14 (12.5)
Student	6 (5.4)
Sick leave	51 (45.5)
Retired	5 (4.5)
Level of education	
Primary education	9 (10.0)
Secondary education	41 (45.6)
Higher education	40 (44.4)
Diagnosis	
Depressive episode	14 (14.4)
Major depressive disorder	69 (76.7)
Dysthymic disorder	8 (8.9)
HADS-D[2]	
Normal (0–7)	29 (32.3)
Mild (8–10)	22 (24.4)
Moderate (11–14)	26 (28.9)
Severe (15–21)	13 (14.4)
HADS-A[3]	
Normal (0–7)	18 (20.0)
Mild (8–10)	15 (16.7)
Moderate (11–14)	25 (27.8)
Severe (15–21)	32 (35.6)
Number of antidepressant agents	
One	62 (68.9)
Two or three	28 (31.2)
Class of antidepressants among monotherapy participants	
SSRI[4]	28 (31.1)
SNRI[5]	25 (27.8)
TCA[6]	1 (1.1)
Others[7]	8 (8.9)
Use of other drugs during the last week	
Anxiolytics and/or hypnotics[8]	64 (71.1)
None	26(28.9)

[1] Multiple answer possible.
[2] Hospital Anxiety and Depression Scale – Depression.
[3] Hospital Anxiety and Depression Scale – Anxiety.
[4] Selective serotonin reuptake inhibitor.
[5] Serotonin norepinephrine reuptake inhibitor.
[6] Tricyclic antidepressant.
[7] Agomelatine, bupropion, mirtazapine, vortioxetine.
[8] Self-reported none specified.

2.2. Procedures

Dual forward and dual back translations were performed by qualified translators. A reconciled version was pilot tested online as part of a master thesis project ($n = 447$) (Henriksson and Westblom, 2021). A cognitive interview of the revised draft was then completed by five patients recruited from the same population and according to the same principles as this study's sample. Adjustments were made continually throughout the linguistic validation process to achieve a comprehensible and culturally valid Swedish version of the questionnaire. The process was reviewed and accepted by representatives of Oxford University Innovation Ltd.

Data for the study were collected between November 2021 and April 2022. Clinical data on medication(s) and diagnosis were derived from the patients' medical records. Out of all patients at the three units, a total of 158 patients were potential participants when considering criteria for inclusion and exclusion. When these were contacted via telephone, 18 could not be reached and 50 patients declined participation. Valid data were gathered from 90 participants, and the dropout rate was 35.7%. The preferred mode of administration was completion of a digitised survey at the clinic in the presence of one of the authors ($n = 55$). Seventeen participants completed the digitised survey in their homes

with one of the authors attending via phone or in a digital meeting, and four completed paper surveys independently. Completion time was about 20 min.

Follow-up administration of the ODQ, the 'gold standard question' (GSQ) and a question about pharmacological adjustments since initial administration was conducted via a regional internet-based healthcare platform. Participants were allowed to complete the follow-up at a time of their own choosing and provided follow-up data at 3–12 weeks after initial participation. Completion time was about 6 min. Thirty-nine participants completed the follow-up administration.

2.3. Ethical considerations

The study was granted approval from the Swedish Ethical Review Authority (2021–03,953). Participants received ample information about the study prior to administration of the survey and provided their written consent to participate.

2.4. Measures

2.4.1. The oxford depression questionnaire (ODQ)

The ODQ is a PROM consisting of 26 items rated on a 5-point Likert scale ranging from 1 'disagree' to 5 'agree' (Price et al., 2012, 2009). The questionnaire is divided into three sections covering experiences of emotional blunting during the last week (Section 1), comparisons of pre-morbid experiences and experiences of emotional blunting during the last week (Section 2) and patients' perception of a link between antidepressant treatment and the experience of emotional blunting (Section 3). Sections 1 and 2 cover four domains, each containing five items measuring different aspects of emotional blunting: 'general reduction', 'emotional detachment', 'positive reduction' and 'not caring'. The four domains counted together constitute a score referred to as ODQ-20, which is a measure of the degree of emotional blunting that the individual experiences. It ranges from 20 to 100, with higher scores indicating a higher degree of emotional blunting. Section 3 has six items constituting a fifth domain, 'antidepressant as cause', and is only completed by patients currently medicating with antidepressant. The total score including all five domains, ODQ-26, ranges from 26 to 130 and measures the degree of emotional blunting, as well as of the individuals' perception of the antidepressant as a cause of the blunting.

