Oklahoma State University College of Osteopathic Medicine

Assessing the Uptake of Core Outcome Sets in Randomized Controlled Trials for Immune Thrombocytopenia Purpura

Mahad Chaudhry, B.S.[1], John Stadler, B.S.[1], Garrett Jones, B.S.[1], Kyle Fitzgerald, B.S.[1], Shaelyn Ward, B.S.[1], Trevor Magee, B.S.[1], Jay Modi B.S.[1], Kimberly Magana, M.Ed.[1], Alicia Ito Ford, Ph.D.[1,2], Matt Vassar, Ph.D.[1,2]

INTRODUCTION

Immune thrombocytopenia (ITP) is a complex autoimmune platelet disorder causing bleeding symptoms. In the United States, ITP patients experience an average of 0.33 hospitalizations and 15.3 ambulatory encounters related to ITP during follow-up, resulting in a financial burden exceeding $20,000 per patient in the first year after diagnosis. This highlights the urgent need for high-quality research to address the deteriorating health, increased hospitalizations, and escalating financial strain associated with primary ITP.

Randomized controlled trials (RCTs) are the gold standard for medical research, assessing the effect of new interventions. However, inconsistent outcome reporting across trials leads to difficulties in comparing results, with disparities in patient characteristics and treatment outcomes observed in previous ITP studies. This introduces bias and inaccurate assertions about intervention risks and benefits. To enhance comparability, an International Working Group established standardized definitions and outcomes for primary ITP in 2009, resulting in a core outcome set (COS). They provided a minimum agreed-upon set of outcomes to be measured and reported in clinical trials. Our study aims to evaluate adherence to standardized outcome assessments in primary ITP clinical trials conducted over the past decade by analyzing reported outcomes in clinical trials' registry.

METHODS

Reproducibility and Study Design: The study followed a pilot study, adhered to PRISMA guidelines, and entire methodology and protocol will be uploaded to Open Science Framework. Authors assessed the reporting and uptake of the primary ITP core outcome set (COS) in randomized controlled trials (RCTs).

Training: Authors underwent training on COS uptake methodology through presentations, handbook review, and group discussions.

Search String: The study identified and selected the COS for analysis, then searched relevant databases using specific filters to find phase III/IV RCTs on primary ITP.

Screening/Eligibility Criteria: Inclusion criteria focused on primary ITP RCTs exclusively.

Data Extraction: General study characteristics and COS uptake data were collected using a pilot-tested Google Form in a masked and duplicate manner.

Data Analysis: The study assessed the uptake of the ITP COS, including the proportion of trials measuring the complete COS, reporting the entire domain set annually, and the most frequently reported COS domain in protocols not measuring the full COS.

RESULTS

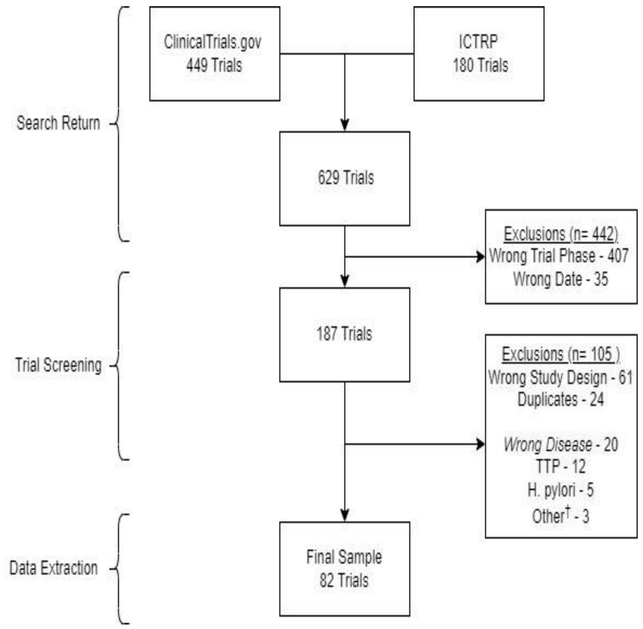

Figure 1: Flow diagram for studies included. 82 studies were included. TTP = Thrombotic Thrombocytopenic Purpura. *H. pylori* = *Helicobacter pylori* induced thrombocytopenia. Other†: Drug induced thrombocytopenia, secondary thrombocytopenia, autoimmune cytopenia

