

Strategies for Quality Assurance in Pharmacodynamics Practice in Emerging Economies

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Abstract

Over the last decades pharmacodynamics practice has not yielded the needed expectations in terms of enhanced quality assurance in service delivery from the study of the biochemical and physiological effect of pharmaceutical drugs on an organism. This often has made pharmacodynamics witness besetting challenges of ups and downs among practitioners. It is against this background that this paper was determined in providing strategies for quality assurance in pharmacodynamics practice in emerging economies; strategies such as collaboration/partnership; public awareness; adherence to professional ethics; training/retraining and equipping of institutions involve in pharmacodynamics with needed facilities were taking into consideration by the researchers as an avenue for quality assurance.

Keywords: Quality Assurance; Pharmacodynamics; Emerging Economies

Introduction

Quality assurance is a veritable managerial term used to depict the need to raise the standard of a service to best suit the interest of the end user. In similitude with the forgoing it is geared towards consumers appreciating a particular services due to its invaluable content and quality associated with the said service. In same view [6], supplemented that quality assurance is the maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production. It is concerned with certain minimum standards been achieved in the production of goods and services [7]. According to [8] quality assurance consists of all the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfill requirements for quality. Quality assurance is the guarantee of confidence and certainty by a programme of study given by an institution that standards and quality are being maintained and enhance [6]. In correlation with the forgoing, it is the process of creating an out-

put/ services in accordance with established norms and standards which the society appreciates and are willing to pay for, due to its standard. Hence, it is the desirability of a given outcome by citizens of a country due to the meticulousness involve in the processes of arriving at the outcome. Similarly, it can be view from either internal or external perspective; the internal involves the processes, methods, techniques and ethical norms applied in arriving at the outcome; while external entails people's desirability or appreciation of the outcome of the service render or goods provided. Quality assurance is very important in the medical field because it helps to identify the standards of medical equipments and services [9]. In light of the forgoing [8], enunciated that quality assurance is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers errors prevention.

Pharmacodynamics is the study of the relationship between the concentration of drug at a site action and the biochemical and

physiological effect [1]. In same vein, pharmacodynamics can be viewed as a branch of pharmacology that adopt a scientific enquire to study the biochemical and physiological effect of pharmaceutical drugs on an organism. It is branch of pharmacology that relates drug concentration to biology effect [2]. According to [3], pharmacodynamics (sometimes describe as what a drug does to the body) is the study of the biochemical, physiologic and molecular effects of drug on the body and receptor effect binding (including receptor sensitivity), post receptor effects, and chemical interactions. Pharmacodynamics refers to the relations between drug concentration at the action and the resulting effect, including the time course and intensity of therapeutic and adverse effects [2]. Vividly [4], noted that the field of pharmacodynamics studies how liquid (endogenous or exogenous), such as a hormone or a neurotransmitter, binds to its receptor to produce a pharmacological response. According to Sousa, *et al.* pharmacodynamics studies the relationship between the drug and its receptors, its mechanism of action and therapeutic effect [5]. Similarly, pharmacodynamics is concern with factors that affect the ligand-receptor binding. Signal transduction is the cornerstone of pharmacodynamics [4]. Pharmacodynamics is targeted at ensuring an organism positive response to pharmaceutical drug under prescription, as a result of in-depth analysis of the drugs component. In light of the forgoing [2], noted that the major goals of pharmacodynamics are to determine the proper dose to be administered to elicit the desired effect while avoiding toxicity. It is the study of what drug does to the body of an organism. This makes it to be a vital tool in the field of medical science and among pharmacologists hence is a study that is geared towards improving public health and similarly increases performance of the health sector in emerging economy.

Strategies for quality assurance in pharmacodynamics practice in emerging economies

In emerging economies of the world, for pharmacodynamics to attain its optimal goals and objectives of studying the effect of drug on organism. The following areas are consider deem noting:

