



ORIGINAL ARTICLE

OPEN ACCESS

One Qualified Community Pharmacist Can Save One Community within a Nation

Maria Ayub, Hina Liaquat, Somia Gul, Asma Eraj & Nusrat Mujtuba

Jinnah University for Women, Pakistan

E-mail: maria.ayub2000@gmail.com

ABSTRACT

Community pharmacist are the integral part of community healthcare team. They can serve as useful key element by their dynamic role as they are legally qualified, professionally competent and well oriented towards patient care. The objective of the study is to highlight the multi dynamic role of qualified community pharmacist compared to non-qualified professionals in our community pharmacy. For the purpose of this study about 77 community pharmacy surveyed by pharmacy students and evaluated their skills in term of patient care. Questioner distributed between qualified and non-qualified personals and outcomes measured statically. Among 77 community pharmacy it was distressing situation that only 39% community pharmacy was dealing with legal pharmacist, rest of the community pharmacies dealing with 33% middle literate and 28% poor literate individuals. After conducting this thoughtful survey we can conclude that due to illiteracy and inadequate knowledge our community has been put on risk seriously and this is thoughtful consideration for healthcare authorities towards patients care and community Health.

Keywords: community pharmacy, drug suppliers, patient care, knowledge, healthcare providers.

Received 02.07.2015

Revised 09.08.2015

Accepted 11.09.2015

INTRODUCTION

To a patient disposed profession (provision of care, advice and counseling) from a product and task disposed (dispensing) pharmacy transform itself presently well positioned and as well as matured has clinical profession [1]. Through protecting safe, effective, and appropriate use of medications is mission of the profession of pharmacy to boost the health. An evolving pattern from one in which the pharmacist primarily handles medication distribution and counsels patients, disease prevention services, health boostment, to a more developed and team-based clinical performance providing patient centered medication therapy reflects present-day pharmacy practice by community pharmacists [2]. In hospital and community pharmacies, the professional role of pharmacist is altering from a focus on preparation from dispensing and sale of medications to the one holds patient education, physician consultation, and patient monitoring in which pharmacist aid the public to get the finest possible results [3]. Being in the areas with the prevalent themes of infection control and prevention, smoking cessation services, provision of emergency hormonal contraception, healthy eating and lifestyle advice, prevention and management of drug abuse, misuse and addiction and building up cardiovascular health and blood pressure control, wide range of characters that community pharmacists were providing in public health analyzed by various studies mentioned above [4]. Techniques for controlling many diseases medications are a key treatment by the one important condition of global health policy associate to pharmaceuticals [5]. Implementing health education seminars in the community and optimizing medication use by the pharmacist. For curing chronic diseases such as HIV, hyperlipidemia, diabetes, hypertension, anticoagulation and mental health disorders to this pharmacist also regulate clinics in the community. Improved patient adherence has been shown by such clinics which are facilitated by the pharmacist [6]. In the community and hospital setup implement access to inclusive medication therapy management (MTM) services by the pharmacist. Illustrated with the national program Healthy People 2020, serving, and a systematic approach to improving health of individuals, communities and the nation by the pharmacy practice performances in public health. Eliminating health divergence and increasing healthy life years with quality is considered a one key objective of the pharmacist. Ensure there is acceptable

