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MEDICATION ADHERENCE - AN OVERVIEW

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ABSTRACT

About 75 percent of the money spent on medicines is for primary care. It is estimated that 50 and 30% of the medication prescribed for chronic diseases are not taken as directed. It is not necessary to increase medication intake for patients in order to address non-adherence. Understanding patients' thoughts on medications and the potential reasons why they may not want to accept them or unable to do so is the first step. Practitioners owe it to their patients to educate them on their options for care and to make sure that they use any prescribed medications efficiently. The prescribing, dispensing, and reviewing of medications is now being done by an increasing number of health care professionals. A guideline is not allowed to suggest which healthcare provider performs these tasks. Healthcare professionals must be aware of and adhere to applicable laws and moral standards. This review may help the health professionals to evaluate the medication adherence and render a rational therapy.

KEYWORDS

Medication, Health-care professionals and Non-adherence.

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INTRODUCTION

About 75 percent of the money spent on medicines is for primary care. It is estimated that 50 and 30% of the medication prescribed for chronic diseases are not taken as directed. According to a Cochrane review, an improvement in medication adherence may have a much bigger effect on clinical outcomes than an improvement in therapies. If the prescription was found ineffective, it might not just be a loss for the individuals, but also for the health care system as a whole and for society. Both financial and personal costs are involved. Non-adherence may reduce the benefits of medications, leading to a lack of results.

Also, the additional costs would be brought on by higher healthcare demands if health deteriorates¹. Medication adherence may be defined as "the amount to which the patient's behaviour follows the prescribed instructions as agreed by the doctor". Adherence tips the scales in favour of the professional and the patient, indicating that they should concur on the prescriber's recommendation. Even if non-adherence is a major issue, the patient shouldn't be blamed for it. Instead, it's a restriction on how healthcare is supplied, frequently as a result of a failure to completely approve the prescription in the first place or to later realize and provide the assistance that patients require¹.

It is not necessary to increase medication intake for patients in order to address non-adherence. Understanding patients' thoughts on medications and the potential reasons why they may not want to accept them or unable to do so is the first step. Practitioners owe it to their patients to educate them on their options for care and to make sure that they use any prescribed medications efficiently.

Thus, the degree to which patients take medication as prescribed by their physicians is commonly defined as medication adherence, or taking medications appropriately. This includes activities like administering medications, remembering to take medications as directed and understanding the instructions.

The prescribing, dispensing, and reviewing of medications is now being done by an increasing number of healthcare professionals. A guideline is not allowed to suggest which healthcare provider performs these tasks. Healthcare professionals must be aware of and adhere to applicable laws and moral standards².

MEDICATION ADHERENCE CHALLENGES

The four greatest obstacles of medication adherence are as follows:

Ability to pay for medications

According to a report, "Americans borrowed \$88 billion to pay for healthcare and around 15 million Americans delay buying prescription drugs due to the costs of the medicines. Even more recent data showed that people are finding it extremely difficult

to maintain adherence to high-deductible health plans, which are common for employers³.

Low health literacy

Nearly 36% of the patient population have low health literacy, which is defined as "the extent to which individuals have the capacity to receive, process and understand basic health information and services required to make good health decisions".

Medication non-adherence is related to lower health literacy (in addition to a slew of other wellness and financial challenges). Achieving and then maintaining adherence is very challenging, if not impossible, when patients are unable to understand key concepts like when and how to refill a medication, how to fill a prescription, when to take a medication, how much to take and when to take it³.

Side effects

Patients are more likely to skip taking medications or try to change their regimen on their own to address side effects when they feel negative side effects from taking medications. The likelihood of various effects contributing to non-adherence is very high. Weight gain, nausea/upset stomach, tiredness, and skin irritation are a few examples of such negative side effects⁴.

Poly pharmacy

Patients with poly pharmacy, which is defined as the use of at least five medicines, suffer a number of difficulties because of their extensive prescription history. Complex dosing schedules, unclear instructions, a variety of adverse effects and rising costs are a few of these.

Reasons for medication non-adherence

Unfortunately, medication non-adherence-when patients fail to take their medications as prescribed is very typical, particularly among those suffering from chronic illnesses. When this occurs, it is important for doctors and other medical professionals to understand the reasons why people don't take their prescribed prescription. This will help teams in identifying and enhancing patients' medication adherence. A plan for long-term lifestyle modification may give guidance to the patients that they need to establish and achieve long-term health goals⁵.

Fear

Patients might feel anxious about possible adverse effects. Additionally, they might have already dealt with adverse effects from the same or a comparable drug. Also, patients don't take their medication since their friend or family member might have experienced side effects for the similar medication and might have concluded that the medication was to cause for their issues.

Cost

Cost of the medicine provided to the patient is frequently a serious barrier to adherence. Patients may decide to forego getting their prescriptions filled altogether due to the high expense. They might even limit how much they fill to increase their supply.

