Research Presentations

RP001

Evaluation and analysis of drug-related problems in cancer patients readmitted 30 days after discharge in 2 Belgian hospitals

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Background

There is about 60 000 diagnosis of cancer per year in Belgium. This high incidence makes Belgium one of the most impacted country in Europe. Considering literature, about 12 to 13% of cancer patient are readmitted within 30 days after discharge. Among these readmissions, drug-related problems (DRP) included drug interactions or side effects.

Purpose

The aim of this study is to quantify and to classify DRPs related to readmissions for cancer patients in two care facilities.

Methods

This study is an observational retrospective study during 6 months in two care facilities in Brussels: «Erasme Hospital» and «Bordet Institute». An intermediate medication review type 2b was applied for each patient files readmitted 30 days after discharge, in emergency or a medical consultation. The probability of DRP readmission is evaluated with the WHO-UMC system for a standardised case causality assessment. All possible DRP readmissions are classified with the PCNE classification V8.02. Each DRP is reviewed with the same tools twice; by the investigator and an « expert committee » composed of oncologists, an emergency doctor, a clinical pharmacist, and an intensivist.

Results

A total of 3 107 cancer patients were readmitted during the 6 month-period for reasons related or not to their cancer. There were 1327 patient files analysed and the final population included 299 patients. The analyses revealed 112 patients readmitted with DRPs. Among them, 6 DRPs are considered as certain, 57 probables and 49 possibles. With the PCNE classification the main problem was «side effect» with 109 DRPs.

Conclusions

Almost 23% of patient readmissions 30 days after discharge seems related to a DRP, showing 112 DRPs for 299 readmisssions. Most of them are related to drug side effects, like febrile or not febrile neutropenia.

RP002

Cardiac and Cerebrovascular Risk of Major Adverse Events following exposure to Potentially Inappropriate Medications

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Background

The elderly are increasingly an important proportion of the total population and prescribing for older individuals is challenging. However, information on drug exposure and MACCE in this population is still controversial.

Purpose

This project aims to investigate the potential risk of MACCE following exposure to PIMs in older individuals. The specific objectives formulated were: a) to compile a list of PIMs with MACCE risk; and b) to study the prevalence of those PIMs in a Portuguese elderly sample.

Methods

This project encompasses six tasks to answer our main goal. The first task consisted of a systematic review undertaken on PubMed, Medline and Google Scholar (1991 – 09/2017), to identify tools addressing inappropriate prescribing. PIMs associated with cardiac and cerebrovascular risk of adverse events (CVAEs) were extracted, and subsequently restricted to those potentially leading to MACCE. A cross-sectional study was then undertaken in four nursing homes and one community pharmacy, using medical and pharmacotherapeutic records from elderly patients (since 2015), to determine the prevalence of PIMs with MACCE risk.

Results

The literature search identified 24 PIM-lists; 13 PIMs and 21 drug-disease interaction with MACCE risk. The cross-sectional study yielded 680 patients, 62.9 % female (n=428) with a mean age of 78.4 years (SD=8.1). Almost 60% (n=404) were taking medicines with CVAEs risk (mean=1.7±1.0 drugs/patient). Among those, 38.8% (n=80) used drugs with MACCE risk (mean=1.4±0.8 drugs/patient). The most commonly described pharmacotherapeutic groups were NSAIDs (29.7%; n=199), Antipsychotics (17.6%; n=118), Thyroid preparations (10.4%; n=70) and Antidepressants (n=8.5%; n=57).

Conclusions

An original list of PIMs sensitive to CVAEs and MACCE was created. The use of this list showed more than 50% of elderly use drugs with CVAEs risk and more than 25% can have MACCE risk.

RP003

Network meta-analysis: application and practical use

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Background

Network meta-analysis (NMA) is quickly gaining popularity as an evidence-synthesis technique that allows the comparison of interventions that cannot be investigated with pairwise meta-analyses. However, studies demonstrate that is room for improvement in the conduct, report and application of NMAs.

Purpose

To explore the potential use of NMAs for comparing the effect of interventions.

