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3-minute Thesis

3mT001

Insights in POLYpharmacy MAnagement (INPOLYMA) of DOAC patients – preliminary results

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Background

A high number of medication makes their management difficult and may negatively influence adherence to medication. With direct oral anticoagulants (DOAC), timing adherence is especially crucial because these agents have a short duration of action. Many patients develop own management strategies to cope with polypharmacy and health care professionals need to know how patients manage the daily intake of several medications.

Purpose

In order to offer the best pharmaceutical care to patients with polypharmacy, our objective is to assess patients' management of polypharmacy in general and DOAC medication in particular in real life setting.

Methods

This is a qualitative study recruiting 15 outpatients through flyers in Switzerland. Patients are independently taking at least four medications (including DOAC) since three or more months. During home visits, insights in self-management are gathered with qualitative in-depth interviews (recorded, transcribed verbatim). Interviews are analysed with MAXQDA to find similarities, differences and reasons for specific management strategies. Relationship between knowledge about DOAC and actual adherence will be investigated by means of questionnaires and a small electronic device (Time4MedTM) that registers the timepoints of medication intake during one month.

Results

The study started on February 12, 2018 and seven patients (age 77-95) have been recruited until now. Intake of medication occurred twice to five times daily. Most patients used a multicompartment compliance aid. All patients coupled the times of medication intake with meals and stored the medication in a visible place such as the kitchen table. For some patients specific medication was more important and therefore taken more consciously than other was.

Conclusions

This observational study will provide insights in patients' management of their multiple medications. The preliminary results indicate that some management strategies are questionable. The insights gained through interviews will give valuable information for the development of pharmaceutical care interventions.

3mT002

Medicines-related readmissions: Targeted intervention delivery

V-Lin CHEONG, Jonathan SILCOCK, Julie SOWTER, Neil HAMILTON

Background

Readmission to hospital is prevalent in the older population, and can affect patients' quality of life [1, 2]. Evidence suggests that better transition-of-care can reduce hospital admission rates and health expenditure [3]. It was estimated that medication-related problems account for approximately 40% of readmissions [4]. Little is known about the medicines-related predictors of readmission in the frail elderly population. Further understanding of predictors of readmission would help identify patients with the greatest risk of readmissions; who would benefit most from high-intensity interventions [5].

Purpose

The objectives of the PhD thesis were to identify medicines-related risks associated with readmission, and the pharmaceutical interventions effective at reducing readmissions. These would facilitate the design of interventions targeted for frail elderly patients at risk of medicines-related readmission.

Methods

A case-control design study was conducted to examine the association of medicines-related risks such as polypharmacy and potentially inappropriate medicines (PIMs) with readmission. Next, systematic review of the pharmaceutical interventions aimed at reducing readmissions was carried out to identify effective interventions. Then, a Delphi study was done to establish the priority interventions of clinicians, patients/carers. These facilitated the design of prioritised evidence-based interventions, to be delivered to patients with readmission risks.

Results

It was found that PIM use, alongside polypharmacy (≥10 medicines) among other risks were associated with readmission in older patients. However, medicines-related risks were not predictive of readmission after adjusting for confounders. Pharmaceutical interventions which were effective were mainly based on improving communication between clinicians and patients. Interventions prioritisation by clinicians and patients are currently investigated.

Conclusions

Medicines-related risk factors may be included in future risk models to examine its predictive effects. Involving patients and clinicians to prioritise evidence-based interventions is important for person-centred care service design.

3mT003

A review of healthcare professionals' knowledge and perspectives regarding substandard and falsified antimicrobials

Naira GHANEM, Oksana PYZIK, Victoria RUTTER, Nadia BUKHARI

Background

Current literature discusses prevalence rates, technologies for detection and outcomes of low-quality medicines. There is a reduced emphasis on the importance of healthcare professionals awareness of issues and the difference in societies and which interventions will be the most effective.

Purpose

This study aims to measure healthcare professionals' 'knowledge of', 'exposure to' and 'attitudes towards' substandard and falsified antimicrobials

Methods

A cross-sectional study was used to assess healthcare professionals' (HCPs) perspectives in high-income countries (HICs) and low-middle income countries (LMICs). The study used convenience sampling through distribution channels via the Commonwealth Pharmacy Association (CPA).

Results

A total of 256 healthcare professionals took part in the study from six regions worldwide. 54% of the participants were aware of the difference between a substandard and falsified antimicrobial. The most prevalent definitions for a substandard antimicrobial was a medicine with a 'lower Active Pharmaceutical Ingredient (API) content' (67%). The most prevalent definition for a falsified antimicrobial was a 'counterfeit medicine' (78%). Healthcare professionals from African and Asian LMICs had the highest rates of correctly identifying substandard and falsified antimicrobials. Healthcare professionals' attitudes towards preventative methods to combat falsified antimicrobials were reflective of the problems in each region.

