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# Urinary Incontinence and Unemployment in People With Multiple Sclerosis

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*This article presents an important finding identified when establishing the validity and reliability of the Multiple Sclerosis (MS) Disability Profile. The research found that the intermittent use of pads to manage urinary incontinence was linked to unemployment, particularly in women with MS. A total of 103 participants completed a survey and participated in semistructured interviews. Urinary incontinence in people with MS is common, with reports of 89%. Twenty percent of the participants in the current study used pads to manage urinary leakage. Response to the question, "Do you use any appliances to assist with bladder function/control?" indicated that intermittent pad use was a precursor to unemployment and is offered as an important indicator of impending unemployment in people with MS. This simple question could be used by clinicians to identify the need for more detailed assessment and appropriate interventions to optimize the management of urinary incontinence, thereby reducing the risk of job loss related to incontinence. *Int J MS Care*. 2007;9:143–147.*

**M**ultiple sclerosis (MS) is a chronic inflammatory demyelinating disease of the central nervous system. The nature and severity of impairment varies, making it difficult to offer a sound prognosis, and treatment is symptomatic.<sup>1</sup> This article presents the results of one component of a larger study: the link between urinary continence management and employment status in people with MS.

The prevalence of urinary leakage in the general Australian population is 6% and as high as 1 in 3 women aged 45–50 and 70–75 years.<sup>2</sup> Urinary incontinence rates in the United Kingdom and United States are similar.<sup>3</sup> In addition, most women do not seek help even though the problem interferes with work, social, and sexual activity.<sup>2</sup> As much as 89.4% of women with MS have reported urinary difficulties.<sup>4</sup>

Urinary incontinence in MS usually results from spinal disease, leading to detrusor hyperreflexia, hyporeflexia, and detrusor-sphincter dyssynergia.<sup>5</sup> Symptoms include an inability to store urine, resulting in frequent trips to the bathroom; void even when the bladder is full; and void when the urge is present,

resulting in frequent urges to void and an inability to do so when attempted.<sup>6</sup>

Urinary incontinence in men and women is often amenable to therapy. Pelvic floor exercises have been found to result in satisfactory urinary control and avoidance of surgery.<sup>3</sup> Pelvic floor exercises, in conjunction with electrical and pelvic floor rehabilitation, have been reported to be beneficial in some people with MS.<sup>6,7</sup> Other strategies addressing continence issues have been to increase the retention of people with MS in the workplace, reduce working hours, have rest periods, and be conveniently located near bathrooms.<sup>8</sup>

In summary, urinary incontinence is a common and pervasive threat to the overall well-being of people with MS.<sup>9,10</sup> Early intervention in the management of urinary incontinence is likely to delay or prevent unemployment.

## Methods

This research included 103 participants who were assessed with the MS Disability Profile. The participants completed a survey and participated in a semistructured interview, usually in their home, that lasted between 45 and 90 minutes. The MS Disability Profile is a composite instrument that incorporates the Expanded Disability Status Scale (EDSS),<sup>11</sup> the Barthel

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Activities of Daily Living (ADL) Index, the Environmental Status Scale, and composite items that reflect the nature of MS.<sup>12</sup>

Although the EDSS has been found to have some weaknesses, it is still the gold standard for measuring neurological impairment.<sup>13</sup> EDSS has the advantage of familiarity, it is a meaningful clinical and biological measure, and its deficiencies are well known.<sup>14</sup>

The Barthel ADL Index was introduced in 1955 to monitor the progress of rehabilitees in self-care and mobility while undergoing rehabilitation. It consists of 10 items: bowel and bladder function, grooming, toilet use, feeding, transfer, mobility, dressing, climbing stairs, and bathing. A score of 0 denotes an inability to do any one of the activities assessed by the index, and a score of 20 represents the ability to do all of the assessed activities.<sup>15</sup>

The Environmental Status Scale consists of seven items: actual work status, financial/economic status, personal residence, personal assistance required by the patient, community assistance required by the patient, needs for transportation and community services such as social activities, and home modifications. The items are rated on a 0–5 scale.<sup>16,17</sup>

### Sample

A nonrandom sample of 103 people with MS, aged >18 years, was drawn from MS self-help meeting attendees, published requests for volunteers, and referrals from other people with MS. All participants spoke English and gave consent on their own behalf. All participants were provided with a letter explaining the research before being interviewed. All participants were given the opportunity to ask questions relating to the research and were informed that they could withdraw from the study at anytime, without comment or resultant penalty associated with care for their MS. All data were stored anonymously in accordance with national guidelines. Griffith University, where the researchers were based, granted ethical approval.