Methods

As part of a PhD thesis several studies are being performed to: (i) map the characteristics of published NMAs on pharmacological interventions; (ii) assess the methodological quality and report of NMAs; (iii) evaluate the delay and speed of NMAs publications; (iv) propose geometry metrics to describe NMAs; (v) assess the sensibility of remove or add treatments in NMAs; (vi) evaluate the feasibility of using NMAs to compare different drug doses,

different pharmaceutical forms of the same drug, different non-pharmacological complex interventions.

Results

About 500 NMAs on drug interventions published by more than 30 different countries (2003-2017) were characterized. Only one-third of studies followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statements. Several problems were noted: lack of study protocol (75% of studies), issues in literature searches (72%), biased assessment of primary studies (60%), lack of raw data (90%), flaws in statistical methods (67%). An important publication delay was identified: the median time from the last update of the search to NMAs submission is about 6 months, and for the online publication is one year. To improve the report and interpretation of NMAs, we proposed the use of simple metrics of NMAs geometry (e.g. number of nodes, edges, studies, density). We proved that NMAs can be used to compare different interventions, but appropriate methods to each scenario are needed.

Conclusions

Evidence synthesized through NMAs may be applicable in different fields, as long as continuous improvement and standardization on its conduct and report exist.

RP004

Mobile health intervention increases adherence in adolescents with asthma: a cluster randomised controlled trial in community pharmacies

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Background

Adherence rates among adolescent asthma patients (12-18 year) are generally low, resulting in poorly controlled asthma. We developed (in co-creation with patients) a pharmacy based mobile health (mHealth) intervention to support adherence; the ADolescent Adherence Patient Tool (ADAPT). This interactive intervention contained a questionnaire to monitor symptoms, a medication alarm, educational movies, a peer chat, and a chat with the pharmacist.

Purpose

To evaluate the effect of the ADAPT intervention on inhaled corticosteroid (ICS) adherence and self-management in adolescents with asthma.

Methods

We conducted a cluster randomised controlled trial in community pharmacies, patients with asthma were invited based on their medication refill records. Self-reported adherence (Medication Adherence Report Scale (MARS)), asthma control, and asthma related quality of life were measured at start and the end of follow-up (after six months). We used statistical mixed effect models to analyse the effect.

Results

In total, 66 Dutch community pharmacies participated and 1,204 adolescents with asthma were invited to participate. Study participation was completed by 234 adolescents (147 in the control group 87 in the intervention group) with a mean age of 15.1±1.9 years and 52.6% females. Adherence rates of patients with low baseline adherence (N=76; MARS ≤19) increased in the intervention group (N=26), whereas the rates of patients in the control group (N=50) decreased (intervention effect +2.12, p=0.04). This effect was stronger (+2.52, p=0.02) in non-adherent patients with uncontrolled asthma (n=74). No effect of the intervention was observed on asthma control or asthma related quality of life.

Conclusions

The ADAPT intervention increases adherence in adolescent asthma patients with poor adherence. Healthcare providers should consider a tailored mHealth approach to improve the treatment of adolescents with asthma.

RP005

Opportunities and limits to deprescribing in nursing homes (OLD-NH)

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Background

In two Swiss cantons, pharmaceutical assistance programs have shown that interprofessional practice, bringing together nurses, physicians, and pharmacists, can reduce the cost of drugs used in nursing homes (NHs), without lowering the quality of care. These programs, however, are not specifically focused on reducing the use of potentially inappropriate medications (PIMs).

Purpose

The OLD-NH project aims to test the effects and implementation of two consecutive deprescribing interventions in NHs of two Swiss cantons.

Methods

An exploratory phase, nearing completion, studied the barriers and facilitators to deprescribing among NHs residents and healthcare professionals using qualitative methods. Concurrently, an epidemiological tool, assessing the inappropriateness of drugs used in the NHs by applying validated criteria, was developed.

The intervention phase, started in 2017, will test two consecutive interventions in successive randomised, controlled trials:

1) A pharmacist-led interprofessional quality circle, aiming to define a local deprescribing consensus focused on the most widely used PIMs.

2) A pharmacist-led medication review, conducted among consenting NH residents receiving the most PIMs. The pharmacist's report should lead to a deprescribing plan, defined with NH physicians and nurses, and proposed to the patient or his relatives.

The first intervention will be assessed using the epidemiological tool, the second on humanistic and clinical outcomes; both will be evaluated on implementation criteria.