Conclusions

Preventative methods such as 'raising public awareness' and 'educating HCPs' were ranked highly in the UK. In comparison, healthcare professionals from African LMICs supported 'improved reporting methods', 'detection methods' and a 'tighter, regulated supply chain'. The different weighting given to preventative methods according to economic classification further emphasizes that no 'one size fits all' approach can be used to effectively tackle this issue. More comprehensive insight is needed, relative to regions and economic status to determine the best approach to tackle this global problem in a localised manner.

3mT004

Community pharmacist perspectives on opportunities to develop their role in breast cancer services

Lydia TUTT, Tracey THORNLEY, Li-Chia CHEN, Claire ANDERSON

Background

Breast cancer is the most common cancer in the UK. Improving survival rates coupled with long-term treatment requirements have created demand for primary care-based services to support survivors. Community pharmacists therefore have scope to take on a more significant role.

Purpose

The purpose of this study was to investigate community pharmacist perspectives on developing services to better support breast cancer survivors and to explore potential opportunities and barriers surrounding survivor-reported care needs.

Methods

Online focus groups were conducted with community pharmacists from across England. Eligible participants were those currently practising within England. The topic guide contained themes derived from a previous study, which used focus groups to explore breast cancer survivor experiences in primary care. Transcripts from the web-based chat were analysed using iterative thematic analysis.

Results

Two focus groups were conducted (9 participants in total). Themes for supporting survivors included: Appropriate signposting; providing the right information at the right time; advising on suitable pharmacy products; promoting pharmacist roles and services; collaborating with other healthcare providers and local support services; and undertaking further training. Pharmacists acknowledged barriers such as time and funding but were keen to provide support as part of existing services such as Medicines Use Reviews or Healthy Living Pharmacy campaigns.

Conclusions

Findings provide insight into how community pharmacists feel they could improve care for breast cancer survivors. Findings highlight many small changes that pharmacists could make within their current practice; including training, networking, and proactively having conversations with survivors. Going forward, these findings can also be used by those involved in healthcare service development and policy-making to inform the design of services or interventions. This research was part of a more extensive mixed methods study to explore the role of the community pharmacist in breast cancer services. Future work will investigate the perspectives of key stakeholders on these findings.

3mT005

Evaluation of medication costs for patients referred to an internal medicine pharmacist clinic in Canada

Eric LANDRY, Katherine LYSAK, Derek JORGENSON

Background

A referral-based system of pharmacist specialists could be useful in assisting community/hospital pharmacists to manage complex patients. The University of Saskatchewan College of Pharmacy and Nutrition recently opened the Medication Assessment Centre (MAC), which accepts complex general medicine referrals and which considers itself an internal medicine pharmacist specialist clinic. The MAC is also used as an experiential learning rotation for undergraduate pharmacy students. This internal medicine pharmacist clinic model has not been previously evaluated and its impact on medication costs is relevant to health system decision makers.

Purpose

To evaluate the impact of referral to the MAC on patients' monthly medication costs.

Methods

Retrospective chart review. Patients who had been referred to the MAC and who had completed an assessment between May 2016 and March 2017 were eligible. Baseline monthly costs were calculated using initial medication lists, which included prescription, non-prescription and natural medicines. The baseline cost was compared to patient's final medication list, which was established at least one month after the initial visit, when recommendations for adjustments had been communicated to prescribers. Medication changes that were not directly attributed to recommendations made by the pharmacist were not included in the analysis. Prescription drug costs were calculated using prices from the Saskatchewan formulary and retail prices from an online Canadian retailer were used to calculate non-prescription/natural medicine costs.

Results

A total of 53 charts were included. Mean monthly medication costs (prescription, non-prescription, natural medicines combined) were $24.17 lower per patient after the pharmacist assessment had been completed ($371.00 per month vs. $346.83 per month, p=0.02).

Conclusions

Patients who are referred to this internal medicine pharmacist specialist clinic have lower overall drug costs after consultation with the pharmacist.

3mT006

A contribution to the economic evaluation of pharmacy services in a collaborative care model in Portugal

Suzete COSTA, João PEREIRA, Dennis K HELLING, Maria CARY, Céu MATEUS

Background

The economic evaluation of public health interventions provided by pharmacists in collaborative environments with physicians may contribute to inform decisions in the successful expansion, continuation, or justification of such services. This project uses a collaborative experiment between NHS primary care and local pharmacies comprising intervention protocols in pharmacy software that interact with physicians' software and regular quality circles (physicians, nurses and pharmacists).

Purpose

To explore tools and methods of economic evaluations and understand whether a pharmacy-driven collaborative intervention with primary care, in selected interventions under protocol, can be cost-effective vs. usual care.

Methods

1) Overview of systematic reviews of economic evaluations of pharmacy-based public health interventions to address methodological challenges; 2) Review of evidence of selected interventions under collaborative care; 3) Effectiveness and economic evaluation of a collaborative pharmacy-based hypertension and/or hyperlipidaemia management alongside a pragmatic controlled trial. Outcome measures: changes in blood pressure, cholesterol, cardiovascular risk, adherence, persistence, quality-of-life, patient preferences. Cost data: medical and pharmacy appointments, point-of-care, medication, patient travel time/transport, absenteeism, emergency room and hospital admissions. Data sources: pharmacy software; primary care software; patient telephone surveys.

