Reviewer's report

Title: Susceptibility (risk and protective) factors for in-patient violence and self-harm: prospective study of structured professional judgement instruments START and SAPROF, DUNDRUM-3 and DUNDRUM-4 in forensic mental health services.

Version: 1 Date: 16 June 2013

Reviewer: Michiel de Vries Robbé

Reviewer's report:

Review comments

Thank you for the opportunity to review this very interesting manuscript. It describes an important prospective clinical study including a brought range of tools. The manuscript addresses several fairly new risk assessment tools, especially those with a strengths-based focus rather than a risk-based focus. The authors should be congratulated for their important contribution to the knowledge about the psychometric properties of these new tools and about the value of the strengths-based risk assessment for clinical practice. If the authors attend sufficiently to the recommendations below I recommend publishing the article in BMC Psychiatry.

Major Revisions

General:

1. The main focus of the manuscript is on the protective/strength factor tools the SAPROF and the START. However, attention is also focused on the DUNDRUM-3 and 4 tools. Throughout the manuscript other tools are described: HCR-20, S-RAMM, PANSS, GAF, DUNDRUM-1. The comparison with all these tools is very interesting and a strong point of this manuscript, however the focus seems to switch here and there and the manuscript could be strengthened by keeping the main focus on the two / four key instruments while the others keep serving as comparison. In this respect the HCR-20 and the S-RAMM are the most valuable for this manuscript as they represent well established measures of risk of violence to others and risk of self-harm. The other tools (PANSS, GAF, DUNDRUM-1) are of less importance for the paper. However, the GAF adds a nice qualitative comparison and shows surprisingly good results. The PANSS only adds in terms of comparison. It is unclear what the DUNDRUM-1 adds to the paper and thus it is recommended to delete the DUNDRUM-1 all together from the manuscript.

2. Throughout the text there are very many inconsistencies regarding punctuation (font, periods, comma's, spaces etc missing or in the wrong place). The entire text needs to be checked very carefully for this, to ensure all details are
corrected. Please used APA.

Background:
3. P3/P4: the description of the DUNDRUM tools could be more clear, perhaps a table would help? For example, why are 1, 3 and 4 for described in detail and not 2? It would be better to only describe the ones which are relevant for the current paper: 3 and 4.
4. P5, line 4: Conceptually it would make sense to use the S-RAMM as ‘golden standard’ for self-harm risk assessment. Please describe why the HCR was chosen in stead.

Method:
5. P5: Bottom 2 lines: ‘…so that the location… patient is located [24].’ Is irrelevant as security level is not used as a variable, can be deleted.
6. P6, line 5: it should be mentioned that the START has a strength and a vulnerability scale which are coded simultaneously, as you are addressing this on page 7.
7. P6: in general an explanation needs to be added of the START, the SAPROF and the DUNDRUM tools. As these are the new instruments they need to be addressed in more detail, how many items / scales etc.
8. P6, line 19: what does the DUNDRUM-1 add to the paper? If nothing, it should be deleted.
9. P6, line 23: how can IRR be assessed if only one rater rated all files? Please provide more details.
10. P8: so the sample size was actually 98, not 100?
11. P8: what was the mean follow-up time for the 6 discharged patients?
12. P8, line 20 and line 25: location in analyses? Seems irrelevant to paper, suggest to delete this from the paper. Here: lines 18-22 and lines 24 (from ‘Means’) and 25.
13. P9, line 14: please describe analysis in more detail
14. P9: what analysis was used for the interaction?
15. P9, line 17, table 3 and 4 mention HCR-20 total scores, here it states C+R only.

Results:
16. Throughout: please pay attention to punctuation details, missing spaces, comma’s etc.
17. P10 line 21 (Similarly…) through P11 line 5: the internal consistency of the well-know measures is less important and takes away from the main focus. I’d suggest deleting all this and just mentioning START, SAPROF and DUNDRUM-3 and DUNDRUM-4.
18. P11-P12: the different sections on concurrent validity should be combined and shortened, all details are also show in table 1 (table and text are redundant),
please just highlight the main findings. Why is concurrent validity with DUNDRUM-3 and 4 not mentioned? (The section on GAF has no p-values, the section on PANSS has no statistics at all. Perhaps referring to the table is better here for all sections, but it needs to be consistent).

