Adherence to medical advice

- Adherence (sometimes referred to as compliance) is defined as people doing what they are told to do, in this case adhering to the advice or medication given to them by a health professional.
- This advice may involve:
    - Medical regimes (taking pills)
    - Lifestyle changes (quitting smoking or improving diet)
    - Attending a follow-up appointment
    - Preventive measures (using condoms or wearing cycle helmets)
- Taylor (1990) suggests that 93% of patients fail to adhere to some aspect of their treatment regimes, while Sarafino (1994) suggests that people adhere 'reasonably closely' to treat regimes 78% of the time for short-term treatments, and about 54% for chronic conditions.
- Reasons why people don't agree vary from:
    - Complexity of the regime
    - Length of treatment
    - Treatment involving change in habits/behaviour
    - Perceived intensity of threat of illness (Kent and Dalgleish, 1996)
    - Social support (K n D 1996: when family members are present, they suggest that adherence is twice as good as when the patient is living alone.)
    - Self-efficacy and conformity
- Rational non-adherence
    - It is a term that refers to the deliberate act of not adhering for reasons the patient perceives as rational.
    - Turk and Meichenbaum (1991) argue that patients might not take medication if they do not like the side effects, do not fully understand their treatment schedule or are not certain that the medicine is working.
    - Bulpitt (1988) found that when side-effects outweigh the benefits (cost-reward) of treating a problem such as high blood pressure, which is largely symptom free, there is less likelihood of the patients adhering to their treatment. He studied male participants taking a new drug for hypertension. The drug reduced symptoms such as headaches and depression compared to pre-drug states but, negatively, the men experienced sexual dysfunction. These side-

effects meant many men made the rational decision to stop taking the medicine.

- Customising treatment
    - People do not adhere precisely to a treatment regimen and tailor their usage to suit their own particular requirements- they customise their treatment.
    - Johnson and Bytheway (2000) found that participants' use of prescribed medicines varied according to their perceptions of effectiveness, likely dependence, side-effects, and whether they might interact adversely with other medicines being taken.
- Measuring adherence/non-adherence
    - Subjective: self-reports
        - Patients can complete self-reports with questions related to how much they are adhering to the treatment.
        - Patients can be given booklets to record when they took certain drugs or engaged in certain behaviours that are asked of them as part of their treatment.
        - Pitts et al. (1991) suggests that asking a medical practitioner to estimate the level of non-adherence is 'particularly pointless'. Asking a patient is also of little use because of over-reporting, self-administration or the person may simply not know. People also give socially desirable answers: they will not always tell the truth in order to present a good impression to the health practitioner.
        - Riekert and Droter (1999) suggest that people who do not adhere are unlikely to participate in non-adherence research. From a sample size of 94, results showed there were three types of participant:
            - Those completing all parts of the study (52)
            - Non-returners who completed initial questionnaires but did not return postal questionnaires (28)
            - Non-consenters refusing to participate at the first contact (14)
        - Self-report measures are problematic for various reasons. People tend to over-report their adherence. This may be deliberate for a particular reason such as rational non-adherence, but often patients report what they think the

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doctor wants to hear or what they wish they were able to achieve. Sometimes patients' perception of what they are doing is inaccurate because they may not fully understand the method of treatment or the implications of not sticking to the regime they have been given. This method of checking on patient adherence (although one of the most widely used) is therefore very subjective and open to bias and cannot be fully effective.

- o Objective: pill counting
  - ▪ Quantity accounting or a pill count is where the number of pills remaining in a medication dispenser is counted by the practitioner. However:
    - The fact that the pill has left the bottle does not mean it has been taken
    - Patients may simple throw away unconsumed medication
    - Supplies are divided up; pills may be transferred to other containers
  - ▪ Medication dispensers record and count the number of times they are used. Chung and Naya (2000) developed TrackCap, where a microprocessor in the pill bottle cap records the date and time of each use.
  - ▪ Fifty-seven asthmatic patients began 12 weeks of treatment with zafirlukast 20 mg twice daily. The monitoring device, an electronic TrackCap, recorded the date and time on each occasion that patients removed and replaced their medication bottle caps.
  - ▪ Patients were told that compliance would be assessed as part of the study, but patients were not told about the specifics of the TrackCap.
  - ▪ Compliance was defined:
    - as the number of TrackCap events per number of prescribed tablets; and
    - as the difference between number of tablets dispensed and number returned per number prescribed.

