DOI: https://doi.org/10.53555/nnpbs.v2i4.703 **Publication URL: http://nnpub.org/index.php/PBS/article/view/703**

TERTIARY PHARMACEUTICAL CARE SERVICES; BETWEEN FACTS AND REALITIES

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Abstract: -

Pharmacy practice is dynamic, evolving and requires high level of drug knowledge in clinical judgment, decision making and advanced skills in actively and systematically identifying and resolving patient's pharmacotherapy problems for desired outcomes to be achieved in patient care. This study organized literatures and identified the evidence based and ever increasing roles of pharmacists in tertiary pharmaceutical care. Literature search was conducted in Embase, Medline and Cochrane for evidence based studies describing pharmacist's tertiary pharmaceutical care. Studies were selected based on their relivance to the subject, existing theories and models, and were summarized based on qualitative level. Results indicated that clinical pharmacist led pharmaceutical care improved clinical, economic, and humanistic outcomes in tertiary care settings. Pharmacists' roles have evolved from a product to cost effective patient oriented services.

Keywords*: - pharmaceutical care, model, pharmacist, health care, evidence-based, outcomes*

INTRODUCTION

Pharmaceutical care is "*the responsible provision of pharmacotherapy for the purpose of achieving definite outcomes that improves a patient's quality of life."* The 21st century training of pharmacists has equipped her with necessary skills and professional abilities in patient care in line with global best practices, a paradigm shift from the former product oriented care. Tertiary pharmaceutical care (TPC) is a specialist PC services which involves the most complicated, comprehensive decision and complex care especially that which involves critical care. It involves the integration of fundamental, secondary PC services in addition to tertiary PC services in complex clinical decision making to resolve patient's pharmacotherapy needs in order to bring about the desired outcomes. These interventions resolve medication adherence, resolve drug therapy problems, promote rational use of drugs, and improve economic, clinical, and humanistic outcomes. Medication and prescription errors remain leading causes of death in our hospitals today [1, 2, 55]. In complex and critical care, the chances of fatalities associated with prescription and medication error increases, jeopardizing the chances of patient's survival. This informs the need for tertiary PC for critic audit trail and prevention of fatalities associated. Studies and clinical data revealed that pharmacist led drug therapy management can reduce medication
therapy problems in a tertiary care setting [3, 4, 5]. The need for clinical pharmacists' controlled tertiary care is becoming increasingly obvious in our hospitals today with the increasing number of casualties associated with preventable medication errors. This study organized literatures and identified the evidence based and ever increasing roles of pharmacists in tertiary pharmaceutical care.

Scope of tertiary pharmaceutical care

Tertiary pharmaceutical cuts across pharmaceutical care services rendered from the emergency room to the theatre, intensive care unit, recovery room, and ward, in addition to follow-up of patients and collaboration with other health care givers. In the process pharmacists take admission histories, counsel patients, educate patients on clinical matters relating to drugs and life style modification, carry out medication management, reconciliations, and individualization of patients drug therapy. This is in addition to other activities which include identification and resolution of drug therapy problems especially dosage adjustment for patients with compromised kidney and liver, therapeutic drug monitoring, participating in patient care rounds, responding to drug information requests, conducting patient reviews and documentation. They carry out health care audits, pharmacotherapy research, therapeutic drug monitoring, patient reviews, drug use education continuity of care and outpatient monitoring [6, 7, 8, 9, 10, 11]. This is a dynamic process, which can progress to the total pharmacy model depending on the nature of the health care environment and opportunities at any given time. The positive impact of pharmacist's intervention on treatment outcomes was evident after a three years pilot study. Other studies conducted in other tertiary care areas of pharmaceutical care ranging from perioperative care, antibiotic prophylaxis, orthopedic care, further validated the effect of PC on patients' outcomes [12, 13, 14, 56]. This compelled the Chinese governments health care reform policy enforced and mandated the unhindered services of clinical pharmacists in all secondary and tertiary hospitals [15, 16, 17]. These are milestones in Chinas health care delivery reforms. The scope of pharmacy training today has been broadened to accommodate vast knowledge of diseases, clinical decision making with treatment protocol, management of drug use policies, patient care, and assessment in chronic disease therapy [18].