19. P13 first paragraph on location and length of stay: this section takes away from the main focus of the paper and should be deleted.

20. P13-P14: CI’s can be read in table, don’t need to be repeated in text.

21. P13: HCR and S-RAMM: add AUC’s, subscales don’t have to be mentioned in text.

22. Actually, if OR’s are mentioned in text, it should be explained what this means for different scales, that is an OR on a scale with 5 items is not comparable to an OR on a scale of 20 items as this simply reflects the increase in odds if the score on the scale was increased by 1 unit. It would be helpful to explain what an increase of let’s say 10 points on each tool (total scores) would mean for the increase in violence likelihood. But for this to make sense to the reader, the tools need to be explained in more detail in the Method section. Or just mention AUC values in text and leave OR’s for table.

23. P14: DUNDRUM-1 can be taken out. The PANSS as well? Or just mentioned very briefly.

24. P15, 3rd paragraph: what analysis was used for the interaction?

25. P15, 3rd paragraph: interaction HCR and S-RAMM not relevant for paper

26. P15, bottom lines: SAPROF x GAF interaction is not significant.

27. Basically, apart from the first 3 lines on SAPROF x HCR-dyn, the rest of the text can be said in one sentence: ‘No other interaction effects were observed.’

28. P16-17: the item analysis for all tools seems to carry too far for the current paper. I would suggest only discussing the SAPROF, START, DUNDRUM-3 and DUNDRUM-4, mentioning how many significantly predicting items each tool has and which items were good predictors. All on HCR, S-RAMM, PANSS and DUNDRUM-1 should be taken out. Also the tables are probably too elaborate and should be deleted?

Discussion:

29. P19/20: Bottom lines P19 and first paragraph P20: this paragraph seems a little out of place, could be revised.

30. The following two paragraphs are also somewhat unclear and the focus on individual items too detailed (see comment on individual items later on). Perhaps summarize these paragraphs and just make the point that its different factors which are good predictors for violence and for self-harm.

31. The focus of the discussion should be more on summarizing the findings from the present study and comparing these to findings in other studies. Please make more reference to (findings in) the literature. For example, it would be interesting to note that the some tools intent to measure violence to others as well as self-harm, while others only focus on either one. This can be related to the
current findings. Also, comparison can be made regarding the short follow-up time and inpatient aggression as outcome, in the light of findings in other studies with the tools.

32. P21 2nd paragraph, first line: many items in HCR appeared not predictive? HCR-20 AUC total score was .87/.88! (see table 2), which can hardly be described as ‘not predictive’. See comment lateron (Tables) the focus on individual items is less strong given the relatively small sample size and low base-rate. I’d suggest focusing more on the scales in general. Last two lines on PANSS/S-RAMM should be deleted.

33. P22 ‘Finally…’: longer observation period would also have been informative!

34. The fact that different tools were rated by different raters (see Authors’ contributions) might have an impact on the findings, this should be addressed in the limitations. Also, the fact that only one rater rated all files for every tool may have influenced the findings.

35. The HCR-20 and S-RAMM were collated from team assessments, while the other tools were rated by a single rater. Team assessments have shown to have better predictive validity (e.g. De Vogel et al), this too needs to be addressed in the limitations.

36. P24. First few lines, more findings have been published on the START in recent years, which should be made reference to.

37. P24. Line 3: ‘De’ should be added: ‘De Vries Robbé’. Here too, reference should be made to previous findings of good predictive validity which are very much in line with the current paper.

Reference list:

38. Please mind punctuation and consistency. Almost all references have something incorrect: missing spaces, bold/italic, positioning etc. Please check very carefully for this.

39. Ref. 44: Author order incorrect; switch ‘De Vries Robbé’ and ‘De Vogel’

Tables:

40. Although most of the information in the tables is informative, the 37 (!) pages of tables seem quite extravagant for the manuscript. I'll leave it up to the editors to comment on how many pages are acceptable in an online supplement and whether extensive tables like these would be desirable.

41. All tables, please use APA style: no vertical lines, proper headers etc.

42. Pages and headers have varying fonts. Please be consistent in font, header lay-out etc.

43. Tables 3 and 4: these concern HCR-dynamic scores, not total scores?!

44. Table 3: DUNDRUM-3: higher (in stead of lower) total programme completion scores for Violent group after controlling for HCR?

