

**CONSORT 2010 Flow Diagram**

Assessed for eligibility (n=2.241)

Analysed (n= 202 )  
 Excluded from analysis (give reasons) (n=3 )

Lost to follow-up (give reasons) (n=9 )

Discontinued intervention (give reasons) (n=5 )

Analysed (n=N/A )  
 Excluded from analysis (give reasons) (n=N/A )

Allocated to intervention (n= N/A )

 Received allocated intervention (n=N/A )

 Did not receive allocated intervention (give reasons) (n=N/A )

Lost to follow-up (give reasons) (n=N/A )

Discontinued intervention (give reasons) (n=N/A )

Excluded (n=2,022)

  Not meeting inclusion criteria (n=1,939 )

  Declined to participate (n=3 )

  Other reasons (n=80 )

## Follow-Up

## Analysis

## Enrollment

## Allocation

Allocated to intervention (n=219)

 Received allocated intervention (n=205 )

 Did not receive allocated intervention (give reasons) (n= 14 )

Randomized (n= 219)

Table 6. Correlation (Pearson) between teens' and parents' responses – Teens age 11-13.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 88 | Parent VAS | Parent APBQ | Parent Facial | Parent Verbal | Parent Behavioral |
| Teen VAS | **0.61** | 0.09 | 0.10 | 0.10 | 0.05 |
| BMIS | **-0.47** | **-0.24** | -0.14 | **-0.30** | -0.18 |
| STAI-C | **0.48** | **0.21** | 0.07 | **0.28** | 0.18 |
| PCS-C | 0.19 | 0.07 | -0.05 | 0.08 | 0.13 |
| Rumination | **0.22** | 0.07 | 0.0003 | 0.08 | 0.11 |
| Magnification | 0.15 | 0.02 | -0.11 | 0.04 | 0.11 |
| Helplessness | 0.16 | 0.07 | -0.04 | 0.08 | 0.13 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 7. Correlation (Spearman) between teens' and nurses' responses – Teens aged 11-13.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 88 | Nurse VAS | Nurse APBQ | Nurse Facial | Nurse Verbal | Nurse Behavioral |
| Teen VAS | **0.40** | **0.23** | **0.25** | **0.24** | **0.21** |
| BMIS | **-0.29** | -0.19 | **-0.21** | **-0.21** | -0.17 |
| STAI-C | 0.19 | 0.17 | 0.17 | 0.17 | 0.16 |
| PCS-C | 0.18 | 0.09 | 0.08 | 0.11 | 0.06 |
| Rumination | 0.18 | 0.06 | 0.09 | 0.09 | 0.03 |
| Magnification | 0.13 | 0.12 | 0.09 | 0.15 | 0.10 |
| Helplessness | 0.14 | 0.07 | 0.06 | 0.08 | 0.06 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 8. Correlation (Pearson) between teens' various scale responses – Teens age 11-13.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N = 88 | BMIS | STAI-C | PCS-C | Rumination | Magnification | Helplessness |
| Teen VAS | **-0.46** | **0.44** | **0.35** | **0.36** | **0.30** | **0.30** |
| BMIS | --- | **-0.89** | **-0.38** | **-0.37** | **-0.31** | **-0.35** |
| STAI-C | --- | --- | **0.44** | **0.37** | **0.41** | **0.42** |
| PCS-C | --- | --- | --- | **0.90** | **0.84** | **0.95** |
| Rumination | --- | --- | --- | --- | **0.66** | **0.77** |
| Magnification | --- | --- | --- | --- | --- | **0.72** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 9. Correlation (Pearson) between teens' and parents' responses – Teens age 14-17.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 114 | Parent VAS | Parent APBQ | Parent Facial | Parent Verbal | Parent Behavioral |
| Teen VAS | **0.53** | **0.21** | **0.22** | **0.21** | 0.14 |
| BMIS | **-0.24** | **-0.23** | **-0.25** | **-0.18** | **-0.19** |
| STAI-C | **0.28** | **0.32** | **0.29** | **0.27** | **0.28** |
| PCS-C | **0.35** | **0.38** | **0.32** | **0.35** | **0.33** |
| Rumination | **0.28** | **0.35** | **0.28** | **0.33** | **0.31** |
| Magnification\* | **0.24** | **0.28** | **0.25** | **0.27** | **0.24** |
| Helplessness | **0.35** | **0.34** | **0.30** | **0.30** | **0.31** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. \*Spearman correlation coefficient, VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 10. Correlation (Spearman) between teens' and nurses' responses – Teens aged 14-17.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 114 | Nurse VAS | Nurse APBQ | Nurse Facial | Nurse Verbal | Nurse Behavioral |
| Teen VAS | **0.51** | 0.10 | 0.11 | 0.06 | 0.09 |
| BMIS | **-0.31** | **-0.28** | **-0.26** | **-0.21** | **-0.27** |
| STAI-C | **0.32** | **0.22** | **0.22** | 0.12 | **0.24** |
| PCS-C | 0.18 | **0.19** | 0.17 | 0.18 | **0.20** |
| Rumination | **0.27** | 0.16 | 0.12 | 0.16 | 0.16 |
| Magnification | 0.17 | 0.14 | 0.16 | 0.07 | 0.16 |
| Helplessness | 0.12 | **0.18** | 0.17 | **0.19** | 0.17 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 11. Correlation (Pearson) between teens' various scale responses – Teens age 14-17.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N = 114 | BMIS | STAI-C | PCS-C | Rumination | Magnification\* | Helplessness |
| Teen VAS | **-0.28** | **0.39** | **0.36** | **0.36** | **0.23** | **0.33** |
| BMIS | --- | **-0.80** | **-0.44** | **-0.37** | **-0.34** | **-0.42** |
| STAI-C | --- | --- | **0.47** | **0.37** | **0.39** | **0.43** |
