

THE ROLE OF PSYCHOLOGICAL FACTORS AND
METABOLIC CONTROL IN ADOLESCENTS WITH
INSULIN DEPENDENT DIABETES MELLITUS

RESEARCH PORTFOLIO

AUDREY J. WALKER B.Sc. (Hons).

Thesis submitted in partial fulfillment of the degree of
Doctor of Clinical Psychology in the Faculty of Medicine,
University of Glasgow.

September 1995.

ProQuest Number: 11007759

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 11007759

Published by ProQuest LLC (2018). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

Theris
10413
Copy 1



<i>Major Project Proposal Literature Review</i>	4
THE NATURE OF INSULIN DEPENDENT DIABETES MELLITUS AND RELATING FACTORS DURING ADOLESCENCE	
 <i>Major Research Project Proposal</i>	 33
THE ROLE OF PSYCHOLOGICAL FACTORS AND METABOLIC CONTROL IN ADOLESCENTS WITH INSULIN DEPENDENT DIABETES MELLITUS	
 <i>Major Research Project Paper</i>	 49
THE ROLE OF PSYCHOLOGICAL FACTORS AND METABOLIC CONTROL IN ADOLESCENTS WITH INSULIN DEPENDENT DIABETES MELLITUS	
 <i>Small Scale Service Evaluation</i>	 82
CARDIAC REHABILITATION - AN EVALUATION OF STANDARDS AND BEHAVIOUR CHANGE IN POST MYOCARDIAL INFARCTION PATIENTS	
 <i>Clinical Case Research Study - Number One</i>	 104
THE NATURE COGNITIVE DEFICITS IN MYALGIC ENCEPHALOMYELITIS	

<u>CONTENTS</u>	<u>PAGE NUMBER</u>
<i>Clinical Case Research Study - Number Two</i>	124
THE COGNITIVE BEHAVIOURAL TREATMENT OF A PATIENT WITH KLEPTOMANIA	
<i>Clinical Case Research Study - Number Three</i>	142
THE COGNITIVE BEHAVIOURAL TREATMENT OF PERSONALITY DISORDER	
APPENDIX ONE -	i
Major Project Proposal Literature Review	
APPENDIX TWO -	iii
Major Research Project Proposal	
APPENDIX THREE -	vii
Major Research Project Paper	
APPENDIX FOUR -	xvi
Small Scale Service Evaluation	
APPENDIX FIVE -	xxviii
Clinical Case Research Study - Number One	
APPENDIX SIX -	xxxiv
Clinical Case Research Study - Number Two	
APPENDIX SEVEN -	xxxvi
Clinical Case Research Study - Number Three	

MAJOR RESEARCH PROPOSAL LITERATURE REVIEW

THE NATURE OF INSULIN DEPENDENT DIABETES
AND RELATING FACTORS DURING ADOLESCENCE.

WRITTEN IN ACCORDANCE WITH THE GUIDELINES SET DOWN BY DIABETIC
MEDICINE (APPENDIX ONE) .

ABSTRACT

The onset of Insulin Dependent Diabetes Mellitus typically occurs during childhood. The nature of the disease is such that it touches every aspect of the individuals existence. Research with adult sufferers, suggest there are some behavioural and psychological relationships with metabolic control. In childhood the research is less clear as to the nature of these relationships although in clinical practice, there appears a host of untested assumptions regarding them. This review has examined the development of the role of psychological interest in diabetes, and selected the areas in which these assumptions appear most prevalent for the group who are at the transition between child and adult.

NATURE OF THE DISEASE

Diabetes Mellitus had been described as one of the most common chronic illnesses of childhood (1), affecting, it has been estimated, 1-3% of the population (2). Fundamentally it is due either to a lack of insulin, or to factors opposing the action of insulin, more recent work suggests that it may be initiated by a virus (3). As a consequence of the illness's onset, sugar is not converted to energy, so fat and protein stores are broken down to release more sugar into blood. This results in weight loss and a build up of ketones in the blood. If the resulting state of ketoacidosis is left untreated, then death will ensue.

Two types of Diabetes Mellitus exist: insulin dependent diabetes mellitus (IDDM) which is more common in young children and non insulin dependent diabetes mellitus (NIDDM), which has a much later onset. IDDM, develops as a result of the complete breakdown of the beta cells in the Islets of Langerhans in the pancreas. Prior to the introduction of insulin replacement therapy (4), the prognosis for a diabetic individual was bleak. Now, a certain degree of normality can be achieved, although life expectancy remains at only 73% of normal (5).

The management of IDDM requires a balance between the relief of hypoglycaemia, which is associated with a more immediate risk of coma and the avoidance of chronic hyperglycaemia, which may lead to long term complications (6). Good management involves careful monitoring of blood glucose and the use of this information to regulate a specified diet and the timing and dosage of insulin; whilst maintaining the individual's quality of life. In addition moderate exercise and other illness prevention measures such as eye and feet examinations are recommended. The regime is thus complicated and must continue throughout the individual's life. By comparison NIDDM does not require insulin replacement therapy, as the pancreas is still partially functional. Management consists of an alteration in diet only.

IDDM patients can now assess their own daily blood glucose levels at home (7). In the clinic, this self-report, information may be supplemented by measures of blood glucose and also glycosylated haemoglobin (HbA1c and related measures Ghb and HbA1) which reflects the extent to which glucose is bound to haemoglobin. The latter, HbA1, gives an indication of the level of diabetic control over the previous 6-8 weeks (7), but will not indicate short term fluctuation in blood glucose such as the frequency of hypoglycaemic episodes.

This study's focus is specifically on a population of young people with Insulin Dependent Diabetes Mellitus IDDM only.

DEVELOPMENT OF PSYCHOLOGICAL INTEREST IN DIABETES

The discovery of insulin, and the improved medical management that followed, came at a time of widespread interest in psychosomatic medicine (8). Heavily influenced by psychoanalytic theory, psychological research initially focused on the elucidation of a "diabetic personality" which would predispose the individual to this disease. Although research failed to support this view (9,10), an interest in behavioural and social factors remains.

DEVELOPMENT OF RESEARCH MODELS

While early models tended to only use one variable and test the hypothesis in one direction only, models have developed

into ones which employ a multitude of variables, considered to have a multidirectional effect. Early research emphasised the study of variables within the patient (e.g. personality) and compared diabetics as a homogenous group to healthy controls (8). Current models view patients as heterogeneous; functioning within a social context. In these models psychosocial factors are hypothesised to have possible pathological importance, influencing metabolic control and treatment compliance as well as having an impact on the family (11). Research questions currently posed relate to the heterogeneity of the population: why do some individuals do well while others, who are victims of the same disease, do poorly? In these models, patient adjustment and health status are presumed to have a complex interaction with patient and environment variables (11,12).

These new models are probably better representations of the real world but can appear overwhelming. Given the plethora of variables, this paper aims to outline the nature of the variables being addressed in recent research, directly relevant to this study in terms of the complex models which are evolving. These areas include:-

- a. The psychosocial role of development and diabetes.
- b. Stress and its effects in diabetes.
- c. Emotional Adjustment.
- d. The broader model of environment and family.
- e. Peer relationships and self-esteem.

These variables interlink, however for the purpose of this review they have been separated in order to reveal the gaps within the research.

DEVELOPMENT AND DIABETES

Diabetes is an exceedingly complex disease to manage, requiring sophisticated knowledge about the disease and skill at various management tasks (e.g. blood testing, insulin injecting). There is increasing evidence that youngsters knowledge and skills increase in an age related way (12,13,14). Research has consistently found a clear relationship between early and independent participation in the implementation of the diabetic regime and poor control (12,13). For instance, Johnson and colleagues (15) found that 40% of the youngsters they studied were making urine-glucose testing errors; these errors were more common in the younger patients. Frequent errors in reading urine test results were also recorded by Epstein et al. (16), who, noted that most of these errors were in one direction: children tended to underestimate their urine-glucose concentrations. Thus consistently recording inaccurate metabolic control measurements.

This has obvious implications for education programmes and the major task of moving responsibility from the parents to the young person. The American Diabetic Association (17)

recommends that clinical practice should involve waiting until a child is at least nine years old, prior to having responsibility for insulin injecting and twelve, for glucose testing, however surveys show (18) this is often not the case. The actual process of transfer of responsibility of diabetes care from parents to the individual child has very little empirical validation at present. Common practise, encourages adolescents to manage this disease on their own, in view of the poor metabolic control associated with this developmental period some authors are now suggesting that parents should become or remain more involved in their older child's daily care (19). In a recent study Ingersoll et al. (19), investigated patient - parent participation in insulin management, in a group age 12 - 21 years. As might be expected, parental participation decreased with increasing age. By the time the person reached age 15, parental participation had virtually ceased. The authors argued, that for some adolescents who are not yet sufficiently mature to handle the social demands of this developmental phase, parental withdrawal from the treatment process may be premature, resulting in deterioration in adherence and metabolic control. To date, however, there is little focus of this process in the literature, and little empirical evidence.

Along with increasing cognitive abilities researchers have focused on the biological changes related to puberty. For many years the medical profession has been frustrated by the

inadequate control in diabetes with the general assumption that adolescents are in poor control, because they are non compliant (20). Tattersall and Lowe (20) argue that this lack of control relates to extra problems faced by teenagers with diabetes. They and more recently Stallard, (21), argue that difficulties encountered by the diabetic teenager can only be understood in the context of normal adolescence, where the emphasis is on becoming an independent and mature adult. They assert that diabetes interferes with every stage of this process (table 1, see over), and long standing childhood diabetes may delay physical and sexual maturation (22), leading to a sense of inferiority or reinforcing previous feelings of being defective and flawed, however, they give little empirical data in support of these assumptions.

More recently, research, initially by Mann (23) and then Amiel et al. (24), suggested that puberty is associated with increased insulin resistance, with response to insulin inversely correlated to levels of growth hormone, thus suggesting biological factors have profound impact on diabetic youngsters' metabolic control. This finding has shed doubt in the assumption of poor adherence as the main factor in metabolic control at adolescence, but in the minds of the clinicians this behavioural factor still stands (25). Burns (26) attempted to delineate this period by splitting his sample by age, (8-10, 11-13, 13-16,) looking at external factors and behaviour which related to metabolic control.

Table 1

The Effects of Diabetes at Adolescence.

Aims/Problems of "Normal" Adolesc.	How Diabetes Interferes
1. Physical and sexual maturation	Delayed sexual maturation Small stature "Invasion of privacy" by physical examinations
2. Independence from parents and establishment of a unique personality	May lead to parental overconcern. Increases possibility of conflict.
3. Conformity with peer group	Difficulty maintaining friendships. Restrict range of social activities. Spontaneous fun more difficult.
4. Development of self-esteem and personal identity	Negative self image and poor self esteem due to personalisation of good/bad dimension of glycemic control
5. Economic independence	Discrimination by employers

He made tentative suggestions that factors which correlated to good control in the younger group, were different from the middle age group (i.e external locus of control versus continuity of structure) but this study did not account for different rates of physical and emotional development within the assigned age groups. It would appear from the literature, that empirically little has been done to attempt to separate the psychosocial from the biological, during this developmental period therefore assumptions remain unchallenged.

STRESS AND ITS EFFECTS IN DIABETES

Psychologists have spent considerable time attempting to delineate variables such as stress and assess its effect on health in a two way bi-directional model. Theoretically, stress should have a significant effect on diabetic control through the effect of stress hormones. Catecholamine antagonize the peripheral metabolic effect of insulin, and stimulate glycogenolysis and glyconeogenesis by the liver, all of which should result in increased blood glucose levels in the diabetic patient. Catecholamine also encourage free fatty acid mobilisation; the conversion of excessive free fatty acids to ketone bodies by the liver which could lead to diabetic ketoacidosis (7).

Psychological stress, as a potentially disruptive influence on diabetic control, has a long but contradictory history.

While there are theoretical reasons to link stress to diabetic control, and survey data suggest that patients believe stress influences their metabolic control, such linkage has not been found conclusive. Correlational studies, with naturally occurring stressors report only weak inconsistent associations between stress and metabolic status (27). Critics argue that this is due to methodological deficiencies. Older studies pooled IDDM and NIDDM subjects, using a populations of highly selected patients and poor definition of procedures (28-32). Recent studies, have been criticised in their methods of measuring stress with the self report checklist of life events being one most commonly used. Major life events occur so infrequently they probably do not influence health as much as chronic stress, or day to day minor stresses (33). A rare attempt to study psychological and health status over time was carried out by Mazze (34), who followed adult patients over 36 weeks. As expected, poorer glycemic control was associated with anxiety, depression, and problems in living. Improvements in control were correlate with a decrease in emotional and social problems, implying, changes in glycemic control are associated with adjustment.

Close et al. (35), reported an unexpected relationship between good metabolic control (Glycosylated Haemoglobin below 10%) and high levels of depression in their study of sixty children between the ages of 9-18 years. They also found a positive correlation between the child and the parental psychiatric

report. Similarly, Fonagy et al., (36) found that indications of psychological disturbance in the children and parents in their study predicted low glycosylated haemoglobin concentrations in the children and accounted for 44% of the variance in the glucose control. Close, (35) argued that there were a number of possible reasons for this association, and that maintenance of good control may dispose some patients to feelings of depression through:

a."Loss of coping abilities, in that being well controlled may be much harder work than being poorly controlled. Coping mechanisms are being constantly serviced and he/she has to work harder to be normal than ordinary children".

b."The lack of personal reward. External ones from the physicians but internal ones being less readily apparent. Good control is not associated with a sense of well being or greater social or personal opportunity."

c."The dependence on the clinic. Poorly controlled patients with diabetes are more likely to receive attention and enthusiasm from the diabetic clinic. When well controlled, less visits occur. Fluctuations in clinic attendances may well influence the child's mood state".