2.4.2. Hospital anxiety and depression scale (HADS)

HADS is a 14-item PROM with two subscales, one for anxiety (HADS-A) and one for depression (HADS-D). Cronbach's α for HADS-A was 0.87 and for HADS-D was 0.88. Patients report experiences during the last week on a 4-point Likert scale (Snaith, 2003).

2.4.3. Gold standard question (GSQ)

A GSQ based on in-depth interviews has been designed and used in validation studies of the ODQ (Chen et al., 2022; Price et al., 2012). The question reads, 'During the last week, to what extent have you been experiencing emotional side-effects of your antidepressant?' The question is followed by the explanation 'Emotional side-effects are varied, but might include, for example – feeling emotionally "numbed" or "blunted" in some way/lacking positive emotions or negative emotions/feeling detached from the world around you/"just not caring" about things that you used to care about.' The response options are 'not at all', 'insignificantly', 'mildly', 'moderately' or 'severely' (Price et al., 2012). As the GSQ describes emotional blunting as a side effect of antidepressant medication, it arguably corresponds to the total score of ODQ-26, including the domain 'antidepressant as cause'. All analyses of GSQ scores are thus made in comparison to the ODQ-26.

2.5. Analyses

All analyses were performed using IBM SPSS Statistics 28.0. P-values <0.05 were considered significant. For HADS, one missing value was imputed with the mean value, and no sections were discarded. Missing item responses of the ODQ were not imputed. Two participants in the initial data collection and four participants in the follow-up had one section of the ODQ discarded due to missing items.

The construct validity of the ODQ-20 and its four domains was examined by assessing correlations with participants' HADS-D scores. Furthermore, the construct validity of the ODQ-26 was assessed by the correlation with the GSQ. The internal consistency of the ODQ's domains and the ODQ-20 and ODQ-26 scores was assessed using Cronbach's alpha statistics. Additionally, Cronbach's alpha values for the domains and total ODQ-20 if each item was separately deleted were also calculated. Values of ≥ 0.7 were regarded as acceptable. The test-retest reliability of the total and domain scores of the ODQ-20 was assessed by calculating the intraclass correlation coefficient (ICC), based on a single measurement, absolute agreement, 2-way mixed-effect model. Participants who had undergone pharmacological adjustments ($n = 9$) were excluded. Test-retest reliability was considered 'moderate' (0.5–0.75), 'good' (0.75–0.90) or 'excellent' (>0.90), depending on the ICC (Koo and Li, 2016). Sensitivity to change was assessed by grouping participants at follow-up according to the difference between their GSQ rating at initial administration and follow-up ('decreased', 'unaltered' and 'increased') and comparing the corresponding ODQ-26 scores of these groups using dependent t-tests. Acceptability was assessed by considering the proportion of participants who completed the questionnaire. Additionally, participants were encouraged to comment and ask questions during and after administration. Comments and questions by participants were registered.

3. Results

3.1. Descriptive analyses

Scores of the ODQ-20 and the ODQ-26 were normally distributed. The domain 'emotional detachment' showed a positive skewness that is, towards low scores on the domain, whereas the domain 'positive reduction' showed a negative skewness that is, towards high scores. A floor effect was seen in the 'emotional detachment' domain and the GSQ score (>15% of participants provided the lowest possible score). Neither floor nor ceiling effects were observed in the ODQ-20, the ODQ-26 or their respective domains. Domain scores are presented in Table 2.

3.2. Construct validity

Data on construct validity are presented in Table 2. ODQ-20 had a

Table 2
Internal consistency and construct validity based on data from initial administration.

