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Development of a tool to detect older adults with severe personality disorders for highly specialized care

Linda Laheij-Rooijakkers, Paul van der Heijden, Arjan C. Videler, Daniel L. Segal, and Sebastian van Alphen

Abstract

Objectives: Current guidelines recommend highly specialized care for patients with severe personality disorders (PDs). However, there is little knowledge about how to detect older patients with severe PDs. The aim of the current study was to develop an age-specific tool to detect older adults with severe PDs for highly specialized mental health care.

Design: In a Delphi study, a tool to detect adults with severe PDs for highly specialized mental health care was adjusted for older adults based on expert opinion. Subsequently, the psychometric properties of the age-specific tool were evaluated.

Setting: The psychometric part of the study was performed in two Dutch highly specialized centers for PDs in older adults.

Participants: Patients ($N = 90$) from two highly specialized centers on PDs in older adults were enrolled.

Measurements: The age-specific tool was evaluated using clinical judgment as the gold standard.

Results: The Delphi study resulted in an age-specific tool, consisting of seven items to detect older adults with severe PDs for highly specialized mental health care. Psychometric properties of this tool were evaluated. Receiver operating curve analysis showed that the questionnaire was characterized by sufficient diagnostic accuracy. Internal consistency of the tool was sufficient and inter-rater reliability was moderate.

Conclusions: An age-specific tool to detect older adults with severe PDs was developed based on expert opinion. Psychometric properties were evaluated showing sufficient diagnostic accuracy. The tool may preliminarily be used in mental health care to detect older adults with severe PDs to refer them to highly specialized care in an early phase.

Key words: personality disorder, aging, screening

Introduction

Personality disorders (PDs) are defined by enduring maladaptive patterns of inner experiences, behavior, cognition, and emotions that start in early adolescence and lead to long-term difficulties in self- and interpersonal functioning (American Psychiatric Association, 2013). Despite suggestions that some features of PDs mellow with age, the prevalence of PDs in older adults is high. Studies show prevalence rates of 3–13% in the general population, 5–33% in outpatient mental health care settings, and 7–80% in inpatient mental health care (van Alphen *et al.*,

2015). Given the aging of the population, the number of older adults with PDs will increase in the near future.

PDs are chronic and complex disorders. First, PDs are associated with a poorer quality of life (Soeteman *et al.*, 2008). Second, symptoms of PDs predict worse physical functioning (Cruitt and Oltmanns, 2018) and a significantly greater use of both general and mental health care (Soeteman *et al.*, 2008b; Powers *et al.*, 2014). PDs often occur together with other psychiatric disorders and lead to a worse outcome of treatment for these other comorbid disorders (Newton-Howes *et al.*, 2014). Third, compared to several other types of mental disorders, like depressive disorders and anxiety disorders, the economic burden of PDs is large (Soeteman *et al.*, 2008a; Goorden *et al.*, 2017).

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A recent literature review and meta-analysis on the effect of psychotherapies for adults with borderline PD showed that several psychotherapies are effective (Cristea *et al.*, 2017). However, most studies were conducted in adults between the ages of 25 and 40, and effects remain modest and unstable at follow-up (Videler *et al.*, 2019). Research on the effectiveness of psychotherapies for older adults with PDs is exceptionally scarce, as it can be a challenge to accurately identify and diagnose PDs among older adults, which are precursors to effective interventions (Segal *et al.*, 2006; van Alphen *et al.*, 2015). That being said, psychotherapies for PDs can be organized in three levels: treatment aimed at personality change; adaption focused treatment; and supportive-structuring treatment (van Alphen *et al.*, 2012). For two psychotherapies aimed at personality change, namely Dialectical Behavior Therapy and Schema Focused Therapy, some evidence of effectiveness for older adults with PDs has been published (Lynch *et al.*, 2007; Kindynis *et al.*, 2013; Videler *et al.*, 2014, Videler *et al.*, 2018). With respect to adaption focused treatment (e.g. couples therapy or interpersonal therapy) and supportive-structuring treatment (e.g. mediation therapy or supportive interventions) in older adults with PDs, no evidence has been published to date.

