The relationship between body image and depression in women diagnosed with relapsing remitting multiple sclerosis

By Shauna Kindrat

Abstract
Little is known about perceptions of body image in women diagnosed with relapsing remitting multiple sclerosis (RRMS). This descriptive correlational study was conducted to describe how women perceive their body image while living with RRMS, and to examine a potential relationship between body image and depression in women who have RRMS.

A convenience sample of 30 women from a western Canadian multiple sclerosis (MS) clinic completed a demographic questionnaire, the Body-Image Ideals Questionnaire (BIQ), and the Beck Depression Inventory Short Form (BDI-SF).

Body image and depression scores were highly correlated (r = 0.814, p = 0.01) indicating that a more positive body image was associated with less depression.

The findings of this study suggest that there are important psychological aspects to which clinicians might need to attend when working with women who have RRMS. However, further research needs to be done in this area.

Introduction
Multiple sclerosis (MS) is a relentless and insidious disease of the central nervous system that strikes twice as many women as men (Costello, Halper & Harris, 2003). Although MS has been known to medicine for more than a century, there is no definitive cause or cure for this disease (Costello et al.). It suddenly attacks healthy bodies, leaving a range of disabilities up to and including paralysis. In one particular type of MS (relapsing remitting multiple sclerosis [RRMS]), the afflicted person’s function may return to normal or near normal after an attack but, then, the inevitable next attack occurs and erodes the nervous system a little more. These attacking episodes strike repeatedly with little warning and on no predictable timetable, so that an RRMS diagnosis translates into a tumultuous lifestyle of uncertainty.

Health care professionals, particularly the nurses who work closely with MS patients, the majority of whom are women, try to offer compassion and encouragement. Nurses play a vital role by assisting the patient in reassessing her strengths and weaknesses, prioritizing activities and identifying resources within the home and community. An improved understanding of the MS life experience and concerns of women living with MS should positively impact their mental outlooks and response to treatment. Nurses should be able to educate the women about what body image changes to expect, along with signs and symptoms of potential problems.

During our lives, our bodies go through many changes, some of which are desired, others not. However, there have been few studies on the experiences of those with body image changes secondary to MS. In most cases, the focus of research has been on the illness that is associated with body image changes (Hinds, 2002; Newell, 2000). It is for this reason that the women’s perception of body image, rather than their illness, RRMS, is the focus of this research.

Le rapport entre l’image de soi et la dépression chez les femmes atteintes d'une récidive de la sclérose en plaques

Résumé
Nous en savons très peu sur la perception de l'image de soi chez les femmes diagnostiquées avec une récidive de la sclérose en plaques à la suite d'une phase de rémission « Relapsing Remitting Multiple Sclerosis » (RRMS). Cette étude comparative descriptive avait pour but de définir comment les femmes se perçoivent au moment de cette rechute (RRMS) et d'examiner le rapport qui existe entre l'image de soi et la dépression dont elles souffrent durant cette période.

Un groupe de trente (30) femmes d'une clinique « Western Canadian Multiple Sclerosis Clinic » a complété un questionnaire démographique, un questionnaire sur l'image de soi appelé : « Body Image Ideals Questionnaire » (BIQ) ainsi que le formulaire “The Beck Depression Inventory Short Form” (BDI-SF).

Nous avons observé une corrélation très élevée (r = 0.814, p = 0.01) qui indique qu'une meilleure image de soi correspond avec un degré inférieur de dépression.

Les résultats de cette étude démontrent qu'il est important pour les médecins traitants de porter attention à l'aspect psychologique durant le traitement des patientes qui sont atteintes d'une récidive de la sclérose en plaques qui était précédemment en phase de rémission (RRMS). Toutefois, il est nécessaire de poursuivre la recherche dans ce domaine.
Women, MS, depression, and body image

Western middle-class society places a high value on women having an occupation, being productive at a job, and achieving success in the labour force. Also highly valued are social interactions, physical and emotional independence, physical attractiveness and youth, as well as intact marriages, a cohesive family, children and active sexual lives (DiBattista, 2002; Simons, 1984). However, all of these can be compromised for a woman with MS.

Depression (as a mood state) is commonly associated with body image changes while having MS. Yet, there has been no investigation of depression and body image in women who have MS.