While possibly b. and c., may have some standing, the first reason (a) appears to assume that coping is finite, in that if they are used they are lost. It seems reasonable to assume that these children use more complex coping strategies than other children and this is indeed supported in the literature

(37). However within psychology coping in one situation is often viewed as a skill which generalises to other situations, rather than one which dries up with over use.

Beardsley and Goldstein (38), reviewed this area, and concluded that there was sufficient evidence to suggest that in some individuals with IDDM, health status was affected by their psychological adjustment (39-42), but concluded that the current state of the literature tells us little about these individuals. They argued it was possible that stress and depression had a different action in childhood and possibly during adolescence than in adulthood.

From these findings, there may be quite a degree of individual difference within stress and its effects in diabetes, which current research has not managed to answer. This may well be due to research methods or instruments used to measure emotional status, not being sufficiently sensitive to the fluctuating nature of diabetes.

EMOTIONAL ADJUSTMENT

To date researchers have rarely focused on attitude and attitude change with in psychological adjustments. Anxiety and depression measures, while validated and easily applied, may not constitute appropriate psychological coping in diabetes, for example Sullivan's experts could not decide whether agreeing with the statement "I try to cover up the

lumpy areas on my body" indicted an attempt by adolescent girls to live a normal life with diabetes, or their rejection of the realities of diabetes (which at that time, frequently included lipoatrophy), (43).

In an attempt to find out more about psychological adjustment and its role in diabetes Dunn (44), designed a measurement tool which overcame these difficulties by making no prior assumptions about what constituted good or poor adjustment. The empirical criterion was designed by scoring patient responses relative to the norms of a large representative sample. The individual's emotional adjustment to diabetes was then assessed reactive to the group average.

Welsch, argued that attempted validation against criteria such as "good psychological adjustment equals good control" is an over simplification (45). Emotional adjustment is, by definition, dynamic and fluctuating, to which traditional measures of anxiety and depression are insensitive. Coping measures can only infer the process of emotional regulation. This measurement tool although with high levels of reliability is still awaiting validation as a clinically useful tool. However it should allow more insight into the relationship of adjustment and its very specific nature within control of diabetes.

ENVIRONMENTAL VARIABLES

The relationship between family interaction and a family member with IDDM, has been studied extensively, with family conflict and organisation the most commonly tested possibilities.

In a now classic study, Pless and colleagues, (46), examined the relationship between child adjustment, family functioning, and chronic illness in a large New York sample. Youngsters who had a chronic illness and who lived in dysfunctional families showed the highest incidence of psychological disturbance. This was particularly true of older children, suggesting a cumulative effect over time of poor health and unfavourable family situation.

Chronically ill youngsters from dysfunctional families appear to be at a greater risk for psychological adjustment problems. There is increasing evidence that youngsters with diabetes who live in less than ideal family circumstances are in worse diabetic control than their counterparts from better adjusted families (47-53).

Certain family patterns are considered to be particularly detrimental to the patient's health. These include parental over involvement (e.g. excessive parental anxiety, over indulgent, over controlling practises) and under involvement (e.g. parental resentment, rejection, lack of interest and

neglect) (8,54). However, while there are many clinical descriptions of parenting which is presumed to be detrimental to the child, there is little empirical data addressing what specific family components are linked to poor health or poor adjustment in this population.

One recent study by Burroughs (55), reported a negative relationship between high parental support, high knowledge and metabolic control in a group of 21 adolescents with diabetes. They hypothesised a number of possible reasons for this finding; firstly they considered that it related to the need of the adolescent to be seen to be part of the peer group over the need to be well controlled. Secondly, it may relate to power struggles within the adolescents' relationship with parents; with these youths, a result of their high knowledge of diabetes, feelings of power, and having the cognitive ability to manipulate their parents, results in the loss of good metabolic control. This team also proposed, that metabolic control related to the type of interactions the adolescents had with their parents; if this was a nagging one then this might alienate them from the regime. This is one of the few studies (although with a small sample and a very large drop out), which did try to empirically test some of the details of parental and environmental interactions which so many other researchers have only described. However these findings still leave many unanswered questions.

In general within childhood diabetic populations, poor health status has been associated with patient adjustment and dysfunctional family environments. Not only are the details of these environments not empirically tested, often the associations are difficult to interpret, i.e. poor health status could lead to poorer patient adjustment and a more dysfunctional environment or the other way around.

PEER RELATIONSHIPS AND SELF ESTEEM

Less well studied, but certainly of importance, are the peer relationships of diabetic youngsters and their functioning within the school environment. Recent intervention programs and "Diabetic Camps", attempted to teach adolescents how to cope with social pressure (56), using social learning as a form of intervention. They found improved haemoglobin HbA1 levels with the intervention group compared than with the control group (learning medical facts about diabetes - lecture style). Other controlled investigations comparing patients to siblings have usually found no difference between groups on measures of general intelligence or scholastic achievement (57), although there is some evidence of intellectual impairment, frequently in the nature of visuospatial deficits, associated with diabetes onset before the age of five (58,59).

Close et al. (35) in their study of emotional difficulties in association with IDDM, found that almost a third of their sample had low self-esteem. However of this group, only three

were below the age of twelve, so that the authors conclusion that, low self-esteem was not merely a function of adolescence when an increase rate of reporting misery and sadness can occur (60), is based on very low and possibly misrepresentative members. This study also had no control group to substantiate these claims. By contrast, Stein, (61), reported increased self-esteem related to coping and mastery of the disease, but this idea awaits empirical validation and it could be argued that mastery and adolescence are two things which do not often go together.

CONCLUSION

Childhood and adolescent diabetes is associated with numerous assumptions about psychological/health status linkages that have rarely been tested. These assumptions guide everyday medical practice and are sometimes so ingrained that their lack of empirical validation may go unrecognised. There are many assumptions of this type, such as the importance of patients having sufficient knowledge to allow understanding and good practice in taking care of their diabetes. Some clinicians' have very rigid practices, insisting that adolescents should take care of their own regime with little regard to other developmental issues. There remains a number of questions about psychological status and its relationship with metabolic control, with mixed findings in the literature possibly due to research methods, or types of measurement tools used. It would also appear implicit in much of the

research that young people with diabetes see themselves in a poor light by comparison to their peers, but again this is an assumption without a backing of empirical evidence and little has been done in the way of investigating the nature of emotional adjustment, and self-esteem at this developmental period.

From this review of the literature there would appear to be considerable room to identify some of these "assumed" relationships between behaviour and metabolic control which await empirical examination by researchers.

REFERENCES

1. Eiser C. Chronic Disease, The Nature of the Challenge. In: *Growing up with a Chronic Disease*. London: Kingsley, 1993:11-28.
2. Shillitoe RW. *Psychology and Diabetes; Psychosocial Factors in Management and Control*. London: Chapman and Hall, 1988.
3. Montague W. *Diabetes and the Endocrine Pancreas; A Biomedical Approach*. London: Croom Helm, 1983.
4. Banting F, Best C. Pancreatic Extracts in the Treatment of Diabetes Mellitus. *Canadian Medical Association Journal* 1922;12:141-146.
5. Craig O. *Childhood Diabetes and its Management* (2nd ed). London: Butterworths, 1981.
6. Pirat J. Diabetes Mellitus and its Degenerative Complications; A prospective study of 4,400 patients observed between 1947 and 1973. *Diabetes Care* 1988;11:168-188.
7. Tarnon JD, Silverman SW. The Psychophysiologic Aspects of Stress in Juvenile Diabetes Mellitus. *International Journal of Psychiatry in Medicine* 1982;11:.25-44.

8. Johnson SB. Psychosocial Factors in Juvenile Diabetes. A review. *Journal of Behavioural Medicine* 1980;3:95-115.
9. Dunbar F. *Emotions and Bodily Changes*. New York: Columbia University Press, 1954.
10. Hepburn D, Langan S, Deary I, MacLeod K, Frier B. Psychological and Demographic Correlates of Glycaemic Control in Adult Patients with Type 1 Diabetes. *Diabetic Medicine* 1994;11:578-582.
11. Hagglof B, Fransson P, Lemmark B, Themlund G. Psychosocial Aspects of Type 1 Diabetes Mellitus in Children 0-14 years of age. *Arctic Medical Research* 1994;53:20-29.
12. Johnson SB. Psychological Aspects of Childhood Diabetes. *Journal of Child Psychology and Psychiatry* 1988;29:729-738.
13. Gilbert BO, Johnson SB, Spillar R, McCallum M, Silverstein J, Rosenbloom A. The Effects of a peer-modelling film on children learning to self-inject insulin. *Behaviour Therapy* 1982;13:186-193.

14. Harkary J, Johnson SB, Silverstein J, Spillar R, MacCallum M, Rosenbloom A. Who learns what at diabetes summer camp. *Journal of Paediatric Psychology* 1983;8:143-153.
15. Johnson SB, Pollak T, Silverstein JH, Rosenbloom AL, Spillar R, MacCallum M et al. Cognitive & Behavioural knowledge about insulin dependent diabetes among children and parents. *Paediatrics* 1982;69:708-713.
16. Epstein LH, Coburn PC, Becker D, Drash A, Siminerio L. Measurement and modification of the accuracy of the determinants of urine glucose concentrations. *Diabetes Care* 1980;3:535-536.
17. American Diabetes Association. Curriculum for Youth Education. Alexandria V A, American Diabetes Association 1983.
18. Wysocki T, Meinhold P, Cox D, Clarke W. Survey of diabetes professionals regarding developmental changes in diabetes self-care. *Diabetes Care* 1990; 13:65-68.
19. Ingersoll GM, Orr DP, Herrold AJ, Golden MP. Cognitive maturity and self-management among adolescents with insulin dependent diabetes mellitus. *Journal of Paediatrics* 1986;105:620-623.

20. Tattersall RR, Lowe J. Diabetes in adolescence. *Diabetologia* 1981;20: 517-523.
21. Stallard P. Psychological issues for children, adolescents and their families with diabetes mellitus. A developmental perspective. *Practical Diabetes* 1993;10:134-136.
22. Tattersall RR, Dyke DA. Growth in diabetic children studies in identical twins. *Lancet* 1973;2:1105-1109.
23. Mann N, Johnston D. Improvement in metabolic control in diabetic adolescents by the use of increased insulin dose. *Diabetes Care* 1984;7:460-464.
24. Amiel S, Serwin R, Simonson D, Lauritano A, Tamborlane W. Impaired insulin action in puberty. A contributing factor to poor glycaemic control in adolescents with diabetes. *The New England Journal of Medicine* 1986;315:215-219.
25. Goldstein D, Hooper M. Management of Diabetes during adolescence: Mission impossible? *Clinical Diabetes* 1987;5:2-21.

26. Burns K, Green P, Chase P. Psychosocial Correlates of Glycaemic control as a function of age in youth with insulin-dependent diabetes. *Journal of Adolescent Health Care* 1986;7:311-319.
27. Hanson S, Pichert J. Perceived stress and diabetes control in adolescents. *Health Psychology* 1986;55:439-452.
28. Hinkle L, Wolf S. The effects of stressful life situations on the concentration of blood glucose in diabetic and non-diabetic humans *Diabetes* 1952;1:383-392..
29. MacGillivray MH, Bruck E, Voorhess ML. Acute diabetic ketoacidosis in children; role of the stress hormones. *Paediatric Research* 1981;15:99-106.
30. Schless GL, Von Laveran-Stiebar R. Recurrent episodes of diabetic acidosis precipitated by emotional stress. *Diabetes* 1964;13:419-420.
31. Vandenburg R, Sussman K, Titus C. Effects of hypnotically induced acute emotional stress on carbohydrate and lipid metabolism in patients with diabetes mellitus. *Psychosomatic Medicine* 1966;28:382-390.

32. Vandenburg R, Sussman K, Vaughan G. Effects of combined physical-anticipatory stress on carbohydrate lipid metabolism in patients with diabetes mellitus. *Psychosomatics* 1967;**8**:16-19.
33. Karlsson J, Holmes C, Lang R. Psychosocial correlates of disease duration and control in young adults with type 1 diabetes. *Journal of Clinical Epidemiology* 1988;**41**:435-440.
34. Mazze R, Lucido D, Shamoon H. Psychological and social correlates of glycaemic control. *Diabetes Care* 1984;**7**:360-366.
35. Close H, Davies A, Price D, Goodyer I. Emotional difficulties in diabetes mellitus. *Archives of Disease in Childhood* 1986;**61**:337-340.
36. Fonagy P, Moran G, Lindsay M, Kurtz A, Brown R. Psychological adjustment and diabetic control. *Archives of Disease in Childhood* 1987;**62**:1009-1013.
37. Olson A, Johansen S, Powers L, Pope J, Klein R. Cognitive coping strategies of children with chronic illness. *Developmental and Behavioural Paediatrics*, 1993;**14**:217-223.

38. Beardsley G, Goldstein M. Psychological factors affecting physical condition. *Endocrine Disease Literature Review* 1993.*Psychosomatics* 1993;**34**:12-19.
39. Halford W, Cuddily S, Moritmer R. Psychological stress and blood glucose regulation in type 1 diabetic patients. *Health Psychology* 1990;**9**:516-528.
40. Gonder-Frederick LA, Carter WR, Cox DJ. Environmental stress and blood glucose change in IDDM. *Health Psychology* 1990;**9**:503-515.
41. Kremmer FW, Bisping R, Steingruber HJ, et al. Psychological stress and metabolic control in patients with type 1 diabetes mellitus. *New England Journal of Medicine* 1986;**314**:1076-1084.
42. Lloyd CE, Robinson W, Stevens LK, et al. The relationship between stress and the development of diabetic complications. *Diabetic Medicine* 1991;**8**:146-150.
43. Sullivan B J. Adjustment in diabetic adolescent girls; Development of the diabetic adjustment scale. *Psychosomatic Medicine* 1979;**41**:119-127.