Current guidelines advise highly specialized care for patients with severe PDs. In the Netherlands, this care is provided by specialized centers. These centers offer assessment and treatment for patients with rare or severe mental disorders that cannot be provided in regular mental health care. They also offer consultation for other mental health care professionals and provide patients the possibility for a second opinion. Furthermore, these centers concentrate on clinical research, innovation, and (inter)national education in their field of expertise. Their highly specialized treatment consists of psychotherapies aimed at personality change and supportive-structuring treatment for patients with severe PDs. Other psychotherapies, such as adaption focused treatment and supportive-structuring treatment for patients with milder PDs, are provided in regular mental health care.

A notable challenge is that it is currently unclear how to identify patients with severe PDs. In DSM-5, Section II, there is no severity index for PDs (Hopwood *et al.*, 2011). Even though there are screening instruments for detecting PDs in older adults (van Alphen *et al.*, 2006), there are to date no instruments to screen the severity of PDs in older adults. Given the scarcity of research on detecting patients with severe PDs, referral to highly specialized care in clinical practice is often based on previous ineffective regular treatments. Patients

with severe PDs therefore often receive ineffective treatment for a long period of time (Zanarini *et al.*, 2012). Recently, a tool has been developed to detect adults with PDs for highly specialized care (Goorden *et al.*, 2017). This tool can help to prevent patients who can benefit sufficiently from regular mental health care, from unnecessarily receiving highly specialized care. But more importantly, the tool can help to detect patients for whom we can predict – based on current scientific evidence – that they will not benefit sufficiently from regular mental health care. In this way, it can prevent those patients from undergoing lengthy and inefficient treatments. This tool could also be used as a severity measure for PDs.

The tool for adults with PDs consists of seven criteria that were based on literature reviews and expert opinion (Goorden *et al.*, 2017). These seven criteria include severe negative affect with maladaptive coping; severe destructive behavior to oneself or others; multiple comorbid clinical syndromes; severe social and societal dysfunction (GAF $\leq$ 50 according to DSM-IV-TR (American Psychiatric Association, 2000)); severe chronic traumatization in childhood; difficulties in developing a psychotherapeutic relationship; and evidence-based treatment in specialized care was not successful. If a patient meets four or more of these criteria, and the patient is motivated and able to conform to treatment conditions for intensive psychotherapy, then the patient should be referred to highly specialized care. Using clinical judgment as the gold standard, both sensitivity (0.78) and specificity (0.69) of the new tool were high. Internal consistency (Cronbach's $\alpha = 0.69$) was sufficient (Goorden *et al.*, 2017).

PDs are characterized by heterotypical continuity (Mroczek *et al.*, 1999), which implies that whereas underlying personality features stay the same throughout the lifespan, the way in which these features are expressed might change with aging. Because of these age-specific aspects of PDs and their known geriatric variants, it cannot be assumed that measurement instruments, including this tool for adults with PDs, are suitable for older adults (Rossi *et al.*, 2014). Because of somatic and cognitive comorbidity in older adults, as well as high rates of polypharmacy, both the manifestation and interventions can differ when compared to younger adults with PDs (van Alphen *et al.*, 2012; van Alphen *et al.*, 2015). As such, the aim of the current study was to develop a tool to detect older adults with severe PDs for highly specialized mental health care. In the first part of this study, the screening instrument for adults was tested and adjusted for older adults based on expert opinions. The second part of this study was a psychometric evaluation of the age-specific tool.

168 Method

169 Study design

170 In our development and validation of the age-specific
171 screening tool, we followed the method used by
172 Goorden *et al.* (2017) to develop the screening instru-
173 ment for adults with PDs. This method consists of
174 two phases. In the first phase, clinical experts develop
175 consensus-based items to detect patients with severe
176 PDs for highly specialized care based on expert
177 opinion and literature review. Given the heterotypical
178 continuity of PDs, the recently developed tool for
179 adults with PDs (Goorden *et al.*, 2017) was used as
180 the starting point in the current study. The Delphi
181 method (Linstone and Turoff, 1975; Powell, 2003)
182 was used to gain expert consensus. In the second
183 phase, the age-specific screening tool is studied for its
184 psychometric properties.