Misunderstanding

The need for the drug, the type of the adverse effects, or the length of time it takes to see results can also be a factor to non-adherence in patients. It might be confusing for people with chronic illness to take a prescription everyday in an effort to lower their risk of experiencing bad effects⁶.

Too many medications

The risk that a patient won't adhere to treatment increases when many medications with increased dose frequency are provided. By changing the dosage of a patient's medicines so they can be given at the same time of day, doctors can aim to make the patient's dosing schedule simpler. If the dose needs are too complicated, choosing long-acting medications may be helpful.

Lack of symptoms

As it was previously said, when there are no symptoms, non-adherence may take place. Patients who don't notice any changes while starting or stopping their medication may question the need to continue taking it. Moreover, after a patient's condition is under control, they can stop accepting the prescription because they believe the issue has been solved. It's critical to let the patient know that they may need to take the medication for a very long period.

Mistrust

Pharmaceutical companies' marketing initiatives to influence doctors' prescribing practices have been covered in the news. Patients may begin to question

their doctor's intentions for prescribing specific medications as a result of this continuous trust.

Worry

Non-adherence can also result from a patient's fear about becoming addicted on a medication. In order to overcome this, patient-physician communication should be improved. According to previous reports, miscommunication can be the cause of 55 percent of medication non-adherence, thus it's important to understand the patient's justifications.

Depression

Non-adherence may also result from patient fear about developing drug addiction. Increasing patient-physician communication is one approach to solve the issue⁶.

Methods to improve medication adherence

Improving patient-physician communication is the primary method to overcome non-adherence. There are a lot many other methods to improve patient adherence.

Level of prescribing

A common strategy can be used while prescribing. Including patients in Prescription decision-making whenever possible to give the sense of ownership and make them partners in the treatment strategy is also successful⁷.

Communicating with the patient

Providing important facts when recommending or distributing a medication and describing the most important facts about the medications (what, why, when, how and how long) is an important tool to improve medication adherence.

Informing patients of common adverse effects and cautioning them in advance by healthcare professionals is helpful.

Using tools to boost adherence to medicine, providing medication calendars, schedules, drug cards, charts or information sheets on drugs, as well as unique packaging such as pill boxes, "unit-of-use" packaging, and special containers that indicate the time of dose have increased success in adherence⁸.

Behavioral support

Working together with the patient to fit the medication regimen in to the person's daily routine is especially important for people on complex drug regimens.

MEDICATION ADHERENCE TOOLS FOR HEALTH CARE FACILITIES

About 50% of patients do not take their medications as directed, according to a recent survey and the reason behind is the thought that medication adherence is not primarily the patient's responsibility. Increasing adherence may have a greater impact on health than advances in specific medical care⁹.

Improved adherence can be achieved through open discussions with patients about the value of taking drugs as directed and the dangers of doing anything. But there are other tools that can offer a variety of options that will help the patients as well as the efforts of the healthcare team.

Reminder Chart

It could be difficult to remember when to take drugs, what amount to take, etc. When a patient's number of prescriptions rises how to take medications appropriately (e.g., on an empty stomach, with food and with water); dates when medications begin and end; what drugs may appear like if they were mixed; and adverse effects that should be considered to make decisions after taking drugs (e.g., drowsiness). Giving a chart that includes these facts would make the task easier and feasible. The name of the prescriber and their contact details must be included in this form for clarifications⁹.

Pill Card

Making a pill card for patient will enable to make the reminder chart portable.

Educational Videos

Showing patients an educational film can help drive home the significance of drug adherence. Many authorized video options are available online.

Pill Organizer

A pill planner is one of the simplest items to utilize when supporting adherence. These are generally boxes with separate portions that are labelled with the day of the week. Versions with more information include containers for every day of the week divided by further time of day (e.g., breakfast, lunch, dinner, before bed).

Digital Dispenser

This is a modernized pill organizer. To help prevent errors and repeated dosing, these devices may have

features including automatic dispensers, visible and audible alarms, pharmaceutical information displays, and security locks. Services that can call emergency numbers if prescriptions are not taken, remote monitoring capabilities and supporting medical alert communication devices are examples of more advanced features.

Timer

Medication timers are available in a wide range of options, each with its own appearance and set of features. When it's time for a patient to take their medication, some are designed to rest on a table and sound an alert. The cap of a pill bottle can be attached to or changed by others. Then there are those that are shaped like wristwatch, key rings, Lazy Susans and pocket boxes. Systems can potentially integrate pill dispensers and combine different tasks.

Mobile App

A medication adherence app could be the answer for patients who depend heavily on their smart phones. There are various apps to pick from, each with a variety of functions. Options include drug interaction warnings, dosage tracking, refill alerts, scheduled reminders and notifications, adherence teaching, adherence reporting and game-based benefits for compliance¹⁰.