44. Dunn S, Smartt H, Beeney L, Turtle J. Measurement of emotional adjustment in diabetic patients: validity and reliability of ATT 39. *Diabetes Care* 1986;9:480-489.
45. Welch G, Dunn S, Beeney L. The ATT39: a measure of psychological adjustment to diabetes. In: Bradley C, editors. *Handbook of Psychology and Diabetes*. Switzerland: Harwood 1994:223-246.
46. Pless I, Roghmann K, Haggerty R. Chronic illness, family functioning and psychological adjustment. A model for the allocation of prevention mental health services. *International Journal of Epidemiology* 1972;1:271-277.
47. Anderson B, Miller P, Auslander W, Santiago J. Family characteristics of diabetic adolescents: relationship to metabolic control. *Diabetes Care* 1981;4: 586-594.
48. Ryden O, Johnsson P, Nevander L, Sjoblad S, Westbom L. Co-operation between parents in caring for diabetic children: relations to metabolic control and parents' field-dependence-independence. *Diabetes Research and Clinical Practice* 1993;20:223-229.
49. Anderson B, Auslander W. Research of diabetes management and the family: a critique. *Diabetes Care* 1980;3:696-702

50. Grath A, Smith M, Baum J. Emotional behavioural and educational disorders in diabetic children. *Archives of Disease in Childhood* 1980;55:371-375.
51. Koski M, Kumento A. Adolescent development and behaviour: a psychosomatic follow-up study of childhood diabetes. *Modern Problems in Paediatrics* 1975;12:348-353.
52. Simonds J. Psychiatric status of diabetic youth matched with a control group. *Journal of the American Diabetes Association* 1977;26:921-925.
53. Ryden O, Nevander L, Johnsson P, Hanson K, Kranall P, Sjoblad S, et al. Family therapy in poorly control juvenile IDDM: Effects on diabetic control, self-evaluation and behavioural symptoms. *Acta Paediatrica* 1994;83:285-91.
54. Minuchin S, Rosman B, Baker L. *Psychosomatic families*. Cambridge: Harvard University Press, 1978.
55. Burroughs T, Pontious S, Santiago J. The relationship among six psychosocial domains, age, health care, adherence and metabolic control in adolescents with IDDM. *The Diabetes Educator* 1993;19:396-402.

56. Kaplan R, Chadwick M, Schimmel L. Social learning intervention to promote metabolic control in type 1 diabetes mellitus: pilot experiment results. *Diabetes Care* 1985;8:152-155.
57. Weil WB, Ack M. School achievement in juvenile diabetes mellitus. *Diabetes* 1964;13:303-306.
58. Rovet J, Gore M, Ehrlich R. Intellectual and behavioural deficits associated with early onset diabetes mellitus. *Diabetes* 1983;32:17.
59. Ryan C, Vega A, Drash A. Cognitive deficits in adolescents who developed diabetes early in life. *Paediatrics* 1985;75:921-927.
60. Rutter M, Tizard J, Whitmore K. *Education, health and behaviour*. London: Langmans, 1970.
61. Stein R, Jessop D. Relationship between health status and psychological adjustment among children with chronic conditions. *Paediatrics* 1984;73:169-174.

MAJOR RESEARCH PROJECT PROPOSAL

The Role of Psychological Factors and Metabolic Control
in Adolescents with Insulin Dependent Diabetes Mellitus.

WRITTEN ACCORDING TO THE GUIDELINES SET DOWN BY THE CHIEF
SCIENTIST OFFICE (SOHHD) FOR MINI-PROJECT GRANTS IN HEALTH
SERVICE RESEARCH.

APPLICANT: Audrey J. Walker,
Trainee Clinical Psychologist,
Department of Psychological Medicine,
University of Glasgow.
Academic Centre, Gartnavel Royal Hospital

Supervisors for Project:

ACADEMIC: Ms Christine Puckering,
Lecturer in Clinical Psychology,
Department of Psychological Medicine
University of Glasgow
Academic Centre, Gartnavel Royal Hospital

CLINICAL: Ms Sita Picton-Howells,
Senior Clinical Psychologist
Department of Child Psychology
Royal Hospital For Sick Children
Glasgow

CONSULTANT: Dr. Kenneth Robertson,
Consultant Paediatrician,
Royal Hospital for Sick Children
Glasgow

TITLE: The Role of Psychological Factors and
Metabolic Control in Adolescents with Insulin
Dependent Diabetes Mellitus.

SUMMARY

Managing Insulin Dependent Diabetes Mellitus (IDDM), is a arduous task at any time, but it has been shown to be of particular difficulty during adolescence. Current literature presents some evidence that psychological factors play a role in control of diabetes, however there has been little research during this period of rapid developmental change and it is generally assumed that poor control is due to adolescent rebellion and the psychological developmental process. Recent evidence has found that adolescents are insulin resistant thus implicating both physical and psychological factors into the equation of metabolic control.

This study will involve collecting information, by means of questionnaires, from sixty percent of the young people currently attending the adolescent diabetic clinic at the Royal Hospital For Sick Children, Glasgow. Information will be collected regarding the duration of the disease, current pubertal status and a measure of their metabolic control (HbA1). Current knowledge of diabetes care will be assessed, measures of emotional adjustment to the disease and its process will be made. Self-esteem and perceived degree of control and responsibility within their daily regime alongside parental control will also be investigated.

The results will be analyzed to investigate the nature of the group differences between metabolic control and the psychosocial and demographic factors.

INTRODUCTION

It is generally believed that the management of insulin dependent diabetes mellitus (IDDM), is a difficult task at any age, but particularly during adolescence (1-7). For young persons coping with a chronic disease particular behavioural and psychosocial factors may make a critical difference between adequate and dysfunctional health maintenance. In IDDM, where daily metabolic and long term health maintenance requires vigilance, self-monitoring, and daily health care behaviour, the adequacy of this behaviour may to a significant degree depend on prior and concurrent psychosocial factors such as paternal guidance and influence, versus control over own diabetic regime, knowledge and attitudes about the disease. The risk of complications directly relates to how well the individual adheres to their regime, with poor metabolic control having major effects both in long and short term (8). Diabetic ketoacidosis is a life threatening complication which is usually preventable, while long term complication include blindness, kidney failure, heart disease and peripheral vascular problems, (8-12). Thus poor control at any time can have a major affect in health and quality of life, immediately or at some point in the future. These complications which arise out of poor control have major implications for the individuals, their families, for health providers' management role and health service resources.

Throughout childhood, satisfactory metabolic control often is maintained with well structured home and school environments

(3,13-15). This structure usually decreases, as the child enters adolescence (16), and spend more time with peers and is less influenced by parents and teachers. Current clinical practice encourages control of the diabetic regime to shift, sometimes abruptly, into the hands of adolescents who may not be ready to handle the responsibility effectively. This task, which would be formidable for most adults, is extremely complicated for adolescents who are experiencing major physical, social and psychological changes.

Adolescence present a unique set of problems for health care providers who are responsible for helping the youth develop socially and psychologically while maintaining good metabolic control (3). Commonly, these providers attempt to help metabolic control by examining the child, reviewing glucose readings, and questioning the parents. When difficulties arise, the provider works with the parents to make adjustments in lifestyle, diet, and insulin dosage. For the most part, the parent's were the direct route to the child. During adolescence however this approach may no longer remain appropriate or useful. Knowledge and control of the adolescent's environment now are shared by parents and youths in ways that are no longer clear cut or discernable. It would be extremely useful for the provider to know what issues are important in maintaining adequate metabolic control at this transitional period.

In recent years studies have started to investigate the relationships between various psychosocial variables, and metabolic control in individuals with IDDM (4,17,18). Statistically significant relationships have been identified between metabolic control/adherence and family cohesion, knowledge, social competence and coping behaviours, (14,18,19,20,5). There is also some evidence that this group experience emotional difficulties in adapting to their diabetes and this may also have a bearing on metabolic control (21,22).

AIMS AND HYPOTHESIS

The current study examines the role of five psychosocial variables, demographic variables and metabolic control in adolescents. The psychosocial areas selected were: personal knowledge of health care in IDDM; attitudes toward the disease in terms of coping; parental involvement; personal autonomy within the daily regime; and self-esteem. The selection of these related to findings from other studies in their involvement in metabolic control/adherence in diabetes (see literature review for more details). Demographic variables include sex, age of onset, and pubertal status. The following five questions were addressed by the study:

1. What are the significant group differences between metabolic control of diabetes (HbA1) and the psychosocial and demographic factors (personal knowledge about diabetes, attitudes towards the disease, self-esteem,

parental involvement, personal autonomy within the regime, duration of the disease and age)?

2. Are these group differences the same in terms of the extremes of metabolic control i.e. those with high HbA1 measures versus those with low HbA1?
3. Does age of onset of diabetes reflect any differences in terms of the psychosocial measures (knowledge, attitudes, autonomy, parental influence, self-esteem or pubertal status)?
4. What role does pubertal status play in terms of the variables and metabolic control?
5. How does the self-esteem norms compare with this group of adolescents with a chronic illness (diabetes)?

PLAN OF INVESTIGATION

SUBJECTS

Sixty subjects with their parents will be randomly selected from the one hundred and four young people currently registered at the adolescent diabetic clinic at the Royal Hospital for Sick Children. Criteria for inclusion will be patients between the age of 12 and 16 diagnosed with insulin

dependent diabetes mellitus for at least six months with no other concurrent chronic illness.

MEASURES

Psychosocial measures used included the DKN-A scale (23), This is a fifteen item multiple choice "quiz" assessing knowledge of four main aspects involved self care management in diabetes (a. the normal range of blood glucose; b. the cause of hypoglycaemia; c. insulin requirements during illness; d. carbohydrate food). Cronbach alpha was computed for the DKN-A - 0.83 (23).

The ATT-39 (24) is a norm referenced measure of emotional adjustment in diabetic patients, with thirty-nine self-report items comprising a range of attitudinal statements relating to a patient's perception of diabetes and its treatment. The items are scored on a five point Likert scale that ranged from "I agree completely" to "I disagree completely". The scale comprises of six subscales: "Diabetes Stress"; "Coping"; "Guilt"; "Alienation-Co-operation"; "Illness Conviction"; "Tolerance for ambiguity". Dunn et al (24) reported the internal reliability of the ATT-39 as measured by Cronbach's alpha to be 0.78.

The Modified and Standardised Harter Self-Esteem Questionnaire (25), is a thirty-six item self-perception profile for children (Standardised norms from Primary class 4 to Secondary class 4). It incorporates six subscales: "Scholastic";

"Social"; "Athletic"; "Appearance"; "Behaviour"; "Global". Cronbach's alpha for reliability between the subscales was calculated 0.72-0.83 and support the internal consistency. Neither the original Harter Questionnaire, or the modified version have an independent measure of self-esteem so that construct validity of this version is not known.

The Autonomy questionnaire which has been designed for the study, includes eight questions regarding degree of responsibility and control within the diabetic regime. The areas focused on are: injections, insulin dose, eating at home, eating outwith the home, blood glucose testing and recording, and finally exercise. The questions are directed to the previous weeks experience and scored along a continuous visual analogue scale. Parental Questionnaire is a measure of degree of control in diabetes regime from the parents view point again using a visual analogue scale. This questionnaire was also designed for this study. No standardised information is available for either of these measures (Autonomy and Parental Questionnaire) however, both have been piloted. Physiological information regarding Glycosylated Haemoglobin (HbA1), a measure of metabolic control over the previous six to eight weeks and current pubertal status as well as duration of diabetes will be supplied from the hospital data base.

DESIGN AND PROCEDURE

The index patient parents or guardian will be initially contacted by letter from the consultant diabetologist and the

study's author with details of the study and requesting them to contact the department if they or their son or daughter do not wish to participate. Patients and their parents will then be contacted either at the clinic or by phone to participate in the study. The study will be carried out either during the clinic time or at the patients home - whatever is most convenient for them. The author will complete the questionnaires with the information from the patient and parents; this will take approximately one hour.

SETTINGS AND EQUIPMENT

A room has been made available in the clinic, permission to use the questionnaires has been sought where appropriate.

DATA ANALYSIS

The results will be analyzed by means of SPSS/PC+, employing a range of parametric and non parametric statistics to answer the questions posed by the study (see aims and hypothesis section above). These procedures will be carried out at the University of Glasgow Department of Psychological Medicine.

PURPOSE

The purpose of the study is to gain a better understanding of the interplay of psychosocial factors in these young people with diabetes as they are going through a period of rapid physical and psychological change. This is a time when metabolic control of diabetes tends to be very poor. Current

literature on this area is somewhat sparse, falling on the side of poor adherence as a form of teenage rebellion. This study intends to look at a number of psychosocial aspects of this group (knowledge of diabetes, the degree of autonomy in the regime, the young persons self esteem, pubertal status and duration of the disease) and clarify their role in metabolic (HbA1) control in insulin dependent diabetes mellitus.

This study will highlight issues pertinent to this patient group, which will have implications for patient care and direct clinical management.

TIME SCALE

Data collection is planned to take place during the months of June, July and August 1994. Scoring and analysis is planned to take place during the winter of 1994/95 and write-up in the spring of 1995.

ETHICAL APPROVAL

Approval for this research was applied for (January 1994), to the Ethical Committee of the Royal Hospital for Sick Children, Glasgow. Approval was given by the Chairman of the board (April 1994).

