Poster # PSY48

Impact of Immune Thrombocytopenic Purpura on Healthcare Resource Use and Workplace Productivity

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INTRODUCTION

Immune Thrombocytopenic Purpura

- ITP is an autoimmune disorder characterized by persistent thrombocytopenia[1,2]
- Thrombocytopenia in ITP is due to increased platelet destruction[1] and suboptimal platelet production[3-7]
- The estimated incidence of ITP is 100 cases per million people per year[1]
- Severe thrombocytopenia in ITP has potentially serious consequences[1]
  - Severe cutaneous bleeding
  - Gastrointestinal bleeding
  - Intracranial hemorrhage

Burden of Disease

- Adult patients with chronic ITP experience worse health-related quality of life (HRQoL) than the general population[8]
- Chronic ITP requires long-term management to treat and prevent bleeding, which increases the burden of disease on the patient and resulting healthcare resource utilization (HCRU)
- The impact of ITP on workplace productivity was not known

Treatments for ITP

- Currently available therapies primarily focus on reducing platelet destruction and are associated with potentially serious side-effects
- Placebo-controlled studies of the available therapies are lacking, and few therapies are approved for use in ITP
- An opportunity exists to improve chronic ITP through treatments aimed at increasing platelet production

OBJECTIVES

- The primary objective of this study was to assess the burden of illness of ITP in terms of healthcare resource use and workplace productivity in ITP patients vs non-ITP controls
- The impact of ITP on HRQoL was also assessed with the following instruments
  - Short form (SF)-36 scale scores (ITP patients vs non-ITP controls)
  - ITP-patient assessment questionnaire (PAQ) scale scores (ITP patients only)

METHODS

Study Design

- Cross-sectional, descriptive study comparing ITP patients to an age- and gender-matched control group
- ITP patients and controls completed a one-time web-based survey, which included a comprehensive assessment of HRQoL

Study Population

- Patients with ITP (N = 1002)
  - From the Platelet Disorder Support Association's database of approximately 14,000 ITP patients
  - Diagnosis of ITP by a physician
  - ≥ 18 years of age
  - US residents
  - Not employed by a pharmaceutical, biotechnology, or medical products company
- Control group of adults not diagnosed with ITP (N = 1031)
  - From the Harris Interactive Online Panel
  - Matched with the ITP patient group by age and gender
- Participants received a $25 honorarium

Data Collection and Analysis

- Participants completed an internet-based survey that took approximately 30 to 40 minutes to cpmplete.
- Online survey conducted from March 7–22, 2006 (ITP patients) and from March 28–April 3, 2006 (control group)
- Online survey included three main question types:
  1. Healthcare resource use
  2. Employment-related
     - Employment status
     - Sick leave
     - Workplace productivity
  3. Health-related quality of life
     - SF-36, used in a wide variety of diseases[9]
     - ITP-PAQ, the first disease-specific HRQoL questionnaire validated for use in adults with chronic ITP[10]
     - Scale scores for the SF-36 and ITP-PAQ range from 0 to 100; higher scores indicate better health status
- Statistical testing performed with t-tests for continuous variables and chi-square for categorical variables
  - *p*-value less than 0.05 was considered statistically significant
- Margin of sampling error was ± 3%

RESULTS

Table 1. Patient Demographics

	ITP Patients N = 1002	Controls N = 1031	*P*-value
Age, mean (SD)	46 (15)	46 (14)	0.989[b]
Female, n (%)	762 (76)	785 (76)	0.961[a]
Race, n (%)			
White	891 (89)	880 (85)	0.061[a]
Black	11 (1)	30 (3)	
Other	84 (8)	100 (10)	
Declined to answer	16 (2)	21 (2)	
Education, n (%)			
Less than college	161 (16)	165 (16)	0.969[a]
At least some college	841 (83)	866 (84)	
Employment status, n (%)			
Employed	656 (66)	637 (62)	0.084[a]
Not Employed	346 (34)	394 (38)	
Age of ITP onset, mean (SD)	37 (17)	—	
Years since ITP diagnosis, mean (SD)	9 (10)	—	
Platelet count at diagnosis x 10^9/L, % patients			
< 10	46	—	
> 10–25	18	—	
> 25–50	15	—	
> 50–100	18	—	
> 100	3	—	
Most Recent Platelet Count x 10^9/L, mean (SD)	230 (278)	—	
Patients with Splenectomy, n (%)	372 (37)	—	

[a] Cochran-Mantel-Haenszel Test for group comparisons (ITP vs. Control) on categorical sample characteristics
[b] T-test for group comparisons (ITP vs. Control) on continuous sample characteristics

