

Adherence and Non-Adherence to Treatments: Focus on Pharmacy Practice in Nepal

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ABSTRACT

Nepal is one of the developing countries having many limitations in providing the quality health services to its population. In many countries, improvement in patients' adherence to the pharmacotherapy had been one of major outcome of quality pharmaceutical services. Till date, very less thing has been done in this area in Nepal; so it seems mandatory to improve the patient adherence to the treatment plans. Adherence to the medical therapy can be explained by the extent of the behavioral coincidence to the medication and non-medication regimen by a patient whereas compliance and concordance are two different models of patient adherence to the therapy. Compliance model suggests that patients have been brought responsible for being unable to follow 'doctor's order and concordance tempts to measure the degree

of agreement between patient and his or her clinician about the nature of illness and the best possible therapy for the welfare of the patient. Non-adherence to the therapy may lead to different problems as consequences of non-adherence in four different level- individual, institutional, societal and national levels. Although some programs like, "Direct Observation Treatment, Short-course (DOTS) for tuberculosis, implementation of antiretroviral treatment schedules for HIV patients and pediatric vaccination models," are the examples of attention towards the cases of noncompliance in Nepal. It has long been faced its limitations in the forms of either untrained manpower or lack of good documentation of patients' adherence to therapy or high illiteracy rate or unaffordability of patients to their treatment or lack of pharmaceutical care services.

Key Words: Adherence, Non-adherence, Interventions, Patient-pharmacist liaison, Developing country

BACKGROUND

Nepal is a developing country which has major limitations in providing quality healthcare services to its population [1-4]. Most of the technical aspects of the socio-community pharmacy practice have not been addressed as yet, due to various reasons [3]. The access of people to the essential medicines and their affordability, is still a major problem in the country [5]. Hence, many aspects of the pharmaceutical care are still not major concerns for the policy makers and other relevant stakeholders. A majority of the pharmacies which are inside the country are being operated by manpower who are trained only for a few hours [6]. The prevailing primordial pharmacy practice, the absence of well qualified and trained pharmacists in the community settings, and the absence of hospital pharmacy practices inside a majority of the hospitals are some major barriers in the way of providing better pharmaceutical services to the people [6-8].

In many developed countries, an improvement in the patients' adherence to the pharmacotherapy is one of major outcomes of the quality pharmaceutical services [9-13]. However, only few things had been achieved in this area in Nepal. So, it is necessary to promote the role of pharmacists to increase the patients' adherence towards the treatment in the Nepalese context. Therefore, in this article, the authors have tried to give short introductions on the concepts of adherence and non-adherence. These introductions are followed by the causes of the non-adherence to the treatment and its consequences. Later, the concept of compliance and concordance and the limitations which come in the way of adopting such concepts in the real practice have been explained briefly. And at last, the existing programs and the possible programs

which can increase the patient adherence have been discussed with respect to the Nepalese scenario. These scenarios may be very similar to those of the other developing countries too.

The concepts of adherence and non-adherence: The therapeutic goal of the treatment cannot be achieved till the patient does not adhere to his/her treatment regimen. Adherence to the medical therapy can be defined as the extent of the behavioural coincidence to the medication and the non-medication regimens of a patient [14]. The behaviour of a patient may deviate from the instructions or the demands of the therapy, for example, missing the dosages, losing medical attention, skipping appointments, and so on. This may deliberately or unintentionally lead to non-adherence. Non-adherence, thus, is the resistance or refusal of a patient against properly adhering to any medical therapy or regimen [14]. The available data has shown that the adherence to a long-term therapy of chronic patients in the developed countries may be even less than 50 percent [15, 16]. The condition in the developing countries like Nepal may be even worse. This shows that the problem of non-adherence is growing at high magnitudes, globally. On considering the patient's non-sticking to the behavioural modifications as a therapy problem; it seemed that the number of the non-adhering population would touch the apex. Non-adherence finally affects the therapeutic outcomes and a poor adherence attenuates the optimal benefits which are desired by any therapy [7, 14-16].

The patient compliance and concordance: In recent years, adherence, compliance and concordance have been frequently discussed about. Compliance and concordance are two different models of the patient adherence to the therapy. In a compliance model, the chief role of a clinician is to decide the correct treatment

and to issue proper instructions for the patient. The failure of the patient to stick to the therapy is solely considered as the patient's deviant behaviour, and it could be interpreted as patient incompetence [17, 18]. So, this model has been criticized in many places because of the unfavorable patient-clinician relationship in it [17]. The compliance model suggests that the patients have been found to be responsible for being unable to follow the 'doctor's orders.' In recent days, where the patients are more empowered, the concept of concordance has emerged. Concordance attempts to measure the degree of the patient adherence to the therapy, which was mutually agreed between the patient and the clinicians together in the best possible way, for the welfare of the patient [18-21].

The causes of non adherence: It is very necessary to identify the causes of the patients' non-adherence to the therapy, to decrease the magnitude of this problem. The factors which cause non-adherence have been classified under so many headings. But, in this article, the authors would like to classify the factors which cause non adherence, under four main headings- patient related factors, healthcare provider related factors, disease and drug related factors, and external factors, which have been described below respectively.

Patient related factors: The patient related factors consist of the set of causes which are associated with the patient himself or herself, which directly result in non-compliance of that patient towards the therapy. The patients' age and socio-economic condition is directly associated with the incidence of non-compliance [16-18]. Geriatric and paediatric patients are known to have higher incidences of non-compliance in comparison to the rest of the population [9,15,18]. Similarly, socio-economic conditions like the patients' beliefs regarding the disease and treatment, inaccessibility of the treatment, and the patients' unaffordability to the treatment are also associated with the cases of non-compliance [5, 17]. Non-compliance prevails if the patient is unaware of his/her disease state, the benefits of the prescription therapy, and the consequences of non-compliance [12-14]. Beside these, some behavioural researches have shown that factors like the forgetfulness of the patient to use or refill the medicines, the direction of the medicine use and the experiences of bad side effects result in non-compliance to the treatment [15, 20, 21].

