Impact of the Adalimumab Patient Support Program's Care Coach Calls on Persistence and Adherence in Canada: An Observational Retrospective Cohort Study

John K. Marshall, MD, MSc, FRCPC[1]; Louis Bessette, MD, MSc, FRCPC[2]; Carter Thorne, MD, FRCPC[3]; Neil H. Shear, MD, FRCPC[4,5]; Gerald Lebovic, PhD[6,7]; Sebastien K. Gerega, MBA[8]; Brad Millson, MBS[8]; Driss Oraichi, PhD[8]; Tania Gaetano, B.Comm, MIS[9]; Sandra Gazel, MBA, MSc[9]; Martin G. Latour, PhD[9]; and Marie-Claude Laliberté, PhD[9]

[1]Department of Medicine, Division of Gastroenterology, Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, Ontario, Canada; [2]Department of Medicine, Laval University, Quebec City, Quebec, Canada; [3]Southlake Regional Health Centre, Newmarket, Ontario, Canada; [4]Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada; [5]Department of Medicine, Division of Dermatology, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; [6]Applied Health Research Centre, St. Michael's Hospital, Toronto, Ontario, Canada; [7]Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada; [8]QuintilesIMS, Kirkland, Quebec, Canada; and [9]AbbVie Corporation, St. Laurent, Quebec, Canada

ABSTRACT

Purpose: Adalimumab (ADA) is a tumor necrosis factor-α inhibitor indicated for use in various immune-mediated inflammatory diseases. Patients receiving ADA in Canada are eligible to enroll in the AbbVie Care's Patient Support Program (PSP), which provides personalized services, including tailored interventions in the form of nurse-provided care coach calls (CCCs), with the goal of improving patients' experiences and outcomes. The primary objective of this study was to evaluate the impact of PSP services, including CCCs and patient characteristics, on persistence with and adherence to ADA for those patients enrolled in the PSP. A secondary objective was to estimate the effect of initial CCCs on treatment-initiation abandonment (ie, failure to initiate therapy after enrollment in the PSP).

Methods: An observational retrospective cohort study was conducted. A patient linkage algorithm based on probabilistic matching was developed to link the AbbVie Care PSP database to the QuintilesIMS longitudinal pharmacy transaction database. Patients who started ADA therapy between July 2010 and August 2014 were selected, and their prescriptions were evaluated for 12 months after the date of ADA start to calculate days until drug discontinuation, that is, the *end of persistence*, defined as >90 days without therapy. Cox proportional hazards modeling was used for estimating hazard ratios for the association between persistence and patient characteristics and each PSP service. Adherence, measured by medication possession ratio, was calculated, and multivariate logistic regression provided adjusted odds ratios for the relationship between being adherent (medication possession ratio ≥80%) and patient characteristics and each PSP service. Treatment-initiation abandonment among patients who received an initial CCC compared with those who did not was analyzed using the χ^2 test.

Findings: Analysis of 10,857 linked patients yielded statistically significant differences in the hazard ratio of discontinuation and the likelihood of being adherent across multiple variables between patients who received CCCs in comparison to patients who did not. Patients receiving CCCs were found to have a 72% decreased risk for therapy discontinuation (hazard

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ratio = 0.282; $P < 0.0001$), and a greater likelihood of being adherent (odds ratio = 1.483; $P < 0.0001$), when compared with those patients who did not receive CCCs. The rate of treatment-initiation abandonment was significantly higher in patients who did not receive initial CCCs ($P < 0.0001$).

Implications: Ongoing CCCs, provided by AbbVie Care PSP, were associated with greater patient persistence and adherence over the first 12 months of treatment, while initial CCCs were associated with a lower rate of treatment-initiation abandonment. Results may inform the planning of interventions aimed at improving treatment adherence and patient outcomes. (*Clin Ther*. ■■■;■:■■■–■■■) © 2018 Elsevier HS Journals, Inc. All rights reserved.

Key words: adalimumab, immune-mediated inflammatory diseases, medication adherence, medication persistence, patient support program.

INTRODUCTION

Tumor necrosis factor-α is a proinflammatory cytokine that plays a crucial role in immune-mediated inflammatory diseases (IMIDs) such as rheumatoid arthritis (RA), psoriatic arthritis, psoriasis (PsO), Crohn disease (CD), ulcerative colitis (UC), ankylosing spondylitis, and hidradenitis suppurativa (HS). IMIDs lead to a significant decrease in quality of life secondary to severe functional impairment and pain.[1,2] The prevalence of IMIDs in Western society is estimated to be between 5% and 7%.[3] IMIDs have a significant impact on patients and their families; in addition, IMIDs lead to a significant burden to society due to high health care–related costs.[4]

The use of methotrexate, thiopurines, and corticosteroids to treat IMIDs has been associated with both toxicity and suboptimal disease control.[5,6] More recently, antagonists of tumor necrosis factor-α have proven to be highly effective for the treatment of a variety of rheumatologic, dermatologic, and gastroenterologic IMIDs, including RA, psoriatic arthritis, PsO, CD, UC, ankylosing spondylitis, and HS.

Persistence with and adherence to therapy are the cornerstones of treatment success in chronic diseases. Better adherence has been associated with shorter hospital lengths of stay, lower inpatient costs, and lower overall health costs in patients with CD.[7] Poor persistence and adherence can result in a treatment being less effective, which can increase the use of health care resources.[8,9]

Adalimumab (ADA*) is a subcutaneously administered antagonist of tumor necrosis factor-α. Its manufacturer offers a unique Patient Support Program (PSP; https://www.abbviecare.ca) for patients across all ADA-approved indications, including RA, psoriatic arthritis, PsO, CD, UC, ankylosing spondylitis, and HS. Components of the PSP include patient education, injection training, delivery and disposal of supplies, financial assistance, patient reminders, and direct contact with trained registered nurses known as *wellness case managers* who deliver ongoing tailored interventions in the form of care coach calls (CCCs). The receipt of CCCs, a service that was introduced in 2013, was dependent on being active in the PSP once the service was introduced, while the receipt of other services was dependent on patient needs. The PSP is intended to improve the overall patient experience with ADA treatment and to improve persistence and adherence, with better treatment outcomes.

A recent study assessed the impact of the US ADA PSP on health care costs and treatment adherence in the United States using administrative databases.[10] Enrollment in this PSP was associated with reduced medical costs (all-cause and disease-related) and total health care costs, and a 14% improvement of adherence over 1 year.[10] In addition, data from the multinational PASSION study (Impact of Participation in the Adalimumab [Humira] Patient Support Program on Rheumatoid Arthritis Treatment Course)[11] showed that better functional and clinical outcomes were achieved among PSP users with RA. To date, no studies have assessed the impact of PSPs for patients with IMID in Canada. Accordingly, COMPANION (Canadian Study of Outcomes in Adalimumab Patients With Support for Adherence) was conducted to evaluate the impact of the PSP.

The objectives of this study were 3-fold: (1) to describe the overall persistence and adherence with ADA for PSP patients, based on longitudinal prescription data; (2) to assess the impact of patient characteristics and the PSP CCC services on persistence with and adherence to ADA; and (3) to estimate the effect

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