health care approach and to promote healthy behaviors and environments is fundamental for community and leaders nationwide. Performing blood pressure screening, blood glucose monitoring, memory screening, brown bag session counseling highlights the important character of pharmacist by participating in the health fair community acquired programs [7]. Inspiring student interest and career can help contribute to global health workforce and interventions also impart the performance of pharmacist [8]. As part of their routine practice in hospitals and community settings systematically in deflect prescribing errors by the pharmacist [9-11]. Discussing actions with doctors and engaging patients for reviews as well as reviewing patients' records are the techniques which are used by the pharmacist to correct medication errors [11]. Collaborating in domiciliary or homecare services, [12, 13] playing a critical role in supporting intermediate care patients with mosaic medicine regimes here and internationally by the pharmacist [14]. Also undertaking health checks which comprised for vascular disease, blood glucose monitoring, body mass index assessment, men's health and blood pressure by the pharmacist in community settings [15]. Areas and communities where pharmacists are combined into core healthcare teams as well as amongst other health professionals of the role of pharmacists' gains in establishing using awareness showing benefits for the patients have identified and shown by various studies [16]. Among various posts in the hospital and community based setting includes posts in antimicrobials, older people, HIV, patient safety and intensive care, there are consultant pharmacist to facilitate [17]. Ensuring that patients are utilizing their medications correctly and, by supplying intensive education are the community based enterprises which is further categorized to a reduction in number of sick days taken, enhanced patient issues and lowered total healthcare costs by the contribution of pharmacist. Patients can become effective at self-managing a chronic disease with the support of a "pharmacist coach," [18]. Pharmacists are also easily reachable with the addition of the highly training and qualification. [19]. Services for cholesterol, blood glucose and hemoglobin A1C level, this type of defending health testing is also conducted by the pharmacists in community based settings. [20]. To contribute towards improved patient care by providing certain chronic disease management services, community pharmacists are in a strong position [21].

In the management of the asthma to improve the quality of life and clinical outcomes can effectively train patients in correct inhaler technique involving community pharmacist [22, 23]. In the clinical aspects of arthritis management, the role of the pharmacist, recognized by the Physicians. Advises doctors about dosage forms and dosage regimes, by the community pharmacist at times [24]. Peoples for their healthcare needs for minor ailments, millions of people across the world visit community pharmacies every day. In many developed and developing countries due to easy accessibility and perceived affordability, pharmacists are the first point of contact in the healthcare system [25].

This study aims to highlight the emerging role of qualified pharmacist in our community in view of the fact to provide better health as they can assist, identify and prevent drug associated problem compared to Non-professional personnel's.

METHODOLOGY

This retrospective study was conducted in Karachi from January 2014 to august 2015 in those community pharmacies which dealing with more than 200 patients per day near hospital areas. For this purpose about more than 77 community pharmacies visited by pharmacy students to conduct survey based on questionnaire. Questionnaires were distributed among professional and non-professional pharmacist to compare effective role of community pharmacist towards patient care. With the help of questionnaire, direct interview and spending longer time with their busy pharmacy setup they were evaluated in term of their qualification, knowledge, skills, patient counseling, rational prescribing, control of drug diversion of illegal substances and how they tend to save patients life were assessed. All the results interpreted carefully by statistically.

RESULT

During visiting community pharmacies it was most distressing and awful finding that about 81% community pharmacies based on revenue generation as this profession accounts for rich source of income. Among 77 community pharmacies dealing with 325 employers only 39% were legally qualified and well trained pharmacist, 122 middle literate and rest of the community pharmacy dealing with 28% poor literate personals as shown in figure 1.