REFERENCES

1. Tattersall RR, Lowe J. Diabetes in adolescence. *Diabetologia* 1981;20:517-523.
2. Stallard P. Psychological issues for children, adolescents and their families with diabetes mellitus: A developmental perspective. *Practical Diabetes* 1993;10:134-136.
3. Goldstein D, Hoepfer M. Management of Diabetes during adolescence: Mission impossible? *Clinical Diabetes* 1987;5:2-21
4. Burns K, Green P, Chase P. Psychosocial Correlates of Glycaemic control as a function of age in youth with insulin-dependent diabetes. *Journal of Adolescent Health Care* 1986;7:311-319.
5. Kaplan R, Chadwick M, Schimmel L. Social learning intervention to promote metabolic control in type 1 diabetes mellitus: pilot experiment results. *Diabetes Care* 1985;8:152-155.
6. Amiel S, Serwin R, Simonson D, Lauritano A, Tamborlane W. Impaired insulin action in puberty. A contributing factor to poor glycaemic control in adolescents with diabetes. *The New England Journal of Medicine* 1986;315:215-219.

7. Mann N, Johnston D. Improvement in metabolic control in diabetic adolescents by the use of increased insulin dose. *Diabetes Care* 1984;7: 460-464.
8. Johnson SB. Juvenile diabetes. In: Oilendrick M, Hersan M, editors. *Handbook of Child Psychopathology* (2nd Edition). New York: Plenum Press. 1989.
9. Klein R, Klein B. Vision disorders in diabetes. In: Harris M, Hamman R, editors. *Diabetes in America 1985*. NIH Publication No 85-1468. Bethesda MD: US Department of Health and Human Services, National Institutes of Health.
10. Barrett A, Connor E, Orchard T. Diabetes and Heart Disease. In: Harris M, Hamman R, editors. *Diabetes in America 1985*. NIH Publication No 85-1468. Bethesda MD: US Department of Health and Human Services, National Institutes of Health.
11. Palumbo P, Melton L. Peripheral vascular disease in diabetes. In: Harris M, Hamman R, editors. *Diabetes in America 1985*. NIH Publication No 85-1468. Bethesda MD: US Department of Health and Human Services, National Institutes of Health.

12. Herman WH, Teutsch SM. Kidney diseases associated with diabetes. In: Harris M, Hamman R, editors. *Diabetes in America 1985*. NIH Publication No 85-1468. Bethesda MD: US Department of Health and Human Services, National Institutes of Health.
13. Pless I, Roghmann K, Haggerty R. Chronic illness, family functioning and psychological adjustment. A model for the allocation of prevention mental health services. *International Journal of Epidemiology* 1972;1:271-277.
14. Anderson B, Miller P, Auslander W, Santiago J. Family characteristics of diabetic adolescents: relationship to metabolic control. *Diabetes Care* 1981;4:586-594.
15. Ryden O, Johnsson P, Nevander L, Sjoblad S, Westbom L. Co-operation between parents in caring for diabetic children:relations to metabolic control and parents' field -dependence- independence. *Diabetes Research and Clinical Practice* 1993;20:223-229.
16. Ingersoll GM, Orr DP, Herrold AJ, Golden MP. Cognitive maturity and self-management among adolescents with insulin dependent diabetes mellitus. *Journal of Paediatrics* 1986;105:620-623.

17. Dunn S, Smartt H, Beeney L, Turtle J. Measurement of emotional adjustment in diabetic patients: validity and reliability of ATT 39. *Diabetes Care* 1986;**9**:480-489.
18. Hagglof B, Fransson P, Lemmark B, Themlund G. Psychosocial Aspects of Type 1 Diabetes Mellitus in Children 0-14 years of age. *Arctic Medical Research* 1994;**53**:20-29.
19. Harkary J, Johnson SB, Silverstein J, Spillar R, MacCallum M, Rosenbloom A. Who learns what at diabetes summer camp? *Journal of Paediatric Psychology* 1983;**8**:143-153.
20. Johnson SB, Pollak T, Silverstein JH, Rosenbloom AL, Spillar R, MacCallum M et al. Cognitive and behavioural knowledge about insulin dependent diabetes among children and parents. *Paediatrics* 1982;**69**:708-713.
21. Fonagy P, Moran G, Lindsay M, Kurtz A, Brown R. Psychological adjustment and diabetic control. *Archives of Disease in Childhood* 198;**62**:1009-1013.
22. Close H, Davies A, Price D, Goodyer I. Emotional difficulties in diabetes mellitus. *Archives of Disease in Childhood* 1986;**61**:337-340.

23. Dunn S, Bryson J, Hoskins P, Alford J, Handelsman D, Turtle J. Development of the Diabetes knowledge DKN scales: Forms DKN A, DKN B and DKN C. *Diabetes Care* 1984;7:36-41.
24. Dunn S, Smartt H, Beeney L, Turtle J. Measurement of emotional adjustment in diabetic patients: validity and reliability of ATT 39. *Diabetes Care* 1986;9:480-489.
25. Hoare P, Elton R, Greer A, Kerley S. The modified and standardisation of the Harter self-esteem questionnaire with Scottish school children. *European Child and Adolescent Psychiatry* 1993;2: 19-33.

MAJOR RESEARCH PROJECT PAPER

THE ROLE OF PSYCHOLOGICAL FACTORS AND METABOLIC CONTROL IN
ADOLESCENTS WITH INSULIN DEPENDENT DIABETES MELLITUS.

WRITTEN ACCORDING TO THE GUIDELINES FOR DIABETES CARE
(AVAILABLE IN APPENDIX THREE)

ABSTRACT

This study examines the importance of five psychosocial factors; duration and pubertal status in metabolic control, in adolescents with insulin dependent diabetes mellitus (IDDM). Four objectives were identified: a) To determine the group differences between metabolic control and the psychosocial and demographic variables. b) To determine if age of onset reflected any differences in terms of the psychosocial and demographic variables. c) To determine the effects of pubertal status in terms of the variables. d) To compare the self-esteem in this group of adolescents with diabetes to the Scottish norms. Sixty-one subjects between the ages of 12-16 currently attending an adolescent diabetic clinic participated in the study. Each young person was interviewed along with one of their parents and completed a number of questionnaires. Perceived behaviour provided a significant group difference in metabolic control ($p=0.03$) and a trend effect of parental involvement ($p=0.09$). Age of onset provided a significant, and non linear, main effect with knowledge about diabetes ($p=0.02$) and metabolic control ($p=0.004$). While pubertal status had a significant main effect on the self-esteem subscale of appearance ($p=0.006$). A trend effect, was found between age of onset of diabetes and the "sociability" subscale of the self-esteem measure ($p=0.07$).

Key Words: IDDM, Adolescence, Pubertal Status, Knowledge, Autonomy, Parental Influence, Attitudes, Self-Esteem.

INTRODUCTION

Managing insulin dependent diabetes mellitus (IDDM), can be a arduous task at any age, but it appears to be particularly difficult during adolescence (1-7). For young persons coping with a chronic disease certain behavioural and psychosocial factors may help improve metabolic control and thus maintain health (8-11). In IDDM, where daily metabolic and long term health maintenance requires awareness, self-monitoring, and daily health care behaviour, the adequacy of this, may to a significant degree, depend on prior and concurrent psychosocial factors such as paternal guidance and influence, versus control over own diabetic regime, knowledge and attitudes about the disease. Throughout childhood, satisfactory metabolic control is often maintained with well structured home and school environments (3,12-14). This structure usually decreases, as the child enters adolescence and spend more time with peers and less time under the supervision of adults (15). Due to clinical practises, or environmental factors, control of the diabetic regime may shift, sometimes rapidly, into the hands of adolescents who may not have the ability to handle the responsibility. The Adolescent Clinic attempts to support the young person through the transition period of major physical, social and psychological change.

Adolescence present a unique set of problems for clinicians who are responsible for helping the youth develop socially and psychologically while maintaining good metabolic control (3). With children, commonly these providers attempt to help metabolic control by examining the child, reviewing glucose readings, and questioning the parents. When difficulties arise, the provider works with the parents to make adjustments in lifestyle, diet, and insulin dosage. For the most part, the parent's were the direct route to the child. During adolescence, however, this approach may no longer remain appropriate or useful. Knowledge and control of the adolescent's environment are now shared by parents and youths in ways that are no longer clear cut or discernable. Often it is assumed that adolescents are in poor control through lack of adherence (16). It would be extremely useful for the clinician to know what issues are important in maintaining adequate metabolic control while coping with the developmental tasks of this transitional period.

In recent years studies have started to investigate the relationships between various psychosocial variables, and metabolic control with IDDM (4,17,18). Statistically significant relationships have been identified between metabolic control and family cohesion, knowledge, social competence and coping behaviours (5,13,18,19,20). There is also some evidence that this group experience emotional

difficulties in adapting to their diabetes and this may also have a bearing on metabolic control (21,22).

The current study examines the relationship among five psychosocial variables, demographic variables and metabolic control in adolescents. The psychosocial areas selected were: personal knowledge of health care in IDDM; Attitudes toward the disease in terms of coping; parental involvement; self-esteem; and personal autonomy within the daily regime. These were selected as they were considered to be related to metabolic control/adherence in other studies (see literature review for more details). Demographic variables includes sex, age of onset, and pubertal status.

The following five questions were addressed by the study:

1. What are the significant group differences between metabolic control of diabetes (HbA1) and the psychosocial and demographic factors (personal knowledge about diabetes, attitudes towards the disease, self-esteem, parental involvement, personal autonomy within the regime and age)?
2. Are these group difference the same in terms of the extremes of metabolic control i.e. those with high HbA1 measures versus those with low HbA1?

3. Does age of onset of diabetes reflect any group differences in terms of the psychosocial measures (knowledge, attitudes, autonomy, parental influence, self-esteem or pubertal status)?
4. What role does pubertal status play in terms of the psychosocial and demographic variables and metabolic control?
5. How does the measure of self-esteem in this group of adolescents with a chronic illness (diabetes), compare with that of the Scottish norms for a similar age group?

METHODS

Subjects:- Sixty-one subjects with their parents were randomly selected from the one hundred and four patients currently registered at the adolescent diabetic clinic at the Royal Hospital for Sick Children. Criteria for inclusion was patients between the age of 12.0 and 16.0, diagnosed with insulin dependent diabetes mellitus for at least six months with no other concurrent chronic illness. Average age of subjects was 13.8 years (sd=0.86) and 47% of the group was female. Average duration of diabetes was 5.87 years (sd=3.74). (Age was measured in years and months).

Measures

Knowledge:- The adolescent's knowledge about IDDM was assessed using the DKN-A scale (23). This is a fifteen item multiple choice assessment of knowledge diabetes with a maximum score of nineteen. Average score on this test was 14.9 (sd=3.43).

Emotional Adjustment:- The ATT-39 (24) is a norm referenced measure of emotional adjustment in diabetic patients, with thirty-nine self-report items. The scale comprises of six subscales: "Diabetes Stress"; "Coping"; "Guilt"; "Alienation-Co-operation"; "Illness Conviction"; "Tolerance for Ambiguity". However both in personal correspondence from Dunn and published by Welch in October 1994 (25), these six subscale were no longer considered viable and a nineteen item version was derived (ATT-19 or Diabetes-Integration) as a measure of emotional adjustment. This scale had improved internal consistency (Cronbach's alpha 0.83). As a consequence items which now appeared on the ATT-19 were scored from the corresponding items in the ATT-39 to give the new total score of emotional adjustment. The possible range of scores on the ATT-39 was 19 to 95. Results in this study produced a mean score of 70.6 (sd=16.8).

Self-Esteem:- The Modified and Standardised Harter Self-Esteem Questionnaire (26), was administered (standardised norms from Primary class 4 to Secondary class 4). It was split into its

six subscales: "Scholastic"; "Social"; "Athletic"; "Appearance"; "Behaviour"; "Global". The possible range of scoring on this scale was from 36 to 144. The mean total score was 104 (sd= 14.9).

Autonomy within the diabetic regime:- This was measured by Autonomy questionnaire and included eight questions regarding degree of responsibility and control (injections, insulin dose, eating at home, eating out with the home, blood glucose testing and recording, exercise). The questions are directed to the previous weeks experience and scored on a 10 cm visual analogue scale. The range of the scores was from 0 to 80. Average score for the scale was 24.5 (sd=2.34).

Parental Involvement was measured as a global measure of control in diabetes regime from the parents perspective again using a visual analogue scale. The possible range of scoring was 0 to 10 with a mean score for this group of 4.5 (sd=0.7). (Further details of the above questionnaires can be found under the section "Main Research Proposal" and in appendix 3).

Measuring Metabolic Control:- The results from the adolescent's most recent glycosylated Haemoglobin (HbA1) test was used to measure metabolic control. This test provides a reliable estimate of the average glucose level for the past 6 to 8 weeks (27) and is currently the best single indicator of

metabolic control. All HbA1 tests had been carried out within the previous eight weeks. The average HbA1 for the group was 8.99% (SD=1.79). Good control of the HbA1 on this assay is a value less than 9%, which is equivalent to a blood glucose level <210 mg/dL.

Pubertal Status:- Is assessed medically by the diabetologist. This information is monitored at regular clinic appointments. All pubertal status results corresponded in time with the metabolic control levels. 12% of the group were prepubertal, 63% were pubertal and 16% postpubertal (adult).

Design and Procedure

The index patients' parents or guardians were initially contacted by letter to participate in the study. Sixteen patients and their parents were seen on one occasion at the clinic and the remainder at home. The questionnaires were completed with guidance on interpretation by the author, but otherwise independently by the adolescent or parent. This procedure took approximately one hour in total.

Settings and Equipment

A room was made available at the clinic, although seventy-five percent of the interviews took place at home. Permission to use the questionnaires was sought where appropriate.

Data Analysis

Data from the adolescent and parent standardised instruments, questionnaires and demographic details were entered into a data entry system for analysis by means of SPSS/PC+. Data was checked in terms of distribution. Comparison of mean values when the sample was stratified (e.g. degree of metabolic control, sex, self-esteem), using unpaired t-tests. One way and two way analysis of variance were used to investigate age of onset and pubertal status.