Healthcare provider related factors: Some of the factors which are associated with doctors, pharmacists, nurses and other healthcare professionals directly affect the adherence of the patients towards their therapies. The attitudes of the healthcare providers towards the patients and their diseases have a direct impact on the services which are provided by them [9, 10, 22]. The regular prescribing behaviours, the time which is spent by the patients in the doctors' cabins and the influence of the pharmaceutical companies on the

prescribing behaviours of clinicians, have been associated with the cases of non-compliance [22]. The counseling behaviours and the dispensing behaviours (including labelling) of the pharmacists are two major causes which may have a direct influence on the compliance of the patients towards their therapies [10, 13].

Disease or drug related factors: Studies have shown that the patients who are on chronic treatment are more prone to non-compliance than those who take medicines for a short duration [18, 22, 23]. Similarly, the patients with other comorbid conditions than a particular disease, may have less compliance due to the polypharmacy [24, 25]. The cases of non-compliance in chronic and comorbid situations may be due to the high dosing frequencies or the complex regimens [24, 25]. The patients who are on antiretroviral treatment and chemotherapy for cancer are more liable for non-compliance because of the perception of their low well-being and the frequent events of adverse drug reactions [14, 18, 22].

In some of the cases, noncompliance may be caused by the specific characteristics of the prescribed drugs. The drugs which are prescribed with the causes like unpalatable formulations of the drug, administration of the drug through difficult routes, administration of unsuitable dosage forms (especially for the paediatric and the geriatric populations), the appearance of side effects at therapeutic doses and the designing of difficult medicine containers, can also be included among the drug related factors which lead to non-compliance to the treatment [26-28].

External factors: The factors other than the above three can be enlisted among the external factors which are associated with the incidence of non-compliance. These include pharmaceutical promotions (especially which are direct to the consumer advertisements), the methods of healthcare financing, poverty, illiteracy, etc. [5, 17, 29, 30]. These factors may indirectly affect the compliance of a patient towards his or her therapy.

The consequences of non adherence: Non-adherence to the therapy may lead to different problems. In this article, we tried to classify the consequences of non-adherence at four different levels- the individual, institutional, societal and the national levels. The consequences of non-adherence at the different levels are shown in [Table/Fig-1].

Non-adherence to the treatment as a problem in Nepal: There is only minimum involvement of the pharmacists towards the patient care in Nepal [8]. Most of the pharmacies which are inside the country are operated by people who have only few hours of training [6]. Though there is not good documentation regarding the patients' adherence to their therapies, it can be presumed that this problem exists at a higher rate in Nepal. The existing high illiteracy rate, unaffordability of the patients to their treatment and a

Individual level	Institutional level	Societal level	National level
Therapeutic Failure	Institutional resistance of some medicines	Irrational use of medicines in the community	Increased burden of chronic diseases
Bad prognosis	Increased number of drugs in formularies	Increased burden of chronic diseases	Increased healthcare budget
Resistance to the drugs	Increased drug related problems	Resistance of drug in community/ society level	
Worsening of existing problems	Bad image of institution	Increased economic burden	
Increased hospital stay	Increased patient burden		
Increased economic burden	Increased economic burden		

[Table/Fig-1]: Consequences of non-adherence to the treatment at various levels

lack of pharmaceutical care services (including patient counseling and follow up), all contribute significantly to the non-adherence problems in Nepal [6, 8, 31]. Only limited numbers of hospitals have medication counseling centres to improve the patient's adherence to their treatment [32-33]. In many hospitals, the focus of the healthcare delivery system towards the patients' adherence to their therapies is very discouraging. Directing the attention of the healthcare industries and whole system towards improving the patient adherence is of utmost importance in developing countries like Nepal.

The attention towards patient adherence to the treatment in Nepal: Despite the circumscribed resources, some efforts have been made to deal with the non-adherence problems in Nepal. At the hospital level, some of the hospitals have started providing medication counseling to the patients to improve their understanding on their treatment regimens, consequently to increase the patient adherence [32-33]. Direct Observation Treatment, a Short-course (DOTS) for tuberculosis, the implementation of antiretroviral treatment schedules for HIV patients and paediatric vaccination models are the examples of some huge efforts which have been made towards the cases of noncompliance [34-36]. Despite these efforts, a lack of resources, an improper patient-clinician relationship, a lack of professional manpower, a lack of proper counseling habits, a lack of social beliefs, low socioeconomic conditions, and a lack of knowledge on the medication administration methodology still persist at higher rates in Nepal [8, 32, 33]. These all factors are putting the Nepalese population at a higher risk of non adherence to their treatment. So, more efforts are required in order to improve the patients' adherence to their treatment in Nepal.

CONCLUSION

The present article has successfully described the basic concept of patient adherence and the different models of patient adherence to the treatment. This article has also discussed about many factors which are related to the patients, healthcare professionals, diseases, drugs and other as the causes of the non-adherence to the therapy. The consequences of non-adherence at the individual, institutional, societal and the national levels have been discussed. At last, the authors have tried to present the current scenario of the non-adherence problem in Nepal and they have highlighted some programs which have been designed to improve the patient adherence to their treatment in Nepal. The authors have concluded that there is minimal attention of the different stakeholders towards the patient adherence in Nepal and that this requires more attentions and efforts.

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