The participants comprised 74 women and 29 men with a diagnosis of MS confirmed by a neurologist. The proportion of women to men represented the normal sex distribution of MS. Average age was 48 years, ranging from 24 to 73 years (standard deviation [SD] 11 years). The EDSS scores for each participant were analyzed. EDSS is an ordinal scale with a score of 0 indicating normal and a score of 10 signifying death

from MS.<sup>25</sup> The most common EDSS score for the participants was 3.5, indicating mild impairment. The average EDSS score was 4.9, with a range of 1.5–8.5 (SD 1.7). Based on calculations of standard error, a sample of 103 people with MS resulted in a 95% confidence interval not greater than 10% for all proportions.

### Results

The bladder appliances question from the MS Disability Profile was found to be a key variable related to employment status. All data were analyzed with SPSS (version 12, SPSS Inc.). Participants were asked, “Do you use any appliances to assist with bladder function/control?” The results are shown in Table 1.

The use of appliances to manage urinary incontinence was related to work status. The variable bladder appliances correlated with the EDSS and the social indicator variable employment status. Employment status was coded into two categories: employed for wages and not employed for wages. Spearman’s correlations were used because of the nonnormal distribution of the data. The variable bladder appliances was analyzed as an ordinal variable because the items contained in the variable reflected increasingly interventionist strategies needed to manage incontinence. The correlations between bladder appliances, categorized employment status, and the person’s EDSS score were significant (Table 2).

### Sex differences

Two thirds of all people with MS are women. Although the use of bladder appliances is significantly correlated with EDSS and employment for both men and women (Table 2), women use pads earlier in the course of the disease than men. Once women with MS report pads for work or outings, on average, they move from working for wages to not working for wages. For

**Table 1. Responses of patients with multiple sclerosis to the question, “Do you use any appliances to assist with bladder function/control?”**

Appliance use	n (N = 103)	%
Not used	56	54.4
Pads used for work, outings	18	17.5
Pads used all the time	3	2.9
Intermittent catheter	17	16.5
Catheter and bag	6	5.8
Urinal condom drainage	3	2.9

**Table 2. Spearman's correlation coefficient of EDSS, employment status, and bladder appliances for women and men with multiple sclerosis**

Variable	Bladder appliances		Employment status	
	Women (n = 74)	Men (n = 29)	Women (n = 74)	Men (n = 29)
Bladder appliances	—	—	0.345 (0.003)*	0.355 (0.050)*
Employment status	0.345 (0.003)	0.355 (0.050)*	—	—
Expanded Disability Status Scale	0.542 (0.000)	0.531 (0.003)	0.353 (0.002)	0.584 (0.001)

\*Spearman's  $\rho$  correlation coefficient (significance).

men, the inability to work for wages correlates with pads being used all the time rather than only for outings or work.

Significant differences were found in unemployment level between women who did not use pads and those who used pads for work and outings (Mann-Whitney  $U$  test,  $P = .014$ ). No significant differences in unemployment status were found between men who used pads only for work and outings and those who used pads continuously or between women who used pads all the time and those who used an intermittent catheter to control urinary leakage.

Fatigue and mobility difficulties have been cited as adversely affecting employment.<sup>18,19</sup> A logistic regression was therefore computed incorporating bladder appliances, fatigue, and mobility difficulties, with employment status as the dependent variable. Only the variable bladder appliances was significant. When the logistic regression was rerun with only bladder appliances, the model was significant ( $P = .002$ ) and able to account for 79% of the variation in the data. Bladder appliances was significant ( $P = .0122$ ), with a coefficient value of 1.0641 (SD 0.42). This indicated that the estimated odds ratio for being unable to work for wages of a person with MS who wore pads for work and outings was almost 3 (2.90).

