

Exploring Barriers to Weight Loss in Patients with Primary Immune Deficiency

Thu Michelle Tran, DNP, RN, FNP-C and Sadeeka Al-Majid, PhD, RN

Background

- Obesity is the leading risk factor of cardiovascular diseases, type-2 diabetes, and certain types of cancer.
- Patients with Primary Immune Deficiency (PID) are predisposed to higher risk and greater severity of obesity-related diseases due to the defective immune condition.
- Obesity-related challenges unique to PID patients are increased IgG replacement doses, increased risk of treatment-related side effects, increased treatment cost, and difficult venous access.

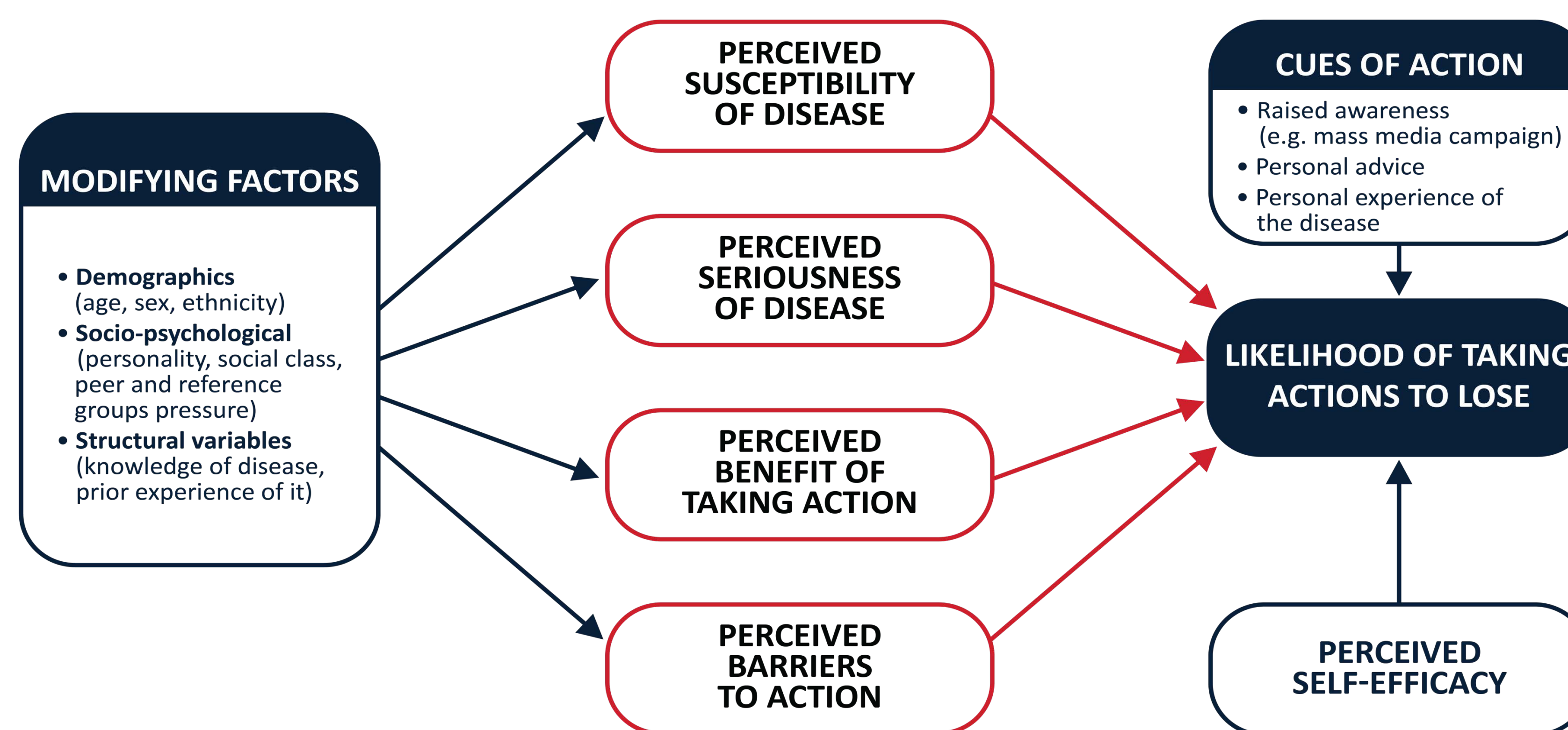
Objective

To identify barriers and facilitators to weight loss in patients with Primary Immune Deficiency.

