Effects of Social Isolation on Pain, Fatigue, and Nutrition for Patients with Multiple Sclerosis within aa Racially Diverse Population

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Introduction

- Multiple sclerosis (MS) is a disabling condition of the central nervous system disease (CNS) in which the immune system attacks the myelin sheath, the protective outer layer of nerves surrounding the neurons. Common symptoms include numbness, weakness, tingling, lack of coordination, gait impairment, vision problems, bowel and bladder problems, cognitive impairments, depression, fatigue, and pain.
- This capstone project aims to provide a cross-sectional survey on the effects of social isolation to an ongoing observational study examining the impact of race and biological sex on social determinants, health behaviors, and health outcomes of patients in UAB MS clinics.
- Suppose social isolation has a negative effect on pain, fatigue, and nutrition, and patients diagnosed with MS experience issues with these topics regularly. In that case, occupational therapy practitioners should explore symptom relief and improving social participation.
- There are gaps within the literature involving the effects of nutrition and social isolation on patients with MS, and there is little research done on the effects of MS within racially diverse populations.

Methods

- **Site:** This research will be conducted at The University of Alabama at Birmingham (UAB) and is considered community-based research.
- **Population:** We will invite active patients from the UAB MS clinics to participate in the study. We define an “active patient” as an individual who has had a provider visit (in-person or telehealth) within the previous 18 months. All participants will have a diagnosis of MS, be 18 to 65 years old, and be able to understand and provide responses to surveys or have a caregiver who is willing to do this.
- **Recruitment:** There is one primary recruitment strategy for this study: direct phone contact. Participants who have been accepted into the ongoing study will receive a phone call asking them to answer a survey. Participants will receive a $10 gift card for completing the questionnaire.
- **Data Collection:** The data collected over the phone will be protected and stored on Qualtrics. Any information in Qualtrics can only be accessed by study investigators.

Results

Table 5

Correlations

		Age	Social Part.	Social Iso.	Pain	MFIS	PR_Fatigue
Age	Pearson Correlation	1	-.086	.266	.219	.200	.052
	Sig. (2-tailed)		.703	.232	.327	.371	.819
	N	22	22	22	22	22	22
Social Participation	Pearson Correlation	-.086	1	-.620**	-.215	-.710**	-.729**
	Sig. (2-tailed)	.703		.002	.337	<.001	<.001
	N	22	22	22	22	22	22
Social Isolation	Pearson Correlation	.266	-.620**	1	.131	.717**	.748**
	Sig. (2-tailed)	.232	.002		.560	<.001	<.001
	N	22	22	22	22	22	22
Pain	Pearson Correlation	.219	-.215	.131	1	.250	.163
	Sig. (2-tailed)	.327	.337	.560		.262	.468
	N	22	22	22	22	22	22
MFIS Fatigue	Pearson Correlation	.200	-.710**	.717**	.250	1	.894**
	Sig. (2-tailed)	.371	<.001	<.001	.262		<.001
	N	22	22	22	22	22	22
PR Fatigue	Pearson Correlation	.052	-.729**	.748**	.163	.894**	1
	Sig. (2-tailed)	.819	<.001	<.001	.468	<.001	
	N	22	22	22	22	22	22

Table 6 **. Correlation is significant at the 0.01 level (2-tailed).

		N	Minimum	Maximum	Mean	Std. Deviation
Black	Age	8	35	62	47.38	8.684
	Social Participation	8	7.00	20.00	13.3750	4.03334
	Social Isolation	8	4.00	17.00	11.2500	5.00714
	Pain	8	3.00	15.00	9.6250	3.46152
	MFIS Fatigue	8	10.00	27.00	16.8750	6.89591
	PR Fatigue	8	11.00	34.00	21.5000	8.48528
	Valid N (listwise)	8				
White	Age	14	20	65	45.64	16.855
	Social Participation	14	7.00	20.00	13.0000	4.13242
	Social Isolation	14	4.00	17.00	10.9286	4.10374
	Pain	14	5.00	13.00	8.2143	2.29309
	MFIS Fatigue	14	2.00	36.00	21.7143	10.64409
	PR Fatigue	14	8.00	40.00	24.0714	9.15225
	Valid N (listwise)	14				

		Black	White
		Count	Count
Fruit Juice	Daily	1	0
	Weekly	5	1
	Monthly	1	5
	None	1	8

Pearson Chi-Square Tests

		Race
Fruit Juice	Chi-square	10.956
	df	3
	Sig.	.012[*,b,c]

		Black	White
		Count	Count
Sugary Beverages Consumed	Daily	2	6
	Weekly	6	3
	Monthly	0	3
	None	0	2

Pearson Chi-Square Tests

		Race
Sugary Beverages Consumed	Chi-square	6.875
	df	3
	Sig.	.076[a,b]

		Black	White
		Count	Count
Fried Potatoes	1	0	2
	2	7	3
	3	1	6
	4	0	3

Pearson Chi-Square Tests

		Race
Fried Potatoes	Chi-square	9.221
	df	3
	Sig.	.026[*,b,c]

Discussion

- No significant differences were found between Black and White patients in terms of social isolation/participation, pain, and fatigue levels,
- Notable racial differences were observed in nutrition. Specifically, Black participants consumed more sugary beverages, fruit juice, and fried potatoes compared to the White population.
- Social participation and social isolation were found to have a significant correlation with fatigue, highlighting the importance of social support and engagement in managing MS symptoms.

Discussion continued

- Limitations: time constraints, the lack of visual cues to observe, an increased risk of socially desirable responses, difficulties in reaching specific demographics, and the potential for respondent fatigue if the survey was too long, which could lead to incomplete or inaccurate answers.
- Potential next steps: see if income, cultural background, healthcare access, and emotional support influence these experiences and responses differently for Black and White patients.

Conclusion

Overall, this study reveals the need for more targeted interventions that address both the physical and psychosocial aspects of MS care. Future efforts should focus on understanding the role of nutrition, social support, and cultural factors in improving the quality of life and health outcomes for MS patients, especially those from diverse racial backgrounds.

References

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