When the logistic regression was repeated for the women with MS, the regression was also significant ( $P = .0036$ ), explaining 83% of the variation in the data, with the coefficient for bladder appliances at 1.0032 (SD 0.49) being significant ( $P = .0418$ ). The estimated odds ratio of 2.73 indicated that women wearing pads for work and outings were almost three times as likely to be unemployed as those who did not use any bladder appliances to control urinary leakage. From the logistic regression, the probability of being unable to work for wages for women with MS using pads for work and outings was 0.72, increased to 0.88

when pads were used all the time, and increased to 0.95 with intermittent catheter use.

Although these predictive probabilities show a declining likelihood of working for wages with increasingly interventionist strategies to manage urinary incontinence, the experience of the sample who participated in this research was that their mean unemployment level fell from 1.0 (all unemployed) to 0.93 when women changed from pad use to intermittent catheter use. Although not statistically significant, this trend indicates that women who use intermittent self-catheterization may be more likely to remain employed than those who use pads either intermittently or all the time. In other words, onset of unemployment was delayed when women started to use intermittent self-catheterization.

For men, the logistic regression was also significant ( $P = .0187$ ), explaining 72.41% of the variation in the data. However, the variable bladder appliances was not significant at the 5% level (coefficient 1.1155 [SD 0.8000],  $P = .1641$ ), with a constant term of  $-0.7296$ . No other variables had a better fit for the data from men with MS.

## Discussion

Incontinence is common in people with MS, and delay in seeking medical advice can be marked, with reports of 30% of women with incontinence waiting 1–5 years and 25% waiting >5 years before seeking advice from their general practitioner.<sup>20</sup> The three most common reasons given for the delay include the hope that the symptoms would get better on their own, being embarrassed to discuss the problem, and thinking that the symptoms were normal.<sup>6</sup> Many women experiencing urinary leakage do not seek help unless the severity of the problem compels them to do so.<sup>20–22</sup>

Unemployment among people with MS has been reported at 77% and 79%.<sup>18,19</sup> The causes of unemployment for people with MS are multifactorial. How-

ever, employment status could be unrelated to age, sex, full-scale IQ estimate, or disease duration.<sup>20</sup> Recent Australian research identified that 50% of people with MS were unemployed because of the MS, and a further 30% felt that their jobs were threatened. Unemployed individuals often experience high levels of financial distress.<sup>24</sup>

Fatigue can reduce the ability of the person with MS to perform usual roles satisfactorily, adversely affecting social activities, work, and overall performance.<sup>25-27</sup> Gait and motor problems, general body dysfunction, mobility, fatigue, cognitive problems, age, and education level have also been reported to adversely affect employment status.<sup>28,29</sup> Optimal management of mobility issues, fatigue, cognitive impairment, and mood disorder generally benefit the person concerned. Optimal management of continence issues is no different. The current study indicated that continence management is linked to employment status, which also warrants optimal management.

Unemployment is higher among people with MS than the general population, with rates of 77–79%.<sup>2,19</sup> Fatigue and impaired mobility have been cited as factors contributing to unemployment.<sup>18,19</sup> The current study found that use of pads to manage urinary incontinence was a better indicator of impending unemployment. The logistic regressions indicated that fatigue and mobility difficulties were not as significant as pad use in explaining employment status. The results suggest that better management of urinary incontinence, particularly in women with MS, may delay unemployment.

This study had a few limitations, including the non-random sample, the self-reported nature of the data, and the few people using appliances to manage incontinence. Nonparametric analysis acknowledged the small nonnormally distributed sample. The sample did, however, reflect the usual sex distribution of people with MS, based on the MS Disability Profile. Although the limitations may have affected the generalizability of the research, they did not detract from the importance of these preliminary findings and the need for further research to address the impact and management of continence issues in people with MS. Further research with a random sample is recommended to confirm these findings.

## Conclusion

The correlation between bladder appliances and employment status is important, based on the strong link between unemployment and social well-being. This study suggested a link between urinary incontinence and impending unemployment that has not been previously reported. In seeking information about a patient's continence status by simply asking whether he or she uses pads to manage urinary difficulties such as leaking, health professionals give permission for this taboo topic to be addressed, validate concerns about incontinence, and offer an opportunity to discuss necessary, accurate information about continence and its management.<sup>21</sup> This information can then be used to guide referrals to assist in meeting the continence and social needs of people with MS. Early intervention with advice on MS and the range of strategies that can be used to manage urinary incontinence may delay unemployment and the resultant financial hardship. □

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