Method

- This was a cross-sectional study of 128 adult participants with PID who received immunoglobulin treatments at a large, teaching hospital in Southern California .
- An adapted version of Champion’s Health Belief Model survey, consisting of 39 items, was used to measure barriers and other health belief model constructs.
- The survey was completed either in hard copy or online.
- Demographic data was collected from medical records.
- Descriptive analysis and multiple regression were used for data analysis.

Conceptual Framework: Health Belief Model



Best Logistic Regression Model Results (N = 71)

Questions	B	SE B	Exp(B)	t-value	p-value
Do you receive your infusion in the clinic or at home	0.31	0.10	1.37	3.12	.003
I worry about gaining more weight in the next 5 years	0.30	0.07	1.35	4.39	<.001
I am more likely to gain weight than average person	0.11	0.05	1.12	2.14	.04
The thought of being overweight scares me	-0.16	0.06	0.85	-2.57	.01
If I lose weight my treatment dose will be decreased. This will help improve my infusion related side effects	-0.10	0.05	0.91	-2.16	.04
When I eat well-balanced meals and exercise at least 3 times a week, I do not have to worry as much about my weight	-0.13	0.05	0.88	-2.46	.02
Losing weight can help prevent me from developing osteoarthritis of my knee joints	0.13	0.06	1.13	2.25	.03
Losing weight can help lower my blood pressure, cholesterol, and blood sugar	-0.20	0.07	0.82	-2.81	.007
I am too embarrassed to ask for help to lose weight	0.19	0.05	1.21	3.78	<.001
I do not exercise because I do not feel well	-0.20	0.06	0.82	-3.35	.002
I am too tired to exercise regularly	0.26	0.07	1.29	3.90	<.001
I am too old to worry about being overweight	-0.15	0.05	0.86	-2.96	.005
I do not have time to prepare a healthy meal	-0.10	0.04	0.90	-2.26	.03
I know what to do to lose weight	0.10	0.04	1.10	2.63	.01
I am able to identify healthy foods from unhealthy foods	-0.23	0.09	0.79	-2.52	.02
I understand medical statistics such as probability, risk, odds, and percentages	0.03	0.01	1.03	3.05	.004
I search new information to improve my health	-0.22	0.04	0.80	-5.58	<.001
I exercise at least 3 times a week	0.14	0.05	1.15	2.54	.01
Type of questionnaire taken	-0.26	0.10	0.77	-2.57	.01

Demographic Data (N = 128)

Variable	n	%
Height (cm)		
147-161	30	23.4
162-167	34	26.6
168-174	32	25.0
175-195	32	25.0
Weight (kg)		
41-63.9	32	25.0
64-73.9	29	22.7
74-89.9	34	26.6
90-136	33	25.8
BMI		
14.5-18.4	3	2.3
18.5-24.9	43	33.6
25-29.9	48	37.5
30-34.9	22	17.2
35-39.9	8	6.2
40-51.2	4	3.1
Age (in years)		
18-48	33	25.8
49-61	33	25.8
62-70	32	25.0
71-89	30	23.4
Gender		
Male	39	30.5
Female	89	69.5
Race		
White	128	100.0
Other	0	0.0
Marital Status		
Married	75	58.6
Other	53	41.4
Insurance Type		
Medicare	2	1.6
PPO	59	46.1
HMO	3	2.3
Medicare + Supplemental	62	48.4
Self-Pay	2	1.6
Number of Health Issues		
1-2	17	13.3
3-4	42	32.8
5-8	42	32.8
9-25	27	21.1

References

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Results

- 64% of participants were overweight or obese.
- Participants who received infusion at home (vs. in the clinic) had increased odds of obesity.
- Perceived barriers to weight loss were:
 1. Being too tired to exercise
 2. Being too embarrassed to ask for help to lose weight
 3. Not having time to prepare a healthy meal
- Perceived facilitators to weight loss were:
 1. Ability to identify healthy from unhealthy foods
 2. Commitment to search for new information to improve health
 3. Belief that losing weight reduced cholesterol, blood pressure and blood sugar

Conclusion

- The prevalence of overweight and obesity was higher in this group than that found at national levels.
- Intervention aiming at weight loss for PID patients needs to consider barriers that are unique to this population.
- Further research is needed:
 1. To identify specific associations between PID, its clinical sequelae, and weight loss in groups with more demographic diversity
 2. To confirm the high prevalence of overweight and obesity in the overall PID population.