- Adherence was defined as the number of days with two TrackCap events at least 8 h apart per the total number of days' dosing.
- Forty-seven patients completed the study with a median compliance of 89% (mean 80%) and a median adherence of 71% (mean 64%) as measured by TrackCap events.
- Compliance as estimated from return-tablet count was slightly higher (median, 92%). High rates of compliance were maintained throughout the trial.
- These results show that compliance with and adherence to a treatment of an oral, twicedaily, maintenance asthma medication, such as zafirlukast, is high.
- This measure is reliable (produces consistent results) but it is not valid (does not measure whether the medicine is actually taken).
    - Biochemical tests
        - Such as blood and urine tests can determine whether the medication has been used recently, and in some cases how much has been used.
        - Roth (1987) reviewed different adherence measures and concluded that blood and urine levels are the best available measures of medicine intake.
        - Although reliable and objective, such measures may not be very effective in giving the full picture. It might be able to determine whether a particular drug is present, and in what quantity (although it is not always possible to do this), it cannot always tell when the medication was taken or how regularly it is taken- thus does not really measure adherence.
        - It is time consuming and expensive to use this process in order to check adherence.
    - Repeat prescriptions
        - Patients who are on longer-term treatment have the option of asking for the same amount of drugs again without having to see a doctor first.
        - Sherman et al. (2000) checked adherence by telephoning the patient's pharmacy to assess the refill rate. They found that the pharmacy information was 91% accurate. They concluded that telephoning a patient's pharmacy is an

accurate method and can be used as a basis for estimating medicine use.

- o Perhaps the best measure of adherence is the observational method of recording the number of appointments kept. This is 100% accurate. It is reliable and valid. It is not time consuming and does not involve the patient in any direct assessment.
- o Observational measures are reasonably valid, especially if they are used in conjunction with another method such as a patient self-report or a blood or urine test. Often the person carrying out the observation helps to reinforce the treatment programme, and encourages the patient to adhere, so this is an effective method of measuring adherence and ensuring that adherence is maintained.

- Improving adherence
  - o Studies have shown that adherence can be improved through:
    - ▪ Changing practitioner behaviour (DiMatteo and DiNicola,1982)
    - ▪ Changing practitioner communication style (Inui et al, 1976)
    - ▪ Changing information presentation techniques (Ley et al.,1988)
  - o Ley (1988) recommends that practitioners:
    - ▪ Emphasise key info by stating why it is important and stating it clearly in the interaction
    - ▪ Simplify instructions and use clear and straightforward language (no medical jargon)
    - ▪ Use specific statements such as 'you should...' and have the patient repeat the instructions in their own words
    - ▪ Use written instructions, breaking down complex instructions into simpler ones
    - ▪ Use a combination of oral and visual info (such as diagrams)
  - o Lewin et al (1992) looked at effects of self-help post-myocardial-infarction rehabilitation on psychological adjustment and use of health services. Patients who received The Heart Health Manual adhered more to medical advice. They were judged to have better psychological adjustment, visited the doctors less and were less likely to be readmitted to hospital than the control group (less than 10% readmission compared to 25%).
  - o Burke et al. (1997) highlighted 4 techniques that used behavioural methods to improve adherence:

- Tailor the regimen- ensure that the treatment is compatible with the lives of the patients.
- Provide prompts and reminders to serve as cues so patients are reminded of the treatment- e.g. having the day printed on the drug packaging so patients know whether they have taken the pill on the correct day.
- Arrange self-monitoring- ask patients to keep a written record of what they do. These records act as prompts; also, patients are more likely to stick to the treatment if they have to keep a record.
- Establish a behaviour contract- whereby the practitioner and patient negotiate treatment activities and goals in writing and specify the rewards the patient will receive for adhering, such as being healthy again.
- On the other hand, punishments can be used. Wesch et al. (1987) introduced a service charge for missed appointments, which significantly increased adherence.