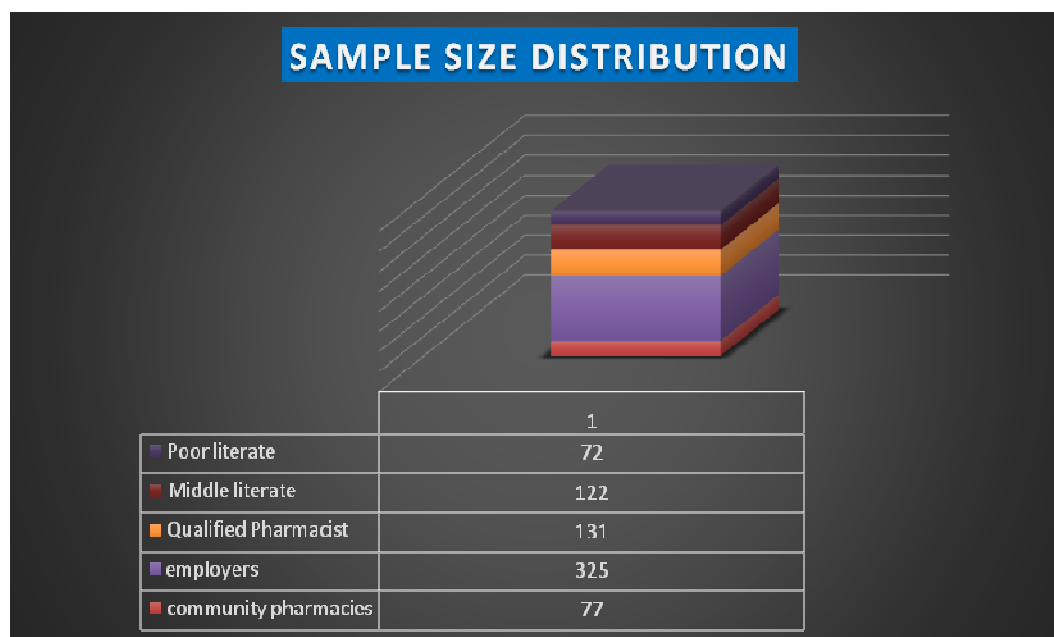


Figure 1 community pharmacies employers sample distribution

After entering all data statistically it was very terrible finding that illiterate workers in community pharmacy most feel no need of qualified pharmacist as they perceive drug dispensing is just delivery of drug to patient not 'safe drug delivery'. they biased over this topic with very low intention towards patient care 11-36% with no necessity of patient counselling in most cases where patient can utilize useful knowledge regarding medication is shown in Table 1 and Figure 2.

Legally qualified pharmacist show very concern towards all these oriented role of community pharmacist .they provide useful suggestion about interaction of drug with food and other medicaments 66%, counsel them to prevent infectious disease 81% particularly about viral transmitted diseases, need of vaccination 90%, family planning 49%, iron and other malnutrition deficiencies 51% with prevention against life threatening cardiovascular syndromes like Diabetes, Hypertension, Myocardial infarction & Strokes prevalence in females 59% within community.

Perception Of Community Pharmacy Role	Qualified Pharmacist	Middle literate	Poor literate
Qualified community pharmacist need	100%	51%	21%
Patient care concerns	83%	36%	11%
Patient counselling	81%	31%	15%
Self prescribing	41%	38%	22%
Drug interaction	66%	11%	8%
Drug substitute suggestion	61%	35%	21%
Narrow therapeutic index drug monitoring	71%	6%	3%
Good source of income	21%	71%	90%
Source of employment	31%	70%	85%
Irrational control of OTC misuse	41%	21%	13%
Dispensing Narcotics	10%	33%	51%
Management of emergency condition	61%	21%	10%
Counselling about effective immunization	90%	11%	3%
Counselling about STD disease & prevention	81%	21%	11%
Better suggestion about contraceptions	49%	29%	17%
Paediatric care	61%	23%	14%
Management of Malnutrition & self prescribing of Nutrition supplement	51%	23%	11%
Prevention of Cardiovascular risk particularly strokes in females	59%	17%	11%

Table 1 Evaluation Of Effective Role Of Community Pharmacy By Employers

Nsaids found to be most commonly prescribed and frequently dispensed OTC drug in community pharmacy .it need no prescription but it can induce Gastrointestinal bleeding and ulcer & COX-2 associated cardiovascular risk with frequent prescribing [shown in Table 1& Figure 2].