Results

1) presented in a separate abstract; 2) ongoing; 3) 8 preparatory workshops + 2 training sessions for pharmacies and 6 quality circles. The pilot started on 27 April 2018 (time of abstract submission).

Conclusions

We hope to contribute to: developing a feasible system for measurement and valuation of costs and consequences of pharmacy interventions; improving methods and tools for the economic evaluations of pharmacy and public health interventions; increasing evidence on the effectiveness and value of pharmacy interventions under collaborative practice with primary care; advancing standards of care and raising questions on the role of complementary payment models of healthcare providers.

3mT007

Initial review on software tools to evaluate package leaflets of medicines

Carla PIRES, Afonso M. CAVACO

Background

Package leaflets of medicines (PLs) are compulsory inside all packages of medicines within the European Union market. PLs serve to inform medicines users, although PLs' readability issues do exist. It is not known the extent to which software tools, designed to automatically assess texts features, have been used to study legibility and content of PLs.

Purpose

To identify and examine published studies describing the use of software tools for analyzing, processing, extracting or simplifying information specifically from PLs, particularly those written in Portuguese.

Methods

PubMed, Cochrane Library, and SciELO literature databases were searched, without time restrictions, using the expressions: "software" and ("package inserts" or "package leaflets" or "summary of product characteristics" or "bulas"/"folhetos" – Portuguese designations of PLs) in March 2018. Studies reporting software tools for analyzing, simplifying, processing or extracting information from PLs were included. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist and flow diagram were applied. The study results were doubled checked.

Results

From the 154 identified studies, 143 were excluded because they did not comply with the inclusion criteria, being 4 repeated. From the 7 selected studies, 3 comprised software applications that evaluate text features, while 4 the extraction, collection, and classification of information from PLs. One software application was found for Portuguese language to count words and identify abbreviations.

Conclusions

Software tools to evaluate and/or process information or legibility features of PLs seem to be limited, suggesting the need of development of applications in this area. Further searches might be needed to improve the robustness of the present findings. Future tools should consider different languages/cultural backgrounds, as well be capable of automatically optimizing therapeutic information and patient counselling key sentences.

3mT008

Project PRIMA – Implementation of the German National Medication Plan from community pharmacists` and physicians` perspective

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Background

In the project PRIMA an interdisciplinary medication management (MM) service was offered by physicians (GPs) and community pharmacists (CPs). To exchange information on patients' medication and potential drug-related problems, a standardized medication plan (MP) was generated in the local software systems of both health care professionals (HCPs), exchanged via a central server and subsequently printed for the patient.

Purpose

The primary aim of PRIMA was to evaluate the acceptance of the processes in the MM service and the MP by the participating HCPs.

Methods

PRIMA was conducted from October 2014 to December 2016 involving 12 teams of each one CPs and GPs to generate and update MPs according to previously specified processes and responsibilities [1]. HCPs operated in their local software applications and exchanged MPs via a central server. Questionnaires were developed to evaluate the HCP's acceptance of the MM service. Additionally, HCPs participated in a workshop in September 2016 to discuss their experiences regarding collaboration, communication and benefits of the MM service for their patients.

Results

Of the 12 teams of CPs and GPs one dropped out due to technical problems. The remaining 11 teams recruited 196 patients. In total, 35 HCPs participated in the workshop. HCPs named improvement of medication safety as their major motivation to participate (83.3%, n=18). 75.0% (n=8) of the pharmacists and 60.0% (n=10) of the physicians agreed with the previously specified processes and responsibilities in the MM service. HCPs estimated that the service improved the implementation of drug therapy (83.3 %, n=24) and appropriateness of medication (78.6%, n=28). Furthermore, HCPs expected a reduction in overall health-related costs (82.1%, n=28).

Conclusions

The electronic MP as well as the MM service were successfully implemented and accepted by the HCPs. This is an important precondition to further implement both the MM service and the MP in primary care in Germany.

3mT009

Methodological approach to health economic analysis of pharmacists' interventions on prescriptions in community pharmacies

Eirin G. ROBINSON, Janne SMEDBERG, Ingunn BJÖRNSDOTTIR

Background

In community pharmacies, substantial resources are used on interventions on prescriptions in the dispensing process in order to contribute to appropriate and safe use of medication. Data from 42 pharmacies on 39,864 dispensing processes for more than 70,000 individual drugs was collected by the Norwegian Pharmacy Association. The prescription errors uncovered, the interventions performed, and the time invested can be analyzed in terms of how much has been invested in interventions. A full health economic analysis, taking outcomes into account, is desirable, but data on outcomes have not been registered.

Purpose

The objective of this study was to find a suitable method to collect and evaluate health outcomes data.

Methods

Published literature was reviewed in search for an appropriate method to collect health outcomes data in a pharmacy practice setting.

