

CHAPTER 3

3.0. THE MANY DIFFERENT FORMS OF NON-COMPLIANCE

Many and various and often life threatening are the forms which non-compliance takes.

Patients constantly put themselves at risk, at times even in obvious ways.

Poor adherence can be manifested in a variety of behaviour patterns, such as: not undertaking recommended diagnostic actions or habits (e.g. not obtaining regular checkups or having blood pressure assessed annually, not learning or performing self-examination procedures); delay in seeking care for symptoms of illness; failure to keep follow-up appointments or to complete a recommended referral to another provider or to a laboratory for diagnostic work; not taking prescribed medication (at all, or as instructed) not filling a prescription; delay in seeking care, nonparticipation in health programs; breaking of appointments; or failure to follow physicians' instructions (Gordis, 1979; Becker, 1985).

3.1 Irregularities in Taking Medication

Non-adherence in the use of medication can be in many forms, including failure to have prescriptions filled, omission of doses, errors in dosing or administration time, and premature discontinuation of medication (Dajani, 1996). The pattern of poor compliance is generally characterised by under dosing rather than overdosing and will usually involve interruptions in therapy of several days (Meredith & Elliott, 1994).

Schwed, Fallab, Burnier, Waeber, Kappenberger, Burnand and Darioli (1999) found some patterns of non-adherence to medication, such as a drug holiday in 38% of cases, a drug omission for more than 7 consecutive days in 9% of cases, and, conversely, use of more than the one prescribed daily dose in 47% of cases. Kastrissios, Suarez, Katzenstein, Girard, Sheiner and Blaschke (1998), in a large AIDS clinical trial, observed various non-adherence behaviors, including patterns of under dosing and taking non-prescribed drugs.

Lofdahl (1993) conducted telephone interviews to establish the prescribing instructions given by experienced physicians to patients with angina pectoris treated with long-acting nitrates. In addition, the times of day when doses were taken were recorded. The aim of the study was to determine whether or not an asymmetric dosing regimen was being followed by the patients. All but two took the correct number of tablets, but more than 50% of these patients were not taking the second tablet at the correct time to achieve the recommended 6 to 8 hour period during which the plasma nitrate concentration was sufficiently low to avoid nitrate tolerance, an often unknown (to the patient) factor in erratic medication compliance. This, too, can have serious consequences.

Rudd, Ramesh, Bryant-Kosling and Guerrero (1993) found that cardiovascular patients' dosing patterns often produced "uncovered" intervals (mean duration 3.7 days, range 0-25) with doubtful pharmacologic effectiveness. These lapses were underestimated by patients and poorly perceived by their treating physicians, despite familiarity with their care.

The problems seem to be more severe in underdeveloped countries and the patterns slightly

different. This seems to suggest that education level and literacy plays a role in non compliance apart from other factors. Lee, Buchwald and Hooton (1993) evaluated knowledge about prescribed medications and compliance with taking those medications in 96 South East Asian refugees of different ethnic backgrounds seen in a primary care clinic. Two hundred and thirty of 262 prescribed medications, (88%), were currently being taken by the patients. Although 97% of the medications were either named or described correctly, the correct rationale for taking the medication was known for only 79% and the correct dosage regimen for only 63%. Thirty-two of the 96 patients (33%), were not taking one or more of their prescribed medications, 18% were taking one or more medications not prescribed, 5% were taking duplicate forms of the same medication, and 4% were taking a medication that had been discontinued by the clinic provider. Seventy-five percent of patients were taking one or more medications at an incorrect dose. Only 12% patients were fully compliant with all prescribed medications.

Osei and Commey (1994) studied drug compliance among parents and guardians of children in Accra, Ghana. Of particular concern was the response by some parents or guardians that they would double the dosage to their wards to make up for a missed one should they forget any of the scheduled doses.

3.2 Non- Compliance with Other Forms of Treatment

3.2.1 Haemodialysis and renal transplant

Bame, Petersen and Wray (1993) studied compliance with hemodialysis. Despite severe consequences, non-compliance with their medical regimen is the norm for dialysis patients rather than the exception. Few patients were non-compliant with diet regimens (9% with protein and 2% with potassium restrictions) but half were non-compliant with medication taking (50.2%) and fluid restrictions (49.5%).

At the Johannesburg Hospital, Meyers, Thomson and Weiland (1996) did a study on non-compliance in children and adolescents after renal transplantation . The non-compliant group of patients more often missed clinic visits; forgot to take their medications and took more medications and remembered fewer of the names of their medications than the compliant group. The non-compliant patients knew less about their disease allograft and immunosuppression than the compliant patients. Greenstein and Siegal (1998) in their study on patients with a functioning renal transplant identified three distinct profiles of non-compliers: accidental non-compliers, invulnerables, and decisive non-compliers. Apart from the possible unconscious motivation for accidental non-compliance, the decisive non-compliers are more the target for this study.