Women have been found to be more cognitively and behaviourally invested in their appearance than men (Cash & Brown, 1989; Cash & Pruzinsky, 1990; Jackson, 1992; Thompson, 1996). More women than men are likely to suffer from depression and lower self-esteem associated with body image dissatisfaction (Furnham & Greaves, 1994). Women may, therefore, be especially sensitive to body image changes associated with having MS because of the multiple physiological and physical changes that can occur. By acquiring a better understanding of the relationship between depression and perceived body image in women with MS, health care professionals (including primary nurses) can explore body image and depression with women who have RRMS.

Purpose and research questions

The primary purpose of this study was to examine the relationship between body image and depression in women diagnosed with RRMS. The research questions were: 1) How do women perceive their body image while living with RRMS, and 2) What is the relationship between body image and depression in women diagnosed with RRMS?

There is a city located in central Alberta, Canada, which is considered a high-risk area for MS. This city and surrounding regions have a high enough MS rate in the population to justify a dedicated MS clinic. This clinic serves 150 clients, and 100 of these clients are women.

Literature review

Multiple sclerosis (MS)

Canada has one of the highest rates of MS in the world, with 50,000 people affected (Multiple Sclerosis Society of Canada, 2004). For reasons yet unknown, MS affects 20- to 40-year-old Caucasians more than any other racial group (Costello et al., 2003; Cotran, Kumar, & Collins, 1999; Halper & Holland, 2002, Hickey, 2003; Minden, 1992). The etiology of MS is unknown, but it is commonly believed that a combination of environmental and genetic factors play a role (Costello et al.; Cotran et al.; Hickey; Paty & Ebers, 1998).

Relapsing remitting multiple sclerosis (RRMS)

RRMS is the most frequently diagnosed form of MS with 70% to 80% of all cases falling under this type (Costello et al., 2003; Halper, 2001; Hickey, 2003; Paty & Ebers, 1998). An average relapse occurs about one to two times per year with symptoms lasting days to weeks. RRMS is characterized by clearly defined, acute attacks with either full recovery or with residual deficit upon recovery. During remission, MS may be inactive for months or years, symptoms are stable, and there is no disease progression (Costello et al.).

Disease-modifying therapies

Although there are no known curative or preventative agents, there are now disease-modifying therapies (DMT) available for people with RRMS (Costello et al., 2003; Goodin, Frohman, Garmany, Halper, Likosky, Lublin, et al., 2002; Metz, 2002). Self-injected DMT drugs modify the course of the disease process by reducing the frequency and severity of relapses. These agents (Avonex [interferon beta-1a], Rebif [interferon beta-1a], Betaseron [interferon beta-1b], and Copaxone [glatiramer acetate]) slow disease progression by preventing or postponing long-term physical disability (Canadian Pharmacists Association, 2004; Goodin et al.; Metz). However, some of the DMTs can cause injection site reactions on the skin such as redness, swelling, bruising and lipoatrophy that may further influence body image.

Body image: Definition and gender

Body image is not a static concept, making it difficult to measure. However, there is utility in the attempt to measure it as one way of better understanding how body image is affected by RRMS. It would provide the “inside” viewpoint about the body image of a woman with MS.

The definition of body image proposed by Cash and Pruzinsky (1990) was used in this study. It is defined as one’s perceptions, attitudes and importance in relation to one’s own physical characteristics (Cash & Brown, 1989; Cash & Fleming, 2002; Cash & Pruzinsky; Cash & Szymanski, 1995; Muth & Cash, 1997). It is how a woman sees herself, what she believes about her physical appearance, how she feels about her body, how she feels in her body and how she believes others perceive her. It is, therefore, a subjective experience in relation to perceived ideals and how important these ideals are. It refers to how comfortable she is with her emotions and physical sensations of her body (DiBattista, 2002). Body image in this study was operationally defined as the score on the Body-Image Ideals Questionnaire (BIQ).

Most of the research in body image neglects the investment (i.e., importance) of body image attitudes (Cash & Pruzinsky, 1990). Researchers assess subjects’ satisfaction and dissatisfaction with certain physical attributes, yet fail to assess the psychological importance of these evaluations. Thus, according to Cash and Pruzinsky, investment should function as a variable that influences the evaluation of body image.