185 Delphi study

186 The Delphi technique is “a series of sequential
187 questionnaires or “rounds,” interspersed by con-
188 trolled feedback, that seek to gain the most reliable
189 consensus of opinion of a group of experts” (Powell,
190 2003, p. 376). This technique is useful in situations
191 where individuals’ opinions must be combined in
192 order to address a lack of agreement or an incom-
193 plete state of knowledge (Delbecq *et al.*, 1975;
194 Powell, 2003). In a classic Delphi survey, the infor-
195 mation is gained through several rounds of ques-
196 tionnaires that are sent to a preselected expert panel.
197 There is no contact between experts to ensure
198 objectivity. However, in the present study, a real-
199 time or group Delphi was chosen in which a meeting
200 was organized with several iterative rounds following
201 the Delphi technique. To limit the negative effects of
202 the group meeting on the objectivity of the Delphi,
203 seating arrangement as well as the first responder in
204 each round was selected at random by one of the
205 researchers. By this random selection, a disproportional
206 influence of more dominant experts expres-
207 sing their opinion first was avoided.

208 *Chairman:* To obtain meaningful information
209 from a group meeting, a skilled and objective chair-
210 man capable of leading a structured discussion and
211 monitoring the Delphi technique is essential (Finke
212 *et al.*, 1991; Legra *et al.*, 2017). Therefore, a chair-
213 man was invited with experience as a chairman, who
214 is also an expert in clinical practice and research in
215 personality pathology in adolescents and is familiar
216 with the distinction between regular and highly
217 specialized mental health care.

218 *Procedure:* Prior to the formal Delphi meeting,
219 there were two meetings between two of the authors
220 (LL-R, SvA) and the chairman (PvdH) to discuss the
221 structure of the meeting. The meeting started with a
222 short presentation concerning the background of the

study. After that, eight statements were presented to
the experts to discuss (see Table 1). Each statement
was introduced if consensus was reached on the
previous statement or if discussion on the previous
statement was ended due to lack of consensus in the
previously arranged time for each statement. Each
statement was presented on a PowerPoint slide and
briefly explained by the chairman before the discus-
sion started. When no new information was gener-
ated by the panel, the chairman summarized. Based
on this summary, the discussion was resumed. This
procedure was repeated until consensus was reached
or no new points of view were expressed. Consensus
was reached if two-thirds of the expert agreed on the
statement in an open vote. The meeting was recorded
on film for analysis afterwards.

The information from the Delphi meeting was
used to compile an age-specific tool. Based on
expert consensus, items from the tool for adults
were deleted or adjusted, and a new, age-specific
tool to detect patients with severe PDs for highly
specialized care was constructed.

Prior to the start of the validation study, a pilot
study was conducted to ensure that the age-specific
tool was usable for clinicians.

Psychometric study

The age-specific tool was filled out during the intake
phase by two clinicians. In accordance with the stan-
dard procedure, each patient was seen by two clin-
icians during the intake phase. Often these clinicians
had a different professional background, for example,
a psychiatrist and a psychologist. Both clinicians eval-
uated each patient independently. After completing
the intake, both clinicians filled out the tool, including
one extra question concerning whether or not they
thought that the patient needed highly specialized care.
The clinicians based their answer to this question upon
their clinical impressions. After completing the intake
phase in a multidisciplinary meeting, colleagues of the
clinicians also decided, based on the information
gathered during the intake phase, whether or not
the patient was in need of highly specialized care.
The colleagues were at that time unaware of the
clinicians’ judgment concerning the need of highly
specialized care. The consensus judgment of the
multidisciplinary team whether or not the patient
was qualified as highly specialized, was used as the
gold standard to determine a cut-off score for the tool.