3.2.2 Diabetes

Eighty-two young adults who had had diabetes since childhood were studied by Kokkonen, Lautala and Salmela (1997) . All but three of them made regular visits to a health care facility but only 27% monitored blood glucose reasonably well. Anderson, Fitzgerald and Oh (1993) found that differences in attitudes between high-and low adherence groups were more prevalent for difficult adherence areas (e.g. diet and exercise) than for easy adherence areas (e.g. carrying sweets or diabetic identification). Pham, Fortin and Thibaudeau (1996) in studying patients with non-insulin-dependent diabetes mellitus who had had an amputation, found a high level of adherence to medication, foot care, and blood glucose testing, and a low level of adherence to diet and exercise.

A study of knowledge and self-care practices of diabetics in a resettlement colony of Chandigarh was done by Kaur, Singh, Kumar and Walia (1998) . They found that the patients knowledge and practices regarding diet, genital hygiene, care of foot, wound, complications of diabetes and medication was assessed using a semistructured interview schedule. Most of these patients (60%) believed that a diabetic should consume whatever is cooked in the family. Forty-eight diabetics knew that sweets and fatty foods should be avoided but only 18.3% were avoiding them. Genital hygiene was maintained by 51.7% and foot care was done by 63.3% through regular washing. Monitoring of blood sugar was poor (46.7%), only 3 knew and were continuing self testing of urine. Oral anti-diabetic drug compliance rate was 62.9%. None of the patients on insulin injections knew about self therapy. Knowledge regarding diabetic complications was partial.

An interesting factor is the problem of "cheating" in the diabetic child and adolescent.

"Cheating is a frequently encountered phenomenon in the long-term care of diabetic children.

It is usually sporadic and is characterised by the diet abuse and subsequent reports of negative urine tests in an effort to hide the inevitable glycosuria. If the subterfuge continues undetected for a prolonged period of time it will interfere with control, since proper insulin adjustment is not possible under these circumstances. Inaccurate "fudged" urine test records are common in children and adults " (Belmonte, Gunn and Gonthier, 1981.pg. 16). The problem of 'cheating' on various levels is not only limited to diabetics. As mentioned earlier, Urquhart (1994a) writes about the concept of "white coat compliance" , taking the medication as prescribed just before another scheduled visit to the doctor. Di Mitteo and Di Nicola (1982) point out that when patients communicate to the doctors in what might be termed a non compliant way they tend either to purposeful omission of the truth or a failure in their memory or their understanding.

3.2.3 Non-Compliance with Immunization

Rahman, Barr and Hilton (1993) studied the use of oral typhoid vaccine strain Ty21a in a New York state travel immunization facility. The four-dose vaccine should be taken every other day before meals, and kept refrigerated between doses. Non-compliance with one or more of these instructions was seen in approximately 30% of travelers. Thirty-four (21.6%) took one or more doses after meals, 13 (8.3%) did not take all four doses, 10 (6.4%) failed to take the dose every other day, and five (3.2%) did not keep the vaccine refrigerated.

3.2.4 Non Compliance with other medical conditions

Causes of decompensation of treated chronic congestive heart failure in patients referred for emergency hospitalization were examined prospectively in a study by Wagdi, Vuilliomenet, Kaufmann, Richter and Bertel (1993). Several of these were due to insufficient compliance (47%), which could be broken down into: irregular or not intake of medication (25%), salt, (9%) or fluid, (7%) excess and stopping medication because of side effects (6%).

Ben Hamida et.al. (1993) assessed the quality of management of arterial hypertension in a public health center in Tunisia. The initial check-up was the least followed item (6.9%). As concerns treatment effectiveness, only 28% of the patients (n = 36) actually completed the five-year follow-up period. Taylor, Kronl and Csima (1998) in assessing adherence to a rotary diversified diet, found that 37% to 44% of foods consumed were either prohibited, or allowed but consumed on the incorrect day.

Compliance with instructions for ambulatory surgery was studied by Laffey, Carroll, Donnelly and Boylan (1998). Seven patients, (3.5%), admitted to non-compliance with fasting instructions, with 8 percent considering these instructions non-essential. Thirteen of 59 patients on medications took them against instructions, with 9 patients considering the instructions non-essential. Eight patients admitted intending to drive home and 7 percent admitted to having no one to stay with them on the night of surgery.

3.3 Summary

As has been shown, patients avoid compliance in various ways, some deliberately 'cheating' the person treating them. Medications are taken sporadically, doses missed out, and diets carelessly followed. At times patients might be meticulous in their compliance with some aspects of treatment and grossly neglectful or careless in others. All this leads to health threatening and even life threatening behavior and unnecessary risk and expense , taking a toll on health systems that themselves, as it were, are struggling for their lives.