45. Table 4: START-S: higher (in stead of lower) total strength scores for the Self harming group after controlling for HCR? -> should be mentioned in discussion.
46. Tables 5 through 11: although informative to authors of these tools, it seems it might be better to delete these tables from the manuscript. Beside the fact that this is far too much information for one manuscript, the item AUC analyses of this many individual items in a relatively small sample and low recidivism base-rate is not recommended. It might be best to mention the best predictors of the main tools (START, SAPROF, DUNDRUM-3 and -4) in the text in stead and perhaps the number of significant predicting items per tool.

Minor essential revisions

Title:
47. The title is quite long and could benefit from more focus. For example: ‘Risk and protective factors for inpatient violence and self-harm: A prospective study of the START, SAPROF, DUNDRUM-3 and DUNDRUM-4’

Background:
48. P3 2nd paragraph last line: ‘..resilience factors that reduce the risk of violence and self-harm.’

Method:
49. P6, line 9: Historical-Clinical-Risk-20 should be: ‘Historical, Clinical, Risk management-20’, but actually other tool names are not spelled out either, so just change to ‘HCR-20’ and spell out when first mentioned earlier on. The same goes for the S-RAMM.
50. P6, line 10: R stands for ‘Risk management’
51. P6, line 13: ‘Similarly’ should be ‘Similar to the HCR-20’
52. P6, line 16: ‘risks’ should be ‘risk of suicide’
53. P6, line 17: ‘These’ should be ‘the HCR-20 and the S-RAMM..’
54. P6, line 24: ‘individual risk or protective factors’
55. P7, line 1: ‘S-RAMM’
56. P7, Outcome measures, line 4: ‘.. between violence to others and..’
57. P8, line 1: bracket wrong place
58. P8, line 4: the header ‘Bias’ should be changed into ‘Study size’ (and that header should be deleted below)
59. P9, line 6: not a new paragraph

Results:
60. P10, line 3: bracket
61. P10, line 10: add range of follow-up. Number of patient days at risk is not very informative.
62. P11 line 2: HCR, C = Clinical, R = Risk management
63. P11, lines 10-12: The sentence ‘If the....scales.’ should be deleted (is
repeated in line 14/15).

64. P12 last 3 lines: ‘the rate of events… 10,000).’ Seems irrelevant, can be deleted.

65. P15, bottom lines: ‘SAPROF’

Figures:
66. Page 32 is empty?

Discretionary revisions

Background:
67. P2, 2nd paragraph: If the length of the manuscript is too great, the description of the RA tools history can be summarized in a few lines.

68. P3, last paragraph: this section describes some previous results, while the same is not done for the START and SAPROF (these are mentioned in the discussion in stead), perhaps it would be better here to just explain what the DUNDRUM tools are and what they intend to measure.

Method:
69. P7, line 4-5: move to Variables section P6

70. P8, line 17: ‘the line of zero information’ -> ‘chance’

71. P9, lines 18-24: merge with top page 9 or delete altogether if the item analyses are deleted from the paper.

72. P9, bottom two lines: ‘Because… attempted.’ is irrelevant and can be deleted.

Results:
73. P14, 3rd paragraph bottom line: ‘Lower… factors.’ Should be deleted here or moved to method.

74. P15, 2nd paragraph: New sentence ‘Likewise for the 7 who self-harmed compared to those who did not. However, when…’

75. P16, line 3: ‘Eleven’… the item Life goals had a p of .050, was this rounded up or down? (if up, this makes 12).

Discussion:
76. Limitations: Omitting HCR-20 H7 (Psychopathy) and the 6% females in the sample could also be mentioned.

77. P22 Future studies: A recommendation could be made for studies including repeated measures in order to be able to assess the influence of treatment change as measured by the different tools on reductions in violence risk.

78. P23. 2nd paragraph (about S-RAMM B1) is not relevant enough for the discussion, suggest to delete.

79. P23. 3rd paragraph what does ‘these instruments’ refer to, the instruments in
Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I am co-author of the SAPROF, one of the tools that is the focus of this manuscript. I do not receive any direct financial benefits from this tool, however the hospital I work for holds the patent to the SAPROF.