Participants

Delphi study

For the Delphi study, 12 experts were approached to
participate, and nine of them participated in the
study. Reasons for not participating were other

Table 1. Results Delphi study

ORIGINAL ITEM	EXPERT OPINION	CONSENSUS
1. Severe negative affect with maladaptive coping	<ul style="list-style-type: none"> - Since severe negative affect and maladaptive coping are important characteristics the item does not differentiate between specialized and highly specialized, it needs an extra marker for severity - Affect can also be variable, instead of a constant negative affect - Destructive behavior is expressed differently among older adults, as there is less acting out and externalizing behavior. Destructive behavior in older adults can show in avoiding/refusing help, dependence of benzodiazepines, very poor self-care, somatic neglect - Axis I and axis II are no longer used in DSM-5 and should therefore be omitted. - Older adults with severe PDs also often have an elaborate psychiatric history with a lot of diagnoses and/or changing diagnoses - GAF is no longer used in DSM-5 and should therefore be omitted. - GAF does not cover societal functioning among older adults very well due to the influence of comorbid somatic or cognitive disorders - In the older adult population, interpersonal functioning is a more important differentiating characteristic since societal functioning diminishes with, for example, retirement - Chronicity of the traumatization is more important in predicting the need of highly specialized care than the age at which the traumatization occurred - Affective neglect is as important in causing severe PDs as traumatization - In older adults with severe PDs often the family or caretakers are the ones who seek help, mediation therapy is an important aspect of highly specialized care. - The difficulties in developing relationships are not limited to the therapeutic relationship, and they also occur in other relationships with caretakers - The difficulties in developing relationships should be sustainable - Treatment in specialized care can be successful but not sufficient, and this should also be a reason to refer to highly specialized care 	Very severe, prolonged, variable negative affect with maladaptive coping
2. Severe destructive behavior to oneself or others	<ul style="list-style-type: none"> - Item does not differentiate between specialized and highly specialized care - Useful in selecting patients for psychotherapy, in older adults with very complex PDs often family or caretakers are the ones who seek help, and mediation therapy is an important aspect of highly specialized care. - Creating possibility and/or motivation to conform to minimal treatment conditions is highly specialized care 	Severe, chronic destructive behavior to oneself and/or others (also, for example, poor self-care, somatic neglect)
3. Multiple comorbid disorders on axis I and/or axis II due to severe psychiatric problems		Multiple symptomatology reflected in a broad spectrum of symptoms and/or comorbid disorders, now and/or in the past
4. Severe social and societal dysfunction, GAF ≤ 50		Severe dysfunction in multiple areas of life, including interpersonal functioning
5. Severe chronic traumatization in childhood		Persisting consequences of traumatization or affective neglect
6. Difficulties in developing a therapeutic relationship		Sustainable problems in therapeutic- or caretaker relationships
7. Treatment in specialized care was not successful		Treatment in specialized care was not sufficient, and there are questions about treatment perspective Item is omitted
8. Possibility and motivation to conform to minimal treatment conditions for psychotherapy in intensive (day)care		

Table 2. Demographics

	REGULAR CARE (N = 45) MEAN (SD)/PERCENTAGE (%)	HIGHLY SPECIALIZED CARE (N = 45) MEAN (SD)/PERCENTAGE (%)		P
Age (years)	69.5 (8.8)	67.3 (7.3)	$t = -1.29$	0.20
Gender (% men)	35.6%	40%	$X^2 = 0.19$	0.66

obligations on the date of the meeting and illness. All experts were selected from the Dutch and Belgian expert panel on personality disorders in older adults (EPO). This expert panel consists of psychologists, psychiatrists, geriatricians, and psychiatric nurses working in mental health care and/or nursing homes, and who developed an expertise in the topic of PDs in older adults (by either education or scientific research). All Dutch members with a minimum of 10 years membership of EPO were included. The Belgian experts were excluded since there are no highly specialized centers for PDs in older adults in the Belgian Mental Health Care system.

Psychometric study

In the psychometric study, two highly specialized centers for PDs in older adults in the Netherlands participated (Mondriaan, clinical center of excellence for PDs in older adults and PersonaCura, clinical center of excellence of PDs and autism spectrum disorders in older adults of GGz Breburg). These centers offer both (regular) specialized treatment and highly specialized treatment. New referrals to their outpatient center for PDs between January 2017 and May 2018 were evaluated. Overall, a total of 90 patients were evaluated.

Statistical analysis

In the psychometric study, criterion validity of the new measure was assessed. Therefore, the sensitivity and the specificity of the tool were evaluated. Sensitivity is defined as the ability of the tool to accurately detect patients with severe PDs for highly specialized care; specificity is the ability of the tool to accurately detect patients without severe PDs and not in need of highly specialized care. Sensitivity (true positive rate) and 1 – specificity (true negative rate) were plotted in a receiver operating curve (ROC), and the area under the curve (AUC) was calculated.