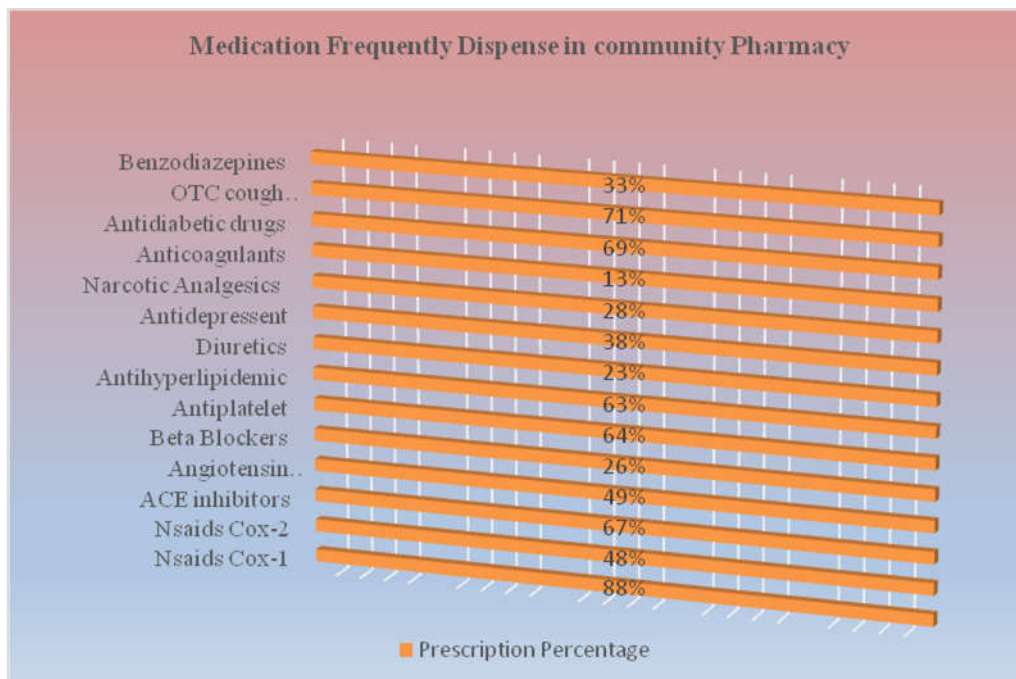


Figure 2 Most Commonly dispensed medications in community pharmacy

Qualified pharmacist in community counsel patient effectively 67% about Nsaids induce bleeding, COX-2 induce renal toxicity, Antihypertensive drugs associated undesirable effects like cough & angioedema , CNS stimulants and depressant associated toxicity & dependence with effective control of benzodiazepines and Narcotic analgesic in rare cases only [shown in Figure 3,4]

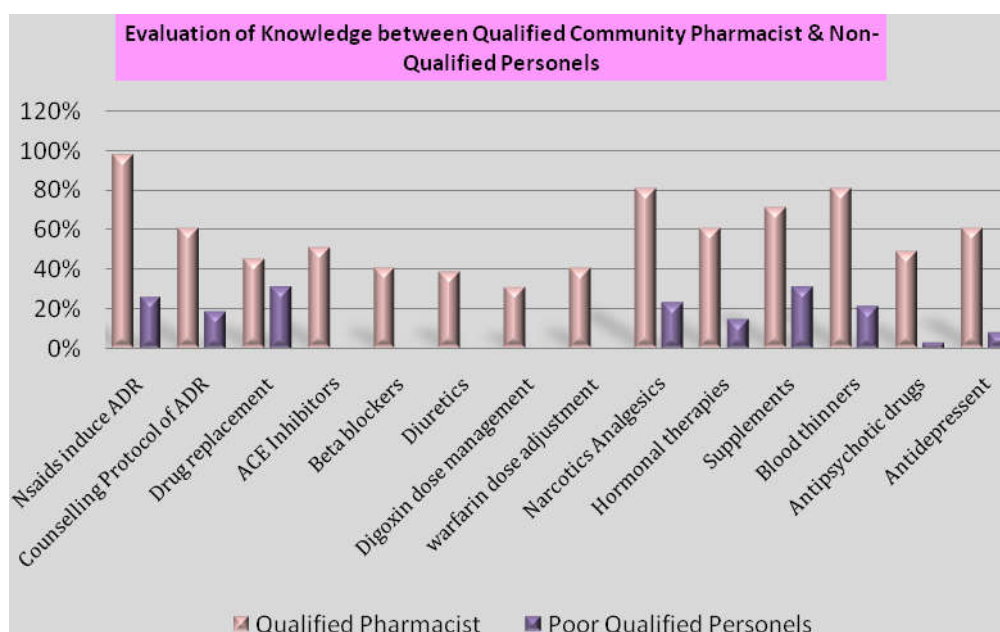


Figure 3 Drug & Disease related problems Evaluated Comparatively between qualified and Non-Qualified Personals

