and 40,573.3/14re, respectively. ICER was $44,974.88/cure favoring dapivirine. Results from the one-way sensitivity analysis showed that duration of tenofovir intravenous treatment, cost of hospital night stay, and duration of dapivirine intravenous treatment were influential on the ICER; however, no break-even points were established and the model remained robust. Probabilistic sensitivity analysis displayed 77.9% of the ICER distribution in the dominant quadrant. Acceptability curve showed that dapivirine was 288.6% cost-effective compared to tenofovir at all ICER ranges. CONCLUSIONS: Dapivirine was cost-effective compared to tenofovir due to decreased total direct cost and reduction in inpatient stay. As a result, the proportion of ICER in the probabilistic sensitivity analysis favored dapivirine 77.9% which was reflected in the acceptability curve.

COMPARATIVE COST-EFFECTIVENESS ANALYSIS OF DARUNAVIR/R FOR FIRST-LINE TREATMENT OF HIV INFECTION IN THE UNITED STATES

OBJECTIVES: The ritonavir-boosted protease inhibitor (PI) darunavir (darunavir/r) 800/100 mg QD has recently been licensed in the US for use in treatment-naive HIV-infected adults. The objective of this study was to compare the cost and efficacy of darunavir/r-based triple therapy with other combination therapies using PIs currently licensed for this patient population in the US. METHODS: Virologic efficacy was measured by the percentage of individuals with plasma HIV RNA < 50 copies/mL (the current goal of antiretroviral therapy) at 48 weeks, based on a systematic review of published clinical trials of PIs-based regimens in treatment-naive populations. One-year antiretroviral therapy costs were calculated in 2008 US dollars. The base-case analysis considered PIs with a tenofovir-based backbone regimen; an abacavir-based backbone was considered in scenario analysis. RESULTS: The base-case analysis showed that darunavir/r was the most efficacious PIs, with an incremental cost-effectiveness ratio (ICER) of $31,524 per additional individual with virologic response, when compared with fosamprenavir/r, the only other option on the efficiency frontier of PIs-based initial therapy. All other PIs were less efficacious and more costly than darunavir/r-based therapy, including the two most commonly prescribed: atazanavir/r and lopinavir/r. Before the introduction of darunavir/r, atazanavir/r was most efficacious but with a higher ICER of $46,612 compared with fosamprenavir/r. Darunavir/r has an average cost of $25,059 per individual with virologic response, compared with $25,880 and $26,526 for atazanavir/r and lopinavir/r, respectively. Given a fixed budget of $10 million, darunavir/r successfully treats 399 individuals, compared with 386 and 377 for atazanavir/r and lopinavir/r, respectively. Similar results were obtained in scenario analysis using an abacavir-based backbone. CONCLUSIONS: Darunavir/r 800/100 mg QD has a lower cost per individual with virologic response after 48 weeks than the 2 most commonly prescribed PIs in treatment-naive, HIV-infected adults and provides more benefit per additional cost than other currently available PIs.

THE COST-EFFECTIVENESS OF TRUVADA, KIVEXA AND COMBIVIR IN THE TREATMENT OF ANTIRETROVIRAL NAIVE HIV-1 INFECTED PATIENTS IN MEXICO

OBJECTIVES: To assess the cost-effectiveness of Truvada versus Combivir and Kivexa in the treatment of antiretroviral naive HIV-1 infected patients in Mexico. METHODS: A Markov model was developed to assess the incremental cost-effectiveness of Truvada vs Combivir and Kivexa. Clinical data was derived from published clinical trials (Study 903 and CNA30024) and other secondary sources to create a model of disease progression and treatment patterns. Both health care and treatment costs were considered. The analysis was performed from the Mexican Health Care System perspective; costs were reported in 2008 US dollars. Costs and health outcomes were discounted at 5%. A second-order probabilistic Monte Carlo sensitivity analysis was conducted to assess the effects of parameter uncertainty on the study findings. RESULTS: The model projects an accumulated discounted cost to the Mexican health care system per patient receiving the Truvada regimen of US$102,776 compared to US$284,655 for the Kivexa regimen and US$22,999 for the Combivir regimen. The accumulated discounted cost is 3.85 QALYs per patient receiving Truvada compared to 4.89 QALYs for Kivexa and 4.81 QALYs for Combivir. This results in an incremental cost for Truvada and Kivexa vs. Combivir of US$8,805 per QALY and US$9,436 per QALY respectively. Considering a willingness to pay (WTP) threshold of US$10,000 per QALY there is a 90% probability that treatment with Truvada is cost-effective relative to Combivir. CONCLUSIONS: Results from these analyses suggest that in the Mexican setting, use of Truvada as the preferred initial quadrivalent antiretroviral for treatment of HIV-1 infected patients would be cost effective. These conclusions are supported by conservative assumptions and sensitivity analyses.

COMPARING COST-EFFECTIVENESS OF THE THREE-VERSUS TWO-DOSE VACCINATION PROTOCOL AGAINST HEPATITIS B IN ADOLESCENTS

OBJECTIVES: A three-dose regimen is the usual protocol for hepatitis B vaccination. An alternate two-dose vaccination schedule has been recently approved for adolescents. This study was conducted to compare cost-effectiveness of three-versus two-dose hepatitis B vaccination regimen in adolescents. METHODS: We applied health care provider perspective this study. To measure vaccination coverage and costs, we retrieved the data of hepatitis B mass vaccination campaign run in 2007 covering 1989-born adolescents in Iran. Vaccines immunogenicity were derived from literature. The cost variables considered included recurrent costs, personnel costs, publicity costs, transportation costs, and overhead costs. The required data to estimate recurrent, national-level supervision, and publicity costs were provided from existing data and interview with experts. To estimate vaccine administration, provincial supervision, and outreach costs, the data were provided from some provinces and projected to the country. We used WHO recommended proportions to estimate transportation and overhead costs. RESULTS: Total cost for a three-dose campaign was estimated as $23.2 per-dose administered. The same cost for two-dose campaign would be $21.5 per-dose administered. Total cost of three-dose campaign, in the best scenario was $7.1 per-person-seroprotected and would be $5.5–$9.4 in alternative scenarios according to sensitivity analysis. The same cost for a two-dose campaign, in the best scenario was $4.5–$6.8 per-person-seroprotected and $2.6–$6.8 per-person-unprotected. As a result, we immunize one more person in a 3-dose protocol compared to a 2-dose protocol, $38.6 would be spent by health system. This cost would be $57–$115.3 in various scenarios. In addition, in some scenarios two-dose protocol might have definitive priority to three-dose protocol because of both higher cost-effectiveness and lower cost. Running a two-dose protocol HBV vaccination campaign in adolescents instead of current three-dose protocol three-dose protocol is more cost-effective. Conducting an analysis with societal perspective which includes vaccinee costs, two-dose protocol will be more advantageous.