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Non-Compliance

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ABSTRACT

Occurrence of the mismedication when the patients fail to take medicines as prescribed by the physician is known as non-compliance.

INTRODUCTION:

Occurrence of the mis-medication when the patients fail to take medicines as prescribed by the physician [1]. When the patient does not follow the physician's treatment schedule for the management of illness, he is said to be non-compliant [2]. This failure may be wilful or intentional is termed as non-compliance. This includes:

- Overdosing
- Omitting a dose
- Prematurely discontinuing prescription
- Wrong dose and wrong time
- Due to food interventions and interactions
- Failing to refill of the prescription
- Taking outdated and damaged medicine
- Improper medication administration devices

Levels of Non-Compliance

1) Minor non-compliance

Incidents that do not affect data integrity and safety of participants or their willingness to be part of the research. Examples include missed deadlines for review, misunderstanding, improper training, and research staff supervision.

2) Serious non-compliance

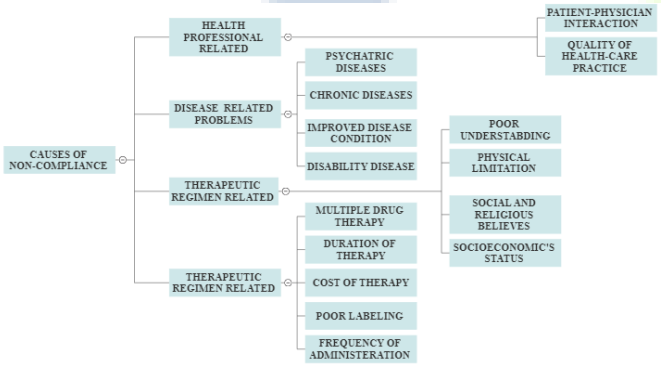
Activity that jeopardises the patient's safety and rights or data integrity. Examples include: Conducting clinical research without HREC approval and that have no standard for the participants for research but is still part of the research.

3) Continuing non-compliance

It is a series of non-compliant events that, if we don't discuss them, may lead to the problem and compromise of human research protection program integrity. Repeated failure to follow the HREC guidelines and policies, particularly in the case when the committee has proclaimed the risk associated with a specific program and corrective actions need to be taken.

Causes of Non-Compliance

Various factors are involved that lead to non-compliance in the patients, and this is most commonly occurring in older adult patients. Some factors are as follows:



- **Figure 1: Flow chart of causes of Non-compliance**

Methods of Assessment

Some methods to determine the non-compliance in patients are given as follows:

1. Methods of Daily Routine

Direct observation: Medicine administration in homes and hospitals involves observing that the patient takes medicines.

Outcome and measures judgments: If an effective drug is taken correctly, that would be an observable improvement in the condition.

Records of prescription orders and cashed Methods: Methods in which great practical value in the frequency with which complete prescriptions are presented. The pharmacist can assess this working practice and access patient medication records [3].

2. Experimental Methods

a) Indirect method

i. **Mechanical devices:** A chip is built into the cap of eye drops that record each inversion of the bottle.

ii. **Therapeutic outcomes**: Patients' degree of compliance is sometimes helpful in the achievement of treatment goals. Compliance with a treatment regimen can be inferred when a specific treatment lead to satisfactory response and outcomes.

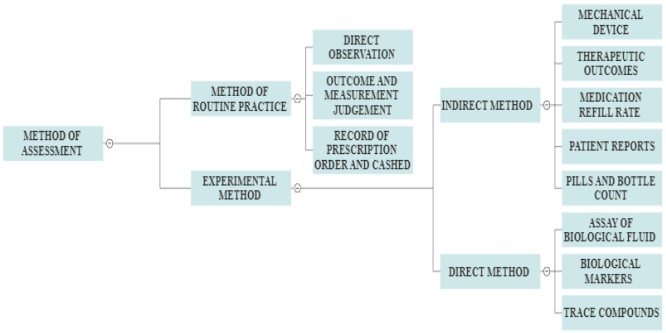
iii. **Patient reports:**The method relies on the fact that patients self-report the medicine compliance and is done either retrospectively or prospectively.

iv. **Pills and bottle count:** A spot check is made to count the number of doses which have been removed from the container since the last check. And is most widely used in situations where patients are said to bring their bottles when getting a refill.

b) Direct methods

i. **Assays of biological fluids**: Compliance can also be evaluated using concentration assessment in biological fluid but have limitations like the Cp level of the individual patient depending on the ADME of the respective patient. And also it does not provide the timing of the consumed dose.

ii. **Biological markers:** Biological markers and trace compound evaluation help the patient's determination over a larger period. For example, Glycosylated haemoglobin measurement helps in metabolic control in last 3 months in diabetic patients.