Poor literate personals in community pharmacy showed no concern towards patient care due to lack of knowledge they cannot provide anticoagulant dose management, digoxin monitoring, emergency condition medication , drug diversion control and counselling regarding immunization and irrational use of narcotics and drug act on CNS to ensure quality of care. Most distressing fact evaluated that about 90%

poor literate workers in community pharmacist do just emphasize on dispensing whole prescription just because of earning purpose they had no concern about for what condition did they are prescribing for and how it may affected adversely.

Most Common dispensed drug in community pharmacy	Prescription Percentage	Dispensing By Qualified Pharmacist	Dispensing By Non-Qualified Personnels
Nsaids Cox-1	88%	Frequently	Very Frequently
Nsaids Cox-2	48%	Less Frequently	Frequently
ACE inhibitors	67%	Frequently	Very Frequently
Angiotensin receptor Blockers	49%	Frequently	Very Frequently
Beta Blockers	26%	Less Frequently	Very Frequently
Antiplatelet	64%	Less Frequently	Very Frequently
Antihyperlipidemic	63%	Frequently	Very Frequently
Diuretics	23%	Less Frequently	Very Frequently
Antidepressant	38%	Less Frequently	Very Frequently
Narcotic Analgesics	28%	Rare Cases	Frequently
Anticoagulants	13%	Rare Cases	Less Frequently
Antidiabetic drugs	69%	Frequently	Very Frequently
OTC cough preparations	71%	Less Frequently	Very Frequently
Benzodiazepines	33%	Rare Cases	Frequently

Table 2 Prescribing frequency among different personals working in community pharmacy

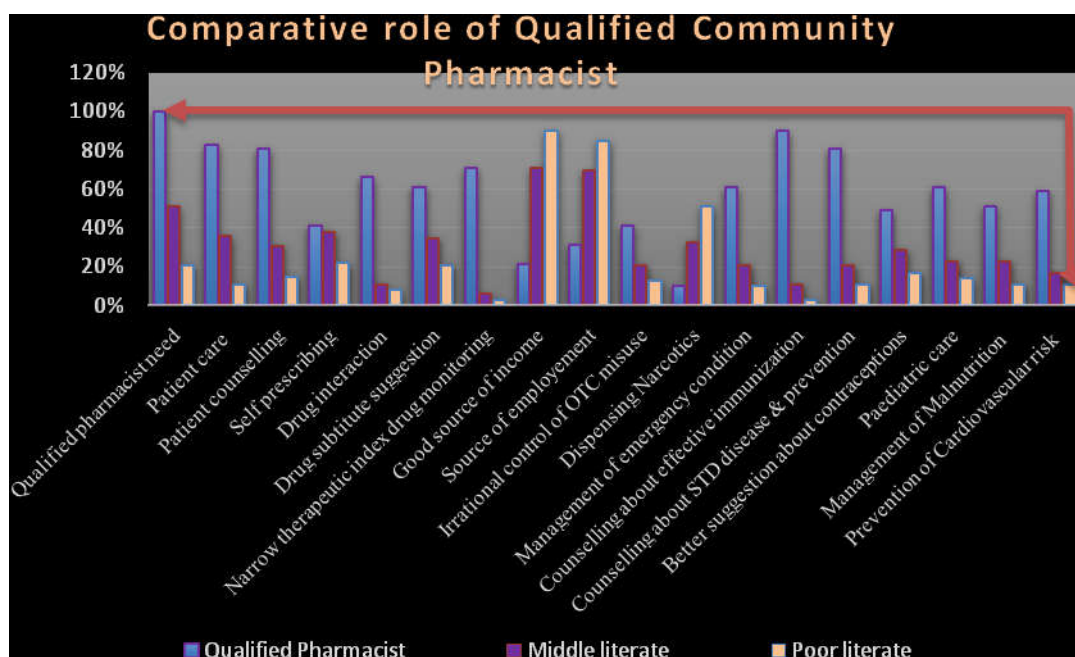


Figure 4 Comparative Qualification of Personals in community pharmacies in term of patient care

