

A New Management Healthcare Systems to Efficiently Reduce Healthcare Costs: Clinical Pharmaceutical Care, Medical Laboratory Imaging, Nuclear Medicine: A Synergy Instruments

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Abstract

ASHP Guidelines: Clinical pharmacy service, in which pharmacist provide direct patient care are important foundation for successful medication utilization management program focused on managing drug cost. The purpose of this work is to analyze the advantages played by ward clinical pharmacists as stabile members of medical equips with physicians, other healthcare professionals and nurse. Using the data obtained by diagnostic activity (medicine laboratory and imaging) to choose and monitor the therapy clinical pharmacist can reduce therapy costs in the same time improve patients clinical outcomes, and increase of patients quality of life and safety. The application of management and ICT principle can give significant reducing in healthcare process.

Keywords: Clinical pharmaceutical care; Clinical pharmacist; Imaging; Medical laboratory; Hospital settings; Medication cost; Clinical outcomes; Innovative therapy; Management, Budget analysis

Introduction

This statistic shows the U.S. national *health expenditure*, amounted total health expenditure 3.0 billion U.S. dollars. The total nominal spending on medicine in the United States 2010 in total medicine expenditure in the United States was approximately 316 billion U.S. dollars and in 2015 more than 400 clinical pharmaceutical care, MTM, and consultant pharmacy service can be the right instruments in today healthcare systems involved in the therapy decision making systems [1-3]. In order to reduce costs the clinical pharmacist presence in multidisciplinary medical team improves some clinical and economic outcomes as demonstrated by many scientific articles (30% reducing cost by drugs and medical devices). This is an opportunity public authorities', patients and insurance to contain costs (drugs, medical devices, therapy errors and other) with the introduction of new and innovative drugs, medical and new diagnostic procedures added to the more complex pharmacological therapies and polytherapy there is a great need of clinical pharmacist service [4,5].

Reduction of medication therapy errors is demanded by patients and health authorities, government, insurances and other institutions. Multiprofessional healthcare team is the right key way of work in today health care systems [6].

A clinical pharmacist contributes in many scientific and healthcare fields: hematology oncology, toxicology, nuclear medicine, infectious diseases, emergency medicine, ICU, nephrology, nutrition service, pain management and others. to create an efficient team, the clinical pharmacists must improve their knowledge and skills, so they will be prepared to use the data provided by imaging, medical laboratory, biochemistry, microbiology toxicology, molecular biology, genetic and immunohistochemistry labs [7-14].

The stabile presence of clinical pharmacists in medical equips give a real difference in the management of new and innovative pharmacological therapeutics, especially when there is to have heavy cost containment [15,16].

This is not limited to hospitals settings but we think also in community pharmacy; the clinical pharmacy can help patients,

physicians, nurse, as a consultant in a homecare, out of the hospital (Great opportunity when patients hospitalization is not necessary) in the complex world of drugs therapies A consultant pharmacist for patient can be a crucial point in the different medical healthcare specialty [17,18].

Adding the clinical pharmacy skills and expertise in medicinal chemistry and pharmacology to his/her clinical work, we can have an improving the patients' clinical outcomes, and on patients quality of life [19-22]. The hospital, institutions, the government or insurance can receive a great benefit from this new working system (Economics monitoring shows relevant reduction in therapy and diagnostic costs) [23-25].

In ITALIAN Hospital MOLINETTE experience in 2007 "farmacista di reparto PROJECT" they have obtained reduction in costs for drugs 41% (607.000,00 € less in ward) [26]. And reduction possibility of pharmacological therapy errors Del 70% (prescriptions, monitoring, subministration, dilution) (emergency surgery, nephrology dialysis transplants, Oncohematology, urology UTI In the Italian project FARMACISTA DI DIPARTIMENTO during 2010-2011 (collaboration between FOPI, SIFO e il Ministero della Salute organization) was obtained this results: reduction since 88% drugs ward stokes and reducing 30% possibility of errors in drug therapy adverse events, reducing healthcare costs and reducing recovering days (oncohaematology), reducing drugs wards stores from dal 32% and since fine all'88% (five hospital Torino, Padova, Ancona, Bari, Taormina) Reduction costs about 35% obtained in this experience and the significative reduction in possibility of errors represent a fundamental baseline to start [27-32].