Group	Outcome Set Domain and Item	N = 82
Outcomes	Quality of Platelet Response, n (%)	
	No	43 (52.4)
	Yes	39 (47.6)
	Adverse Events (Safety), n (%)	
	Yes	65 (79.3)
	No	17 (20.7)
	Need for Rescue Interventions, n (%)	
	No	53 (64.6)
	Yes	29 (35.4)
	Corticosteroids/Concomitant Treatment Reduction, n (%)	
	No	66 (80.5)
	Yes	16 (19.5)
	Rate of Splenectomies, n (%)	
	No	73 (89.0)
	Yes	9 (11.0)
	Bleeding Scale, n (%)	
	No	55 (67.1)
	Yes	27 (32.9)
	Health-related Quality of Life assessment (HRQoL), n (%)	
	No	60 (73.2)
	Yes	22 (26.8)
	Pharmacoeconomic Analysis, n (%)	
	No	77 (93.9)
	Yes	5 (6.1)

Table 2: Outcome Set Uptake Frequency

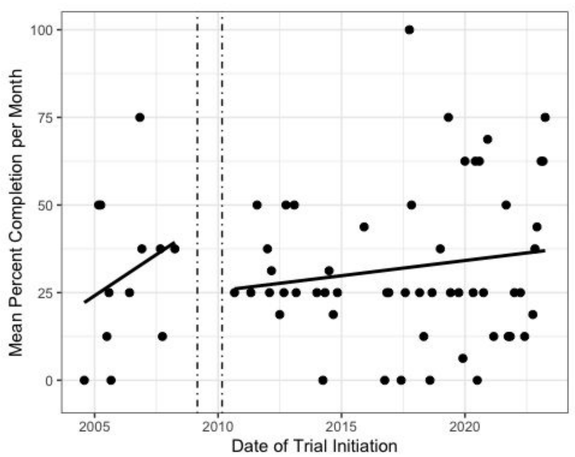

Figure 2: Integrated Time Series Monthly Analysis, with a one-year grace period to allow for COS uptake in clinical trials after COS publication in March 2009

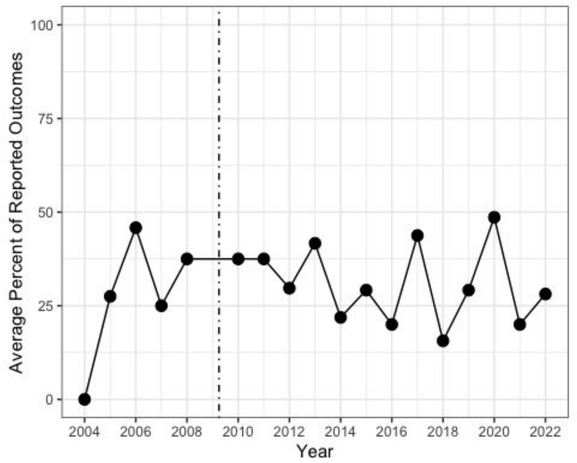

Figure 3: Average Outcome Reporting over Time

CONCLUSION

This study examined the COS for ITP and evaluated its adoption in clinical trials. A well defined COS can assist in consistent and comparable trial results. Despite an increase in the number of trials measuring outcomes in line with this criteria, there remains significant discrepancy among trial endpoints. The absence of clearly defined endpoints for clinical trials likely accounts for this noncompliance. Additionally, the essence of clinical trials warrants revised endpoints that reflect the variable nature of novel interventions, and takes the patients perspective into account. Moving forward, a revision to the initial COS that includes relevant clinical trial outcomes and reflects patients quality of life would be worthwhile as new therapies for ITP are emerging.

REFERENCES

Affiliations

1. Office of Medical Student Research, Oklahoma State University Center for Health Sciences, Tulsa, Oklahoma
2. Department of Psychiatry and Behavioral Sciences, Oklahoma State University Center for Health Sciences, Tulsa, Oklahoma

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