

## An Useful Instrument in Future Health Care Systems

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Received date: May 07, 2016; Accepted date: May 09, 2016; Published date: May 17, 2016

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### Editorial

When clinical pharmacist takes really active part in medical team we have some relevant effects: in ex. In reducing mortality rate in ICU on in improving other clinical outcomes [1], so is important to analyze some aspect of clinical pharmacist work in order to give more rational pharmacological therapies or medical devices uses. Introducing management and ICT instruments.

In this editorial, under the light of this result in improving Clinical outcomes, we like to consider some relevant aspect of clinical pharmacy - pharmaceutical care profession and the impact in patient pharmacological therapy.

From 1928 pharmacist in USA starting to apply clinical pharmacy to patient in hospital settings. In 1960 E. white apply in its pharmacy store a primitive pharmaceutical care systems.

In last year's hospital pharmacists open their knowledge also in medicine laboratory and imaging, discipline strictly involved in pharmacological decision making process and monitoring activity.

Today healthcare is under great transformation whit introduction in therapy of novel molecules, novel delivery systems, radio drugs, mabs, genic therapy and other medication systems to add to the classic drugs therapies. Also innovative medical devices give great opportunity in therapy world and pharmaceutical competencies of clinical pharmacist in materials are a very high resource for hospital physicians and medical equip.

The clinical pharmacist using their competencies and expertise (medicinal chemistry, pharmacology, pharmacokinetic, delivery systems toxicology, medicine laboratory and other) added whit new competencies in imaging or molecular biology or genetic can give a great contribute in patient healthcare improving clinical outcomes but containing costs as requested by actual economic cycle.

Today therapy can be very complex, patient can be in critically ill status, transplanted and with other severe condition that require a specifically competence in clinical pharmacy and ph. Care field to be healthcare consultant. Also etiology for many diseases is clearer than past with relevant aspect in molecular biology, receptors, structure activity relationship.

But there is the need to have a new complex management system to make more efficacies pharmaceutical care in hospital setting in order to rationalize the Human Resource clinical pharmacist, ph. care philosophy cannot be applied towards for all hospital patients and clinical pharmacy is more dedicated to classes of disease (Not strictly required a single level patient action).

We think that Priority is to strongly monitoring particular kind of patient: severe polypharmacy, transplanted, immunodepressed, and other relevant conditions or when the therapy cost a lot in this

situation ph. Care activity can give relevant results in not expensive way.

But even clinical pharmacy and ph. Care have showed in this year some limits and a new discipline named "Clinical pharmaceutical care" [2] can give the right response. This new management healthcare discipline adds the advantages of the other two single discipline reducing their single limits.

An improve in diagnostic field for pharmacist is a very high golden endpoint because several pharmacological therapy improve when used TDM, med lab data or imaging) The use of innovative therapy as mabs, radiomabs, genic therapy, novel delivery systems require strong competencies in molecular chemistry, metabolism and other that can positive influence the drug pharmacodynamics and kinetics and final therapy intent on patients. This competencies and expertise are not present in high level in other healthcare professional's curriculum.

POLITHERAPY is used in several diseases and improve efficacy but often making more toxicity in patients and ph. Care control can reduce it in more rational way. Today more than pasts we have more aggressive therapy (oncology cycle) that can give more results than past but with relevant toxicity to be rightly monitored by clinical pharmacist. (Reducing side effects and improving therapy intent). The medicinal chemistry competences in targets, receptor, intra or extra cellular activity, target organotoxicity and other are instruments correctly managed by clinical pharmacist. Competencies to be added to clinical competencies in specific pathology or disease: main focus must be the patient and not only the disease. So medicinal chemistry, pharmacology, toxicology added to molecular biology, imaging and other science to correctly make efficacies today drugs therapy.

Other aspect to be considered: literature demonstrate that Pharmacist presence in medical equip reduce mortality rate in ICU: Is ethical not to have in stabile way clinical pharmacist in decision making systems in therapy field if results on clinical outcomes is better than whit out? (For example transplant: in which very high cost therapy are used and whit high mortality and low rate of organs to be transplanted).

Is ethical not rationalizing cost in today therapy in which some expensive therapy can give more results than old therapies? The right use of drugs cost can give more resource for the efficacy therapies.

Decision making systems today and in future require a multidisciplinary equip in order to obtain more efficacy and effectiveness. This way of work need to have instrumented to obtain rapid collaboration between the different healthcare professional some psychological and behaviour instrument can be used [3] for team working empowerment. We think that management tools can help in this process as some ICT instrument.

Technical instruments help clinical pharmacist activities; dose unit systems informatica medication prescription systems, integrated logistics, oncology unit's sterile robots and other. Clinical pharmaceutical care required more use also of professional social media to meet researcher in more efficient way. And in the same time clinical pharmacist can be a scientific edge between physicians and other professional and patient in therapy filed. PH care management can be useful instruments to have more rational therapy systems. Every drugs is registered for specifically indication, at the same time every drug to be a rational therapy need a rational decision making system that require a multidisciplinary team that can cover all aspect of pharmaceutical molecular metabolism kinetics and pharmacodynamics this create great possibility for clinical pharmacist but it must increase expertise in field of diagnostic (lab medicine and imaging) for the high relationship whit drug therapy.

The old algorithm was "physicians - patients - classic pharmacist and drugs "today it must be "patient physicians - clinical pharmacists (as consultant) and drug."

The clinical pharmacist have the knowledge of drug metabolism, pharmacodynamics and kinetic added to toxicology aspect linked to pharmaceutical formula and SAR, receptor and other. Conjugated with clinical competencies it can be very helpful. Ebm and risk management is regularly used in medicine and if added to new drug targeting, new drug delivery systems, new medical devices and new diagnostic procedure added to a really modern therapy decision making systems we can have a compulsive more efficient systems.

There is also the need to strongly link research to the practical application and clinical pharmacist can be the right edge. ICT management, professional social media and other instruments can give the right difference.

Often clinical pharmacist are under use today in clinical activity but is time to be considered at the right level (competencies, teorical practical, psychological, management, ict) patient, healthcare organization , institution government and international org need this approach.

A last question: is request clinical pharmacist presence in clinical trial for drug registrative use? If the pharmacist presence in medical team gives improving in some clinical outcomes why is not request by regulatory clinical pharmacist presence in registrative trial?

## References

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