RESULTS

Question 1:

What are the significant group differences between metabolic control (HbA1) in diabetes and the psychosocial and demographic factors (personal knowledge, emotional adjustment towards the disease, self-esteem, parental involvement, personal autonomy within the regime and age)?

This question was addressed using Student's T-test, comparing those with Glycated Haemoglobin (HbA1) control levels less than nine and those above nine.

One variable produced a significant group difference, namely Perceived Behaviour (self-esteem subscale) ($t = 2.18$; $p = 0.03$), while Parental Involvement produced a trend in the relationship with HbA1 control ($t = -1.73$ $p = 0.09$). This result

indicated that those with "good" control, perceived themselves to be better behaved and their parents considered themselves to be more involved than those with "poor" control. No other demographic, or psychosocial variable produced a significant group difference with HbA1 control levels (Table 1).

Table 1: Significant Group Differences of Metabolic Control (HbA1 levels above 9% -"Poor Control" and below or equal to 9% -"Good Control") and Psychosocial Variables.

Variable	HbA1<=9.00			HbA1>9.00			t	p sig
	n	mean	sd	n	mean	sd		
Behaviour	32	17.6	2.9	24	15.9	2.9	2.18	0.03*
Parent Involvement	32	2.8	0.5	26	2.5	0.6	1.73	0.09
ATT-19	32	67.5	16.0	26	73.8	16.3	1.49	0.14
Knowledge (DKN-A)	32	14.7	4.1	26	15.3	2.4	0.6	0.56
Autonomy (Total)	32	14.8	2.6	26	14.6	3.0	0.16	0.87
Self Est. Global	32	16.7	2.6	24	18.0	2.8	1.41	0.16
Duration	32	5.7	4.2	26	6.1	3.1	0.38	0.71
Age	32	13.7	0.9	29	13.9	0.7	0.76	0.45
*p<0.05								

Question Two: Are these significant group differences the same in terms of the extremes of metabolic control i.e. those with very good HbA1 measures versus those with low HbA1?

Those with one standard deviation ^{above} ~~above~~ the mean HbA1 measure (i.e. $8.991 + 1.791$) were defined as having "extremely poor" control and those with a standard deviation ^{below} ~~below~~ the mean, as "extremely good" control. The T-test was used to compare these groups.

Again Perceived Behaviour had a significant effects ($t=2.18$ $p=0.04$). Parental Involvement was not significant in this case, however Autonomy suggested a positive trend towards a significant group difference ($t=1.78$ $p=0.09$) with patients who had "extremely good" HbA1 control reporting less autonomy within the regime than those with "extremely poor" control. No other psychosocial or demographic variable produced significant results (Table 2).

These findings suggest that the extremes of the model (i.e. those adolescents with either "extremely poor control" and "extremely good" control) do not differ significantly in terms of the demographic and psychosocial variables investigated, from the broader population which they come (i.e. "good" versus "poor" control).

Table 2: Significant Group Differences of Metabolic Control (HbA1 levels above 10.7% -"Extremely Poor Control" and below or equal to 7.2% -"Extremely Good Control") and Psychosocial Variables.

	HbA1<=7.2% n=10		HbA1>10.7% n=10				
Variable	mean	sd	mean	sd	t	p	sig
Behaviour	17.8	2.7	15.0	2.3	2.18	0.04*	
Parent Involvement	2.7	0.5	2.3	0.9	1.16	0.26	
ATT-19	73.2	11.3	67.6	18.7	0.78	0.44	
Knowledge (DKN-A)	14.4	4.3	14.7	2.1	0.21	0.83	
Autonomy (Total)	16.1	2.1	13.6	3.6	1.78	0.09	
Self Est. Global	16.6	3.2	2.3	0.9	1.16	0.26	
Duration	5.4	4.4	5.9	3.6	0.37	0.71	
Age	13.7	0.5	13.4	0.5	0.78	0.44	
*p<0.05							

Question Three: Does the age of onset of diabetes reflect any group differences in terms of the psychosocial measures (knowledge, attitudes, autonomy, parental influence, self-esteem or pubertal status) ?

As a method of delineating different periods of child development the data was split in three namely:- pre-school (birth to 4 years 11 months), mid-childhood, (5-10 years), pre-adolescence and older, (10 years one month, upwards).

On a one way analysis of variance, Age of Onset had a significant main effect on Knowledge ($f=3.69$, $df=2,58$ $p=0.03$). Quadratic planned comparisons were used to further explain this relationship, ($f=5.58$ $df=2,58$ $p=0.02$). Scheffe post hoc tests were carried out and these showed that the group whose age of onset, was between 5-10 years differed significantly from those of the other two groups ($p<0.05$) i.e. those who developed diabetes from between 5-10 years had significantly higher Knowledge scores than those who had developed diabetes after age 10, or those who had it prior to age 5.5 (Mean scores:- group 1 = 14.9; group 2 = 15.8; group 3 = 12.1)

One way analysis of variance was used to look at affects of duration (split into 3 levels) on control. Duration had a

significant main effect on control ($f=5.92$, $df=2,58$ $p=0.004$). Quadratic planned comparisons were used to further explain the nature of this relationship ($f=8.52$ $df=1,58$ $p=0.005$). Scheffe post hoc tests were carried out and these showed that group 1 and 2 i.e. those who had their diabetes from before they were ten years old differed significantly from those who had developed it after age 10. (Means: Group 1 = 9.7; Group 2 = 10.2; Group 3 = 7.8). Indicating those who had recently developed diabetes had significantly better control than those who had prior to age 10. (Refer to table 3 in appendix 3).

The self-esteem subscale, "Sociability" also produced a trend effect with age of onset (one way analysis of variance), ($f=2.73$, $df=2,55$ $p=0.07$). Although the more stringent Scheffe test was not significant, least-significant differences (LSD), post hoc test showed that group 3 (those who had developed their diabetes after age ten, perceived themselves to be more sociable than those who had developed it earlier. (Mean: group 1= 19.8; group 2= 19.4; group 3= 16.7).

Question Four: What role does pubertal status play in terms of the psychosocial and demographic variables and metabolic control?

In order to answer this Pubertal Status was split into three: Prepubertal, Pubertal and Post-Pubertal. On a one way analysis

of variance Pubertal Status had a main effect on HbA1 level of metabolic control ($f=7.62$, $df=2,51$ $p=0.001$). Quadratic planned comparisons were significant ($f=5.69$, $df=1,51$ $p=0.02$). Scheffe post hoc tests were carried out and showed that group 3 (post-pubertal, mean= 10.9) differed significantly from group 1 (prepubertal, mean 8.6) and group 2 (pubertal mean 8.6). Indicating that physically mature patients had significantly poorer control than the pubertal or prepubertal patients. However, on the T-test above (table 1), age did not have a significant difference in metabolic control, nor did it have a main effect on a one way analysis of variance with pubertal status ($f=0.531$, $df=2,53$ $p=0.601$). Suggesting that it was the physical maturity, rather than age which had the significant effect.

On one way analysis of variance pubertal status produced a trend effect with self esteem total score ($f=2.53$ $df=2,51$ $p=0.08$). Although the more stringent Scheffe test was not significant least-significant difference (LSD) post hoc test showed that group 1 (prepubertal) had significantly higher self-esteem than group 2 (pubertal) or group 3 (post-pubertal), (mean scores: group 1=115; group 2=105; group 3=98).

On a Two way analysis of variance age of onset, and pubertal status were both found to have a main effect on control

($f= 11.1$, $df=2,46$ $p=0.000$). Pubertal status on a one way analysis proved to have a significant main effect on the subscale of appearance from the self esteem measure, ($f=5.58$ $df=2,50$ $p=0.006$). Scheffe post hoc tests were carried out and revealed pre and pubertal groups had significantly higher mean scores than the post-pubertal group (mean group 1=17.8, group 2=17.0, group 3=13).

The subscale, concerning Athleticism, from the self-esteem questionnaire indicated a trend on a one way analysis of variance ($f=0.89$ $df=2,50$ $p=0.089$). Again the more stringent Scheffe tests were not significant but post hoc L.S.D. test found the prepubertal group scored significantly higher on attitudes to sport than the two more physically mature groups (mean scores: group 1 = 19.7; group 2 = 16.5; group 3 =14.7). This finding indicates that pubertal and post-pubertal groups are concerned about their physical appearance and do not perceive themselves in a positive way in terms of their ability in sport compared with those who are still prepubertal. (Refer to table 4 in appendix 3)

Question 5: How does the means and standard deviations of the self-esteem measure in this group of adolescents with a chronic illness (diabetes), compare with that of the Scottish norms for a similar age group?

The mean scores and standard deviations for each of the self-esteem subscales were calculated and were compared visually, since raw data for the norms were not available. The means and standard deviations were very alike, indicating a similar pattern of reported self-esteem between this group of young people with a chronic illness and the Scottish norms on the Harter Self-Esteem. Thus suggesting that the adolescents with diabetes perceive themselves in a similar light to their peers.

DISCUSSION

The principal focus of the study was to identify which factors were important in maintaining good control at this transitional period. There was evidence to suggest that pubertal status did indeed have a role in metabolic control, with those individuals who were more physically mature having poorer control and as age was not significantly related to metabolic control, nor pubertal status, this adds further interest. While this finding does not allow an interpretation of cause and effect between pubertal status and control to be

made, it emphasises the difficulties of adolescence and possibly the role of insulin resistance. Factors relating to puberty, such as adherence, may well influence this effect, therefore this must be interpreted with caution. Adolescent rebellion (28), may also be an important factor, suggested by the significant group difference of perceived "behaviour" and metabolic control. However, as the results show, (table 4 appendix 3), there was little evidence to suggest that pubertal status had a main effect on the subscale "behaviour". Thus adding weight to the physiological explanation in metabolic control, but not discounting the psychological one.

One of the main methodological difficulties within this study was the lack of focus on the direct measurement of adherence, which is an extremely difficult element to measure accurately. New research, (29), concluded that self-report measures of adherence to the regime may have limited or no value in providing an assessment of quality of glycaemic control. Mazze (30), used sophisticated electronics to measure adherence by covertly inserted a "chip" into his patients' glucometers, he found little relationship between self-report adherence and that which was recorded by the "chip". Jacobson et al. (31), found that poorly controlled diabetic patients, identified by elevated glycosylated haemoglobin values, did not rate themselves as adhering to their treatment regimens any less than the well-controlled patients and concluded that

self-report measures of adherence were at best significantly flawed. Certainly further research would be required to look at this methodological problem.

It may also prove to be clinically useful to support the adolescent during this transition period, by giving warning of difficulties and thus possibly reduce the risk of developing "Learned Helplessness" (32), emphasised by Dunn, (33).

Goldstein (3) states that current clinical practise gives little in the way of warning to adolescents, to prepare themselves for this difficult period. Possibly due to the clinicians fear, that it will lead to lack of effort on behalf of the young person or self-fulfilling prophesy, and this will then legitimise poor control.

There was evidence to partially support the psychosocial role in metabolic control, with adolescents who had good control perceiving themselves to have comparatively more parental influence, or (as in question 2 in the extremes of control), having less autonomy in the regime. This finding supports evidence of Pless et al. and Anderson et al., (12,13) of the importance of Parental Influence and structure within control and gives evidence to supports the premise made by Ingersol et al. (15) and Johnson et al. (20) that good metabolic control which is difficult to achieve, is eased by the adolescent being able to share the responsibility within a structured

environment. It is also suggestive of compliance on behalf of the adolescent; so those who see themselves as being well behaved, doing what they are told, receiving advice from their parents or having less freedom in making decisions about their regime, have better metabolic control. The Adolescent Clinic emphasises an increase in the young person's level of responsibility, but this model may well be in contrast with the supports which are necessary at this early adolescence age in helping to promote good control.

More recent research (29), with an older adolescent age group (16+) found an inverse relationship between parental support and metabolic control. They argued that this related to power struggles. Parental Involvement was defined as "nagging", in this study so while the parents may well have been involved in the regime it is doubtful if this is the same as being positively supportive. This emphasises the need for the clinician to look at each young person individually within their environment and consider the type of support available to the young person and whether that will assist them in developing responsibility in self care.

The study did not find any evidence to support self-esteem being a significant group factor in terms of metabolic control nor was there evidence to suggest a difference in terms of emotional adjustment to diabetes. As the group of adolescents

being assessed were all in relatively good health, with no secondary diseases related to their diabetes, may be, as yet, they had little reason to have significantly poorer adjustment to their diabetes. Whether this hypothesis is, or is not the case, these findings suggest doubtful predictive validity, of this measure at this age group, in identifying those who will go on to develop future complications. From a subjective view point, it may have proved to be of more interest to focus on parental attitudes to the disease. While current literature has considered the influence of parental affective states and the young person's diabetes (e.g. Kovacs (34)), little appears to have been investigated in terms of parental attitude and its relation to the youth's ability to cope with the diabetes. This may prove to be of interest in future research.

The results suggested that the experience of different developmental stages of onset, had an effect on levels of knowledge in diabetes. Those with the earliest developmental onset of diabetes, report the lowest knowledge levels. This suggests that either the adolescents and their parents have never known this information, which is unlikely as the metabolic control level would probably reflect this, or more likely, this knowledge has not been passed on to the young person as developmental demands have changed. There is some evidence in the literature to suggest that high knowledge

levels do not predict good control (29), but it is unlikely that low levels of knowledge support good practise.

The group who developed diabetes towards the end of childhood also had lower levels of knowledge in comparison to the mid group. This may be due to lacks of time or opportunity to develop the skills necessary in good diabetes care, as many of this group may well be going through the "honeymoon" period, (35) when the pancreas continues to produce some insulin for one or two years following diagnosis. This helps in the man-made regulation of insulin administration and may explain the superior control in the newly diagnosed group. Due to this, much of the information they have been given at the clinic may still be abstract for them. Their low scores may be due to a lack of opportunity to back up the learning with practical experience or more simply they may have just have forgotten what they were taught.