	Mean (SD)	Correlation with HADS-D[1]	Cronbach's alpha
ODQ-20[2]	56 (17)	0.77*	0.93
ODQ-26[3]	70 (21)		0.94
Domain			
General reduction	13.9 (4.4)	0.32**	0.76
Emotional detachment	11.1 (5.3)	0.42**	0.89
Positive reduction	17.6 (5.5)	0.60**	0.90
Not caring	14.0 (5.5)	0.58**	0.85
Antidepressant as cause	13.8 (5.9)		0.89

* Pearson correlation coefficient ($p < 0$ 0.01).
** Kendall's tau-b ($p < 0$ 0.01).
[1] Hospital Anxiety and Depression Questionnaire – Depression.
[2] Oxford Depression Questionnaire 20 items (the domain antidepressant as cause excluded).
[3] Oxford Depression Questionnaire 26 items (all domains included).

strong correlation with HADS-D. The domains 'positive reduction' and 'not caring' were more strongly correlated with HADS-D compared to the domains 'general reduction' and 'emotional detachment'. The correlation between ODQ-26 and the GSQ was 0.37.

3.3. Internal consistency

Internal consistency of ODQ-20, the ODQ-26 and their subdomains were all acceptable (Table 2). No item, if deleted, would substantially increase the internal consistency.

3.4. Test-retest reliability

The correspondence between ODQ-20 and ODQ-26 scores at initial administration and follow-up were good. The corresponding correlations for the domains ranged from moderate to good (Table 3).

3.5. Sensitivity to change

Analysis indicated that the ODQ was sensitive to change. Participants who responded with a lower GSQ rating at follow-up compared to initial administration provided a significantly lower ODQ-26 score (mean decrease −10.60, 95% CIs −20.89 to −0.30, $t = -2.86$, df = 4, $p = 0.046$ (2-tailed)). Participants with a higher GSQ score, correspondingly, provided a significantly higher ODQ-26 score (mean increase 6.93, 95% CIs 0.89 to 12.97, $t = 2.46$, df = 14, $p = 0.027$ (2-tailed)). Participants with unaltered GSQ ratings scored slightly lower on their follow-up administration of the ODQ-26, but this decrease was not found to be statistically significant (mean decrease −2.47, 95% CIs −10.21 to 5.28, $t = -0.68$, df = 14, $p = 0.506$).

3.6. Acceptability

Of the 90 participants at the initial administration, 88 (97.8%) responded to all items of the questionnaire. The corresponding number at follow-up was 35 out of 39 (90%).

Spontaneous comments from the participants during and after data collection were noted. The participants expressed that Section 1 items of the ODQ were easy to interpret and rate. Some participants found it difficult to rate items of Section 2 and frequently related this difficulty to an inability to remember their life prior to developing their depressive disorder and/or raised concerns that their impression of their emotional life prior to developing depressive disorder also reflected a different stage in their life (e.g. being a teenager, not having children). A few of the participants expressed doubt about their ability to make correct assessments on Section 3, covering the 'antidepressant as cause' domain. Frequent comments related to participants' difficulty to attribute the stated experience specifically to their antidepressant treatment and gave rise to speculations about it being related to other variables, for example, their depressive disorder. The large majority found the response options of the questionnaire appropriate.

Table 3
Test-retest reliability based on comparisons between data from initial and follow-up administrations.

	ICC, (95% CI) (n = 27–30)
ODQ-20[1]	0.82 (0.66–0.91)
ODQ-26[2]	0.80 (0.62–0.91)
Domain	
General reduction	0.54 (0.23–0.75)
Emotional detachment	0.85 (0.70–0.92)
Positive reduction	0.84 (0.69–0.92)
Not caring	0.65 (0.38–0.81)
Antidepressant as cause	0.68 (0.42–0.84)

[1] Oxford Depression Questionnaire 20 items (the domain antidepressant as cause excluded).
[2] Oxford Depression Questionnaire 26 items (all domains included).