Results

We have identified different instruments to record and scale clinical significance of prescription errors and acceptability of intervention. Most of these methods have been used in a hospital setting, and must be adjusted to fit in a community pharmacy setting. No single publication comprised one suitable method for our purpose, but it may be possible to combine elements from several methods.

Conclusions

There is a need to develop a suitable method to collect and evaluate health outcomes data for a health economic evaluation of community pharmacists' interventions on prescriptions. The articles reviewed may form the basis for developing a method.

3mT010

AMBER study -an algorithm-based tool for Medication Management in nursing homes

Susanne ERZKAMP, Olaf ROSE

Background

Medication regimes of nursing home residents can be complex and challenging. Daily workload hampers advanced patient centred care in many cases. Even though clinical pharmacy services can improve the quality of drug therapy, they are rarely established in routine care. Focusing on frequent and relevant problems might be a facilitator to overcome the barriers.

Purpose

To support pharmacists in performing a structured and feasible Medication Review in nursing homes, in an appropriate timeframe, an algorithm is developed and evaluated.

Methods

The study consists of 3 phases and is registered at the German Clinical Trial Register (DRKS00010995). In phase I, semi-structured interviews are performed with healthcare practitioners and patients to determine frequent and relevant problems in the medication process in nursing homes. In phase IIa, a systematic review is performed, following PRISMA-P 2015. Quality of reporting is assessed using the AMSTAR and TIDieR checklists. Considering the results of phase I and IIa, summarised aspects are presented to a Delphi expert panel in phase IIb. The algorithm is adjusted and tested for practicability and effectiveness in phase III in an open, single arm, interventional study. The study protocol follows the SPIRIT 2013 statement. The primary outcome of phase III is the reduction of drug-related problems, which are detected using the tool, and classified according to PCNE V.8.02. Feasibility and reproducibility will be tested.

Results

The results of phase I-IIb led to a preliminary algorithm with 10 steps. It covers for example: chief complaints, interactions, potentially inappropriate medication and medication without indication. First results of phase III are expected in 05/18.

Conclusions

The developed algorithm-based tool for Medication Review considers aspects of clinical practice, clinical experience, best available evidence and expert opinions. Currently, the tool is tested in several nursing homes.

3mT011

Use of medication dispensing records to measure the effect of pharmacist interventions on medication adherence in a community pharmacy setting

Andrea TORRES-ROBLES, Barry DRAKE, Shalom I. BENRIMOJ, Victoria GARCIA-CARDENAS

Background

Pharmacy GuildLink (http://www.guildlink.com.au/) is a company that provides software packages and education to community pharmacies. They also offer a number of adherence programs that outline interventions for specific molecules. Pharmacist are alerted to potential non-adherence through use of the Medindex score and directed to a protocol for intervention. The programs use medication-dispensing records for primary analysis. The amount and complexity of data recorded on community pharmacies require Big data techniques and analytics to determine the effects on medication adherence.

Purpose

To analyse the impact of a pharmacist intervention on medication adherence in patients using rosuvastatin, irbesartan and/or desvenlafaxine by analysing dispensing data.

Methods

A big data set containing records of 2630201 patients from community pharmacies in Australia was organized and validated by using SQL and Python. Patients included in the analysis received an intervention by the community pharmacist and had to be using rosuvastatin, irbesartan and/or desvenlafaxine, with at least 2 dispensings before and after the first intervention. Key indicators used were Proportion of days covered (PDC) and Medication Possession Ratio.

Results

Dispensing data of 18687 patients were analysed (10425 for rosuvastatin, 6214 for irbesartan, 2048 for desvenlafaxine). An increase on PDC after the intervention was observed for all three groups of patients: 15.9%, 16.3%, 18.1%. A decrease on adherence rates during the 12 months post intervention was observed: of 7.9%, 9.2%, and 10.9% respectively.

Conclusions

The pharmacist intervention resulted on an increase of average adherence for all the patients that gradually declines over 12 months. Results suggest that, as adherence drops over time, continuous and enhanced interventions are necessary to not only improve but also maintain adherence over time. Big data is a potential resource to analyse adherence in community pharmacies.

3mT012

Pharmacotherapeutic follow-up of outpatients with rheumatoid arthritis in teaching hospital: process and outcomes evaluation

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Background

The implementation of clinical pharmacy services in Brazil's public health system faces challenges that go beyond national regulatory advances and international recommendations, such as the need to study and apply measurable effectiveness indicators, harmonized with an administrative and social vision.Thus, research service is shown up as a possible method for the evaluation of these services in the country, through the critical and reflexive investigation of the practice, in line with the clinical-humanistic paradigm.

Purpose

To evaluate the quality of the pharmacotherapeutic follow-up service (PTF) of outpatients with rheumatoid arthritis (RA), as well as its potential for implementation in a real-world situation.