These findings have at least two important implications: Firstly, assumptions for the clinician to avoid about knowledge: "he's had diabetes all his life he must know all about it", or "We've spent hours teaching her when she was diagnosed recently - she knows all about it". This finding must have implications for the care team in both providing information throughout the stages of care and objectively assessing knowledge levels.

Secondly this finding could suggest that the handing over process from parent to adolescent is subjectively a different process, especially in terms of knowledge, from those who have never known life without diabetes compared with those who have developed it later. Diabetes care might be so much part of regular parenting that the parents are less aware of holding on to responsibility of the knowledge basis of the daily regime. The experience of developing the disease at an older age may facilitate the opportunity for learning and the interaction between parents and their child thus making this task simpler. This finding highlights a possible area where difficulties may arise in developing responsibility in the regime as well as a real deficit in information.

There was also an effect of developmental onset on metabolic control. The superior control of the newest diagnosed group is most probably a reflection of the "honeymoon" period. As their knowledge levels were relatively poor, it is unlikely that their "better" control was due to improved adherence for fear of getting it wrong, however no measure was used to look at this directly and as their emotional adjustment was similar to the other groups, there would be little reason to support the psychological reason over the physiological one. Nor was there evidence to suggest that these individuals had more autonomy in their regime thus suggesting that share of

responsibility was not responsible for their success in achieving good metabolic control.

The trend effect of pubertal status on self-esteem and the significant effect on the subscale of perceived appearance, appears to reflect the assumption that adolescents tend to feel worse about themselves and are especially self conscious of their appearance. Also of interest is the fact that perceived "Sociability", is higher with those who have developed diabetes in the oldest age group. However, when looked at as an entire group, the self-esteem scores are similar to the Scottish normative data. The lack of the relationship between self-esteem and metabolic control may suggest that self-esteem is not of direct importance in metabolic control but future research may find it plays a role within the sphere of adherence.

CONCLUSION

This study has identified some useful information, most notably the effect of pubertal status and perceived behaviour in metabolic control and the deficits in basic diabetes knowledge by certain patient groups.

The relationship between pubertal status and metabolic control may well be confounded by adherence. Autonomy, and measures of emotional adjustment used did not show a relationship with

metabolic control. Future research may find it more effective to develop valid and reliable measures of adherence which currently are lacking. Using pubertal status as a measure of biological maturity, has been shown to be of use compared with age which is more common variable used in research.

The deficits in knowledge certainly challenge the assumption that duration reflects increased learning and perhaps highlights an area of difficulty, passing knowledge of the regime from parents to their son or daughter. This has direct implications for health care staff.

It would seem critical that the clinician closely examines established assumptions in questioning the adolescent about all aspects of diabetes, and giving responsibility to the individual, to maximise diabetic control as all of the complexities of adolescence impact the disease, either directly or indirectly.

REFERENCES

1. Tattersall RR, Lowe J. Diabetes in adolescence. *Diabetologia* 1981;20:517-523.
2. Stallard P. Psychological issues for children, adolescents and their families with diabetes mellitus: A developmental perspective. *Practical Diabetes* 1993;10:134-136.
3. Goldstein D, Hoepfer M. Management of Diabetes during adolescence: Mission impossible? *Clinical Diabetes* 1987;5:2-21
4. Burns K, Green P, Chase P. Psychosocial Correlates of Glycaemic control as a function of age in youth with insulin-dependent diabetes. *Journal of Adolescent Health Care* 1986;7:311-319.
5. Kaplan R, Chadwick M, Schimmel L. Social learning intervention to promote metabolic control in type 1 diabetes mellitus: pilot experiment results. *Diabetes Care* 1985;8:152-155.

6. Amiel S, Serwin R, Simonson D, Lauritano A, Tamborlane W. Impaired insulin action in puberty. A contributing factor to poor glycaemic control in adolescents with diabetes. *The New England Journal of Medicine* 1986;315:215-219.
7. Mann N, Johnston D. Improvement in metabolic control in diabetic adolescents by the use of increased insulin dose. *Diabetes Care* 1984;7:460-464.
8. Mazze R, Lucido D, Shamoon H. Psychological and social correlates of glycaemic control. *Diabetes Care* 1984;7:360-366
9. Karlsson J, Holmes C, Lang R. Psychosocial correlates of disease duration and control in young adults with type 1 diabetes. *Journal of Clinical Epidemiology* 1988;41:435-440.
10. Close H, Davies A, Price D, Goodyer I. Emotional difficulties in diabetes mellitus. *Archives of Disease in Childhood* 1986;61:337-340.
11. Fonagy P, Moran G, Lindsay M, Kurtz A, Brown R. Psychological adjustment and diabetic control. *Archives of Disease in Childhood* 1987;62:1009-1013.

12. Pless I, Roghmann K, Haggerty R. Chronic illness, family functioning and psychological adjustment. A model for the allocation of prevention mental health services. *International Journal of Epidemiology* 1972;1:271-277.
13. Anderson B, Miller P, Auslander W, Santiago J. Family characteristics of diabetic adolescents: relationship to metabolic control. *Diabetes Care* 1981;4: 586-594.
14. Ryden O, Johnsson P, Nevander L, Sjoblad S, Westbom L. Co-operation between parents in caring for diabetic children:relations to metabolic control and parents' field-dependence-independence. *Diabetes Research and Clinical Practice* 1993;20:223-229.
15. Ingersoll GM, Orr DP, Herrold AJ, Golden MP. Cognitive maturity and self-management among adolescents with insulin dependent diabetes mellitus. *Journal of Paediatrics* 1986;105:620-623.
16. Schafer LC, Glasgow R, McCaul KD, Dreher M. Adherence to IDDM Regimes: Relationship to Psychosocial Variables and Metabolic Control. *Diabetes Care* 1983;6:493-498.

17. Dunn S, Smartt H, Beeney L, Turtle J. Measurement of emotional adjustment in diabetic patients: validity and reliability of ATT 39. *Diabetes Care* 1986;9:480-489.
18. Hagglof B, Fransson P, Lemmark B, Themlund G. Psychosocial Aspects of Type 1 Diabetes Mellitus in Children 0-14 years of age. *Arctic Medical Research* 1994;53:20-29.
19. Harkary J, Johnson SB, Silverstein J, Spillar R, MacCallum M, Rosenbloom A. Who learns what at diabetes summer camp. *Journal of Paediatric Psychology* 1983;8:143-153.
20. Johnson SB, Pollak T, Silverstein JH, Rosenbloom AL, Spillar R, MacCallum M et al. Cognitive & Behavioural knowledge about insulin dependent diabetes among children and parents. *Paediatrics* 1982;69:708-713.
21. Fonagy P, Moran G, Lindsay M, Kurtz A, Brown R. Psychological adjustment and diabetic control. *Archives of Disease in Childhood* 1987;62:1009-1013.
22. Close H, Davies A, Price D, Goodyer I. Emotional difficulties in diabetes mellitus. *Archives of Disease in Childhood* 1986;61:337-340.

23. Dunn S, Bryson J, Hoskins P, Alford J, Handelsman D, Turtle J. Development of the Diabetes knowledge DKN scales: Forms DKN A, DKN B and DKN C. *Diabetes Care* 1984;7:36-41.
23. Beeney L, Dunn S, Welch G. Measurement of diabetes knowledge - the development of the DKN scales. In: Bradley C, editor. *Handbook of Psychology and Diabetes*. Switzerland: Hardwood. 1994:159-190.
24. Dunn S, Smartt H, Beeney L, Turtle J. Measurement emotional adjustment in diabetic patients: validity and reliability of ATT 39. *Diabetes Care* 1986;9:480-489.
25. Welch G, Dunn S, Beeney L. The ATT-39: a measure of psychological adjustment to diabetes. In: Bradley C, editor. *Handbook of Psychology and Diabetes*. Switzerland: Hardwood. 1994:223-246.
26. Hoare P, Elton R, Greer A, Kerley S. The modified and standardisation of the Harter self-esteem questionnaire with Scottish school children. *European Child and Adolescent Psychiatry* 1993;2:19-33.

27. Tarnon JD, Silverman SW. The Psychophysiological Aspects of Stress in Juvenile Diabetes Mellitus. *International Journal of Psychiatry in Medicine* 1982;11:25-44.
28. Eiser C.S. *Growing up with a Chronic Disease*. London: Kingsley Publishers 1993;70-92.
29. Burroughs T, Pontious S, Santiago J. The relationship among six psychosocial domains, age, health care, adherence and metabolic control in adolescents with IDDM. *The Diabetes Educator* 1993;19:396-402.
30. Mazze R, Pasmantier R, Murphy J, Shamon H. Self-monitoring of capillary blood glucose: Changing the performance of individuals with diabetes. *Diabetes Care* 1985;8:207-213.
31. Jacobson AM, Adler A, Wolfsdorf J, Anderson B, Derby L. Psychological characteristics of adults with IDDM; comparison of patients in poor and good glycaemic control. *Diabetes Care* 1990;13:375-381.
32. Seligman MEP. *Helplessness: On depression, development, and death*. San Francisco: Freeman 1975.

33. Dunn S. Reactions to educational techniques: coping strategies for diabetes and learning. *Diabetic Medicine* 1986;3:419-429.
34. Kovacs M, Iysengar S, Goldston D, Obrosky D, Stewart J, Marsh J. Psychological functioning among mothers of children with insulin dependent diabetes mellitus: A longitudinal study. *Journal of Consulting and Clinical Psychology* 1990;58:189-195.
35. Johnson S.B. Annotation - Psychological Aspects of Childhood Diabetes. *Journal of Child Psychology and Psychiatry* 1988;29:729-738.

SMALL SCALE SERVICE EVALUATION

CARDIAC REHABILITATION

AN EVALUATION OF STANDARDS AND BEHAVIOUR CHANGE IN
POST-MYOCARDIAL-INFARCTION PATIENTS

WRITTEN IN ACCORDANCE WITH THE GUIDELINES SET DOWN BY THE
HEALTH EDUCATION JOURNAL (AVAILABLE IN APPENDIX FOUR) .

ABSTRACT

Recent evidence has demonstrated physical and psychosocial benefits from post myocardial infarction (MI) programmes. This has resulted in the implementation of standards, to ensure patients received information, advice and where appropriate, formal cardiac rehabilitation. This paper assesses the effectiveness of these standards in terms of content and delivery of information given. Risk taking behaviours by this group are reported, and behaviour change following MI is assessed. Self report methods were used with a sample of post MI patients, referred to psychology, as in-patients or during rehabilitation. Results indicate that standards were adhered to but there was some patient dissatisfaction in terms of timing and content. Changes in risk taking behaviours were reported directly following MI and after the rehabilitation period. Recommendations are made in terms of service delivery and content of the programme.

INTRODUCTION

Coronary heart disease (CHD) is the greatest cause of premature mortality in the western industrial world. It is primarily a disease of men in the UK, accounting for 40% of deaths in males and 10% in females aged between 45 and 64 years (1). In the USA nearly one and a half million people experience myocardial infarction (MI) of whom two-thirds survive (2).

In the most dramatic onset of acute MI, an artery providing oxygen to part of the cardiac muscle becomes totally occluded, resulting in death. Two-thirds of those who have an MI, will survive and go on to achieve some degree of recovery, approximately 16% will develop angina one year later and 5% in the subsequent year. The mortality rate for a subsequent MI is around 5% for older people and under 3% for younger ones (3).

This disease has a major impact on the lives of most survivors in terms of accepting the impact of the disease and achieving the best possible recovery. In addition, because CHD is to a large extent mediated by risk factors amenable to individual change, this is a highly targeted area in rehabilitation. Three identified risk factors, with a substantial body of research to back them up, are :- Hypertension, raised serum cholesterol and smoking (4). Two other factors; "type A" behaviour, and low levels of exercise, are believed to be important contributors to the disease. Other risk factors believed to be important include:- age; ethnicity; social class; and employment status. A number of authors, (5-8) found a relationship between "type A" behaviour, hostility, high strain occupations, depression and poor social supports and increased risk of coronary heart disease. These factors are important not only prior to the MI, but also in the post infarction period as they are related to rate of recovery, complications and further MIs.

Acute coronary events are seriously distressing for most patients, and lead to emotional upset, disruption of social and occupational networks and a re-evaluation of long-term life plans. High levels of anxiety and depression have been reported in the acute phase, and patients' families can be adversely affected (9). Another response identified is that of denial, although whether this coping strategy has positive or negative effects on outcome is unclear (10).

Many of these problems persist following the patient's discharge from hospital or following rehabilitation. Mayou et al. (11) found that emotional state was impaired in 66% of post MI patients after one year while a depression rate of 50.5% was reported by Croog and Levine (12). An important observation made in several studies is that psychosocial outcome is not accurately predicted by the severity of the infarction or other physical clinical signs. Variables such as return to work and long term psychological adjustment are not simple products of physical trauma (13). A more consistent marker of long-term emotional and social-status is the psychological state of the patient within the first two months following the infarction (Wiklund, 13). Patients with a poor initial response are more likely than others to be impaired after one or more years.

To help overcome some of these difficulties, recently a number of cardiac rehabilitation programmes have been developed. Randomised trials have reported physical,

psychological and social benefits (14-16). Analyses has shown statistically significant benefits in terms of mortality (17); with a 20% reduction in three-year mortality and a 37% reduction in sudden deaths at one year. However, there has been little reported on patients attitudes towards rehabilitation and continued compliance out with the formal rehabilitation setting.

The aim of this study is to assess the effectiveness of standards set up in optimising post MI lifestyles. Four questions were focused on:-

- (a) Are the standards being applied?
- (b) Is the planned time and method of conveying information optimal?
- (c) Does this type of approach encourage initial behaviour change?
- (d) Are behaviour changes which are made, maintained?