Cash and Pruzinsky (1990) argue that when compared to men, women are more dissatisfied with their bodies, place more importance on physical appearance and are more critical of their appearances.
Body image: Self-discrepancy theory
One theoretical perspective useful in the study of body image is Higgins’ Self-Discrepancy Theory (Higgins, 1987), which relates discrepancies between self-states and emotions. The three domains of self (actual, ideal, ought), and the view of the self (own, other) illustrate each type of state (Higgins). The actual self represents the attributes that she or someone else believes she actually possesses. The ideal self corresponds to the qualities that she or someone else would like to possess (hopes or wishes for herself). Finally, the ought self covers the features someone, including the patient, believes she should possess (Higgins).

Discrepancy leads to unhappiness with body image, and a poor body image becomes a private agony (Cash, Winstead, & Janda, 1986). Differentiating between what others believe a person should be and that person’s own belief about what they would “ideally” like to be is the key to this theory. Therefore, the greater the weighted discrepancy scores on the BIQ, the greater the discrepancy.

Body image, multiple sclerosis and depression
The BIQ adequately addresses the attributes particular to body image in the general population (facial features, hair texture and thickness, body proportions and height), as well as attributes specific to MS patients (muscle tone and definition, physical strength, physical coordination and overall physical appearance). Also, there are symptoms seen in RRMS in particular that affect body image such as weakness, ataxia, spasticity, tremor, and bowel and bladder dysfunction, which are highlighted in the BIQ.

Of all the mental state changes associated with MS, depression is the most common (Feinstein, 1999). Approximately 50% to 75% of MS patients experience depression at some point during their illness (Caine & Schwid, 2002; Halper & Holland, 2002; Minden, Orav, & Reich, 1987; Remick & Sadovnick, 1997). Clinical depression lasts at least two weeks and depressive symptoms must persist for most of the day, nearly every day, interfering with ordinary functioning (American Psychiatric Association, 2000).

The nature of MS and the potential for confusing certain complaints of the disease (such as fatigue, sleeplessness and effects of prescription drugs) with symptoms of depression make it difficult to differentiate what is being measured. For example, clinical depression may be accompanied by aches and pains. In the RRMS patient, these symptoms are usually attributed to a patient’s chronic physical condition (Patten & Metz, 1997). In MS patients who show features of depression as well as fatigue, the question may be raised as to whether fatigue and depression are psychological or physical symptoms, or a combination of the two (Feinstein, 1999; Remick & Sadovnick, 1997). Identification of the depressed patient is, therefore, of utmost importance, for it represents one of the most treatable causes of morbidity and mortality in MS (Feinstein, 1999).

Methods/overview of research
A descriptive correlational, self-report survey method was used in this study in order to determine a relationship rather than infer cause-and-effect between body image and depression in women diagnosed with RRMS. Women were deemed eligible for inclusion if they were clinically diagnosed with RRMS by a neurologist, were clients of the western Canadian MS clinic, were 18 years old or older, were currently in remission, had the ability to speak and understand the English language, were willing to speak about living with RRMS, had not had a relapse in the last six weeks, and gave informed voluntary consent. A six-week relapse-free timeframe was chosen, as this time period would allow time to pass from a subject’s last exacerbation to hopefully resolve any transient body image issues. Women were excluded if they had had other clinically diagnosed, visible physical or mentally-related disabilities (as their body image may be already altered), were currently experiencing a relapse, and were currently pregnant (due to potential influence of body image).

Recruitment and measures
Recruitment was initiated by the receptionist at the western Canadian MS clinic since she had access to the patient database. The receptionist phoned those women who met the inclusion criteria, informed them of this study, and asked whether they would be willing to be contacted by the investigator.

This primary convenience sample was augmented through targeted advertising. An advertisement of the study was submitted to the bi-monthly MS Society newsletter, which is distributed to all MS patients within the health region. An information brochure was developed and provided to women with MS either by a staff nurse, or mailed by the receptionist.

During a brief interview, participants were able to provide their responses through the following measures:

Body Image Ideals Questionnaire (BIQ)
The primary measure used in this study was the BIQ, which reveals self-perceived discrepancies of ideal and importance for multiple physical characteristics (Cash & Szymanski, 1995). Eleven attributes are appraised (1) height, (2) skin complexion, (3) hair texture and thickness, (4) facial features, (5) muscle tone and definition, (6) body proportions, (7) weight, (8) chest size, (9) physical strength, (10) physical coordination, and (11) overall physical appearance.