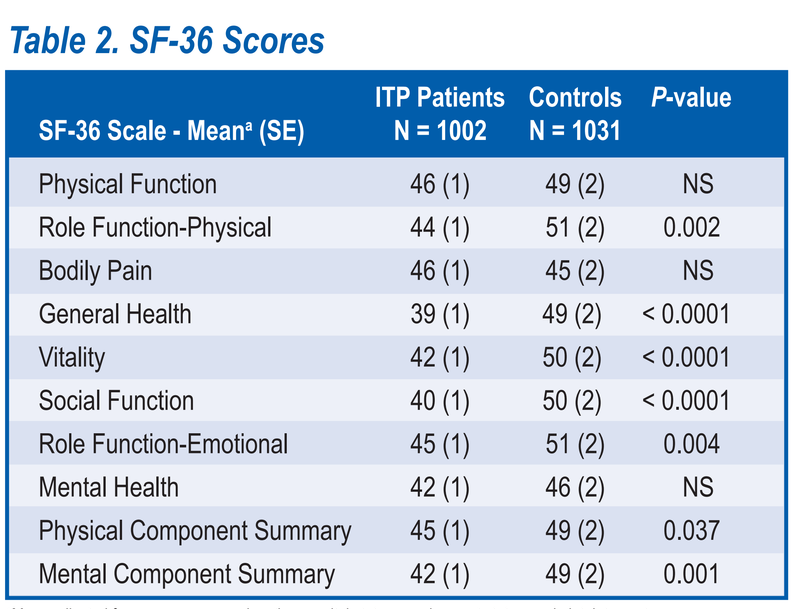
Table 2. SF-36 Scores

SF-36 Scale - Mean[a] (SE)	ITP Patients N = 1002	Controls N = 1031	*P*-value
Physical Function	46 (1)	49 (2)	NS
Role Function-Physical	44 (1)	51 (2)	0.002
Bodily Pain	46 (1)	45 (2)	NS
General Health	39 (1)	49 (2)	< 0.0001
Vitality	42 (1)	50 (2)	< 0.0001
Social Function	40 (1)	50 (2)	< 0.0001
Role Function-Emotional	45 (1)	51 (2)	0.004
Mental Health	42 (1)	46 (2)	NS
Physical Component Summary	45 (1)	49 (2)	0.037
Mental Component Summary	42 (1)	49 (2)	0.001

[a]Mean adjusted for age, sex, race, education, marital status, employment status, and platelet count
[b]ITP patients vs control
NS, not significant; a *p*-value < 0.05 was considered statistically significant

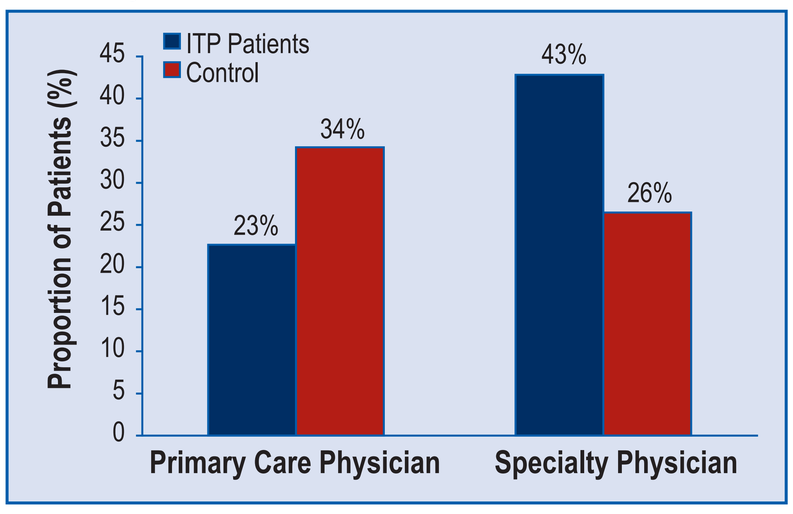
- Patients with ITP have significantly worse HRQoL compared with controls

Figure 1. ITP-PAQ Scores by Most Recent Platelet Count



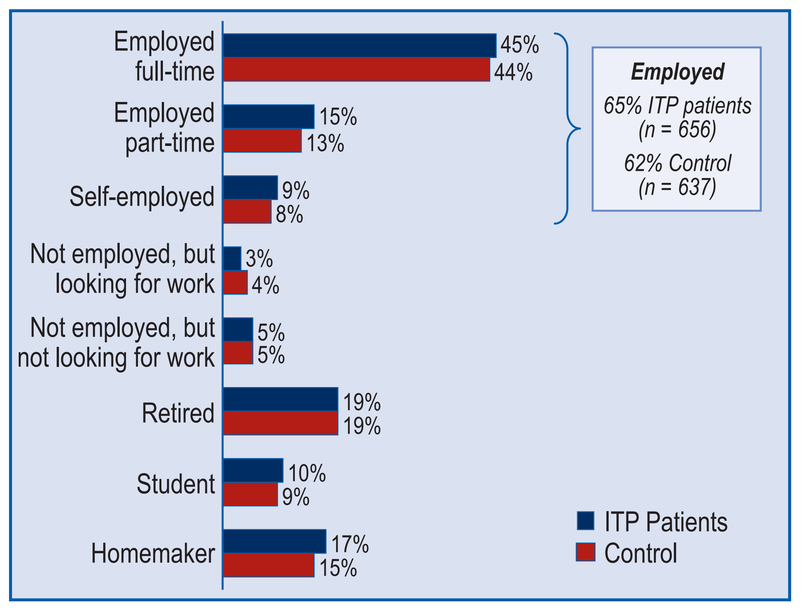
- Patients with lower platelet counts tend to have worse HRQoL