Methods

Descriptive, longitudinal and prospective research, which is in the methodological detailing phase, with a perspective of quantitative-qualitative approach, and will be held in the outpatient pharmacy of a teaching hospital. An initial phase of awareness among the professionals involved (physicians, nurses and pharmacists) has been performed. The PTF service will be evaluated through implementation indicators used as intermediate process indicators in relation to the service, clinical and humanistic outcomes. For twelve month follow-up, outpatients will be attended by the pharmacist using the Dader method. The process indicators related to the service to be evaluated: relevance, acceptability, feasibility and fidelity. The process indicators related to clinical and humanistic outcomes to be evaluated: drug-related problems, pharmaceutical interventions with the patient and health professionals, adherence to treatment, quality of life and patient satisfaction. This research project is part of a larger project, prepared by the Pharmacy Department in partnership with the University Hospital's Ambulatory Pharmacy, whose pilot study has been developed. Ethical issues were considered and the research was promptly approved by the Research Ethics Committee of the Federal University of Ceará-Brazil.

3mT013

Medication information received from general practitioners and pharmacies – a cross-sectional questionnaire study

Elisabeth PEDERSEN, Beate H. GARCIA, Kjell H. HALVORSEN, Anne E. EGGEN, Marit WAASETH

Background

Information about medicines is important to encourage adherence in patients but both pharmacists and physicians struggle to meet patients' information needs.

Purpose

To compare patients' perceptions of which medication information they have received from general practitioners (GPs) and pharmacies.

Methods

We conducted a cross-sectional study using questionnaire data from the seventh wave of the Tromsø Study. This population-based health survey was conducted in 2015-16, inviting all inhabitants in the municipality of Tromsø, Norway, aged ≥ 40 years. We included all participants reporting regular medication use (n= 10406). Participants rated their agreement to eight statements on whether they had received medication information from GPs and pharmacies regarding indication, administration, side effects and interactions. Agreement was measured by Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree). Pairwise t-tests were conducted to explore the difference between GPs and pharmacies, overall and within selected disease and medication groups.

Results

Indication was the highest rated information category for GPs (92% agreed), while administration was the highest rated information category for pharmacies (78% agreed). Interactions was the lowest rated information category for both GPs (47% agreed) and pharmacies (47% agreed). Participants had a significantly higher agreement to receiving information from GPs than from pharmacies on all four categories, measured by mean difference in Likert score (SD): indication 0.835 (1.383), administration 0.395 (1.162), side effects 0.178 (1.229) and interactions 0.070 (1.177). Results were similar across all disease groups and most medication groups.

Conclusions

Patients seem to receive medication information to a greater extent from GPs than from pharmacies, particularly regarding indication, but also regarding administration, side effects and interactions. Further analyses will be conducted to investigate whether medication information received is associated with adherence or treatment goal achievements.

3mT014

Pharmaceutical regulation, policy and access to medicines

Lilian WISMAYER, Maurice ZARB-ADAMI, Chiara SCERRI HERRERA, Martina MUSCAT

Background

Access to appropriate medication is a multi-faceted issue which, unless properly understood and managed, has the potential for grave repercussions to public health. Significant pan-European disparities in this area have highlighted the need for research, which should provide a better elucidation of determinants with the potential to influence outcomes.

Purpose

It cannot be acceptable to witness gaps in addressing disease, which could be remedied by more coherent policies. This study, therefore, sought to identify a relationship between pharmaceutical policy, the regulatory infrastructure and access to medicines.

Methods

With this scope, a thorough and in-depth literature review was combined with methodological triangulation designed to gather qualitative and quantitative data. This included both structured and semi-structured interviews with policy-makers, regulators and healthcare professionals, as well as structured questionnaires to medical doctors and pharmacists.

Results

Initial results demonstrate that policy decisions produce disparate levels of access across the European Union (EU), most notably to innovative medication. Member states differ in the way they apply Health Technology Assessments with repercussions to the spectrum of medicines available on national health systems. Regulatory legislation, aiming to ensure appropriate standards of quality, safety and efficacy of medicinal products, may have the undesired aftermath of reducing access, particularly in the smaller member states.

Conclusions

This preliminary study, which is part of a wider research, suggests that barriers to medicines' access are interconnected to pharmaceutical policy, the regulatory framework, and to market characteristics. It is deplorable that patients in the European Union today do not enjoy equal access to medicines, generally acknowledged as a patient right. Further research is planned to identify and evaluate factors which impact on access and to propose harmonised and sustainable methodologies that provide a common decision-making platform to all member states.

3mT015

Pharmacists bridging the gap: Hospital- and community pharmacists' view on transitional care issues

Laura V. JEDIG LECH, Anna B. ALMARSDÓTTIR, Lotte S. NØRGAARD, Trine R. NIELSEN, Charlotte ROSSING

Background

Transition of care from hospital to patient's own home introduces risks, such as loss of medical information. Studies have shown that interventions involving pharmacists can aid in seamless transition of patients. However, fewer studies have focused on pharmacists' beliefs and attitudes towards interventions to improve the discharge process.

Purpose

To identify problems and possible solutions and to gather suggestions for a collaborative intervention for seamless care involving hospital and community pharmacists in the transition from hospital to home.