For each of the 11 mentioned attributes, participants rated their personal ideal (how they wished or preferred to be) and evaluated how well their body equaled this ideal. The participant chose one of the four options provided for each attribute. The personal ideal (discrepancy) was rated on an interval grading scale as 0 (exactly as I am); +1 (almost as I am); +2 (fairly unlike me); and +3 (very unlike me). The more option threes were selected, the more dissatisfied the subject was. Participants then indicated the importance they placed on each ideal graded as 0 (not important); +1 (somewhat important); +2 (moderately important); and +3 (very important) (Cash & Szymanski, 1995). The more option threes were selected, the greater was the discrepancy for that attribute.

The Beck Depression Inventory-Short Form (BDI-SF)
One of the most common measures of depression is the Beck Depression Inventory (BDI). Beck and Beck (1972)
established the BDI-SF as a brief screening test for depression in outpatient settings. The BDI-SF is an instrument that can be easily applied, easily answered, rapidly scored, accurate and reliable. It provides a subjective index of depression. It is short and, therefore, less fatiguing for the MS study participants. The BDI-SF also assesses the feelings of the participant over the past week rather than for a single day, making it a more informative tool. Most importantly, this questionnaire addresses the topic of body image as well as suicide, which is increased in MS patients (Caïne & Schwid, 2002; Feinstein, 1997; Sadovnick, Remick, Allen, Swartz, Yee, Eisen, et al., 1996).

The BDI-SF assesses 13 items: (1) mood, (2) pessimism, (3) sense of failure, (4) dissatisfaction, (5) guilt, (6) self-hate, (7) suicidal thoughts, (8) social withdrawal, (9) indecisiveness, (10) body image, (11) work inhibition, (12) fatigue, and (13) appetite. Each symptom on the BDI-SF was rated on a four-point intensity scale arranged in increasing severity from 0 to 3 (Chibnall & Tait, 1994). To compute the total score, the scores of all questions were summed. Higher scores represented more severe depression.

Results
Demographics
The ages of the 30 participating women ranged from 23 years to 56 years, with a mean age of 39.5 years (SD = 8.70). The ages of 28 women who did not participate ranged from 21 years to 55 years, with a mean age of 39.8 years.

Body Image Ideals Questionnaire (BIQ)
The overall mean score of the BIQ for the 30 RRMS women was 1.54 (SD = 1.57), addressing the first research question. This low score indicates that the body image of women diagnosed with RRMS in this study is fairly good.

Beck Depression Inventory – Short Form (BDI-SF)
The calculated minimum depression score was zero, and the maximum was 23. The mean was 6.77 (SD = 6.00), and the median was six, indicating an overall mild degree of depression.

Relationship
Pearson’s r correlation is a parametric statistic that shows the strength of a relationship, with “0” indicating no relationship, and (-1) or (+1) being perfect relationships (Polit & Beck, 2004). To address the relationship between body image and depression in women diagnosed with RRMS (second research question), Pearson’s r correlation was used. The BDI-SF depression score was significantly correlated with the BIQ total score (r = 0.814; p = 0.01).

Discussion
In this study, BIQ questions 5, 6, 7, 9, 10 and 11 addressed symptoms common to RRMS. The attributes of muscle tone and definition, body proportions, weight, physical strength, physical coordination and overall appearance were highly valued, as these features are symptom-specific. When the participants were asked about their muscle tone and definition (BIQ question 5), 57.0% (n = 17) had muscle tone “almost like” they would like to be, 23.3% (n = 7) of women claimed that muscle tone and definition were “very important” to them, and 3.3% (n = 1) stated it was “not important”. For question 9, 36.7% (n = 11) of women found physical strength “very important” and 50.0% (n = 15) found physical coordination (question 10) “very important”. These are two areas, in particular, that are primarily affected by RRMS, so these results are not surprising.

The last question of the BIQ asks the participant to rate her overall physical appearance. Forty per cent (n = 12) stated that it is “very important” to them and only 6.7% (n = 2) noted their overall appearance as “not important”. The women may believe that it is salient to live to society’s standards as a middle-aged woman.

