USE OF THE PATIENT ANALYSIS & TRACKING SYSTEM (PATS) IN ASSESSMENT OF RATIONAL PHARMACOTHERAPY OF DIABETICS IN A BIG HOSPITAL
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OBJECTIVE: The aim of the pilot retrospective study was to implement PATS in the process of evaluation of pharmacotherapy of hospitalized diabetics. In 3-months cycles, collected data on pharmacotherapy were compared with clinical guidelines and hospital formulary.

METHODS: In 148 hospitalized diabetics with the most frequent diagnosis E107 (diabetes mellitus with multi-organ complications) were collected data on pharmacotherapy in 3-months cycles. Data collected from patients’ charts included clinical diagnosis, all administered drugs and their dosage forms, single and daily-prescribed doses. Those data were entered via customized software module in the form of drug-chart into the clinical information system PATS (Patient Analysis and Tracking System). The basic data were programatically processed to a standard PATS registry for further analysis. The data on drugs prescription were retrieved using the ATC classification. These data were compared both with the clinical guidelines used in the department and hospital formulary.

RESULTS: According to the 3 digital ATC codes, the prescribed drugs were from 53 different groups. The most frequently prescribed drugs were drugs used in diabetes (313 drugs including insulins), the following groups are ordered according to the frequency of use: antibiotics (123), diuretics (92), antithrombotic agents (89), and agents acting on the renin-angiotensin system (73). The further analysis has shown that there is a great variability in pharmacotherapy in patients with the same diagnosis, e.g. 7 different ACE inhibitors were administered to the patients. CONCLUSION: PATS is a very useful and flexible tool in assessment of rational pharmacotherapy of hospitalized patients.

EAR, EYE & SKIN DISEASES/DISORDERS—Economic Outcomes

COST OF ILLNESS OF GLAUCOMA IN CANADA: MEASUREMENTS BASED ON VISUAL FIELD MEASUREMENTS AND PHYSICIAN’S ASSESSMENT
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OBJECTIVE: A longitudinal, retrospective study was performed to investigate the cost of illness attributed to primary open angle glaucoma (POAG). METHODS: Patients were identified using ICD-9 code 365.11. Three-year data associated with POAG were collected from patient charts in two clinics by a reviewer using a data collection form. A second reviewer verified data entry, including visual field (VF) mean deviation (MD), physician’s assessment (PA), and resource utilization (physician visits, procedures, and medications). VF was classified mild (MD < 5 dB), moderate (5 ≤ MD < 12 dB), or severe (MD ≥ 12 dB); and PA as stable, uncontrolled, or delayed stable (uncontrolled for 12 months, then stable). Resources were costed in Canadian dollars from the Ministry of Health perspective using standard lists. Costs were summed for each patient, then contrasted between groups using ANOVA with Scheffe’s post-hoc test (α = 0.05). RESULTS: Of 411 patient charts extracted, 235 provided useable data (mean follow-up 4 years); 35 excluded patients had ocular comorbidities, 141 had insufficient follow-up data (<3 years). Mean costs (SD) for VF groups mild (n = 80), moderate (n = 81), and severe (n = 74) were $376 ($279), $493 ($314), and $586 ($251), respectively. Analysis by PA for stable (n = 115), uncontrolled (n = 62), and delayed stable (n = 58) yielded costs of $437 ($269), $506 ($320), and $547 ($306), respectively. In the VF analysis, differences were significant (p < 0.05) between all groups for the first half of the follow-up period and between mild and severe for the entire follow-up period. For PA, the mean cost of the stable group was the lowest, without however significant differences. DISCUSSION and CONCLUSIONS: The cost of treating POAG increases with severity, especially when applying VF categories. Hence, severity in terms of VF score may give an indication of the magnitude of the expected total cost. Further examination of the relationship between VF and other clinical parameters, such as intra-ocular pressure, is warranted.
LIFE-LONG SOCIETAL NET VALUE OF GLAUCOMA TREATMENT: A MARKOV MODEL APPROACH

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OBJECTIVE: To assess and to identify the key variables of the life-long societal net value of glaucoma treatment.

METHODS: A Markov model was used to reproduce the average discounted cost of glaucoma treatment over 40 years in France on a 47-year-old cohort (52% female). Clinical states were first to fourth line treatment, no treatment, laser, surgery, blindness and death. All patients started first line, went successively to the next line after failure. After each failure (and always after the fourth line) patients could have either laser or surgery followed by no treatment, or a new first line treatment. Transition probabilities and resource utilisation came from a cross-sectional study with 5 years retrospective data collection for the glaucoma treatment, and from national statistics. In-patient and out-patient direct medical costs and indirect costs were estimated from a societal point of view. The discount rate was fixed at 5%. Sensitivity analyses and second order Monte Carlo simulation were performed.

RESULTS: Life expectancy of this cohort was 32.5 years. Discounted total cost was €6,990 compared to €14,133 without discounting. Patients spent 12.3 years in first line, 5.1 in second, 3.9 in third, and 3.2 in fourth, and 5.7 without treatment. They had 1.1 laser treatments and 1.2 surgeries on average. They were legally blind for 2.1 years on average. Increasing first line treatment duration by 25% would reduce discounted total cost to €6,709, or €13,368 without discounting. Patients would stay 1.9 years more in first line, 0.8 years less in second, 0.6 years less in third, 0.6 years less in fourth and 0.3 years less without treatment. The use of surgery and laser would decrease by 10%. CONCLUSION: Increasing first line glaucoma treatment duration is a cost saving approach over life of a patient according to our model.

A DISEASE SEVERITY STAGING SYSTEM FOR MEASURING THE COST OF GLAUCOMA PROGRESSION IN EUROPE

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OBJECTIVES: In order to conduct a multi-national retrospective chart review with the purposes of assessing resource utilization and costs associated with disease progression in Europe, a glaucoma staging system (GSS) was needed. To date no universally accepted GSS exists, particularly one that takes into account economic considerations. We developed and tested a modified system to allow for unambiguous stage assignment of patients experiencing varied severity of disease. METHODS: A review of currently developed GSSs was conducted and the Bascom Palmer GSS was selected as most adaptable for economic analyses. A modified-Delphi panel of physicians specializing in glaucoma treatment suggested modifications to the system, with the end goal of assessing the economic impact of treating glaucoma. Three centers were identified in each of the four participating countries: France, Germany, Italy and U.K. Approximately 12 charts per center were selected based on the inclusion/exclusion criteria described in the study protocol. The revised GSS was applied on all identified charts to classify patients by disease severity. Clinical and demographic data were obtained from the charts and national-level financial data were obtained from health economists in each country.

RESULTS: The final GSS comprises six stages based principally on visual field parameters. End-stage disease definition was based on poor visual acuity and inability to perform visual fields. The staging system was able to classify over 100 identified charts of glaucoma patients from normal to end-stage disease, and facilitated resource utilization abstraction by individual stage.

CONCLUSIONS: An improved GSS to track progression was designed which allows staging of patients from historical chart data. This GSS may be used to monitor long-term progression and is a useful tool for the purposes of assessing the economic impact of glaucoma progression. The tool should be tested prospectively to determine its ultimate utility in clinical practice.

COST-UTILITY ANALYSIS OF TIMOLOL VERSUS LATANOPROST VERSUS TRAVOPROST IN THE TREATMENT OF GLAUCOMA AND OCULAR HYPERTENSION

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