4. Discussion

This study is, to our knowledge, the first examination of the psychometric properties of the ODQ in an exclusively psychiatric context. The high acceptability and good sensitivity to change found in this study shows that the ODQ is valid and applicable in a psychiatric population. Furthermore, this study provides the first validated measurement of emotional blunting in Swedish, enabling assessment of the phenomenon for research and clinical purposes in Sweden. The reliability of the ODQ-20 and the ODQ-26, as well as of their five domains, was high. No floor or ceiling effects were found for the ODQ-20, the ODQ-26 or the domains, except for a floor effect of the domain 'emotional detachment'. Furthermore, the questionnaire appears sensitive to change.

The overall relationship between emotional blunting and depression was strong. However, the relationships between the respective domains and depression were of varying strength. The domains 'positive reduction' and 'not caring' had a stronger relationship with depression than the domains 'general reduction' and 'emotional detachment'. The measure used to assess depression in this study, HADS-D, focuses on the experience of anhedonia, a central feature of depression (Snaith, 2003; Zigmond and Snaith, 1983). Anhedonia, a reduction or lack of positive emotions, has a conceptual overlap with emotional blunting (Christensen et al., 2021). However, the phenomena are not identical, as emotional blunting also includes a reduction in negative emotions. The strong relationships between HADS-D and the two domains 'positive reduction' and 'not caring' indicate that these domains relate to the reduction in positive emotion captured in the depressive symptom of anhedonia. The weaker, but moderate, relationships between HADS-D and the domains 'general reduction' and 'emotional detachment' are, however, equally important, as ODQ is designed to capture a reduction in emotion beyond anhedonia. In conclusion, the validity of the ODQ-20 of the Swedish version appears satisfying. Furthermore, the above-mentioned pattern with stronger relationships between two domains and depression compared to the other two is in line with previous findings on the ODQ-English (Christensen et al., 2021; Price et al., 2012). However, the relationships in this study were throughout stronger than those previously found, which could stem from our chosen scale of depression.

The relationship between ODQ-26 (which includes the domain 'antidepressant as cause') and the GSQ was weaker than the above-mentioned between depression and the domains of the ODQ-20. As the GSQ is designed to capture the same phenomenon as the ODQ-26, a stronger correlation was expected. However, a large proportion (e.g. 27%) of the participants answered the GSQ with the lowest response option, 'not at all'. Since the GSQ asks both whether the participant is emotionally blunted and whether he/she believes this to be caused by their antidepressant treatment, choosing the 'not at all' option could reflect participants' denial of the cause – but not the experience – of emotional blunting. Additionally, the reliability of a single-question measurement can be questioned. The moderate relationship between the ODQ-26 and GSQ and its implications for the validity of the former should thus be interpreted with caution. Furthermore, the concomitant changes in ODQ-26 and the GSQ, seen in the sensitivity-to-change analysis, indicate a relationship between the two measures.

The acceptability was remarkable, with a 97.8% completion rate. This could partly be related to the presence of a researcher at a majority of the administrations. During administration participants commented on two perceived issues regarding the intelligibility of the questionnaire. The first type of comment concerned items in Section 2, asking participants to compare their current emotional experience with their premorbid emotional state. Several participants found this process difficult as they thought it was hard to remember their emotional state prior to developing depression. This is presumably a greater issue when patients have been ill for a long period of time, which is common in a

psychiatric setting. However, this feature of the ODQ also has advantages, since it is designed to capture the subjective experience of emotional blunting, and patients have been found to describe their current experience of emotional blunting by comparison with what they regard as their normal emotional state (Price et al., 2012). The importance of engaging patients in their treatment plans and paying attention to their subjective experience is increasingly acknowledged, as it can augment the compliance (Awad, 2015; Hopwood, 2020; Pinho et al., 2021). The second type of comment regarded Section 3 (i.e. the domain 'antidepressant as cause'). The participants' reported difficulty in judging whether their experience of emotional blunting was caused by their antidepressant, their depression or other factors. This is not, however, a weakness of the ODQ, as the purpose of Section 3 is to capture patients' *beliefs* about causality rather than actual causality. Knowing patients' beliefs about the perceived cause of their emotional blunting can be of great clinical value, since patients' convictions affect compliance with treatment, whether the attribution is accurate or not.