Kralik et al. (2003) performed a study on sexual self-identity for women living with MS. Their results support the idea of a relationship between societal ideals and body image with regard to the cultural burden women suffer in maintaining physical attractiveness while ill. This is relevant to this study because, perhaps, these women believed it was still important to look good, despite having a chronic illness.

In an unscientific, but nevertheless informative survey of readers from Psychology Today magazine, 55% of women were dissatisfied with their weight, 45% with muscle tone, 32% with upper torso and 38% with overall appearance (Cash et al., 1986). The areas of the body that presented most problems were the ones where women tend to store fat post-puberty: stomach, hips and buttocks. The study conducted by Cash et al. parallels with the results of this study where 57% (n = 17) of women were dissatisfied with their weight, 57% (n = 17) with muscle tone and 40% (n = 12) with overall appearance. These results are strikingly similar with the exception of muscle tone. This reiterates the fact that the MS women chose the symptom-specific attribute to be highly important to them.

Depression was quantified by administering the BDI-SF, which asks respondents to rate their feelings about 13 different depressive mood symptoms. The shortened version of the Beck depression scale was used, as it was obvious fatigue played a large role in the lives of women with RRMS. Sixty per cent (n = 18) of women stated that “it takes an extra effort to get started at doing something” and 63.3% (n = 19) agreed that “[I] get tired more easily than I used to”. This is congruent with the fact that fatigue can be the most disabling symptom of MS.

Depression literature shows that characteristics of fatigue, indecisiveness, social withdrawal and body image are interconnected (Minden et al., 1987). This was true for the 30 participants in this study. Remembering that these women have MS is important, since these depression characteristics are also attributes of MS. Regardless, it clarifies the important fact that depression and MS are intertwined.

Strengths and limitations
This study is original in that it represents a first step toward determining whether or not there is a relationship between
perceived body image and depression in women diagnosed with RRMS. Because this study is preliminary, there is potential for more research to be done in this area.

All 30 female RRMS patients who participated in this study answered questionnaires that had not yet been tested on this population. The method of test administration (telephone) was convenient and well-tolerated by the sample population.

One limitation associated with the BIQ and the BDI-SF is that these questionnaires forced participants to find answers that best described their situation at one moment. They do not render information about changes over time, which is unfortunate, as RRMS is chronic. Also, both questionnaires do not provide an opportunity for open-ended responses.

The high correlation ($r = 0.814$) between perceived body image and depression could be due to the fact that both the BIQ and BDI-SF do not strictly measure what they are only intended to measure.

The small sample size prevented the author from investigating the relationship between menopausal status (pre- and post-menopause) and how women perceive their body image while living with RRMS. The sample for this study comprised 27 pre-menopausal women, and only three post-menopausal women. The small numbers of post-menopausal women prevented the investigator from undertaking complete data analyses.

Lastly, the focus of this study was only females with MS, excluding the male population with the same diagnosis.

**Nursing implications**

Nursing encompasses counselling, educating and support- ing patients at initial diagnosis and periods of exacerbation throughout the disease (Halper & Holland, 2002). By acquiring a better understanding of the relationship between body image and depression, nurses can explore the development of these variables for women with RRMS. The question could also be posed if nurses should be incorporating some sort of assessment or screening of body image issues and depression into their practice. Perhaps just being aware that these elements exist and being cognizant of them may be adequate. Thus, the nurse’s role may be to help women with MS understand that even if their disease cannot be cured, it can be lived with.

**Recommendations**

No Canadian or American values for the BIQ and BDI-SF are available for male and female RRMS populations. Therefore, there is a need to develop a statistical database across North America for men and women with RRMS using both these questionnaires.

Prospective longitudinal studies that follow MS patients from the point of diagnosis onwards should also be undertaken. Phenomenological studies could explore possible lived experiences of body image changes that may occur over time.

**Conclusion**

The heart of this research project is more complex than just studying a positive or negative perception of body image in women with RRMS. This correlational study illuminated some of the relationships between body image, depression and age, and suggests areas for further research. An intent of this study was to begin addressing a gap in the research literature regarding women’s perceived body image and their lives with RRMS. By acknowledging the broader issues facing women with RRMS, nurses can assist in smoothing the transition that confronts women living with this chronic illness. It is hoped that this study’s findings contribute to developing knowledge about women’s health and body image while living with RRMS and understanding the health-related changes associated with this condition.

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