



# The Relationship Between Anxiety and Illness Intrusiveness in Multiple Sclerosis

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## Abstract

**Objectives:** To evaluate anxiety as a predictor of illness intrusiveness with data from self-report measures.

**Methods:** The Hospital Anxiety and Depression Scale (HADS) was used to measure anxiety and depression in 138 MS patients. Illness intrusiveness was measured using the Illness Intrusiveness Ratings Scale (IIRS). All of the measures have been well validated in the MS population. A multivariate general linear model was conducted with Anxiety as the predictor variable, and the IIRS was entered as the outcome variable.

**Results:** A significant effect of anxiety on illness intrusiveness (Wilks' Lambda= .848 , F(3,131)=7.817 , p<.001) was found. Anxiety had a significant effect on IIRS relationship (F= 19.485, p<.001), intimacy (F= 10.807, p<.001), and instrumental (F= 19.706, p<.001), such that anxiety had a positive association with IIRS subscales. Approximately 18% of the variance in instrumental illness intrusiveness (R<sup>2</sup>= .18) accounted for anxiety, 16% of the variance in relationship intrusiveness (R<sup>2</sup>= .162), and 8% of the variance in intimacy (R<sup>2</sup>= .084).

**Conclusions:** Anxiety and feelings of illness intrusiveness were related in MS patients. Specifically, anxious MS patients on average scored higher on all constructs of illness intrusiveness.

## Background

Anxiety is common among individuals living with MS, with prevalence rates ranging from 19% to 57%. Previous studies have demonstrated that anxiety and depression independently predict illness intrusiveness (Snyder et al., 2013). A relationship between depression and perceived illness management has also been suggested in the MS literature (Lester et al., 2007). Anxious individuals are often preoccupied with concern over the future and prone to cognitive distortions, individuals with anxiety may be more prone to perceiving their illness as a burden. Reduction of anxiety and depression therefore may also reduce illness intrusiveness (Snyder et al., 2013). This study seeks to add to the current literature by specifically examining the impact of anxiety on three aspects of illness intrusiveness.

## Methods

- Sample:** Data was collected from 138 MS patients who underwent full neuropsychological evaluation at the MS Center at Holy Name Medical Center in Teaneck, NJ.
- Materials:** Anxiety was measured using the self-report measure, Hospital Anxiety and Depression Scale (HADS). Illness intrusiveness was measured using the Illness Intrusiveness Ratings Scale (IIRS), a 13 item, self report instrument measuring relationships and personal development, intimacy, and instrumental intrusiveness.
- Statistics:**

All of the measures have been well validated in the MS population. A multivariate general linear model was conducted using SPSS 24.0. Anxiety was entered as the predictor variables, and the three constructs of IIRS were entered as the outcome variables. Analyses controlled for gender, age, and years of education.

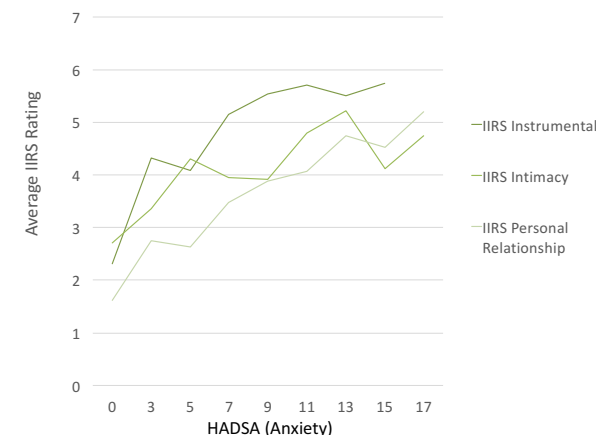
Characteristic	N (M)	% (SD)
Gender		
Female	105	75.7%
Male	33	24.3%
Age	48.10	11.90
Years of Education	14.49	2.12
IIRS	52.73	20.50
Instrumental	4.98	1.77
Personal Development	3.57	1.72
Intimacy	4.17	2.18
HADSA	8.66	4.33
Anxiety	81	57.9%
No Anxiety	59	42.1%

## Results

- There was a significant effect of anxiety on illness intrusiveness (Wilks' Lambda= .848 , F(3,131)=7.817 , p<.001).
- Anxiety had a significant effect on IIRS relationship (F= 19.485, p<.001),intimacy (F= 10.807, p<.001), and instrumental (F= 19.706, p<.001).
- Anxiety accounted for:
  - Instrumental:** 18% of the variance in instrumental illness intrusiveness (R<sup>2</sup>= .18)
  - Relationship and Personal Development:** 16% of the variance in relationship intrusiveness (R<sup>2</sup>= .162)
  - Intimacy:** 8% of the variance in intimacy (R<sup>2</sup>= .084).

## Conclusions

- Anxiety was found to be related to MS patients' feelings of illness intrusiveness.
- Specifically, anxious MS patients on average scored higher on all constructs of illness intrusiveness.
- MS patients who are anxious are more likely to view their illness as intruding on their instrumental functioning, relationships and personal development, and intimacy.
- This finding underscores the importance of screening MS patients for anxiety, especially given the high prevalence rate of anxiety in the MS population.



## References

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