Methods

Hospital and community pharmacists from the Region Zealand, Denmark were invited to participate in two focus group interviews. The focus groups were conducted using a dynamic interview guide with a moderator and an experienced facilitator.

Results

The focus groups were conducted in June 2017 and consisted of 4 and 7 pharmacists, respectively. The pharmacists identified problems and solutions in three themes; Communication, Collaboration and Administration. The solutions were mainly related to IT -systems, establishing a transition "manager",

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granting access to more information and to a greater extent, informing other professionals about the experienced problems. The pharmacists were positive towards a cross-sectorial collaboration and identified topics such as compliance and better referral to existing services on the community pharmacy. Pharmacists suggested that a collaborative intervention should secure clinical relevance of the pharmacists' work, be interdisciplinary and should be distinguished from existing pharmacist services.

Conclusions

Pharmacists identified transitional problems related to communication, collaboration and administration at the discharge stage. Solutions to some of these problems were related to access and dissemination of information and IT systems. Pharmacists identified several areas where collaboration of pharmacists across sectors could benefit patients and address hospital discharge problems.

3mT016

Nature and frequency of interventions and counselling provided in community pharmacies in Norway

Hilde ARIANSEN, Stine W. RØNNINGEN, Ragnar HOVLAND, Janne SMEDBERG

Background

How do pharmacies supply added value to the community and the individual customers in addition to the actual dispensing process?

Purpose

The purpose of the study was to assess the nature and frequency of interventions and counselling provided during the dispensing process.

Methods

The pharmacy staff in 42 pharmacies reported predefined events, interventions and cases of counselling immediately after each dispensing process.

Results

The pharmacies reported events from 39 864 dispensing processes. The drug was not inaccessible in 5.5% of the processes and the prescription contained errors/deficiencies in 3.4%. The pharmacies handled interactions, contraindications, side effects, allergies and duplicate prescriptions in 3.1% of the processes. The most frequent intervention was talking to the patients. Invalid prescription was the most frequent reason for consulting prescribers. Average consultation time was 6.7 minutes, equally distributed between waiting time and dialogue. Counselling was provided in 60% of the processes and was most often about contributing appropriate use of the medication.

Conclusions

In community pharmacies, substantial resources are put into performing interventions and providing counselling, to ensure that patients receive safe and effective therapy. The study uncovers the need for health economic evaluation of these interventions.

3mT017

Can a two-way automated patient contact intervention improve adherence to medicines? A systematic review

Gemma DONOVAN, Nicolla HALL, Felicity SMITH, Jonathan LING, Scott WILKES

Background

Around half of medications for long term conditions (LTCs) are not taken by patients as directed. Text messaging (TM) and Interactive Voice Response (IVR) technology (communication via voice recognition or keypad input) are both currently used for a variety of health purposes. Software for both of these mediums can automate delivery of messages and respond to patient input, making this technology efficient.

Purpose

To discover if two-way automated TM or IVR patient contact interventions can support medication adherence.

Methods

This narrative synthesis systematic review included studies focussing on adults self-caring for LTCs. Automated TM or IVR to improve medicines adherence must have been the primary intervention. Only studies conducted in high income countries were included. Pilot and feasibility studies were excluded. A comprehensive search of healthcare databases was conducted. Outcomes of interest were adherence to medicines, clinical condition control and patient acceptability. Data was extracted around study characteristics, intervention design and intervention delivery. Two researchers (GD and NH) were involved in screening and data extraction.

Results

43 papers were included covering 37 studies. Most studies were randomised controlled trials (n=25) and conducted in the United States (n=30). 19 used IVR, 10 TM, 2 pager devices and 5 used a combination. LTCs included diabetes (n=8), cardiovascular disease (n=7), hypertension (n=5) and HIV/ AIDS (n=5). Where studied, 70% found an improvement in medication adherence, 55% in clinical outcomes and 79% reported positive patient experience. Only 7 studies included findings from all three outcomes of interest.

Conclusions

Two-way automated communication interventions can be effective and acceptable to patients with a wide range of LTCs. Most were focused on a single LTC and more research is needed to explore how multi-morbidity can be addressed. Future research also needs more holistic evaluation of such interventions to consider effectiveness and acceptability to patients and professionals.

3mT018

Safe medication use in patients with (risk of) impaired renal function: development and implementation of a new pharmaceutical care service

Ellen S. KOSTER, Daphne PHILBERT, Marcel L. BOUVY

Background

In the Netherlands, there are approximately 1 million people with impaired renal function. Early detection and treatment of impaired renal function is important to prevent drug related problems and adverse events. However, to date, renal function of patients using

risk medication is not systematically monitored and when it is this information is not always exchanged between different care providers. The community pharmacist could play an important role in monitoring patients with risk of impaired renal function and thereby preventing medication related problems.

Purpose

Our aim is to evaluate the effect of a new pharmaceutical care service to improve safe medication use in patients with (risk of) impaired renal function.