Internal consistency was assessed by calculation of Cronbach's alpha. Inter-rater reliability was assessed by calculation of the Kappa coefficient. All statistical analyses were performed with SPSS Statistics 19.

Results

Delphi study

The expert panel reached consensus that in clinical practice a tool is a meaningful contribution to detecting older adults with severe PDs for highly specialized care, but only if the tool is suitable for older adults. The previously developed tool for adults was not considered to be suitable for older adults. The results of the Delphi for each of the items of the tool are presented in Table 1. Expert consensus was reached for all items, resulting in seven new items for an age-specific tool.

Psychometric study

DEMOGRAPHICS

The characteristics of patients in the regular care and highly specialized care group are shown in Table 2. There were no significant differences between the demographic characteristics of the patients in both groups.

Among all of the checklists, there were only 12 missing values (1%), and these were distributed evenly over the items of the tool. Before conducting further analysis, missing values were replaced by the answer "no." It was argued that the clinician, based on the information gathered in the intake, was not convinced that the patient met the item and had therefore left it open.

INTERNAL CONSISTENCY

Cronbach's alpha was 0.69.

INTER-RATER RELIABILITY

Inter-rater reliability was calculated for 78 patients. The 12 missing values were patients that, due to unforeseen circumstances, were seen by only one clinician. The inter-rater reliability for each of the items is shown in Table 3. Kappa for the total score was 0.54.

ROC ANALYSIS

A ROC analysis was performed and the results are presented in Figure 1. The AUC was sufficient (0.747, 95% CI: 0.644–0.851). In Table 4, the specificity and sensitivity are shown for each of

Table 3. Inter-rater reliability

ITEM	INTER-RATER RELIABILITY (KAPPA)
1	0.48
2	0.52
3	0.35
4	0.18
5	0.62
6	0.29
7	0.42

Table 4. Sensitivity and specificity per cut-off score

TOTAL NUMBER OF ITEMS POSITIVELY SCORED	SENSITIVITY	SPECIFICITY
0	1.00	0.00
1	1.00	0.09
2	1.00	0.18
3	0.93	0.38
4	0.84	0.60
5	0.67	0.69
6	0.44	0.84
7	0.00	1.00

the possible total numbers of positively scored items. Since one of the important goals of the tool is case finding, that is detecting those patients who are in need of highly specialized treatment, sensitivity is considered more important than specificity, although we tried to maximize both. Therefore, a cut-off score of 4 was chosen.

Discussion

The aim of this study was to develop an age-specific tool to detect older adults with severe PDs for highly specialized care. Based on expert opinion following the Delphi method, the recently developed tool for adults with PDs (Goorden *et al.*, 2017) was adjusted for age-specific characteristics in older adults. As expected, items in the current tool were generally similar to those in the tool for adults. However, several important age-specific adjustments were made. First, for several items, adjustments and complements were made in order to highlight the specific way in which PDs can be expressed in older adults. For example, compared to younger adults, comorbidity in older adults more often is not only limited to mood, anxiety, substance abuse, and somatic symptom disorders but also expressed in

cognitive and somatic comorbidity (Kennedy *et al.*, 2016). Also, some characteristics of PDs are expressed differently in older adults. For example, self-destructive behavior is often expressed in a less overt or obvious manner among older adults (for instance, in somatic neglect rather than in direct self-mutilation). Second, the original tool for adults has a distinct focus on the patient being able and motivated to be in an intensive, specialized psychotherapeutic treatment. In old age psychiatry, often family or caretakers are the ones who seek help and are able to participate in the treatment instead of the patient. The experts mentioned that besides specialized psychotherapeutic treatment, treatment of patients that are not (yet) committed or unable to undergo psychotherapeutic treatment is a form of highly specialized care.