In this study, 60% of the participants reported feeling emotionally blunted to some extent, similar to the results of previous studies in the United Kingdom (46%), New Zealand (60%) and China (42%) (Chen et al., 2022; Goodwin et al., 2017; Read et al., 2014). However, physicians tend to underestimate the prevalence, severity and negative impact of emotional blunting experienced by their patients, according to a recent study (Christensen et al., 2022c). Whether the blunting is a residual symptom of depression, a side effect of antidepressants or both, it is crucial to raise awareness about this phenomenon among clinicians to ameliorate the treatment for depression. The Swedish version of the ODQ can be of great use to thoroughly assess emotional blunting among patients in psychiatric settings as well as in primary care. Having access to a comprehensible, acceptable and valid PROM can facilitate evaluation of the effect of antidepressant treatment and provide an indication for making medical adjustments or changing antidepressant agents. Though we found a strong relationship between depression and emotional blunting, this article should not be interpreted as a contribution to the efforts to determine the cause(s) of emotional blunting. As previously described, the strong relationship can be due to our choice of measurement for depression. Future studies exploring the causality of emotional blunting are warranted and should be carried through with an experimental design. Furthermore, it is important to compare how different antidepressant agents relate to emotional blunting, whether as a treatment for it as a symptom of depression or as a side effect that should be noted.

4.1. Strengths and limitations

A strength of the study was the thorough translation process, followed by pilot testing and cognitive interviewing that preceded the data collection. Furthermore, the sample was homogeneous in terms of diagnoses, since patients with comorbidity of severe psychiatric illnesses were excluded. In addition, there was a high certainty in terms of diagnoses and antidepressant agents used, given that the diagnoses were set by a psychiatrist using an exhaustive diagnostic interview and that the pharmacological information was derived from the patients' medical records and orally confirmed by the patient. Finally, the sample was representative in terms of gender and had a wide age distribution.

The main limitation was the difficulty in assessing the construct validity, as there is no 'gold standard' measure of emotional blunting. The limited number of participants restricted the methods of analysis to a focus on primary aspects of psychometric evaluation.. Additionally, the ODQ does not provide a clear cut-off regarding what counts as emotional blunting of clinical importance. Even so, the questionnaire can be of great use in clinical practice, as it provides an opportunity to carefully examine the effect of the prescribed drug on the individual patient. Finally, the time interval between test and retest was varied, as the participants could complete the follow-up at a time of their own choosing.

5. Conclusion

As patients' experience of emotional blunting is one of the main causes for discontinuing treatment, there is reason for monitoring this phenomenon. This study indicates that the ODQ can be used to assess and detect change in emotional blunting among psychiatric patients. It also appears to be highly acceptability to a psychiatric population. A challenge related to the population is that patients may have difficulties identifying the source of emotional blunting as they may have been suffering from depression for many years and have often been prescribed different types of antidepressant agents.

We suggest that the ODQ may be used as a clinical or research tool to measure change in emotional blunting over time in individuals, both as a residual symptom of depression and as a side-effect induced by medication. It may also be used to monitor how adjustments of medication, in terms of dosage and type of antidepressant agent, affect level of emotional blunting.

Patient consent statement

Participants received ample information about the study prior to administration according to national ethical guidelines. They were informed about the aim of the study, that participation was voluntary and that they could withdraw from the study at any point without any consequences in terms of future care. Participants were also informed about how data would be protected from misuse. Each participant provided their written consent to participate.

Ethical approve statement

The study was approved by the National Ethics Review Board in Sweden (approval no. 2021-03953).

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No funding was received.

Author statement

Contributors: The authors have contributed to the study in terms of the pilot study (EH & PB), design (EH, PS & PB), data collection (EH, PS & PF), analysis (EH, PF, PS & PB), and manuscript preparation, writing and review (EH, PF, PS & PB).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that support the findings of this study are available on request from the corresponding author [EH]. The data are not publicly available due to privacy or ethical restrictions.

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