- Collaboration and partnership:** Collaboration and partnership is a veritable avenue for actualization of a predetermined goals and objectives. Pharmacodynamics is a complex study on drugs that require practitioners to have keen partnership in other for them to ultimately performance their duties in the field of pharmacy and other related science field effectively and efficiently. It is mostly believed that no man is an icon of
- knowledge, hence partnership and collaboration among practitioners; government; non-governmental agencies and the international community is a prior avenue for quality assurance. Similarly, such partnership may involve stakeholders from industries such as academic institutions, patient's advocacy groups, government agencies and others [10]. In consonance with this fact, collaboration and partnership will assist pharmacodynamics practitioners in sharing idea and knowledge among themselves in other to increase their productivity in the course of carrying out of their professional jobs. In same similitude [10], submitted that strategic partnership helps to enhance the efficiency and quality of medical product development, evaluation, and manufacturing through scientific advances the 'critical path'. Additionally, it involves a unionism of more than two practitioners for proffering solution to the inherent problem they might face in the process of conducting a test on a particular case of drug effect on the body of the organism.
- Public awareness:** Public awareness is an avenue for dissemination of proven scientific information to a targeted audience for enlightening/ improving patients health performance. This is usually done through agent of communication involving print and electronic media. Pharmacodynamics is a study that requires enlightening members of the society and mostly practitioners in other for it to achieve it set goals. Public awareness in pharmacodynamics is very essential since, when the people are informed about a given issue concerning the effect of a drug on their body, they tend to avail themselves of the opportunities of contributing positively to the said issue. The light of this will assist persons for pharmacodynamics to achieve the needed result in term of quality delivery in their job to the anticipated citizen and the nation at large. Similarly, public awareness will help to change the attitude of patients who experienced drug effect as opined by [11], that patients may not fully appreciate the association of a medication with an adverse experience, may not feel obligated or may not be motivating to report the adverse event. Also, it will assist individuals to support a successful pharmacodynamics practice by giving their resource when the need arises. In same vien, practitioners will be able to elicit responses from the patients who have one drug effect as at when needed.
- Adherence to professional ethics:** In any field of human endeavor strict adherence to ethical norm is a pivotal to raise the

standard of such profession. Pharmacodynamics needs keen adherence to set professional ethic from practitioners who will assist in raising the quality at which job is carried out. Some of these ethics includes adherence to code of conduct, appropriate use of machines, test/retesting of specimen and safety measures among others. With practitioners (persons for pharmacodynamics) conforming to these ethical norms there is bound to be high level of efficiency in studying the effect of pharmaceutical drugs on patient, hence serving as a catalyst for improving public health on the aggregate. Lack of adherence to professional ethics by practitioner will hinder the level of expected outcome from pharmacodynamics study.

- **Training and retraining:** Training and retraining of workers helps to increase productivity aggregately. Training is often given to workers who lack the prior skill/knowledge in carrying out a given task, while retraining is aimed at increasing workers competence. Training and retraining are important educational measures to enhance pharmacodynamics practitioner performance in the discharge of their job. Pharmacodynamics is a practice that requires knowledge upgrading from practitioner in other for them to achieve a set standard in their professional obligation in studying the effect of drug on an organism. Training and retraining will assist practitioners in mapping out-strategies for effective and efficient ways of carrying out pharmacodynamics practices. Although it may take the form of practitioners undergoing short-course programmed in institutions of learning or special training programs organized by health professionals, international organization such as world health organization among others. Such training may equip the person for pharmacodynamics with novel skills and competences to meet global best practices in pharmacodynamics, hence inducing quality assurance in pharmacodynamics profession.
- **Equipping of institutions involved in pharmacodynamics with needed facilities:** Pharmaceutical institutions such as laboratories, hospitals, learning institutions among others plays a vital role for pharmacodynamics practices to achieve a quality standard, if equipped with the necessary facilities and equipment. Some of these facilities and equipment's includes Mass Spectroscopy, Thermo Exactive Plus TM UHPLC/HRMS, Thermo-Scientific Exactive, 400 Q Trap TM, Gas Chromatography among others will assist in enhancing quality assurance

among persons for pharmacodynamics. Hence, provision of equipment's and facilities to these institutions is potential to the long-term benefit of pharmacodynamics goal and qualified service delivery from practitioners. Similarly, these facilities/ equipment's when provided will serve as a motivational variable to practitioners in the process of carrying out their professional job hence attaining high level of competencies.

Conclusion

The present study report shows that for pharmacodynamics practitioners to achieve the needed/standard quality in their job, some strategies for quality assurance must be adopted. Strategies such as collaboration/partnership - a mutual relation with other public/private entities; public awareness - sensitizing the public; adherence to professional ethics - application of proven professional knowledge; training/retraining - knowledge upgrading; and equipping of pharmaceutical institution with needed facilities are keen for quality assurance among practitioners for an improve service delivery. The aforementioned strategies will not only improve pharmacodynamics practices but on the general population health in emerging economies of the world.

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