PSK4

THE LIFETIME COST OF TREATING SEVERE PSORIASIS WITH HOME UVB THERAPY

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OBJECTIVE: There have been tremendous advances in treatment for patients with extensive psoriasis. Many of the newer treatments have shown great promise, but at a significant cost to the health care system. Office phototherapy treatments continue to be an excellent first choice because of high safety, good efficacy and relatively low cost. Unfortunately, office phototherapy may not be feasible for many patients. Home UVB offers another option for these patients. The purpose of this study is to assess the long-term financial cost of home UVB treatment.

METHODS: We constructed a societal cost model for owning and operating a home UVB unit over a period of 30 years. This model included both direct and indirect costs associated with home treatment and periodic follow-up. These data were compared to the cost of other monotherapies for extensive psoriasis.

RESULTS: The discounted present value of 30 years of treatment with home UVB was approximately $10,000. The initial one time cost of the home UVB device, approximately $2000, is only a small component of the lifetime cost. Over the same treatment period, methotrexate had an estimated cost of $23,530. The cost of one year of biologic treatment exceeded the lifetime cost. Home UVB. CONCLUSIONS: Home UVB is not for every patient with psoriasis. Highly inflammatory lesions or significant co-existent arthritis are just two of many reasons that systemic treatments may be required. Nevertheless, home UVB offers a very cost-efficient approach to treatment. Insurers should make this option more available to patients with extensive psoriasis.

PSK5

COST-UTILITY ANALYSIS OF AMEVIVETM (ALEFACEPT) IN THE TREATMENT OF PATIENTS WITH MODERATE-TO-SEVERE PSORIASIS

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OBJECTIVES: Quality of life concerns (social discomfort, embarrassment, etc.) are an important aspect for patients with moderate-to-severe plaque psoriasis. Alefacept is a new biological found effective for treatment. This cost-utility analysis was conducted to compare standard therapies to alefacept. METHODS: A two-year Markov model was developed. Response was assessed using the Psoriasis Area and Severity Index Score (PASI) 75. Patient preferences were expressed in utilities. Treatments with high utilities represented the greatest health improvement. Treatment comparators were methotrexate, cyclosporine, and phototherapy (with/without acitretin). Data, resource use, and health-state utilities were derived from literature, expert clinical opinion and a cost of illness (COI) study. Costs (Canadian dollars) were obtained from standard published lists. Separate Ontario Ministry of Health (MoH) and societal (SOC) perspectives were conducted. RESULTS: In the MoH base case, expected costs were $7,790, $9,042, $10,635, $32,859 for methotrexate, phototherapy, cyclosporine and alefacept, respectively. Response-days associated with each treatment were 175, 175 and 247 days respectively. The cost of each additional QALY (Quality-adjusted life-year), compared to methotrexate, was $97,887. For the SOC base case, each additional QALY was $96,426. Phototherapy and cyclosporine were dominated. These results used the PASI 75. However, the PASI 50 may be more clinically relevant for dermatologists and patients. Using the PASI 50, alefacept had the highest cost and highest utility of $92,043 (MoH) and $88,391 (SOC) per QALY. Psoriasis is a chronic disease, and it is important to assess cost-utilities over time. After five years, the QALY for the MoH perspective was $31,412. SOC results were similar. Using the PASI 50 response rates, the cost per QALY after three years was similar to that of the PASI 75 after five years. CONCLUSION: Alefacept compares favourably to methotrexate, the current standard of treatment, and is cost-effective in several scenarios while cyclosporine and phototherapy were dominated.

PSK6

INTERPRETING SCORES ON THE QUALITY OF LIFE INDEX FOR ATOPIC DERMATITIS (QOLIAD)

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OBJECTIVES: To aid in the interpretation of scores on the QoLIAD and provide information on what represents meaningful change in QoLIAD scores. METHODS: The QoLIAD is a 25-item needs-based instrument assessing the quality of life (QoL) of individuals with atopic dermatitis (AD). It has simple anchor-based Minimal Important Difference (MID); which provides an estimate of clinical meaningfulness was derived by measuring QoL change accompanying changes in disease severity on a six-point Investigator’s Global Assessment (IGA). The IGA ranged from zero (clear) to five (very severe disease). QoLIAD scores were also anchored to questions asking patients if they would continue to use or recommend the study treatment. RESULTS: In total, 264 AD patients completed the QoLIAD (112/42% male; mean age 37 ± 14.3; baseline mean QoLIAD = 7.1 ± 5.4; two-months = 5.8 ± 5.6; six-months = 4.9 ± 5.3). Changes from baseline were significant (p < 0.001, Wilcoxon test). According to ES, changes of 1.1, 2.7, and 4.3 represent small, moderate and large changes in QoLIAD scores, respectively. One SEM = 1.71; 1.96 SEM = 3.35. Mean change scores of patients who would definitely continue to use and definitely recommend product was 1.8 and 2.2, respectively. A two-point improvement in IGA scores equated to a 2.1 (baseline two-months) and 3.1 (baseline six-months) change in QoLIAD scores. CONCLUSION: Distribution- and anchor-based methods of interpreting instrument scores suggest that a change in QoLIAD scores of between two and three can be considered
meaningful. This equated to the change found following six-months of treatment.