Methods

In this project a new care intervention - the Kidney Check & Interview - is developed (manual for risk stratification, verification of actual risk and guideline for patient counseling), implemented and evaluated in 50 Dutch community pharmacies. We focus on patients with a known or increased risk of reduced kidney function:> 65 years, diabetes and / or cardiovascular disease. The first step in intervention development is consultation of an expert panel (internist, nephrologist, general practitioner, 3 community pharmacists and an outpatient pharmacist).

Results

Experts indicate that especially good collaboration with other healthcare providers, primarily the general practitioner, is of great importance. Pharmacists must also be well-trained. Implementation of a Point-of-Care test in the pharmacy has no priority, focus should be on exchange of patient data. These results will be used to develop the intervention.

Conclusion

The process of medication control for patients with (risk of) impaired renal function is far from optimal and varies between pharmacies. This project contributes to the active detection and monitoring of patients with reduced kidney function by public pharmacists. With proven improved care, this project may give rise to scaling the care intervention to national implementation.

3mT019

Exploring deprescribing opportunities for community pharmacists

Clara KORENVAIN, Linda MACKEIGAN, Katie DAINTY, Sara J. GUILCHER, Lisa MCCARTHY

Background

The process of stopping medications, or deprescribing, is gaining increasing attention as a way to reduce the use of harmful or unnecessary medications. However, deprescribing is challenging for patients and prescribers. Community pharmacists can potentially ease some of these challenges through involvement in the process because they likely encounter deprescribing opportunities regularly and have the medication expertise to address them. However, few studies directly describe their actual or potential roles in deprescribing.

Purpose

To explore community pharmacists' current involvement with deprescribing in Ontario, Canada, and potential opportunities for enhancing their involvement. Findings will inform the design of interventions to enhance community pharmacists' participation in deprescribing.

Methods

We conducted qualitative telephone interviews with a convenience sample of 17 Ontario community pharmacists selected to achieve variability in years of experience, pharmacy position (staff/management), and geographic location (urban/rural). Concepts from the Behavior Change Wheel framework from implementation science informed interview topics and initial coding. Three interview transcripts were coded independently by four investigators to develop a codebook, and the remainder coded by one investigator, who then used thematic analysis to generate preliminary themes.

Results

Participants were involved with deprescribing in their practices to variable extents. Preliminary themes are: (1) pharmacists' conceptualization of deprescribing affects how they identify and act on deprescribing opportunities; (2) tensions between pharmacists' health professional and business roles challenge their ability to prioritize deprescribing in daily practice; and (3) suboptimal access to patients' medical information from prescribers influences pharmacists' willingness to assume responsibility for deprescribing.

Conclusions

Preliminary findings support recommendations for optimizing community pharmacists' current roles in deprescribing by focusing pharmacists' time on steps in the process that they can contribute to most efficiently and effectively (such as monitoring). Future research is warranted to examine strategies to expand their roles, such as by eliciting prescriber support and engagement.

3mT020

Implementation science to promote the contribution of the Swiss community pharmacists in chronic care management

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Background

In 2014, the Swiss Health Authorities recognized the benefit to expand the role of the pharmacists in primary care setting, and notably in person-centred, interprofessional practice models. For the first time, they acknowledged the need not only to assess the effectiveness of a program, but also to formulate recommendations for favourable framework conditions to its implementation. In this context, this PhD illustrates the use of the implementation science to support the development and dissemination of effective and sustainable collaborative pharmacy services in chronic care management.

Purpose

To assess the implementation process and the effectiveness of a pharmacist-led, interprofessional chronic patients support program (medication therapy management, electronic adherence monitoring, regular motivational interviews and feedback reports to physicians) for type 2 diabetics taking at least one oral medication.

Methods

An hybrid implementation-effectiveness analysis using 1) data from a prospective, multicentric, observational study, 2) the theoretical ""Framework for the Implementation of Services in Pharmacy"", 3) a mixed qualitative and quantitative method. Outcomes are assessed at each phase of the implementation process: exploration, preparation, operation, sustainability.

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Results

Twenty-seven of forty-one volunteer pharmacies delivered the program to 212 patients. Mean inclusion per pharmacy was 8 ± 6 patients [range: 1-29]. Nine pharmacies reached the target of 10 patients. Main influencing factors identified are pharmacists' skills, the pharmacy owner support, the interprofessional local networking and the program profitability.

Conclusions

The current evaluation of the implementation phases will determine which priority framework conditions (pre- and post-graduate training, remuneration, regulations, etc.) are needed to successfully transform the traditional community pharmacy practice towards the delivery of person-centred and collaborative pharmacy services.

3mT021

Pharmacist-led medication review with follow-up on elderly patients in cardiovascular disease risk factors using polypharmacy: a pilot study

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Background

It is estimated that 65% of older adults have high risk of developing Cardiovascular Diseases (CVD) having uncontrolled risk factors. These patients often use polypharmacy and only 30% of them are adherent to their medications, causing Negative Outcomes associated with Medications (NOMs). Care provided by pharmacists is one of the proposed solutions to address this. Pharmacist-led Medication Review with Follow-up (MRF) is a cost-effective strategy. Nevertheless, there is no Chilean data of to support the implementation of this pharmacy service.

