Variation in Medical Practice

Sometimes, when patients with the same medical problems go to different doctors, those doctors recommend different medications. For example, patients with high blood pressure are often prescribed different medications by different doctors. This is because there is not enough information from research comparing medications for doctors to know which one works best.

A doctor’s decision to prescribe a certain medication can be based on many factors. For example, a doctor’s choice may be based on:

- The fact that the medication has been approved as safe and effective;
- The fact that the medication is usually affordable for patients;
- The fact that most other patients are able to tolerate the medication’s side effects;
- Information the doctor has learned through research articles, medical conferences, or talking with other doctors;
- Information from the company that makes the medication;
- What an individual patient prefers.

Different doctors may have different experiences that lead them to prefer different medications. However, most doctors would say that they do not really know which medication is best.
Research on Medical Practices

Even when several different medications are approved as safe and effective, there may not be information about which one works best. Sometimes researchers want to compare different commonly prescribed medications to each other. This is called Research on Medical Practices.

In Research on Medical Practices, medical researchers compare different commonly prescribed medications, procedures, and lifestyle choices to help answer questions about what treatments are best for patients. For example, they may look to see if some medications work faster, are stronger, or are safer than others. Doctors manage their patients’ day-to-day care, but they sometimes work with researchers to find out which medication is better.

Medical Record Review

Medical record review is one method that researchers can use to compare medications. By reviewing medical records of what medications patients are on, researchers can sometimes find out which medications work better compared to others. Reviewing medical records can be useful, but by itself sometimes leads to the wrong answer about what medication is best.

Randomization

Randomization is another research method. It can be used to overcome the limitations of medical record review. Randomization means a patient is assigned a medication by chance. This is similar to the way a gumball machine works: It will be a gumball that comes out of the machine, but the color of the gumball is decided by chance. In medical research, randomization is the gold standard for making comparisons.

In Research on Medical Practices, randomization means a patient is assigned a commonly prescribed medication by chance. Researchers track the groups of patients to see what group does better. In some studies, the doctors and patients do not know which medication has been assigned. In some studies they do. Either way, doctors can change medications if patients do not respond well. Sometimes researchers try to answer questions by randomizing entire clinics or hospitals rather than individual patients.
Informing or Asking

There are several different options for giving patients information about Research on Medical Practices. One approach is to give general information to all patients. For example, clinics could put a sign in the waiting room explaining that they are involved in Research on Medical Practices. Another approach is for doctors to ask each patient to be involved in the research. Then patients can give verbal permission if they agree to participate. A third approach is that, after patients are informed about the research, they are asked to sign a form if they agree to participate.

When there is enough data comparing different medications, researchers can answer questions about which medications are better. Research on Medical Practices is an ongoing process. Current and new medications will continue to be compared against each other with the goal of finding the best treatments for patients.