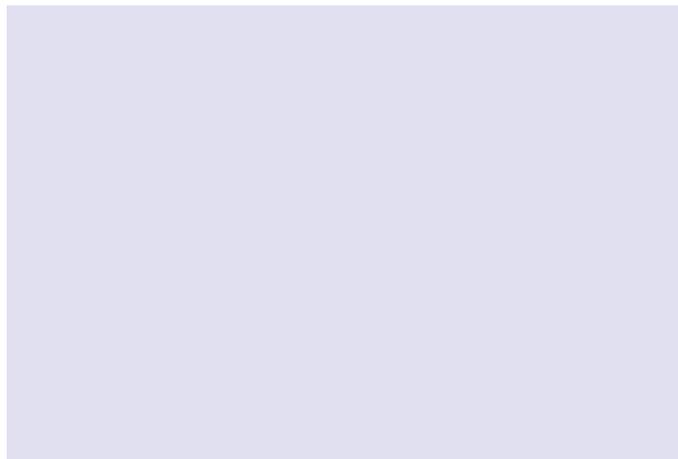


PROMOTING ADHERENCE

— in renal transplant patients

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Successful renal transplantation requires patients to adhere to long-term complex multi-factorial regimens. This article discusses the reasons for poor adherence to therapy, and the pharmacist's contribution to improving it in this patient group



BSIP, MENDEL/SPL

Patient counselling can improve drug adherence

Costs to the NHS of non-adherence to drug therapy in renal failure patients will become increasingly significant. Renal replacement therapy currently accounts for two per cent of the NHS budget and this has been predicted to rise to five per cent over the next five years. The 1993 National Renal Review for England found that 397 people per million population (pmp) were receiving renal replacement therapy. This number had increased to 476 pmp by 1995, and is currently estimated to be over 520 pmp.¹

Patients now being treated for renal failure are older, have more co-morbidity and consume more health care professionals' time than those patients in the early 1990s. The life expectancy of patients with end-stage renal failure has also increased considerably in recent years with modern treatments, even though their quality of life may not have improved. The ultimate goal for many patients with renal disease is a transplant. Successful transplantation requires patients to adhere to long-term complex multi-factorial regimens including regular time-consuming hospital visits, difficult immunosuppressive therapy protocols and treatment of concomitant chronic diseases, eg, diabetes, hypertension.

Adherence is a particular challenge for patients suffering from long-term renal dis-

ease. Studies have shown that 16–55 per cent of renal transplant patients may be non-adherent with immunosuppressive medicines.² Non-adherence is a wasted opportunity for improving health, leading to allograft rejection, organ loss and even death.^{3,4} In one study, 18 per cent of kidney transplant patients were non-adherent with their medicines. Of these, 91 per cent suffered organ rejection or death, compared to 18 per cent of patients who adhered.⁵ This non-adherence compromises the overall success of therapy, making assessment of effectiveness difficult.

Non-adherence is a continuing source of frustration for all those engaged in caring for patients with end-stage renal failure and creates a major challenge for research and clinical practice.⁶ It is costly, not only to the patient, but also to the health care system. This widespread non-adherence to medicines may account for greater waste of resources than any other factor in drug use.⁷

COMPLIANCE AND ADHERENCE

Compliance and adherence are terms often used interchangeably. However, compliance implies a precise following of the health care professional's instructions, suggesting that non-compliance is entirely the patient's error. The term adherence is preferred since it does not attach blame to the patient who does not take their medicine as prescribed, but accepts that patients make rational decisions based on their own beliefs and experiences. To take or not to take a medicine is ultimately a decision

made by the patient. However, it is important to avoid situations where the decision not to take the medicine is based on misconceptions about the relative benefits and risks of the treatment.

MEASURING ADHERENCE

Adherence can be assessed by a number of different methods, but effective measurement remains difficult to achieve. Pill counts, blood levels measurements, refill rates and electronic devices are all objective measures of adherence,⁸ but in general we are still relying on patients' self-reporting. Self-reported adherence, a method that is known to produce overestimates, has a role.⁹ It is cheap and easy to measure, and has been shown to correlate significantly with other methods.⁷

FACTORS IN ADHERENCE

It can be useful to try to classify non-adherence to aid us in devising strategies to help our patients take their medicines. Non-adherence can be associated with a number of factors involving the patient, the treatment and the health care professional.

Patient related Studies have associated adherence with gender,¹⁰ educational and marital status,¹¹ socio-economic status,¹² age,^{11,13} race and smoking.¹⁴ Forgetfulness (not confined to the elderly but can be associated with high alcohol intake and high social demands) can also be a factor in unintentional non-adherence.¹⁵ Other studies have tried to correlate these patient variables

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with adherence but failed to find consistent relationships,³ rather that adherence within individuals varies over time.⁶

Non-adherence has also been noted in other circumstances, such as marital breakdown, when an overdose may have been taken.¹⁵ Another study has shown that non-adherent patients do not have abnormal family dynamics or personal adjustment but have low self-esteem¹⁶ and social adjustment.¹⁷

Treatment related Complex immunosuppressant medicine regimens and the number of drugs a patient takes can have an effect on unintentional non-adherence. However, a further study has suggested there was little evidence to support the theory that adherence to medicine decreases as the number of drugs prescribed increases.¹⁸

Health care provider related Patients require a basic knowledge of their medicine in order to take it correctly. As providers of health care, we may fail by not providing basic adequate information to ensure this occurs. However, enhancing knowledge does not necessarily improve adherence. There are studies that demonstrate a positive correlation between knowledge and adherence and others that fail to find an association.¹⁸ It is also difficult to confirm

whether patients are less adherent because they lack knowledge or that non-adherent patients fail to seek to improve their knowledge.