Figure 2. ITP Patients or Controls Having One or More Physician Visits Per Month



- During a typical month a higher proportion of patients with ITP visit a specialist physician in comparison with the control group ($p < 0.05$)
  - More ITP patients visit a specialist for their ITP than a primary care physician (41% vs 20%)
  - More ITP patients visit a primary care physician for reasons other than their ITP than a specialist (41% vs 29%)

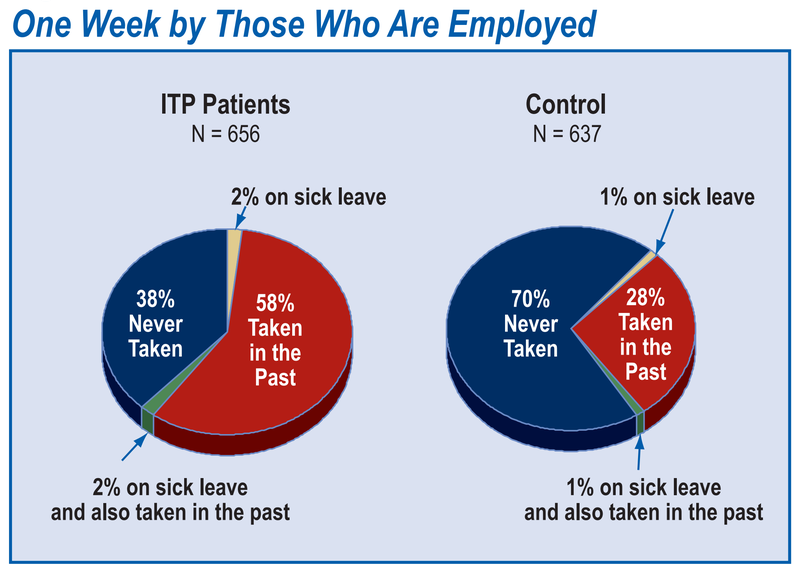
Figure 3. Employment Status



Note: Multiple responses allowed

- Mean number of hours worked in the previous week by employed participants:
  - ITP patients = 34.4 hours
  - Control = 35.1 hours
- Proportion of employed participants who missed work due to a medical condition in the previous week:
  - ITP patients = 11%
  - Control = 10%

Figure 4. Sick Leave From Work Taken for More Than One Week by Those Who Are Employed



- Employment status and short-term workforce participation of patients with ITP was similar to the control group
- A significantly greater proportion of employed ITP patients have taken long-term sick leave compared with controls ($p < 0.05$)

Table 3. Feelings About Work Over the Past Month for Those Who Are Employed

	Somewhat/Strongly Agree	
	% ITP Patients N = 656	% Control N = 637
I have been popular with my co-workers	70	67
I have received a sense of personal satisfaction through work	72	70
I have had difficulty concentrating at work	38*	29
I have been more reserved in my work environment	28	26
I have had difficulty making it into the office at the start of the day	29*	22
A medical condition has prevented me from reaching mytrue potential at work	25*	18
A medical condition prevented me from carrying out normal work responsibilities	21*	16
I have gotten into arguments with co-workers due to my mood	18*	13
I have taken off more time than I should have	16*	9

*$p < 0.05$ for ITP patients vs control.

- ITP patients were significantly ($p < 0.05$) more likely to agree they were experiencing specific negative attitudes at work compared with controls
  - Impaired ability to complete normal work responsibilities
  - Inability to concentrate while at work
  - More extended time-off-work

LIMITATIONS OF STUDY

- Data were collected from a support association and may not be representative of ITP patients in general, however the HRQoL results obtained in the ITP patients are confirmed in other studies when ITP SF-36 scores were compared with the US population.[8,11]
- Data were self-reported including diagnosis, age at diagnosis, platelet count, and splenectomy status. While splenectomy status is unlikely to be affected by any recall issues, other variables may be. Due to the study design, causation cannot be confirmed.

CONCLUSIONS

- ITP patients have significantly greater visits to specialty care physicians compared with control
- ITP impacts both physical and psychological patient-reported HRQoL and appears to be associated with platelet count
- ITP significantly impacts employed patient's work place productivity

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