- **Figure 2: Methods to assess non-compliance**

STRATEGIES FOR IMPROVENT OF COMPLIANCE

Some strategies for the identification, assessment and improvement of the compliance are given below:

A. Identification of Risk Factors:

1st step is identification of an individual who is likely to be non-compliant. Then the judgement of risk factors. And these must be considered in the patient's therapy planning.

B. Development of Treatment Plan:

The complex of the dose regimen designs the greater the chances of the non-compliance thus must be recognised while developing and planning the treatment. Plan is designed according to the patient need and the pathophysiological conditions.

C. Patient Education

I. **Oral communication**: The most important component of patient communication because it is a direct two-way exchange of information between doctor and the patients and provide the opportunities to patient to raise question.

II. **Written communication**: This is the least way of communication among the patients and doctor because most of the people are not educated and unable to read.

III. **Audio-visual material**: This is important in some condition because the patients can better visualise the nature of the illness or how medicine acts on the system or how it is to be administered.

IV. **Control therapy**: Prior to discharge of hospitalised patient it is recommended that they have given the chance of self-medication responsibilities. Most of the patients are dependent on the administration of drug products thus training them before discharging helpful in reducing non-compliance.

D. Patient Motivation

Increased patients' knowledge does not mean it will alter patient behaviour and compliance as most of the doctors think knowledgeable patients are more compliant, but this is not true at all. For example, tuberculosis is currently a great challenge and has found huge difficulties in managing thus clinician has made this observation. "Sometimes it takes a little imagination. Give them a cup of coffee. Talk to them. Pay them an honorarium to come in and take the medicine. If the public doesn't want drug-resistant TB, and if bribing people is the way to get them to take their medicine, then I say bribe them [4].

E. Compliance Aids

I. **Compliance packaging:** Compliance packaging is a prepacked unit medication of one treatment cycle to patients in a ready-to-use package and also have a comprehensive review of product for patient's education. Medicine on time system is an example of packaging system.

II. **Labelling**: Helps in the accuracy and specificity of medicine information along with use, precaution and storage information and pictogram on auxiliary labels shows positive effect for understanding and evaluation of the information related to the use of medicines.

III. **Medication chart**: Designed to help patient self-administration of medicines in addition provide information on which medicine and when to take it thus, reducing patients' non-compliance.

IV. **Dosage for:** Long-actin, controlled released dosage form of various medication has developed to allow less frequent dose administration thus removing compliance issues [5].

F. MONITORING OF THERAPY.

I. **Self-monitoring:** Things like consumer's publications must be given attention to reduce risk of non-compliance. Good Housekeeping titled "If your medicine isn't working.... It may not be the medicine at all it could be you".

II. **Doctor/pharmacist monitoring**: The pharmacist role does not end after medicines have been dispensed. Various factors after the therapy has started must have to be reviewed i.e., hypertension and diabetes related issues has whether minimised or not. Thus, pharmacist must call the patient for review after the drugs have been dispensed.

III. **Direct observation treatment (DOT)**: Non-compliance will still be a matter of concern if you take all the above steps. For example, a high rate of non-compliance or treatment failure in patients with tuberculosis and increasing prevalence of the drug resistance is of greater concern as described in various studies related to TB.

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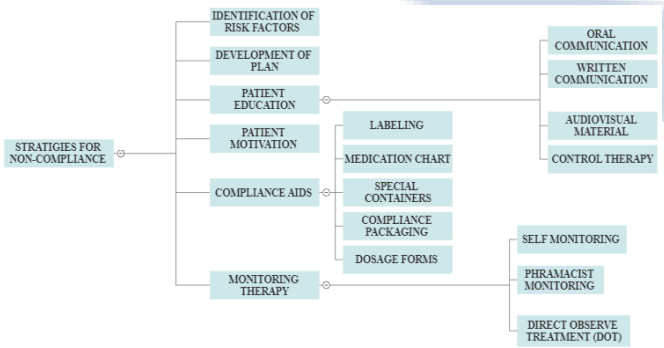

- Figure 3: elaboration of strategies to manage no-compliance

Conclusion:

The goal of the therapy does not meet the requirements unless patients understand and follow the instruction for the use of the prescribed drugs. Despite the increasing attention, the problem is still there, although we are getting much success, this helps to recognize the problems and suggests that we advance and valuable base through which we can develop modified/new approaches to the problems. The improvement in compliance not only helps patients but also other parties that are involved in reducing and addressing the issues regarding compliance. **The pharmacist** is valued for the advice and services he provides and for an increase in their recognition. **Pharmaceutical manufacturer** benefits that their product become hot selling and thus there would be an increase in their sales. Finally, **society and the healthcare system** benefit as result of fewer problems due to non-compliance.

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