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Materials and Methods

We observe and analyze some relevant biomedical works involved in the function of clinical pharmacist membership in the medical equipments and the results as follows:

Bond et al., in 2007 clinical pharmacy service, pharmacy staffing, and hospital mortality rates. "In seven hospitals, clinical pharmacy service reduces mortality rates in a significant way [1,33].

Chisholm et al., 2010 in "Pharmacist's effect as team members on patient care: systematic review and meta-analyses": pharmacists provided direct patient care has favorable effects across various patient outcomes, health care settings, and disease states. (Significant $p < 0.005$) [2].

2015 Pharmacist cognitive service and pharmaceutical care: today and tomorrow outlook UKJPB M Luisetto et al., *UK J Pharm and Biosci* 3: 71. "The goal of this article is to improve the clinical pharmaceutical care application in many countries with an advanced healthcare system to provide more rational drug therapy or diagnostic systems to patients.

When it is not possible, it would be a good idea using pharmaceutical care philosophy, in definite populations such as: severe disease, critically ill, patients with multiple illnesses, transplants, immunosuppression, oncology or other serious conditions, at least when the treatments cost a lot. And in these studies, we observe a general positive influence of pharmacist's presence in the medical team also in different clinical outcomes [3].

Ward pharmacist economical assessment and actions: tools and instruments, managements and Health economics principles, pharmacoeconomy, healthcare management resource with rational allocation cost analysis -cost- benefit, cost efficacy, cost effectiveness (analytical way, cost center) budget control, budget impact analysis, Appropriateness, Regulatory rules (central reimbursement classification, limitation note etc.) formulary management, drug restriction policy, Systematic approach or task force, team group, project management, prioritizing activity, management strategies, time management, drug budgeting (formulary/non formulary), Cost containment targets defined, Medication cost management project selection (ex. high expensive or high budget impact therapy), Benchmarking, Data analysis, ICT management, Dose unit systems (ex. to reduce waste), ICT, Computerized prescriptions systems, Collaborative working group (team, central pharmacy, hospital management) [31-33].

Ward clinical pharmacy service, clinical pharmacist with advanced training dedicated to cost management project, Monitoring, Buying strategy, Use of Evidence based criteria, biomedical literature use, Generic drug intensive use, Drug day (ex to reduce waste), IV OS switch (to reduce cost), IV waste reduction, Communication skills, professional social media, Committee participation (departmental), Updating.

Results

We observed in this bibliography an overall general positive effect of the stable presence of pharmacist in medical teams with significant enhancement in different clinical or economic outcomes and reducing healthcare costs.

Discussions

The observed results in this studies we think were due to medicine laboratory and imaging knowledge and skills of the clinical pharmacist, as stable part of the equip in a hospital setting [4-8].

A rapid and efficient introduction of clinical pharmacist in medical equip whit great economic results can be obtained using specific psychological and behavior skills and Professional social media skills to make link between researcher and the applied healthcare professional [9].

We have noticed that the diagnostic skills (imaging and medicine laboratory) of the ward clinical pharmacist have resulted in a significant impact on costs reducing, pharmacological therapy and its monitoring.

Conclusion

For cost reduction and patient safety the hospitals must engage and ask an active role from clinical pharmacists, also in fields as medical laboratory and imaging and other Discipline involved in therapy management.

Isn't time for government, institutions health authorities, university, hospitals, to deep use the skills and expertise of ward clinical pharmacists to reduce the patients' life risks, improving clinical outcomes with cost savings, when there is a high rise of the innovative treatments costs?

We think that a management system involved in clinical pharmacists with active participation in therapy Decision making process will be the right keywords in today and future healthcare.

We submit to the scientific community and professionals "Clinical Pharmaceutical Care" as new management discipline.

Discipline introduced to improve clinical and economic endpoint in pharmacological therapy reducing therapy error with a more rational application of human resource in medical team (clinical pharmacist). This innovative approach takes advantages using the Management and ICT principles.

We ask also to university and international organization involved in hospitals accreditation and University to recognize this new health care discipline in professional activity.

We think that core training must include principles of Management, ICT, professional social media use behavior and psychological skills in team working to be added to the classic clinical pharmacy curriculum studiorum.

Philosophy theory but also practical applications (rotations and management experience in field) we strongly ask to public or private institution to apply this clinical pharmaceutical care a new management discipline to obtain more rational drug therapies and the right way to use the clinical pharmacist human resource time.

Conflict of Interests

There is no conflict of interests from authors.

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