**PSK7**

**USING DUAN’S SMEARING ESTIMATOR TO MEASURE COST OF CHRONIC HAND DERMATITIS (CHHD) IN A MASSACHUSETTS HEALTH MAINTENANCE ORGANIZATION (HMO)**

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**OBJECTIVES:** Monetary cost, positive values truncated at zero, violates normality assumption when used as the dependent variable in ordinary least squares (OLS) regressions. Log transformation of cost removes the skewness, but the resulting coefficients are not directly interpretable as raw dollars. Simply taking exponent of fitted regression coefficients causes retransformation bias. Duan’s nonparametric smearing estimator may be valid for this type of cost. Duan’s nonparametric smearing estimator was applied to the residuals of an OLS regression of log-transformed cost on diagnostic and demographic factors into the mean of the anti-log of the residuals, thus correcting retransformation bias. The goal of this analysis is to apply Duan’s smearing technique to transform logged costs to evaluate the incremental cost of CHHD using claims data from an HMO. **METHODS:** A 13-item self-assessment questionnaire identifying CHHD and its severity was developed, validated, and mailed to 1,380 randomly selected members of a Massachusetts HMO. Average monthly costs for questionnaire respondents were calculated by the sum of approved and co-payment amounts from claims filed between April 1, 2001–December 31, 2003 divided by months of observation. OLS regression of logarithm of cost was used, with covariates consisting of a CHHD dummy, and demographic and co-morbid factors. Using Duan’s estimator, average monthly incremental cost of CHHD was calculated by multiplying percentage cost increase for CHHD from the OLS regression by predicted average monthly cost for Non-CHHD patients (which is the average cost after removing the effect of the CHHD dummy). **RESULTS:** 140 of 507 questionnaire respondents were identified as CHHD. Univariate comparison showed no statistical difference in monthly cost between the CHHD and Non-CHHD groups (Non-CHHD, $326.98 ± 29.52, CHHD $270.87 ± 23.59, p = 0.1383). A skewness and kurtosis test rejected normality. However, multivariate analysis showed that CHHD patients had a statistically significant monthly cost increase of 25.2% (±25.5%) compared to Non-CHHD (p < 0.001), amounting to an average monthly incremental cost of CHHD of $70.69 (±$23.59, p = 0.1383). **CONCLUSIONS:** Duan’s smearing estimator may be valid for inferring incremental cost in OLS regression models of logarithm of cost.

**PSK8**

**IMPACT OF ATOPIC DERMATITIS ON THE QUALITY-OF-LIFE OF PARENTS OF CHILDREN WITH ATOPIC DERMATITIS**

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**OBJECTIVES:** Atopic dermatitis (AD) is a common childhood chronic skin condition. Despite high disease prevalence, up to 20% in some populations, little information is available regarding the burden of disease to children and parent/caregivers. An objective of this study was to assess the impact of AD on parents’/caregivers’ quality-of-life. **METHODS:** In total, 414 AD patients, between 2–12 years old were identified through a retrospective review of outpatient billing records from January, 2001 to December, 2004 from two large physician practices and were contacted to enroll in the study. Data collected included patient demographics, comorbidities, treatments, and health care resource use. Parents also completed the Parent’s Index of Quality of Life-Atopic Dermatitis (PIQoL-AD), a 28-item, validated questionnaire evaluating parents’ needs-based quality-of-life. Total PIQoL-AD scores can range from zero to 28, with a higher score indicating greater impaired quality-of-life. One-way analysis of variance was used to determine statistical significance. **RESULTS:** Mean patient age was 6.7 (SD ± 3.3) years and 55% of patients were males. Mean duration and treatment of illness were 3.0 ± 2.2 years and 20.7 ± 21.4 months, respectively. Parents’ assessment of disease severity indicated that 82% of patients had mild AD and 13% of patients had moderate AD. AD patients reporting at least one flare experienced 2.8 ± 2.3 flares per month; mean duration of flares was 5.2 ± 7.0 days. Disease flares negatively impacted parents’ quality-of-life. PIQoL-AD scores worsened among those parents whose child had disease flares. Mean PIQoL-AD scores were statistically significantly higher (5.9 ± 5.4 vs. 3.0 ± 3.6, p < 0.0001) for those parents whose child had disease flares compared to those who did not have disease flares. **CONCLUSIONS:** Study findings will improve our understanding of the impact of AD on children and their parents/caregivers and may enhance treatment effects, clinical outcomes, and patient and parent/caregiver education. Further investigation is needed to understand the impact of atopic dermatitis on parents’ quality-of-life.

**PSK9**

**PREVALENCE OF CHRONIC HAND DERMATITIS AND ITS IMPACT ON PATIENT-REPORTED OUTCOMES IN A MANAGED CARE POPULATION**

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**OBJECTIVES:** The prevalence of chronic hand dermatitis (CHD) and its impact on patient-reported outcomes, including quality of life (QoL), work and activity impairment, were evaluated in a managed care organization (MCO). To date, few studies have investigated CHD using a general population-based approach. **METHODS:** A validated cross-sectional patient-reported survey was mailed to 1380 members of a Massachusetts MCO. The survey consisted of: a 13-item clinical questionnaire identifying CHD based on signs and symptoms of dermatitis related to hands, treatment response, and diagnoses of exclusion; the Skindex-29, a 29-question dermatology-specific QoL instrument; and the Work Productivity and Activity Impairment (WPAI) instrument validated for CHD. Those receiving the survey were randomly sampled from the general MCO population and a subset population with ≥ two medical claims with a dermatitis or eczema diagnosis (ICD-9 692 or 691.8). CHD patients were compared to patients with other skin conditions and to Non-CHD patients to assess their relative QoL and WPAI measures, respectively. **RESULTS:** The prevalence of CHD was 17.5% in the MCO general population, a rate much higher than previously found (2–12%). QoL and WPAI measures for the CHD patients were significantly worse than those for their comparison groups (Skindex score: CHD = 30.33 ± 17.51, Other Skin Conditions = 20.05 ± 16.68; Work Impairment: CHD = 29.33%, Non-CHD = 6.85%; Activity Impairment: CHD = 33.78%, Non-CHD = 17.32%; all p < 0.0001).