METHODS

Over the past two years, Paisley's general hospital has developed a cardiac rehabilitation programme for patients who have recently experienced a myocardial infarction. The programme, which was designed, in line with current research and practice (18) is organised by two cardiac specialist nurses and consists of a twice weekly exercise class, a home exercise programme, a series of lectures/group discussions from the multidisciplinary team involved in cardiac care

(Physiotherapy, Dietician, Psychologist, Cardiac Specialist Nurse and Pharmacist). MI patients are regularly contacted by the specialist nurse, both during their admission and following their discharge. These nurses assess the patients' needs and liaises with the other professionals within the team and refers when appropriate. Those who are perceived as being suitable (i.e. medically fit enough), are usually invited to attend the cardiac rehabilitation following their initial out-patient appointment with the consultant cardiologist.

During this process, a number of patients were referred by the specialist nurse to the psychologist. These referrals can be categorised as: (a) Relating to risk taking behaviours; (b) Emotional difficulties.

From October 1994 to February 1995, 56 such patients were referred. Individuals were seen either at the out-patient clinic or in the ward; 43% related to emotional difficulties in coping since their MI and 48%, to difficulties in changing their behaviour in reducing future risk, 9% were unclassified. Average attendance at psychology was seven, fifty minute appointments (ranging from one to twelve appointments). It was this total group of patients identified and referred by the cardiac specialist nurse, who were used as the sample group in this study.

Following discharge from rehabilitation, these patients completed an eighteen item questionnaire about their pre MI

risk taking behaviour, details of information received on admission, and changes made and maintained through rehabilitation. These questions were devised from current quality standards used in practise within the cardiac service concerned with identification and education of maximal post MI lifestyles in terms of smoking, drinking, eating and mobility as well as admission to cardiac rehabilitation. (Copies in appendix 4).

RESULTS

The Sample

Of the initial fifty-six subjects referred, forty questionnaires were returned. Thirty-one of the sample was male (77%), with an age range of 36-75 years: mean age band 46-55 (s.d. 15.4). eighty-eight percent were admitted following an MI, ten percent following an angina attack (borderline MI). One individual was not admitted to hospital. Of these individuals forty-seven percent had a least one previous heart attack and five percent had previously undergone bypass surgery.

Risk Factors

Prior to their MI, sixty-two percent identified themselves as having recently undergone a stressful life events, and the majority (87%), described themselves as having stressful lifestyles. Sixty percent of the total group had been smokers, while only twelve percent identified themselves as having some form of family history of heart disease. Two

individuals were able to identify other health problems as increasing their risk of coronary heart disease (insulin dependant diabetes and Bergeres disease).

Surprisingly the vast majority of the sample, seventy-five percent, described themselves as non drinkers prior to their MI and only four individuals admitted to drinking over the health recommended limit. Table one below lists these risk factors:

TABLE 1

RISK FACTORS PRIOR TO MI IDENTIFIED BY SUBJECTS		
	% of total group	no. of subjects
Smoking	60%	24
Eating Habits	50%	20
Drinking above limit	10%	04
Lack of exercise	68%	27
Stressful lifestyle	87%	35
Stressful life events	62%	25
Family History	12%	05
Other	5%	02

Self-report premorbid eating patterns produced similar results to the drinking question; half of the respondents, selected the healthiest option as best describing their previous eating habits, twenty-seven percent reporting previous consumption of

a moderately health diet and only twenty-three percent of respondent selecting the option which was high in fat, cholesterol and low in dietary-fibre.

Health Education

The second section of the questionnaire related to events surrounding admission. Specific standards are in operation regarding conveyance of health education surrounding post MI lifestyles involving identification of own risk behaviour and actions involved in modifying these risks. As part of this programme the standard states that all patients are each given a pack of health education information and relaxation and rehabilitation tapes are made available with access to personal stereo equipment. At this point patients are also assessed for the cardiac rehabilitation programme and the hospital based education programme.

Results in this section suggested that while the vast majority of patients, seventy-seven percent, believed they had received information on a whole range of topics regarding post MI lifestyles, eighteen percent of respondents recalled receiving partial information (e.g. healthy eating/stress reduction /alcohol consumption). Of the two who did not recall receiving advice or information, one was not an inpatient.

Those who received information reported that the largest proportion was given by the nursing staff on the ward (sixty percent). Other hospital staff collectively were perceived as

providing about thirty percent of the information. Only one person noted posters and notices in the ward and another individual reported writing to the British Heart foundation for information booklets.

Thirty percent of patients responded that they found the information useful and helped them make the appropriate changes to their lifestyle. However almost half reported being given too much information too soon, and forgot what they were told. Altogether forty percent reported the information was not helpful in encouraging them to make changes in their lifestyles. Only ten percent felt they did not receive enough information and were discharged from the hospital with unanswered questions. On a positive note, one individual responded that the approach was much more beneficial than the lack of information during his last admission two years earlier.

Mobility

The second main set of standards focused on mobility. Eighty percent of in-patients responded to receiving advice and a programme of gentle exercises to carry out while on the ward and build upon following discharge, with a home walking based exercise programme recommended. Most patients recall being encouraged to walk around the ward by the nursing staff.

Behaviour Change

Table two, indicates behaviour changes made directly following

the MI and those maintained in the three to six month period following discharge. It clearly shows that while the majority of respondents did make efforts by making changes to their lifestyles directly following their MI, many were not sustained. Of these behaviours, in which changes were initially made, coping better with stress, relaxation time, changing eating habits and regular exercise were the ones which were best maintained following discharge from rehabilitation. Those who stopped drinking maintained change, although this was not mirrored by those who initially cut down on their alcohol consumption. The pattern in smoking was somewhat different with 50% maintaining cessation and 33% maintaining a reduced level.

TABLE 2
BEHAVIOURS CHANGED POST MI AND THOSE MAINTAINED AT FOLLOW-UP

Behaviours (n=40)	Number who Made Change	Number who Kept It Up
Stopped Smoking	12	06
Reduced Smoking	06	02
Changed Eating Habits	18	15
Lost Weight	09	09
Stopped Drinking	02	02
Reduced Drinking	04	00
Regular Exercise	24	12
Relaxation Time	24	15
Coped Better with Stress	32	25

Table three, (1) indicates the percentages of individuals who identified risk taking behaviours and initially changed, (2) indicates the percentages of individuals who maintained these changes at follow-up:

TABLE 3

% OF SUBJECTS WHO IDENTIFIED RISK, MADE AND MAINTAINED CHANGE

Behaviour	% who identified risk and made change (1)	% who kept up change (2)
Stopped/Reduced Smoking (n = 24)	75%	33%
Changed Eating (n = 20)	90%	75%
Drinking Above Limits (n = 4)	100%	50%
Regular Exercise (n = 27)	89%	44%
Reduction in Stressful lifestyle (n = 35)	91%	71%

Those risk behaviours which were identified and maintained were, (largest first): (1) Change of eating habits, (2) Reduction in stressful lifestyle, (3) Drinking above the recommended limits, (4) Taking regular exercise, (5) Stopping or cutting down on smoking.

Rehabilitation Classes

As part of the assessment for participation in the rehabilitation programme, patient's are given an exercise tolerance test. The results of this with other medical

information bases the decision to offer a place in the outpatient cardiac rehabilitation programme. Of those responding thirty percent were not offered places on the programme and half of these individuals believed they had not received an explanation for this refusal. Of those individuals offered places four percent turned the offer down stating that they were not interested in this type of approach and six percent found the times did not suit. Two of these individuals had apparently returned to work by the time the offer was made. Location of classes were not reported as being a problem, nor were emotional reasons given for not attending. A total of sixty percent of respondents attended the full out-patient cardiac rehabilitation programme.

Rehabilitation Lectures

As part of the rehabilitation programme patients were asked to rate the various lectures (Psychology - Emotional Reaction to a Heart Attack, Coping with Stress, Pharmacy, Dietician, Cardiac Rehabilitation Nurse, Physiotherapy) which they could attend. The results suggested that most of these were rated as being either "useful" or "very useful". All the lectures were rated positively (between eighty and ninety percent) but there appeared to be a trend towards didactic lectures in this setting in preference to ones which entailed group discussion.

Post MI - Quality Of Life

The final question asked concerned quality of life since the MI. All of the sample felt there had been some change to

their quality of life with sixty percent feeling their quality of life had deteriorated, twenty-four percent feeling their life had improved slightly and sixteen percent reporting a significant improvement. All of the patients who stated an improvement in their quality of life had made significant behaviour changes and had also attended the post MI rehabilitation programme.

DISCUSSION

This study reports the behaviour change and views of forty patients in total. Since fifteen did not respond to the questionnaire and the sample selected was the entire referrals made to clinical psychology by the cardiac specialist nurse. This raises the possibility of selection bias. Also, since a self-report questionnaire was used, all the usual difficulties in terms of accurate memory of events and reporting must be taken into consideration when considering these results, for example the figure reporting heavy drinking is surprising.

In terms of the health education standards set up for this group, nearly all of the patients received some form of health education whilst in-patients. Two separate types of experiences of this appear to be recorded, with the majority receiving a wide range of information, and a smaller percentage, a tailor made pack, specifically focused on their area of difficulty. While both of these approaches fulfil the required nursing standard these types of practise are significantly different. There is some indication that a

focused approach has influence on levels of satisfaction, with those patients reporting more contentment with information received which was aimed at their specific difficulty. However, there was no evidence to support an increase in behaviour change between the two approaches, and it should also be considered that a focused approach makes demands of both an accurate assessment and assumes a static picture of needs.

Standards set up to maximise mobility on the ward were generally successful with the vast majority of individuals receiving personal advice on this issue. Some patients who had initially been admitted to another hospital, before being transferred to Paisley, reported receiving less information on this topic than other patients. This highlights an area which could be addressed.

Results suggest mixed opinions, in timing and content of receiving information, with many patients reporting they were given too much too soon, in contrast, a small percentage were left with unanswered questions. In his study, Campbell (18), had similar findings to this, which differed from earlier studies from North America, (19). He found at four weeks post MI, patients were clear about the information they wanted. Campbell concluded that since the expressed needs of patients vary, a flexible approach should take account of individual circumstances and the relative benefits from each intervention.

Interestingly many patients described already knowing much of the health education information prior to their MI and it would appear that other factors play a major role in altering well established behaviour patterns. This finding would correspond with a study carried out by Shewry et al. (20), who compared health knowledge and behaviour change in north Glasgow and Edinburgh. They concluded that behaviour change was mainly a function of two elements (a) attitude and to a lesser extent (b) socio-economic status. It would seem reasonable to assume from results in this study, that since a high percentage of patients believed they already knew the information, having an MI was the major factor in changing attitude, thus promoting such considerable behaviour change observed in this group. This is not to conclude that the health education per se was not related to behaviour change but highlights the mechanism is considerably more sophisticated than knowledge directly leading to behaviour change.

Prochaska, DiClemente and Norcross's (21) model of behaviour change, hypothesises the various pre-contemplations and contemplation stages at which receiving information is part of the factors in promoting action for change and maintenance of the change. Much of what is being observed here may be people at different stages of this model, with different behaviours within one lifestyle also at different stages. The findings from the study suggest that while imparting information is well attended to, little emphasis is given to

encouraging motivation and working towards sustaining change. It would seem that motivation at present is an area which could have more emphasis within the programme.

With much of the rehabilitation programme being exercise based, a disappointing finding was that less than half of the patients who started exercising post MI kept this up following rehabilitation. This must raise questions about the home exercise programme which is walking based. Home-based schemes have been proposed because they are likely to be cheap and avoid the necessity for cardiac resuscitation facilities. Walking is the home-based exercise recommend in Inverclyde as in much of Scotland. A study in California (22) has confirmed the safety and effectiveness for post MI patients in the form of stationary cycling or walking. Patients in this study have raised significant doubts about the likely uptake of a walking based programme because of the weather. If home-based exercising is to become the recommended post rehabilitation approach then a more realistic approach to exercise will be required.

The key points in this evaluation have implications for the provision of cardiac rehabilitation. Standards addressing health care influence patients attitudes, affect uptake, satisfaction and compliance with cardiac rehabilitation. Without adequately addressing these areas, any intervention, no matter how targeted will have limited effectiveness.

This study raises several points concerning the delivery of cardiac rehabilitation:-

- * Cardiac rehabilitation is effective in encouraging some reduction of risk taking behaviour in post MI patients.
- * The expressed needs of patients vary in terms of existing knowledge and ability to take on board information: a flexible approach could take account of individual circumstances and relative benefits of each intervention.
- * Behaviour change is influenced by attitudes, motivation and other factors, it is not simply lack of knowledge on behalf of the patients.
- * Doubts must be raised about likely compliance with any home-based programme which relies principally on walking.

REFERENCES

1. Registrar General of Scotland. *Annual reports*.
Edinburgh, HMSO, 1991.
2. Bennett P. Counselling for Heart Disease. Leicester.
British Psychology Society, 1993.
3. Department of Health. *The Health of the Nation;
Government's White Paper. A strategy for Health in
England*. London, HMSO, 1986.
4. Langosh W. Cardiac Rehabilitation. In : Pearce S.
Wardle J. (Ed). *The Practice of Behavioural Medicine*.
Oxford, University Press, 1989.
5. Blumenthal J. Burg M. Barefoot J. Social Support, Type A
behaviour and coronary heart disease. *Psychosomatic
Medicine* 1987;49:331-340.
6. Booth-Kewley S., Friedman H.S. Psychological
Predictors of Heart Disease: A Quantitative Review.
Psychological Bulletin 1987;101:342-362.
7. Theorell T., Hamsten A. Psychosocial Work Conditions
before Myocardial Infarction in Young Men.
International Journal of Cardiology 1987;15:33-46.