| PCS-C | --- | --- | --- | **0.87** | **0.77** | **0.95** |
| Rumination | --- | --- | --- | --- | **0.54** | **0.73** |
| Magnification\* | --- | --- | --- | --- | --- | **0.66** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. \*Spearman correlation coefficient. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 12. Correlation (Pearson) between teens' and parents' responses – Girls.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 114 | Parent VAS | Parent APBQ | Parent Facial | Parent Verbal | Parent Behavioral |
| Teen VAS | **0.56** | 0.16 | **0.25** | 0.13 | 0.05 |
| BMIS | **-0.41** | **-0.24** | **-0.22** | **-0.26** | -0.16 |
| STAI-C | **0.37** | **0.26** | **0.20** | **0.28** | **0.19** |
| PCS-C | **0.23** | **0.20** | 0.11 | 0.18 | **0.21** |
| Rumination | **0.24** | **0.20** | 0.11 | 0.18 | **0.22** |
| Magnification | 0.17 | **0.18** | 0.13 | 0.18 | 0.16 |
| Helplessness | **0.20** | 0.15 | 0.08 | 0.13 | 0.18 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 13. Correlation (Spearman) between teens' and nurses' responses – Girls.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 114 | Nurse VAS | Nurse APBQ | Nurse Facial | Nurse Verbal | Nurse Behavioral |
| Teen VAS | **0.45** | 0.09 | 0.09 | 0.06 | 0.07 |
| BMIS | **-0.25** | **-0.20** | **-0.20** | -0.17 | **-0.19** |
| STAI-C | **0.18** | 0.10 | 0.11 | 0.06 | 0.10 |
| PCS-C | 0.04 | 0.09 | 0.08 | 0.07 | 0.08 |
| Rumination | **0.18** | 0.10 | 0.07 | 0.07 | 0.10 |
| Magnification | 0.01 | 0.04 | 0.06 | 0.02 | 0.02 |
| Helplessness | 0.004 | 0.09 | 0.09 | 0.08 | 0.07 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 14. Correlation (Pearson) between teens' various scale responses – Girls.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N = 114 | BMIS | STAI-C\* | PCS-C | Rumination | Magnification | Helplessness |
| Teen VAS | **-0.39** | **0.35** | **0.24** | **0.30** | 0.09 | **0.21** |
| BMIS | --- | **-0.85** | **-0.41** | **-0.40** | **-0.32** | **-0.35** |
| STAI-C | --- | --- | **0.40** | **0.35** | **0.38** | **0.34** |
| PCS-C | --- | --- | --- | **0.86** | **0.77** | **0.94** |
| Rumination | --- | --- | --- | --- | **0.53** | **0.71** |
| Magnification | --- | --- | --- | --- | --- | **0.62** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 15. Correlation (Pearson) between teens' and parents' responses – Boys.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 88 | Parent VAS | Parent APBQ | Parent Facial | Parent Verbal | Parent Behavioral |
| Teen VAS | **0.56** | 0.11 | 0.04 | 0.14 | 0.12 |
| BMIS | **-0.28** | **-0.25** | -0.18 | **-0.25** | **-0.24** |
| STAI-C | **0.38** | **0.26** | 0.16 | **0.27** | **0.27** |
| PCS-C | **0.32** | **0.23** | 0.18 | **0.21** | **0.24** |
| Rumination | **0.25** | 0.19 | 0.16 | 0.17 | 0.18 |
| Magnification\* | **0.22** | 0.16 | 0.10 | 0.15 | 0.19 |
| Helplessness | **0.35** | **0.26** | **0.22** | **0.22** | **0.27** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. \*Spearman correlation coefficient. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 16. Correlation (Spearman) between teens' and nurses' responses – Boys.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N = 88 | Nurse VAS | Nurse APBQ | Nurse Facial | Nurse Verbal | Nurse Behavioral |
| Teen VAS | **0.52** | **0.28** | **0.30** | **0.25** | **0.25** |
| BMIS | **-0.35** | **-0.27** | **-0.30** | **-0.25** | **-0.24** |
| STAI-C | **0.36** | **0.30** | **0.32** | **0.22** | **0.30** |
| PCS-C | **0.36** | **0.23** | **0.21** | **0.23** | 0.20 |
| Rumination | **0.35** | 0.15 | 0.16 | 0.17 | 0.10 |
| Magnification | **0.34** | **0.27** | **0.24** | **0.22** | **0.27** |
| Helplessness | **0.30** | **0.23** | 0.20 | **0.24** | 0.21 |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.

Table 17. Correlation (Pearson) between teens' various scale responses – Boys.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N = 88 | BMIS | STAI-C | PCS-C | Rumination | Magnification\* | Helplessness |
| Teen VAS | **-0.34** | **0.49** | **0.46** | **0.39** | **0.39** | **0.44** |
| BMIS | --- | **-0.85** | **-0.43** | **-0.35** | **-0.29** | **-0.44** |
| STAI-C | --- | --- | **0.50** | **0.37** | **0.35** | **0.52** |
| PCS-C | --- | --- | --- | **0.90** | **0.85** | **0.96** |
| Rumination | --- | --- | --- | --- | **0.66** | **0.79** |
| Magnification\* | --- | --- | --- | --- | --- | **0.75** |

Note: Correlation coefficients listed in bold are significant at the 0.05 level. N is the number of patients. \*Spearman correlation coefficient. VAS is the Visual Analog Scale; BMIS is the Brief Mood Introspection Scale; STAI-C –is the State-Trait Anxiety Inventory for Children; PCS-C is the Pain Catastrophizing Scale for Children.