DISCUSSION

Community pharmacists with their dynamic role can impart quality of care to patients in the community as they interact mostly with public in their community. The professional part of the pharmacist in the community has been mostly involved with making ready and dispensing prescriptions. As a consequence, pharmacists' coaching has been biased towards material medications, medicine, and pharmaceutical chemistry. Yet, despite the nice service pharmacists have given the general public, the increasing availableness of finished pharmaceutical merchandise from the drug business and also the trend to original pack dispensing have severely unnatural the normal activities of community pharmacists. They provide services in community pharmacy according to physician recommendation or, prescribed and dispensed without physician order where it allow to sell legally. They additionally provide adequate maintenance of supply by communicating well with supplier according to need of patient based on their experienced and knowledge of emergency medicines.

After the introduction of new biological products in new pharmaceutical era like vaccines, special environmental temperature required biological, radio pharmaceuticals and most of which need special patient counselling with reference to associated risk and loss of efficacy. Community pharmacists are the foremost accessible health professionals to the overall public and in several elements of the globe, pharmacists are more and more being recognized as a supply of skilled health-related recommendation. A community pharmacy, typically cited as retail pharmacy or retail drug retailers, is places wherever medicines are sold on and distributed, equipped or sold-out. The overall population typically calls community pharmacies "medical suppliers".

This study basically conducted in search of the pharmacist in community pharmacies to compare their effective role with Non-qualified personals with intention to highlight their role in community. Unfortunately in Pakistan community pharmacy employer's perception towards public is only 'medical supplier'. They are still not aware about the effective role of pharmacist in community and major factor lacking this impression in community is only lacking of qualified pharmacist in community. Pharmacist is the only health educator in community that can provide healthcare services in community as they are legally qualified, professionally competent. Non-Qualified personals consider this as source of income, source of employment & revenue generation, as this profession accounts for most healthy source of income with healthy reputation within community.

In this study qualified and Non-qualified personals judge in term of their knowledge, intention, concept, patient care, activities through self-observation by pharmacy students. Community pharmacies included in study were mostly near general physician clinics that's why flow of prescriptions is usually higher compare to number of employers in pharmacy. After careful evaluation at the end of data interpretation it was very painful situation that our community pharmacies lacking qualified pharmacist only 39% and rest of the employers were middle and poor literate. There was huge difference between qualified pharmacist and Non-qualified in term of lack of professionalism, patient concerns, drug related problems knowledge and serious consideration which can save our community against life threatening syndrome.

Non-Qualified personals showed very low rate of literacy less than total 21%. They don't know NSAIDs can induce GIT bleeding & Ulcer even they had no knowledge that COX-2 can't prescribe to renal failure & heart patients. They have no ideology of patient counseling in special medications, they just emphasize to dispense full prescription in term of revenue generation not concern about patients safety due to lack of knowledge. They suggest drug replacement on the basis of experience not knowledge that can put risk to patient. They have no idea that ACE Inhibitors induce cough & bronchospasm with angioedema, digoxin & warfarin are narrow therapeutic index drugs & they may cause life threatening toxicity. One of the most serious case they stated to pharmacy student is abortion cause by fexofenadine and misoprostol drug combination in many females because they had no knowledge about contraindicated drugs in pregnancy.

