THE DEVELOPMENT AND PERFORMANCE OF MODELS TO PREDICT RISK OF LIVER DISEASE DIAGNOSIS FOLLOWING LIVER FUNCTION TESTING IN PRIMARY CARE

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OBJECTIVES: Liver function tests (LFTs) are routinely measured in primary care and often lead to further invasive and expensive investigations. In patients with raised LFTs without clinically apparent liver disease the appropriate level of follow-up can be unclear. The aim was to derive and assess predictive models to calculate the risk of liver disease diagnosis, with the potential to facilitate and improve primary care management of these patients.

METHODS: A retrospective population-based observational study followed-up all Tayside patients who had incident LFTs in primary care, with no clinically obvious liver disease (n = 95,977) from 1989 to 2003, to subsequent liver disease diagnosis. The population was derived using strict inclusion criteria and numerous databases. Record linkage of datasets including biochemistry, hospital admissions, psychiatric admissions, death registry and prescriptions enabled ascertainment of risk factors and outcomes. A Weibull accelerated failure time model was used to predict risk of liver disease diagnosis. Potential risk factors included each LFT, gender, age, deprivation, alcohol dependency, drug dependency, history of cancer, IHD, stroke, diabetes, and statin, NSAID and antibiotic use. The AIC was used to assess goodness-of-fit. The overall C-statistic measured model discrimination, whilst the Grønnesby and Borgan method assessed calibration.

RESULTS: Due to non-proportional hazards three models were developed. For the baseline-three months model all LFTs and many LFT interactions were predictive, as well as age, deprivation and methadone use. The three month-one year model included three LFTs, with no interactions, and cancer history and alcohol dependency. These models had overall c-statistics of 0.85 and 0.72 for outcome of liver disease respectively. Calibration was also good.

CONCLUSIONS: We have successfully developed and assessed the first predictive models for liver disease diagnosis in liver function tested primary care patients. They can now be developed further into clinical decision support systems for use in general practice.

UNCONTROLLED GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD): FINDINGS FROM A UK MULTICENTRE, CROSS-SECTIONAL STUDY

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OBJECTIVES: To assess the prevalence of uncontrolled GORD in UK primary care, describe the treatments used to achieve symptom control and characterise the impact of reflux symptoms on work productivity.

METHODS: Data were collected on a randomly selected sample of 308 patients who had visited their primary care doctor due to reflux-related upper gastrointestinal symptoms. Patients independently completed four patient-reported outcome (PRO) questionnaires: Reflux Disease Questionnaire (RDQ), Extra-oesophageal Questions (XQS), GORD Impact Scale (GIS) and the Work Productivity and Activity Impairment GORD (WPAI-GORD) questionnaire. A clinician assessment of GORD symptom severity and frequency was also made during a medical consultation.

RESULTS: Using the RDQ, 27% (84/308) of patients were identified with uncontrolled GORD (defined as moderate-to-severe GORD symptoms that occurred at least 3 to 4 days a week). Age, sex, smoking status, alcohol consumption, BMI and education were not predictive of GORD symptom control. 55% (46/84) of patients with uncontrolled GORD were prescribed a proton pump inhibitor. Omeprazole and lansoprazole were prescribed for 80% (37/46) of these patients. Absence from work and reduced productivity at work due to uncontrolled GORD accounted for 7.6 lost hours a week and was estimated to cost the UK economy an average of €109/patient/week.

CONCLUSIONS: Uncontrolled GORD is prevalent in primary care despite the availability of effective treatment strategies and guidance from the National Institute of Health and Clinical Excellence (NICE). The wider adoption of PRO questionnaires may help primary care doctors identify those patients with GORD that are most severely affected. This could lead to improvements in patient care and may benefit health care resource utilisation and work productivity.

WITHDRAWN