INFECTION – Patient-Reported Outcomes & Patient Preference Studies

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ADHERENCE INTERVENTIONS TO IMPROVE ADHERENCE TO ANTIRETROVIRAL THERAPY IN LOW INCOME SETTINGS: AN INDIVIDUAL PATIENT DATA NETWORK META-ANALYSIS

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OBJECTIVES: To determine the comparative effectiveness of different interventions for improving antiretroviral medication adherence in low-income settings. **METHODS:** We obtained individual patient data from all randomized trials that have evaluated an adherence intervention to promote antiretroviral adherence within low-income countries. We created a treatment network of the differing interventions by pooling the individual patient data from comparable treatments and comparing them across the individual interventions using a Bayesian network meta-analysis approach. Outcomes included self-reported adherence and viral suppression. **RESULTS:** We obtained data on 11 randomized, involving 5432 patients. Interventions included daily and weekly text messaging, calendars, peer supporters, alarms, counseling, and basic clinical care. For self-reported adherence, we found compelling evidence for the role of weekly text messages (Odds ratio [OR] 1.57, 95% Confidence Intervals [CI] 1.22-2.02), counseling (OR 1.43, 95% CI, 1.06-1.94), and peer supporters (OR 1.72, 95% CI, 1.28-2.29). We found no compelling evidence for daily text messaging, alarms, calendars, or unsupported clinical care. Results were similar when using viral suppression as an outcome, although not all trials reported viral outcomes. Treatment supporters (OR 1.36, 95% CI, 1.02-1.82) and weekly text messages (OR, 1.56, 95% CI, 1.01-2.39) were superior to basic clinical care. **CONCLUSIONS:** Using individual patient data allowed us to increase precision to determine what interventions appear to work. Several common recommendations for improving adherence are unsupported by the available evidence. These findings should influence guidance documents on improving antiretroviral adherence in poor settings.

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HEALTH CARE RESOURCE UTILIZATION AND ADHERENCE TO ANTIRETROVIRAL TREATMENT (ART) BY HIV PATIENTS: AN ANALYSIS WITH THE QUEBEC (CANADA) PUBLIC DRUG PLAN DATABASE

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OBJECTIVES: Adherence to ART is a key success factor for achieving optimal clinical outcomes in HIV disease. The objective was to assess differences in compliance rates and health care resource utilization between patients receiving a once daily single tablet regimen (STR) vs. a multiple tablets per day regimen (MTR). **METHODS:** This retrospective study included patients covered by the Quebec provincial drug reimbursement program (RAMQ) who have received at least one script for an ART from January 1st, 2006 to June 30th, 2012. For each patient, the index date was defined as the date of the first script for an ART and compliance rates were estimated over a 1-year period. Patients were considered compliant if their medication possession ratio (effective treatment duration over expected treatment duration) was equal or greater to 90%. Medical costs (hospitalizations and ER, outpatient clinic, ICU and physician's visits) were compared between the STR group vs. the MTR group. Regression analyses were performed to assess the relationship between compliance, hospitalization rates and medical costs with the ART regimen, adjusting for age, gender, comorbidities scores, mental disorders diagnosis and drug and alcohol abuses. **RESULTS:** The study included 4,996 HIV patients (mean age: 42.4 years, 74.8% males). A higher proportion of patients were compliant (88.4% vs. 75.8%) in the STR group compared to the MTR group (p<0.001). Patients receiving a MTR were 2.0-fold more likely to be non-compliant than patients receiving a STR (p<0.001). Moreover, hospitalization (25.8% vs. 15.9%, p<0.001) and medical costs (CAD$2,785 vs. CAD$1,909, p=0.008) were higher for patients receiving a MTR than a STR. Linear regression analyses also showed a positive relationship between MTR (vs. STR) and hospitalization rates (β=0.081,p=0.001) and medical costs (β=0.151, p<0.001). **CONCLUSIONS:** Patients receiving a STR are more compliant than patients on a MTR and have lower hospitalization rates and medical costs.

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TOBRAMYCIN POWDER FOR INHALATION FOR THE TREATMENT OF CYSTIC FIBROSIS: ANALYSIS OF THE RAMQ DATA

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OBJECTIVES: To describe treatment patterns and measure real-world outcomes with tobramycin powder for inhalation (TIP), tobramycin inhalation solution (TIS), and other tobramycin formulations (OTF), using the provincial public drug reimbursement program database of the *Régie de l'assurance maladie du Québec*(RAMQ). **METHODS:** Patients with a diagnosis of CF covered by the RAMQ drug reimbursement program who had used TIP, TIS, or OTF on at least one occasion during the period from January 1st 2011 to June 30th 2012 were selected.

