Guest Editorial

Prescription Pattern: A Conceptual Framework

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Abstract: Physicians in their clinical practice, allopathic or contemporary medicine, prescribe medicinal items and clinical interventions. The quality of the prescriptions can be adjudged using WHO criteria. In this paper, we focus on the prescription pattern of allopathic practitioners in the Pakistani context. In this regard, in addition to evidence from literature, personal experience is brought and a framework is conceptualized to analyse factors that influence and shape the physician's prescription pattern.

Prescription pattern: A rapid review of few prescriptions picked up randomly will reveal issues in clinical prescription writing. A study, which analysed 1,097 prescriptions in six Peshawar-based hospitals, found 58.5% of those illegible, 89% bore no physician's name and 78% lacked details about diagnosis. The inscription, typically, in addition to clinical tests and clinical interventions, contains a list of medicinal items, including invariably antibiotics and injectable drugs. On average, a prescription contained 4.51 drugs and a little over 12% of those prescribed with generic name, while about 41% patients were also prescribed vitamins and minerals: more than half of the prescribed drugs were not on National Essential Drugs List of Pakistan. With regard to antibiotic, a recent study found their prescription increased by 65% during last sixteen years. This validates the earlier findings that private practitioners prescribed at least one antibiotic in 62% of prescriptions compared with 54% by the public sector providers. The frequency of injectable drug prescription was 48% in the private compared with 22.0% in public sector.

Although WHO (2018) has suggested a Model List of Essential In Vitro Diagnostics, there is as yet no study about the prescription pattern for the laboratory, radiological and other tests, but seemingly these are prescribed to the majority patients. Also, there is hardly any mention of non-medical interventions, like the advice on lifestyle, in the prescriptions handed to the patients. But, such was not the prescription pattern as well as the clinical teaching in the twentieth century.

I recall, while in my third year MBBS at KEMC, once late Professor SAR Gardezi asked, “What is the major source of vitamins?” After listening to students, the great surgeon and teacher, in his peculiar tone said, “the main gutter of Mayo hospital”. During those days, almost every patient in Mayo hospital was provided multivitamin, but Prof Gardezi's message was to the contrary. Likewise, I remember, late Professor Alamgir Khan, in his clinical teaching, would always stress on using 'clinical judicious sense' gathered from the clinical history and clinical examination. The clinical tests, he would teach, can help in just 5% of cases for establishing the clinical diagnosis. If you happen to fall ill, you must go to the doctor, because doctor needs money to live. If doctor prescribes medicine, you must go to pharmacist, because needs money to live. But, if pharmacist dispenses you medicines, don't take those, because you must also live an old Polish saying. Tracing the history of medicine, the followers of Hygeia, as the Greeks believed, stressed on the natural order of things for a healthy mind and body. But, the believers of Asclepius, invented drugs and attempted to treat diseases. Yet, most of the historic killers of the human race were brought under control long before a real

therapeutic breakthrough, e.g. use of penicillin in early 1940s - a credit to the sanitary man rather than the medical man. Also, as against the current trend of over-prescription and polypharmacy, in the past, the concepts like in box prevailed about the drug usage.

Then, how has this prescription pattern emerged amongst the clinicians? In order to respond to this question and understand the phenomenon of prescription, a framework is conceptualized in the following.

The conceptual framework: The prescription, as in figure, is an outcome of the actions by the actors from multiple disciplines. The physician, in this phenomenon, though conscious of the ethical and pharmacological issues, has personal attributes influencing the prescription pattern. After years of medical education, training and practice, their focus, instead of patient, is on the cellular and biochemical perspectives of the disease. S/he thus views the disease in isolation from patient, who is prescribed. The trend of specialization and sub- specialization in medicine, which compartmentalized the medical care, has further increased the distance between physician and patient. As a result, a prescription is made, often with disregard to the patient in his social and cultural context. But, physician, in this discourse, does not function in a vacuum. His clinical decision, expressed as a prescription, is influenced by other actors: the patient himself, the pharmaceutical industry and the pharmacist. In the following, we define and explain the role of these actors.

"Patients themselves cannot escape the charge that they, by their own attitudes and actions, have contributed in devastating fashion to the incidence of needless drug use, adverse drug reactions, drug induced injuries, and drug induced deaths." They resort to self-medication, which is substantiated by the availability of almost every drug 'over the counter' and consultation with unauthorized prescribers and thus exposing them to the adverse events. From physicians, they demand prescription, including for the brand drugs and often do not comply with the physician's instructions about the use of drugs.

The pharmaceutical industry contributes to the prescription pattern. They, by gifts and rewards, entice and influence the prescriber's behaviour and by information provision promote and accelerate the sale of their medicinal products. The messages, for this purpose, are often designed using an emotive and misleading language and conduct promotional activities in the guise of the academic lectures and workshops arranged often in big city hotels, even abroad, with all expenses paid by the company. The World Health Organization, as its standing instructions, therefore does not allow any of its activity to be sponsored and or participated by a pharmaceutical company (and also tobacco industry).

The pharmacist, in determining the prescription pattern, stands at the crossroad of physicians, patients and pharmaceutical industry. In the delivery of the pharmaceutical services, he, at a pharmacy, is in a position to influence the sale of OTC drugs to the patients. Furthermore, the clinical pharmacist can indicate to the prescribing physicians the problems in their prescriptions, like therapeutic duplication, contraindications, no established diagnosis but a drug prescribed, anticipated adverse reaction, interaction between drugs and suggest changes in dose, product or dosage form etc.

Finally, the cost of prescriptions a ects the prescription. It is an important tenet of the framework, because the prescription whilst may solve the medical problem, but could be at the cost of economic burden for the patient and his family. In Pakistan, out of the total health expenditures, over 60% is from the households' out-of-pocket. With 38% population living below poverty line and total 51% vulnerable to poverty, it is hard for almost 50% population to pay for their illness. With an expensive prescription, what are options for a patient living below poverty line? Return to the physician for a cheaper prescription, give up treatment, resort to the charity, borrow or sell his belongings or beg!

Conclusion: In Pakistan, the prescriptions handed in to the patients by the physicians have issues: technical, social and economic. These have accrued over time and while attributed to the prescriber, there are factors in the environment, which influence the physician's prescription pattern. To highlight these, a framework has been conceptualized. It is, in addition to the personal attributes of the physician, the education and system of medicine, the pharmaceutical industry and the patients themselves who contribute to the physician's clinical prescription pattern. But, the role of the pharmacists and the economic status of the patient are important in

avoiding the adverse events and catastrophic expenditure for health and compliance to the prescription.

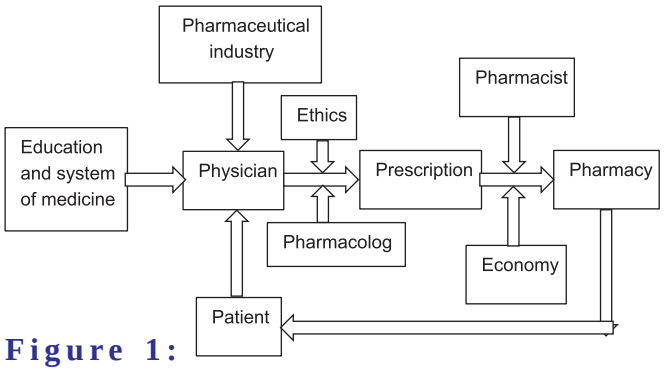

Figure 1: *Prescription Pattern: A Conceptual Framework*

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