Tertiary pharmaceutical care residency program

Pharmaceutical care residency training and specialization now cover primary care, general internal medicine, surgical intensive care, anticoagulation therapy, mental health, surgical intensive care, oncology, tissue transplant, pharmacy practice management, and intensive care. Longitudinal rotations trainings and postings cover cardiology, endocrinology, geriatric care, pulmonary care, hepatology, nephrology, pharmacy administration, and women's health. Many new areas are still evolving [19]. The prescribing right for pharmacists is presently gaining grounds through legislation in countries like New Zealand, Unites States of America, Canada, and United Kingdom. Prescribing authorities varies with the clinical pharmacy scope of the country at undergraduate and postgraduate levels. This was not so before the advent of Non-Medical Prescribing (NMP) when it was the exclusive right of dentists and doctors [20, 21, 22, 23, 35]. This has led to the better utilization of pharmacists clinical skills in patient care, full incorporation, and autonomy in patient care and improved outcomes [24, 25,].

Impacts of tertiary pharmaceutical care

Extensive intervention studies have been carried out which validated the impacts and importance of tertiary pharmaceutical care services in different areas of health care delivery ranging from critical to ambulatory care. There was significant increase in influenza vaccination rate in highrisk patients from 28% to 54% in an unblended single intervention study [26]. PC medication education counseling, monitoring and insulin initiation and adjustment in pre-test- post-test intervention study which lasted for 8months led to significant decrease in glycated hemoglobin, fasting and random blood sugar [27]. A 12mnthsw randomized control trial of PC intervention with refill reminder and unit dose dispensing led to significant adherence in the use of hospital services and emergency room visit in the intervention group [28]. This and other studies have demonstrated the cost–effectiveness of pharmaceutical care intervention in chronic disease management [29, 30, 31]. A nonrandomized prospective study in a pharmacist- managed clinic showed significant improvement in both primary and secondary endpoints. This include glycated hemoglobin, triglycerides, low density lipoprotein cholesterol, high density lipoproteins cholesterol, level of micro albuminuria, diastolic and systolic blood pressures [32, 33].TPC services is essential for any person taking any form of medication, in poly pharmacy or in chronic disease states [34]. Regardless of the area of care the clinical pharmacist recruit patients and establishes collaborative relationship with patients and physicians, obtain the necessary data using valid and specific assessment parameters. He goes on to formulate regimen and design primary and secondary disease prevention plan that best suites patient's condition while promoting adherence and strategies to

motivate and promote patients self-management plan. In a community setting, recommendations, or referrals are made to patients' primary providers' e.g. podiatrist, dentist, dermatologist, optometrist, etc especially for patients who have developed complications or added new therapeutic agents. These is without prejudice to setting realistic goals towards predetermined outcomes and develop plans for follow up while tailoring the interventions to individual patients need and employ necessary technologies to implement evaluation plan and documentation [36, 37, 38, 39, 40, 41]. This comprehensive PC services are obtainable in different disease states like lipid management, hypertension, diabetes, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), coronary heart disease, asthma,
arthritis, etc [42, 43, 44, 45, 46, 47, 48]. Problems detected and solved could be potential problems taken care of before their manifestation or actual problems, which are resolved during their manifestation. A typical example is in drug therapy problems usually associated with wrong drug, adverse drug reaction, inappropriate adherence, dosage too high or low, and need for additional drugs. These interventions lead to improved clinical, economic, and humanistic outcomes [49, 50, 51, 52, 53]. The practice is patient centered. Like a risk manager, he optimizes the goal of therapy from a while taking responsibility for outcomes of drug therapy [54].

Conclusion

Pharmacists new roles in clinical care involves the responsible use of advanced pharmacotherapeutic skills and clinical decision making in resolving patients drug therapy needs to promote treatment outcomes. Evidence based pharmaceutical care services in tertiary care setting. The practice is increasingly becoming a global phenomenon due to its scientifically proven benefits in acute and chronic disease states. Policy reviews, institutionalization, and determination to stem preventable morbidities and mortalities associated with pharmacotherapy in our health care facilities today all in the benefit of patients who occupy the center of care.
Pharmacists now implement cost effective, complex, and high skilled clinical services.

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