Purpose

The aim of this study was to evaluate the feasibility of implementation of MRF in Chilean primary care.

Methods

A pilot study was carried out in eight health centres (4 in each arm). For 3 months, the intervention arm used the Dader method of MRF adapted to the Chilean primary care. Inclusion criteria were adults older than 65 years old, using polypharmacy and included in the CVD Chilean program. Clinical outcomes for CVD risk factors were assessed like systolic and diastolic blood pressure (SBP and DBP respectively), HbA1c, fasting glucose, total cholesterol (TC), LDL cholesterol, triglycerides, among others. In addition, medication adherence, barriers, and facilitators for providing the service were evaluated.

Results

66 patients were recruited. Reductions were found on SBP (11.21mmHg), DBP (6.49mmHg), TC (57.57mg/dL), LDL cholesterol (36.05mg/dL) and triglycerides (93.73mg/dL). Main barriers were lack of pharmacists experience, of a counseling area, of time to provide the service, among others.

Conclusions

Through this pilot study we could identify barriers for the provision of MRF. Also, this service could have a positive impact in the Chilean context. These results will be used to improve the procedures for the main study.

3mT022

Development, dissemination and evaluation of two pharmacy-based patient support programs (fingolimod ; immunoglobulin) enhancing patient safety and medication adherence

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Background

The constant demographic, societal, health technologies and medicine evolution, as well as the increasing prevalence of chronic diseases in a still too fragmented health system, calls for an urgent and fundamental change. WHO addressed this call in 2016, emphasizing the need of reengineering health systems toward more people-centred and integrated health services. Patient Support Programs (PSPs) are innovative models of care responding to this WHO global strategy.

Purpose

To develop, disseminate and evaluate two pharmacy-based PSPs supporting patient safety and medication adherence.

Methods

One PSP was tailored for fingolimod, first oral drug for Multiple Sclerosis (MS) but associated with safety issues. It combines regular motivational interviews, electronic longitudinal adherence monitoring and pharmacovigilance activities, carried out in collaborative practice between pharmacist, neurologist and MS-nurse. A secured web platform and a trained pharmacy network enable the Fingolimod-PSP (F-PSP) dissemination. The other PSP is addressed to patients with subcutaneous self-infusion of immunoglobulin (SCIg) requiring a specific therapeutic education. It was designed in three interprofessional steps: inclusion in coordination with the physician, structured education together with a nurse at patients' home and long term-support with phone calls and annual administrations under supervision.

Results

Seventy patients have voluntarily joined the F-PSP (2013-2017). Early results showed a high medication adherence among these patients. Moreover, in a qualitative study performed in 2017 patients reported a positive experience with the F-PSP. They considered it as a comprehensive and complementary approach to their medical care. The SCIg-PSP has involved 13 patients since 2012. An economic evaluation demonstrated that the SCIg-PSP is cost-effective, compared to the hospital-based intravenous infusions.

Conclusions

These PSPs are intended to be generic models for any complex medication therapies, transposable as advanced pharmacy services.

3mT023

Effects of a clinical medication review focused on personal goals in older patients with polypharmacy; results of the DREAMeR study a randomized controlled trial

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Background

A clinical medication review (CMR) can reduce drug-related problems (DRPs). There is little evidence for effects on clinical outcomes. To improve quality of life a CMR could be more focused on health-related complaints and wishes of older persons.

Purpose

The aim is to investigate the effects of a CMR, focused on personal goals, on quality of life and health-related complaints in older patients with polypharmacy.

Methods

The DREAMeR-study was a randomized controlled trial performed in 35 community pharmacies located throughout the Netherlands. 629 persons aged 70 years and over using seven or more chronic drugs were randomly assigned to usual care or to receive a CMR. They were measured after three and six months. Main outcome measures were: health-related quality of life (HR-QoL) and number of health-related complaints. HR-QoL was measured with EQ-5D-5L (utility) and EQ-VAS. Complaints were defined as number of complaints independent of severity and number of complaints with impact on daily life (VAS-score ≥5 and influence on daily life on 5-point Likert scale: moderate-severe). Also the number of drugs in use were measured. Effects were analysed with linear mixed model analysis.

Results

Over six months, the utility measured with EQ-5D-5L remained equal between both groups (β=-0.0011; p=0.90) and the total number of complaints did not change (β=-0.14; p=0.12). The self-rated HR-QoL (EQ-VAS) increased in the intervention group (β=1.7; p<0.01) compared to control group and the number of complaints with impact on daily life decreased in the intervention group (β=-0.17; p=0.029). The number of drugs in use decreased over time in the intervention group (β=-0.054 per month; p<0.05).

Conclusions

A CMR focused on personal goals, improves the self-rated quality of life of older patients with polypharmacy and reduces the number of health-related complaints with impact on daily life, while the number of drugs in use decreases.