Intentional factors Early research focused on unintentional factors, assuming that patients encounter physical barriers that prevent them from taking their medicine as prescribed, such as poor comprehension and poor manual dexterity. However, current research has suggested that many patients make a rational decision not to follow advice (ie, deliberate or intentional non-adherence).

Side-effects of treatments, eg, hirsutism, tremor or drug taste, may be associated with intentional non-adherence. Studies of adherence in patients undergoing antihypertensive drug therapy concluded that patients may become intentionally non-adherent if the side-effects of the drug are worse than the symptoms of the disease.¹⁹

Drugs used in transplantation can cause serious side-effects. Some patients may be willing to tolerate these adverse effects; however others find them to be distressing and in some cases this leads to a patient being intentionally non-adherent with their medicine.³ New advances in the field of immunosuppression aim to provide good graft survival with fewer side-effects.

Satisfaction with information The Ley cognitive model predicted that there is significant correlation between understanding, memory, satisfaction and compliance. Therefore, decreased concerns about medicines and higher levels of satisfaction relate to increased adherence.

Beliefs about medicines It has been proposed that many patients, especially those with chronic diseases, are convinced that medicines are necessary to control their illness but still have strong concerns about the risks. Patients respond to this situation by trying to minimise the perceived risks of taking the medicine by reducing the dose or missing doses.²⁰

Informing patients about their medicine empowers them to actively participate in their condition²¹ and patients who are satisfied with information about their medicines are more likely to adhere to their treatment and involve themselves with their treatment.²² Around 40-50 per cent of hospital patients are critical of the communication aspect of their care.¹¹ A patient's beliefs, attitudes and willingness all motivate them to adhere to treatment. Patients' beliefs about their symptoms, causes of illness, length of course of the condition, outcomes and potential cure for their disease will influence coping strate-

Renal Services National Service Framework (NSF)

News on the renal services NSF is reported in this issue (p45)

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gies and behaviour, such as medication adherence.²³ Patients may decide how to take their medicine by weighing up the risks and the benefits. Non-adherence may be an attempt to take control of their illness or limit the perceived risks.

There is some evidence that patients who adhere to dialysis regimens remain adherent after kidney transplantation. A national survey of kidney transplants in the USA found 83 per cent of centres used adherence to treatment during dialysis as an important indicator of adherence after transplant.²⁴ As there is evidence of correlation, it may be important to ascertain beliefs to therapy both pre-and post transplant.

THE PHARMACIST'S ROLE

The national service framework for kidney patients produced by the Kidney Alliance in January 2001 highlights that pharmacy expertise is valuable in improving adherence, providing information about medicines and addressing concerns that may hinder adherence.

In order for pharmacists to take a role in improving adherence among chronically ill patients, drug therapy cannot be looked at in isolation. Pharmacists need to work with other health care professionals by attending ward rounds and out-patient clinics to review medication. We should remember that chronically ill patients are primarily concerned with quality of life and any help or advice from health care professionals must be integrated into existing arrangements

within their lifestyle. Pharmacists have a duty to patients to provide counselling about medication, information about the risks of prescribed drugs and written information about medicines. Pharmacists also have a responsibility to facilitate adherence to medication, without assuming that it is the patients' responsibility to comply with directions.²⁵

All patients are different, and a range of ways of providing information should be available. Hospital patient group sessions, information from support groups (eg, National Kidney Federation), verbal and written instructions, computer assisted programmes and the internet may all be effective methods of delivering information to individual patients.

The challenge of adherence is to encourage patients to share their beliefs in a non-judgemental atmosphere. In order for this to occur, good communication should exist. The Modernisation Plan for the NHS in London 1999–2002 states that the NHS will strive for consistent shared communication with patients — enabling them to make informed choices.²⁶ Many renal pharmacists are involved with medicine review clinics and discharge planning in order to optimise doses and minimise adverse events, and self-administration schemes, which aim to encourage patients to take a more active role in managing their own care and thus improve adherence. It has been demonstrated that patients who receive clinical pharmacy services have improved adherence.²⁷

Despite non-adherence being an enormous cost to the NHS, improving adherence is the last link in the chain of care provided by the pharmacist.²⁸ The Audit Commission report of 2001, "A spoonful of sugar", highlighted the pharmacist as having a central role in designing services around patients' needs and ensuring optimal use of medicines. The decision to use a drug, drug-selection, therapeutic goals, dosing, route of administration, duration of therapy, dispensing, patient counselling, drug monitoring and monitoring therapeutic outcome must all be appropriate, otherwise improving adherence is of no value. The process of pharmaceutical care should be ongoing and requires constant re-evaluation which can often be overlooked, especially for patients with chronic disease.

FURTHER STUDY

Although adherence in patients with renal disease has been extensively studied, there is little reliable information on the factors influencing adherence and how to improve it.¹⁶ To date, few studies have been performed to evaluate whether changing beliefs about medicines can improve adherence and this was an area identified for future research in 1997 by the Royal Pharmaceutical Society.²⁹

Improved health is a more important endpoint than improved adherence to medication. Future research needs to assess the effect of adherence on patients' health parameters, such as quality of life.²⁴

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