Results

40 NHs have been included and randomised for the first intervention. Preliminary results from the epidemiological tool show a relatively high baseline use of PIMs: in 2016, 31.0% of DDDs used in these 40 NHs could be considered potentially inappropriate.

Conclusions

This project aims to curb the high use of PIMs in NHs through interprofessional interventions. Its pragmatic, hybrid design will

ensure that its findings will be more easily disseminated in case of positive impact.

RP006

Enhancing self-management support in primary health care: a systematic review of randomized controlled trials

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Background

Increasing patient self-management has been demonstrated to improve patient outcomes and have cost benefits for the health care system. Community pharmacists are ideally placed to support ongoing patient self-management. Therefore there is substantial potential to improve pharmacists' skills, knowledge, ability and competencies to support patient self-management through an evidence-based structured approach in order to integrate self-management support into usual practice.

Purpose

(1) To assess the effectiveness of interventions for patient self-management support on health outcomes compared to usual care; and (2) to report the core components of the most effective interventions.

Methods

A systematic review was undertaken. The databases of PubMed, Scopus and Web of Science were searched from inception to November 2017. Eligible studies were those assessing the effectiveness of an educational/ behavioural intervention, delivered individually face-to- face by a primary health care professional to adult patients with any condition compared with usual care. To assess effective interventions, we developed matrices that mapped the evidence for, and the components of each intervention.. Quality assessment was performed using the 'suggested risk of bias criteria for EPOC reviews'.

Results

5,544 records were retrieved. Fifty-two studies were included in the analysis. Strategies effective in improving clinical and humanistic outcomes were multi component complex interventions. The core components of interventions associated with positive outcomes included: (1) transfer of information, (2) enhancing problem solving and decision-making skills, (3) active stimulation of symptom monitoring, (4) enhancing dietary intake and (5) enhancing physical activity. Eighty-two different outcome measures were adopted to demonstrate such impact, including different measures of health-related quality of life, overall functioning, self-efficacy, health behaviours, symptoms and disease control. Training health professionals and follow up were also necessary to ensure that patients' self-management abilities were maintained.

Conclusions

Self-management support shows an improvement in clinical and humanistic outcomes. This review highlights key characteristics of successful interventions, and as such may assist in determining the breadth and focus of the support primary care professionals provide. These results may be used to provoke and inform discussions for enhancing the future delivery of self-management support in primary care.

RP007

conSIGUE: Generalisation within the implementation phase. Preliminary results in the first semester

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Background

conSIGUE Generalisation within the Implementation phase is the last phase of the research programme conSIGUE, promoted by the General Pharmaceutical Council of Spain, together with the University of Granada and the University of Sydney Technology in cooperation with Cinfa laboratories. Transferring the knowledge gained during the research phase into practice is a complex process that requires implementation models and, in many cases, on-site training.

Purpose

To describe, after six months of fieldwork, the reach as a first implementation outcome and the Implementation stages as well as Medication Review with Follow-up service (MRF) health outcomes for elderly, chronic, polymedicated patients at Community Pharmacy.

Methods

Hybrid design of effectiveness-implementation in which the theoretical framework FISpH (Framework for the Implementation of Services in Pharmacy) is used for the Implementation of Professional Services in Pharmacy together with the participation of Practice Facilitators (FoCo) provided by the participating Provincial Pharmacist Chambers. A nodopharma hosted electronic recording system (eCRD- SFT) has been designed.

Results

There are 113 pharmacists from 83 pharmacies belonging to 6 Provincial Pharmacist Chambers (Cáceres, Cantabria, León, León, Murcia, Toledo and Zaragoza). Out of the 62 patients participating in the first month (47 males, 15 females), it rose up to 374 patients in the 6th month (243 F, 131 M). At the beginning, the total amount of medicines was 458 (7.39 medicines/person) which rose up to 3.141 in the sixth month (8.40 m/p). At first, a total amount of 467 health problems (HP) were identified where 81 were not controlled (17.3%) and at the end of the sixth month, there were 2848 HP identified, where 444 HP were not controlled (15.6%). According to EuroQol-5D, patient perceived health-related quality of life, increased from 0.610 points to 0.700. Implementation stages: at the beginning, 83 pharmacies were in the preparation phase, after six months, 8 pharmacies (9.64%) were still at that preparation phase, 68 pharmacies (81.93%) were in initial implementation (testing phase) and 7 (8.43%) reached full implementation.