Pharmacists can be concerned in immunisation itself. Most pharmacists act with the overall public in regard to immunization. Community pharmacists ought to take each chance to emphasize the importance of immunisation and also the risks related to non-vaccination compared with those of the attainable facet effects of the vaccines used. As health educators, pharmacists act to teach and suggest to the patients the importance of and wish for receiving vaccinations. Pharmacists are productive in their role as immunization educators by screening patients and providing recommendations to patients and suppliers. Pharmacists have adequate knowledge about hazards associated with narcotics where non-qualified dispensed tramadol & Nalbuphine is frequently in community pharmacy. In this study qualified pharmacist stated that they dispense it only physician recommendation in emergency conditions. They recommend all hormonal therapies on prescription basis not on perception bases like poor literate personals. Non-qualified personals lack knowledge that excess use of contraceptive pills and hormonal imbalance therapies may induce breast & cervical cancer, excess supplementation may cause hypervitaminosis as it can suggested to patient only on the basis of symptoms of nutritional deficiencies. Blood thinner like aspirin & clopidogrel can prevent risk of thrombosis and stroke but their excessive use may cause risk of bleeding and hemorrhagic condition and only qualified pharmacist with its key knowledge to encounter toxicity can prevent it (antidote like vitamin K and other coagulant agents). Amitriptyline is most frequently prescribed antipsychotic drug in community pharmacy and very few low literate personals have knowledge about it may induce anticholinergic adverse reactions. Community pharmacists are valuable sources of data for patients. As suppliers of medication medical care management and a supply of patient medication records, community pharmacists are able to determine patients in danger for vaccine-preventable diseases through use of pharmacy knowledge and patient interviews.

CONCLUSION

After careful consideration we can conclude that one qualified pharmacist in community can save patient life as they can serve as useful part of healthcare provider against drug related problems, serious problems, awareness programs, emergency condition management by proper counselling, by sharing useful knowledge, by providing narrow therapeutic index drug dose adjustment and management. Due to low rate of literacy in our community pharmacy this profession is divert towards good source of income not reliable source of patient care. This situation has seriously indulge our society on risk which is thoughtful consideration for not only patients but also pharmacist profession decline and importance of this noble profession in our society and this is thoughtful consideration for healthcare authorities towards patients care and community Health.