Patient's characteristics, drug utilization patterns and resource utilization were analyzed. **RESULTS:** Data were available for a sample of 244 eligible patients. The average age of the study population was 24.3 years (SD=12.5). While the maximum medication possession ratio (MPR) for alternate month administration is 50%, patients on TIP had an average MPR of 52.8%, while patients on TIS and OTF had an average MPR of 41.4% and 39.7%, respectively. Treatment persistence at 3 months was estimated at 85.5%, 69.0%, and 65.2% for patients on TIP, TIS, and OTF, respectively. Treatment persistence at 6 months was estimated at 78.4%, 62.8%, and 56.5%, respectively for patients on TIP, TIS, and OTF. Higher CF medication treatment costs with TIP were partially offset by lower costs associated with the use of antibiotics, other medications and additional health care resource utilization. The median monthly cost per patient in terms of other medications was of $1,159 (including $79 for other antibiotics), $1,350 ($172), and $1,495 ($240) for patients on TIP, TIS, and OTF, respectively. The median monthly additional health care resource utilization cost per patient was estimated at $56, $188, and $220, respectively for TIP, TIS and OTF cohorts. **CONCLUSIONS:** In a real life setting, TIP was associated with a high level of treatment adherence and limited utilization of additional health care resources.

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ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG HIV-INFECTED PATIENTS ATTENDING TO A UNIVERSITY INFECTIOUS DISEASES CLINIC IN VENEZUELA

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OBJECTIVES: To determine adherence levels and factors influencing adherence to antiretroviral therapy among HIV-infected patients in Venezuela. **METHODS:** A sample of 46 HIV-infected HIV patients attending an infectious diseases clinic at the Central University of Venezuela were interviewed by the investigators for 20 to 25 minutes. The interview was guided by a structured questionnaire that included questions on sociodemographic and clinical characteristics, medication use, and health behaviors. Adherence was assessed retrospectively based on a 4-day recall as used in Adult AIDS Clinical Trials Group (AACTG) follow up questionnaire. All data analyses were performed using SSPS for Windows Version 19.0. **RESULTS:** Of 46 participants, 30 (65.2%) were male and 16 (34.8%) were female. The mean age was 43.17 years (Range 26-73, SD= 9,790). From 46 participants 69.7% reported adherence ≥ 95%. Forgetting to take the medications, alcohol use, and problems with the medications supply were main barriers for adherence in the present study. **CONCLUSIONS:** A group of patients at this clinic reported unsatisfactory adherence. Forgetfulness was reported to be the major cause of non-adherence. Since adherence to antiretroviral therapy in critical to achieve optimal treatment outcomes, health care providers must identify possible barriers to adherence at the earliest and provide appropriate solutions.

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HEPATITIS C VIRUS INFECTION TREATMENT COMPLETION: AN ANALYSIS OF THE QUEBEC PROVINCIAL REIMBURSEMENT PROGRAM DATABASE

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OBJECTIVES: Hepatitis C virus (HCV) infection treatment completion is a key success factor for achieving optimal clinical outcomes. The objective of this study was to assess HCV treatment completion rates in a real life setting. **METHODS:** A retrospective study of the Quebec provincial drug reimbursement program (RAMQ) was conducted using a random sample of patients who filled at least one script at the pharmacy for an HCV medication (pegylated interferon and ribavirin (peg-Riba) +/- boceprevir or telaprevir) from January 2007 to December 2012. Treatment completion rates were calculated at week 12, 24 and 28 according to HCV medication type in order to assess the proportion of patients treated beyond the 12-week futility threshold and the minimal expected treatment duration of 24 weeks (28 weeks for Peg-Riba + boceprevir). **RESULTS:** A total of 1,081 patients who used at least one HCV medication were included in the study. The average age was 46.4 years (SD=10.7) and the proportion of men was higher (64.8%). During the study period, the number of patients who used Peg-Riba only, Peg-Riba + boceprevir and Peg-Riba + telaprevir was 1,029 (95.2%), 50 (4.6%) and 18 (1.7%) respectively. The proportion of patients on Peg-Riba only who completed at least 12 and 24 weeks of treatment was 89.7% and 62.2% respectively. There were 96.0% and 58.0% of patients on Peg-Riba + boceprevir who remained on treatment at week 12 and 28 respectively. The percentage of patients on Peg-Riba + telaprevir on treatment at week 12 and 24 was 50.0% and 11.1%, respectively. **CONCLUSIONS:** The proportion of HCV patients who were still on treatment decreased with time with high discontinuation rates especially after week 12. Treatment completion was not achieved by a significant proportion of patients, regardless of HCV medications.

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PATIENT SATISFACTION WITH HIV THERAPIES: FOCUS ON ADHERENCE TO TREATMENT

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OBJECTIVES: Over the course of last decade the introduction of highly effective antiretroviral (ARV) therapies has transformed a once life-threatening disease into a chronic condition. However, maintaining patient adherence to therapy, in the long-term, is challenging. Despite the enormous benefits offered by current ARVs, evidence suggests that adherence to treatment regimens remains an issue. Numerous factors have been identified which compromise long-term adherence, including drug-drug interactions, therapy regimen, side-effects, and the overall demands of therapy. The aim of this study is to further understanding of the determinants of treatment satisfaction for HIV patients receiving ARV therapies. **METHODS:** A programme of research was developed in order to firstly establish the relationship between patients' views of their current therapies and the adherence to ARVs.