Conclusions

The preliminary implementation indicators show that the Community pharmacist can implement the Medication Review with Follow-up service.

RP008

Using pharmacoeconomic evaluations to inform national guideline recommendations: an example from the U.K.

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Background

Pharmacoeconomic evaluations have become an important type of evidence that informs national guidelines produced by organisations such as the National Institute for Health and Care Excellence (NICE) in the U.K.

Purpose

In this example, we present two systematic reviews of published economic evaluations: the first assessing the cost-effectiveness of enhanced pharmacy services delivered at community and primary care settings and the second ward-based pharmacy support in the hospital setting. The results of these reviews informed recommendations of the NICE guideline on the organisation and delivery of emergency and acute medical care services in the English National Health Service (NG94).

Methods

We included economic evaluations published in the preceding 10 years which assessed the cost-effectiveness of pharmaceutical services provided to adults with, or at risk of, acute medical emergencies in the community and hospital. We included those English language papers that were most applicable to the UK NHS. Therefore, studies conducted in a non-OECD country or the USA were excluded. Methodological quality and applicability were assessed using the NICE economic evaluation checklist. Cost-effectiveness was assessed at a threshold of GBP20,000 per quality-adjusted life-year (QALY) gained.

Results

The community and primary care review included 10 studies and showed that interventions delivered at community pharmacies and general practice settings were cost-effective. They either dominated usual care or were cost-effective (Incremental Cost-Effectiveness Ratios (ICERs)<GBP20,000/QALY (8 studies). Interventions delivered at patients' homes were not cost effective (ICER>GBP20,000/QALY). The ward-based pharmacist support review included 7 studies. These showed that ward-based pharmacist support was most cost-effective when provided throughout the ward stay (cost-saving or ICER=GBP632/QALY).

Conclusion

Published pharmacoeconomic evaluations provided a robust evidence-base that supported making positive recommendations to provide enhanced pharmacy services at the community and primary care settings as well as recommending the integration of pharmacists in the ward teams.

Disclaimer

This work was undertaken by NGC which received funding from NICE. The views expressed in this publication are those of the authors and not necessarily those of NICE. NICE (2018) Emergency and acute medical care in over 16s: service delivery and organisation. Available from https://www.nice.org.uk/guidance/ng94

RP009

Outcomes of urinary tract infection management by pharmacists (RxOUTMAP): a study of pharmacist prescribing and care in patients with uncomplicated urinary tract infections in the community

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Background

Pharmacists have the authorization to prescribe medications for the treatment of uncomplicated urinary tract infections (UTI) in some provinces. However, there is limited data on the outcomes of this care by pharmacists. Our objective was to evaluate the effectiveness, safety, and patient satisfaction with pharmacist prescribing and care in patients with uncomplicated UTI.

Methods

We conducted a prospective registry trial in 39 community pharmacies in the Canadian province of New Brunswick. Adult patients were enrolled if they presented to the pharmacy with either symptoms of UTI with no current antibacterial treatment (Pharmacist-Initial Arm) or if they presented with a prescription for an antibacterial to treat UTI from another health care provider (Physician-Initial Arm). Pharmacists assessed patients and if they had complicating factors or red flags for systemic illness or pyelonephritis, they were excluded from the study. Pharmacists either prescribed antibacterial therapy, modified antibacterial therapy, provided education only, or referred to physician, as appropriate. The primary outcome was clinical cure at 2 weeks and the secondary outcomes included adverse events and patient satisfaction.

Results

A total of 748 patients were enrolled (87% in the Pharmacist-Initial Arm), average age was 40.8 (SD 15.9). Clinical cure was achieved in 89.1% of patients. Of those that did not have sustained symptom resolution, most (6.1%) had symptom recurrence after completion of therapy. Adverse events were reported by 6.8% of patients and 88.2% of those continued their medication. Most adverse events were gastrointestinal-related and transient. The patient satisfaction survey reflected very high levels of satisfaction for the care they received, as well as for trust and accessibility of the pharmacist.

Conclusions

Pharmacist management of uncomplicated UTIs is effective, safe, and patient satisfaction is very high.