REFERENCES

1. Vision of pharmacy's future roles, responsibilities, and manpower needs in the United States (2000). American College of Clinical Pharmacy. *Pharmacotherapy*;20:991-1020.
2. Webb E. (1995) .Prescribing medications: Changing the Paradigm for a Changing Health Care System. *Am J Health-Syst Pharm.*;52:1693-5.
3. Erah PO, Nwazuko JC(2002). Identification of Standards for Pharmaceutical Care in Benin City. *Trop J Pharm Res.*; 1 (2): 55-66
4. The role of community pharmacist in public health: a scoping view of literature. *chijioke.o.Agomo*,2012, journal of pharmaceutical health services research, 3:25-33
5. Oji M, Oji V (2010) Corruption in Nigeria: The fight and movement to cure the malady. University Press of America, Lanham, USA
6. Cranor CW, Christensen DB (2003) The Asheville Project: Short-term outcomes of a community pharmacy diabetes care program. *J Am Pharmacist Association* 43:149-159
7. Mills EJ, Schabas WA, Volmink J, Walker R, Ford N, et al. (2008) Should active recruitment of health workers from sub-Saharan Africa be viewed as a crime? *The Lancet* 371: 685-688
8. Valerie Oji, Salome Bwayo Weaver , David Falade and Babajide Fagbemi, Emerging Roles of U.S. Pharmacists in Global Health and Africa Biosafety & Health Education. 2013, 1:4
9. Avery A, Barber B, Ghalbe M, Franklin B, Armstrong S, Crowel S, Dhillon S, Freyer A, Howard R, Pezzolesi C, Serumaga B, Swanwick G, Talabi O (2012). Investigating the prevalence and causes of prescribing errors in general practice: The Practice Study (Prevalence and Causes of prescribing errors in general practice). A report for the GMC May 2012. London: General Medical Council.
10. Pharmacy Voice (2012b). Reforming the NHS and social care in England; what it means to community pharmacy. http://www.pharmacyvoice.com/images/press/Landscape_3.pdf (accessed 15/04/13)
11. Avery AJ, Rodgers S, Cantrill JA, Armstrong S, Cresswell K, Eden M, Elliott RA, Howard R, Kendrick D, Morris CJ, Prescott RJ, Swanwick G, Franklin M, Putman K, Boyd M, Sheikh A (2012). 'A pharmacist led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis'. *The Lancet*, Volume 379, Issue 9823, 1310-1319, 7 April 2012. doi:10.1016/S0140-6736(11)61817-5.
12. Green B, Cook A, Ralston J, Fishman P, Catz S, Carlson J, Carrell J, Tyll L, Larson E, Thompson R, (2008). 'Effectiveness of home blood pressure monitoring, web communication, and pharmacist care on hypertension control.' *JAMA*, June 25, 2008, Vol 299, No.24:2857- 2867.
13. Martin K, Street K, (2010). 'An evaluation by patients of pharmacist led medicines management in southern England.' *The Pharmaceutical Journal*, 6 March 2010, Vol 284:245-248
14. Martin K, Street K, (2010). 'An evaluation by patients of pharmacist led medicines management in southern England.' *The Pharmaceutical Journal*, 6 March 2010, Vol 284:245-248
15. Department of Health (2013). Putting patients first: government publishes response to Francis Report. <https://www.gov.uk/government/news/putting-patients-first-government-publishes-response-to-francis-report>
16. Makowsky M, Schindel T, Rosenthal M, Campbell K, Tsuyuki R, Madill H, (2009). 'Collaboration between pharmacists, physicians and nurse practitioners: A qualitative investigation of working relationships in the inpatient medical setting.' *Journal of Interprofessional Care*, March 2009; 23(2): 169-184
17. Mason J, Stephens M, Barnett N (2010). 'Releasing the potential of consultant pharmacists in the new NHS arena.' *The Pharmaceutical Journal* 2010; 285:467-468 .
18. Bunting BA, Smith BH, Sutherland SE. The Asheville Project: Clinical and Economic Outcomes of a Community-Based Long Term Medication Therapy Management Program for Hypertension and Dyslipidemia. *J Am Pharm Assoc*. 2008;48(1):23-31
19. Bunting BA, Cranor CW. The Asheville Project: long-term clinical, humanistic, and economic outcomes of a community-based medication therapy management program for asthma. *J Am Pharm Assoc* (2003). 2006;46(2):133-47.
20. Schultz J. Walgreens ups access to health testing. Accessed at: [http:// www.chaindrugreview.com/inside-this-issue/news/05-23-2011/walgreens-ups-access-to-health-testing](http://www.chaindrugreview.com/inside-this-issue/news/05-23-2011/walgreens-ups-access-to-health-testing), May 28, 2011.
21. Blenkinsopp A, Bond CM. The Potential and Pitfalls of Medicine Management: What Have We Learned So Far? Disease Management and Health Outcomes, Wolters Kluwer Health: Adis 2008;16,79-86.

22. Basheti IA, Reddel HK, Armour CL, Bosnic-Anticevich SZ.(2003);Counseling about turbuhaler technique: needs assessment and effective strategies for community pharmacists. *Respir Care* 2005;50:617-23.
23. Emmerton L, Shaw J, Kheir N. Asthma management by New Zealand pharmacists: a pharmaceutical care demonstration project.*J Clin Pharm Ther* 28:395-402.
24. Chandira M, Bhowmik D, Chiranjib, B Jayakar. Role of community pharmacist care of Arthritis Patients. Published at Farmavita.net journal.
25. Adepu R, Nagavi BG.(2006); General practitioners' perceptions about the extended roles of the community pharmacists in the State of Karnataka: A study. *Indian J Pharm Sci* 68:36-40

CITATION OF THIS ARTICLE

Maria Ayub, Hina Liaquat, Somia Gul, Asma Eraj & Nusrat Mujtuba. One Qualified Community Pharmacist Can Save One Community within a Nation. *Bull. Env. Pharmacol. Life Sci.*, Vol 4 [12] November 2015: 32-39