In the second part of the study, the psychometric properties of the age-specific tool were evaluated. Internal consistency of the tool was sufficient and the diagnostic accuracy of the tool was good. These results are similar to those found for the tool for adults with PDs (Goorden *et al.*, 2017). The overall inter-rater reliability of the current tool was moderate. The inter-rater reliability for the separate items of the tool varied from slight to substantial. In the development of the tool for adults, inter-rater reliability was not investigated. As such, it is not evident whether this inter-rater reliability is specific for the current tool. In the current sample, inter-rater reliability is the highest for the items with respect to self-destructive behavior and persisting consequences of traumatization. The inter-rater reliability was the poorest for the items on severe dysfunction in multiple areas of life and in sustainable problems in therapeutic or caretaker relationships. Possibly, the inter-rater reliability is related to the objectivity and concreteness of the items, and this is similar to what was found in the DSM-5 Field Trials (Regier *et al.*, 2013). Whether or not a patient was a victim of abuse is more objective and concrete than the severity of dysfunction on multiple areas in life.

Strengths and limitations

This study is the first study with respect to age-specific tools to detect patients for highly specialized care. Furthermore, it is the first study assessing inter-rater reliability for tools to detect patients for specific types of care. However, this study also has several limitations. First, the level of evidence from studies using consensus methods is somewhat limited (Ackley *et al.*, 2008). However, consensus methods, such as the Delphi method, have become increasingly more common in research on topics about which empirical data are very sparse. Second,

Fig. 1. ROC analysis.

in the current study, a group Delphi was used. An important limitation of a group Delphi is that the group meeting may negatively affect the objectivity of the Delphi. The face-to-face contact poses several risks, such as dominant individuals in the group, social pressure, and mutual influence. To reduce these effects, the chairman was selected carefully to be as skilled for this Delphi as possible. Furthermore, seating of the experts was predetermined to minimize the effect of preexisting subgroups, and the order in which the experts responded to each statement was chosen randomly to minimize the effect of any dominant expert and mutual influence. Another limitation related to the Delphi study concerns the subjectivity of some of the items. Several items were formulated in terms of severe problems with respect to a certain area. Given that the tool was developed to detect older adults with severe personality problems, this in a way is a circular argument. Future studies should continue to evaluate the objectivity of the items and perhaps revise them as necessary. A limitation specifically of the psychometric study is that clinical judgment was used as a reference, although no better gold standards are available. Indeed, because a gold standard to detect severe PDs does not currently exist, clinical judgment can be seen as a LEAD standard (Spitzer, 1983) being used as the best alternative currently available. Since there are no other validated assessments tools that can be used to measure the same construct, the concurrent validity of the tool was not assessed. A final limitation of the psychometric study concerns the representativeness of the sample. All patients included in the study were referred to a highly specialized center for PDs in older adults by their general physician or another mental health care professional. These patients are not representative for the general population of older adults with PDs, and therefore, it is unlikely that the psychometric

properties as determined in this study also apply to the general population.

Clinical implications

The tool, as developed and evaluated in the present study, can be used by clinicians that work in both regular and highly specialized mental health care to identify older adults with severe PDs in need of highly specialized care in an early phase, preferably after completing the intake. This may likely improve the efficacy of the treatment by preventing patients from unnecessarily receiving ineffective treatment for a longer period of time.

The tool specifically does not help in determining whether or not someone who receives highly specialized care still needs this highly specialized care. Many of the items in the tool refer to behavior or pathology in the patient's history. Even though this is helpful in detecting patients in need of highly specialized care, it can also logically be determined that even after successful treatment in highly specialized care these items on the tool do not change. Finally, the tool does not help to determine which level of treatment (supportive-structuring, adaptation-focussed, or aimed at personality change) in the highly specialized care is the best level for each patient. These are ripe topics for further study.

Increasing our knowledge about criteria of highly specialized care and criteria for different levels of treatment would greatly improve the efficacy of treatment for this important population of older adults with PDs.

Conclusion

In this study, we developed an age-specific tool to detect older adults with severe PDs for highly specialized care. The current tool can be used by

clinicians working in regular and highly specialized mental health care settings to detect patients for highly specialized care in an early phase. Future research should focus on improving the inter-rater reliability by trying to improve the objectivity of the items and on further evaluating criterion validity. Also, it would be useful to assess the factor structure of the tool. Furthermore, it should focus on identifying which forms of treatment for older adults with PDs are currently considered to be highly specialized and how we can detect patients that will likely benefit from these specific forms of treatment.

AQ12

530 **References**

AQ13

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