Tips to stick to medication

It's important to take the prescriptions as directed, including the standard dose, timing, method and frequency, to maintain medication adherence. Not taking the medication as instructed by a doctor or pharmacist could result in the disease condition growing worse, a stay in the hospital, or even fatal¹¹.

Following tips may help the patient to adhere to the medication

A daily routine around taking the prescriptions, such as brushing teeth or getting ready for bed.

Checking whether the medication has to be taken on an empty stomach or a full stomach before choosing lunch time.

Documenting each time taking adoseona" medicine calendar" that is kept with the pill bottles.

Using a pill bottle. Some varieties, such as breakfast, lunch, dinner, and night, have spaces for numerous dosages at various times.

Refilling pill bottles at the same time each week.

Setting timer caps for medication bottles.

Carrying additional prescription dosage when travelling¹¹.

Measuring medication adherence

There are two main categories of drug adherence measurement: direct measurement and indirect measurement. Direct measurements include seeing drug administration together or finding the medicine or a drug's metabolite in a biological fluid. Although it is generally accepted that direct procedures are more effective than indirect ones, these measurements have the inherent disadvantage of being difficult to execute. Direct measures typically cost more and require more labor from the healthcare provider. It is inappropriate to employ direct approaches for measuring drug adherence in sizable patient populations because of these drawbacks. Due to its general use and less expensive implementation, indirect methods of assessing loyalty are more frequently in use¹².

Patient Self-Report

Self-reported measurements are relatively simple to use and include questionnaires and notebooks. The registration process, however, can be complicated by some patients' reluctance to consistently input information about their medicine administration in a diary or respond to a series of questionnaires. Additionally, the results are likely to overestimation of adherence because they are based on patients' self-reports. Results are sensitive to recall bias and can be easily influenced by patients, especially when using questionnaires. Diaries may represent better adherence rates that are normal for patients who do not document their medication use using diaries, despite the fact that they are less sensitive to recollection bias due to their use as an intervention to increase adherence¹³.

Pill Counting

One of the simplest ways to measure adherence to medications given orally is to count pills. However, it needs that patients bring their whole pharmaceutical supply to every appointment with the health professional and abstain from damaging the accurate pill count by throwing away any medication that isn't taken as advised.

Clinical Response

The patients' clinical response can be utilized as an indicator of adherence, similar to pill counts. The clinical response can be measured at regular doctor visits and may already be the accepted practice for keeping a record of the condition being treated. While using this method, the investigator may be able to detect severe non-adherence. An accurate calculation of medication adherence is usually quite challenging because each patient's unique clinical response to a medicine is typically influenced by a complicated combination of variables.

Electronic Drug Monitoring

Specialized microchips are included into medication bottles as part of electronic drug monitors, such as the medication event monitoring system (MEMS), which keeps track of every time a bottle is opened. Providing that each bottle opening actually represents a single administration and that patients keep from transferring pills into other containers, MEMS provides a precise record of patients' medication-taking behaviour. These systems are also costly and typically require regular information downloads from the microchip to the proper software application.

MEMS has developed as the de facto measure of choice to verify other adherence measures, even though it is generally understood that a gold standard to measure medication adherence has not been discovered due to a majority from the scientific community participating in this area. This recognition is due to a number of factors, one of which is the simple fact that MEMS regularly generates adherence rates lower than self-reported approaches. It is considered that MEMS offers a superior measure of real medication adherence behaviour because self-reported approaches are famous for overestimating adherence.

Additionally, it has been established that MEMS-based medication adherence closely relates with the clinical effectiveness of various treatments across a range of therapeutic areas. For instance, it was found that inadequate molecular response was strongly connected with poor adherence to immunotherapy medication, as determined by MEMS, for the

treatment of chronic myeloid leukemia. MEMS was found to be more sensitive than self-reported approaches in detecting non-adherence to antiretroviral therapy in a study on the treatment of human immunodeficiency virus (HIV). The likelihood of actually reaching virologic suppression was more acutely associated with medication adherence based on MEMS than self-reported methods, the study found. It also found a strong correlation between medication adherence based on MEMS and concurrent HIV viral load¹³.

Medication adherence questionnaire

Many patients use medications for extended periods of time, therefore discussions about these medications must take the patients who are taking the medications into care. This involves determining if the patient is taking the medication and whether they are doing so exactly as directed or in another method.

Many techniques for measuring compliance have been developed¹⁴.

CONCLUSION

Worldwide, patient medication non-adherence is a serious medical issue having many linked causes. The use of compliance aids, appropriate motivation and support have been reported to promote drug adherence, even though patient education is the key to enhancing compliance. The goal of improving drug adherence within the parameters of their practice is to improve the therapeutic outcome. Hence, health-care professionals should discover safe and efficient methods to do so. All those involved in medication use should support the multidisciplinary approach, which must be adopted.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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