8. Hecker M., Chesney M. Coronary Prone Behaviours in the Western Collaborative Group Study. *Psychosomatic Medicine* 1988:50:150-164.
9. Dellepiani A.W., Cay E. Anxiety after a Heart Attack. *British Heart Journal* 1976:38:752-757.
10. Levine J., Warrenburgh S., Kerns R., Schwartz G.E., Delaney R., Fontana A., et al. The role of denial in recovery from coronary heart disease. *Psychosomatic Medicine* 1987:49:109-117.
11. Mayou R., Foster A., and Williamson B. Psychosocial Adjustments in Patients One Year After Myocardial Infarction. *Journal of Psychosomatic Research* 1978b:22:447-453.
12. Croog S.H., and Levine S. *The Heart Patient Recovers*. New York. Human Science Press, 1987.
13. Wiklund I., Sanne H., Verin A., Wilhelmsson C. *Psychosomatic Research* 1984:28:223-227.
14. Horgan J., Bethell H., Carson P. British Cardiac Society working party report on cardiac rehabilitation. *British Heart Journal* 1992:67:412-18.

15. Carson P, Phyllis R, Lloyd M. Exercise after myocardial infarction: a controlled trial. *Journal of the Royal College of Physicians of London* 1982;**16**:147-51.
16. Lewin B. Robertson I.H., Cay E.L. Effects of self-help post-myocardial-infarction rehabilitation on psychological adjustment and the use of health services. *Lancet* 1992;**339**:1036-40.
17. O'Connor G.T. Burning J.E. Yusuf S., Goldhaber S.Z. An overview of randomised trials of rehabilitation with exercise after myocardial infarction. *Circulation* 1989;**80**:234-244.
18. Campbell N., Grimshaw J., Rawles J.. Ritchie L. Cardiac Rehabilitation, the agenda set post-myocardial infarction patients. *Health Education Journal* 1994;**53**:409-420.
19. Cay E.L. Psychological Aspects of cardiac rehabilitation. *Hospital Update* 1982;**Feb**:157-70.
20. Shewry M.C. Smith W.C.S. Tunstall-Pedoe H. Health Knowledge and Behaviour Change: A Comparison Of Edinburgh and North Glasgow. *Health Education Journal* 1990;**49**:185-190.

21. Prochaska J.O., DiClemente C.C., Norcross J.C. In search of how people change - applications to addictive behaviours. *American Psychologist* 1992;47:1102-1114.
22. Miller M. Haskell WL, Berra K, Debusk RF. Home versus group exercise training for increasing functional capacity after myocardial infarction. *Circulation* 1984;70:645-649.

CLINICAL CASE RESEARCH STUDY

NUMBER ONE

THE NATURE OF COGNITIVE DEFICITS IN MYALGIC
ENCEPHALOMYELITIS

WRITTEN IN ACCORDANCE WITH THE GUIDELINES OF BEHAVIOURAL AND
COGNITIVE PSYCHOTHERAPY (AVAILABLE IN APPENDIX FIVE) .

ABSTRACT

The relationship between affective illness and Myalgic Encephalomyelitis (M.E.) still remains unclear. Recent evidence has also been found to support specific cognitive deficits with M.E. This case study examines the nature of these deficits and the relationship between M.E. and affective illness, in a female patient with an eight year history of M.E. Results suggested some mild memory deficits, as well as evidence of depressive illness. The nature and interaction of the cognitive deficits, and the physical and psychological difficulties are discussed.

INTRODUCTION

The principal symptom of Myalgic Encephalomyelitis (M.E.), (also known as chronic fatigue syndrome, postviral fatigue syndrome, sporadic neuromyasthenia), is severe and disabling fatigue, with no established medical condition to account for the Symptoms (Sharpe et al. 1991). Other symptoms which tend to feature are fairly heterogeneous in nature. The most prominent of these are muscle weakness and pain, mainly in the limbs, palpitations, nausea, inability to cope with extremes of temperature and sensitivity to all temperature changes, headaches, cognitive impairment, depression and emotional liability.

A number of authors, found that patients met the criteria for major depression, (Kruesi et al. 1989, Manu et al. 1988, Wessely and Powell 1989). A study, which used a matched

control group, Taerk et al.(1987), found that the group with the chronic illness, 71 percent met criteria for an affective disorder, of which 67 percent was major depression. In comparison with a matched control group, the M.E. group were 50 percent, more likely to have had a prior depressive episode, in a life time prevalence before onset, and five times as likely to be depressed during the episode of M.E. than in the same time span as controls. Taerk concluded that the syndrome probably represents the results of an interplay between psychological and organic factors in a susceptible individual. Other arguments have been put forward for classifying the condition as chronic hysteria (McEvedy and Beard 1970), and persistent viral infection, (Behan et al. 1985). From a psychiatric standpoint, (David et al. 1988), and from a general medical view, (Holmes et al. 1988), pleas have been made for a multifactorial approach based on an operational case definition as a "sine qua non" (sic).

In an attempt to establish if the mental symptoms are caused by a true encephalomyelitis, recently three separate groups of authors, (Riccio et al. 1992, and Grafman et al. 1993, Ray 1992), compared small groups of M.E. suffers with control groups in varying batteries of neuropsychological tests. Both Riccio and Grafman, found evidence to suggested that M.E. subjects showed inferior performance to controls on tests of verbal memory, with some evidence to suggest that memory was poorer in recall with increased semantic structure than in memory processes that involved free recall, which is the

opposite to what might have been expected. Grafman, found little evidence to suggest a difference in short term memory function while in the Riccio study evidence did not support this, here some deterioration in short term memory was observed. Ray et al. (1992), investigated attentional differences between M.E. and control group, this subjective report was not reflected in the objective attentional measures: patient's ability to focus attention was not significantly different from that of controls. Riccio concluded their findings suggested, the reported cognitive deficits were relatively mild but sufficient to support a concurrent psychiatric component of the condition, however they stated "as yet the direction of causality remains to be clarified" (sic).

Increasingly M.E. sufferers are being referred to clinical psychology. Undoubtedly such referrals for the lay patient brings forth feelings, of being disbelieved and the old cliché of "it is all in your mind". These patients if dealt with sensitively may allow the clinician to elucidate the nature of the cognitive deficits they experience and reveal more about the relationship of any co-existing affective disorder.

CASE HISTORY

Mrs X was referred to the clinical psychology department by a Consultant Neurologist for further investigation of her memory and concentration problems.

This 51 year old woman has not worked for the past eight years. She described feeling exhausted the whole time, had intermittent pains in her arms and legs and felt unable to walk far, or go up and down stairs. The referral letter stated "apparently she had some type of acute viraemia (precise nature undiagnosed), prior to the onset and was advised by a Medical Consultant to give up work". She complained of having difficulty remembering names, she forgot facts and could no longer be left in the kitchen alone for fear of leaving the gas on or burning saucepans. She described her concentration as being poor, unable to watch T.V. programmes or reading books. Mrs X was firm in the conviction that her symptoms were quite compatible with M.E. and found that many members of the M.E. group, which she attended, had similar problems. A diagnosis of M.E. had not been established medically.

WORK HISTORY

Mrs X left school age 16 with no qualifications and worked in a factory until aged 21. Following her marriage and birth of 4 children, she went to work in an off-sales where she remained for 4 years and was quickly promoted from sales assistant to manageress. From there she moved into hotel management and when she was 34 years old, was appointed a restaurant manageress where she stayed for 3 years. She reported finding these hours too long and, as a result, resigned from this post. After a 5 month gap of unemployment she then again was employed by the same hotel group, this time

as a hotel housekeeper where she stayed for 2 years. She described being unwilling to continue with this type of work because she felt the demand and commitment was excessive. Following a further year of unemployment, Mrs X went to work as a Domestic at a hospital. She described this as "the best job ever". However, after a year she became ill and at this point was recommended by a Medical Consultant to give up work. She has not been employed since.

Medical History: 1990 Thyroidectomy for a goitre. 1980 Stomach operation for ulcers.

Family History: There is a strong family history of thyroid disease but no other family illness of note.

Current Medication: Thyroxine, Analgesics. She drinks six or seven units of alcohol a week, she has never been a heavy drinker.

Neurological Investigation: (April 1993) No diagnosis of any conventional neurological disorder was made.

ASSESSMENT MEASURES

1. Interviews with both Mr and Mrs X individually.

2. Self report: Hospital Anxiety and Depression

Questionnaire (HAD) (Zigmond, Snaith, 1984).

Psychometric assessments listed below were chosen for their similarity to models addressed within the research, and for their compatibility to focus objectively on the reported cognitive deficits.

3. Wechsler Adult Intelligence Scale - Revised (WAIS-R) (Wechsler 1981).
4. National Adult Reading Test (NART) (Nelson, Wilson 1991).
5. Wechsler Memory Scale - Revised (WMS-R) (Wechsler 1987).
6. The Rivermead Behavioural Memory Test (Wilson 1981).
7. Rey Osterreith's Complex Figure Test (Osterreith 1944).

ASSESSMENT RESULTS

Initially, separate interviews were conducted, (prior to a joint one), to clarify the problems reported and obtain an account of them from both Mr and Mrs X. Mrs X., gave an account of being fairly happy around the onset of her illness; she enjoyed her work, her marriage was reasonably good and her children were getting married and leaving the family home. She and her husband, had not ventured as far as to make plans for the future, without their children, but she was generally looking forward to this time. The illness started with a virus which left her feeling weak and tired and unable to do anything around the house. The course of disability has waxed and waned to some extent during the eight years of her illness. She was able to recall periods when she had felt considerably better, most notably was period of eight weeks prior to Christmas two years ago, she was unable to identify other factors which coincided with this improvement, but remembered feeling unable to restart activities for fear of suffering a relapse. Presently she does little for herself, with tasks such as shopping, cleaning etc. being carried out on a daily basis by her family. She does on occasion go out

socially but due to her health does not plan events in advance. She believes that any physical or mental activity makes her exhausted and reported debilitating fatigue for three days following psychometric assessment.

During the interview, Mrs X was extremely adamant that she did not now or ever suffer any anxiety symptoms or low mood, prior to the onset of her current illness; she described herself as always being a copier. However, over the past few years, she had periods when she felt that her mood was very low and struggled to keep going. Currently she described her mood as "not great", with some diurnal variation, feeling worse in the morning. She felt some loss of interest in everyday activities but that this was attributable to her physical difficulties and not low mood. Her sleep was described as reasonable, no weight change had been observed, but felt her appetite was poor, some psychomotor retardation was observed which she again attributed to her aches and pains in her muscles. She felt her concentration was not very good, especially over longer periods. She denied any suicidal ideation.

HUSBAND'S INTERVIEW

At interview Mr. X described initially having difficulty accepting his wife's illness and had remained hopeful during the first few years that she would get better. He described their marriage as being reasonably good although feels this illness had placed a major strain on their relationship. He

has gradually come to accept the difficulties, but described his wife as becoming "more dependant every day and avoiding more and more situations". They both receive considerable support from their family, although sometimes his daughters made demands of their mother in excess of her capability (e.g. looking after two small children for an afternoon). He believed his wife had totally lost her confidence and would no longer try to do even small things. Mr X confirmed his wife's memory problems and expressed a fear of "letting her loose in the kitchen in case she burnt the house down". Mr X described feeling totally at a loss to know how to help his wife and was desperate for her to get better.

2. SELF REPORT QUESTIONNAIRE

On the Hospital Anxiety and Depression Questionnaire (HAD), which excludes items relating to somatic symptoms, Mrs. X's score for depression was above caseness level:

A = 7; D = 14.

3. WECHSLER ADULT INTELLIGENCE SCALE - REVISED

The WAIS-R was administered to provide a general measure of cognitive functioning and a profile of abilities.

Verbal IQ	=	97
Performance IQ	=	91
Full Scale IQ	=	94

Mrs X's full scale intelligence quotient places her in the average range of intellectual functioning when compared with an age-equivalent population, and is supported by her

employment history. There is no significant difference between her overall verbal and performance abilities. However, two subtests, namely Digit Symbol and Object Assembly, were at the fifth percentile and Block Design at the 25th percentile. Mrs X was able to complete these performance subtests but not within the allotted time limit (see appendix for full results).

4. NATIONAL ADULT READING TEST (NART).

A test of reading ability which is relatively well preserved in subjects with cognitive impairments. A formula allows an estimation of the subjects premorbid WAIS-R. I.Q. A NART-WAIS-R discrepancy is thus indicative of possible recent deterioration of cognitive function. The NART predicted a full scale IQ of 100 which although is slightly higher than obtained by the WAIS-R does not suggest a significant change in level of intellectual functioning.

5. WECHSLER MEMORY SCALE - REVISED (WMS).

Digit Span scored at the 81st percentile (forwards) and 99th percentile (backwards) indicating that short term memory was intact. Despite average functioning overall on memory measures (General Memory index = 104) results were significantly lower on subtest of delayed logical memory (53rd percentile immediate; 31st percentile delay) and visual paired associates both immediate and delay (see appendix 5).

Other subtests requiring attention and orientation, immediate and delayed verbal cued recall (verbal paired associates) and free visual recall (visual reproduction) were all within or above the average range of functioning.

6. THE RIVERMEAD BEHAVIOURAL MEMORY TEST.

This test was used to detect impairment of everyday memory functioning. Results suggested that while memory function was within the normal range everyday memory performance was at a poor level. Deficits as with the WMS-R were both in verbal free recall (immediate and delayed) and some aspects of visual recall (faces).

7. REY OSTERREITH'S COMPLEX FIGURE TEST (REY).

Copy and thirty minute delayed recall administration was used to identify visual spatial constructional ability and memory in the reproduction of this complex geometric design. Grafman (1993) found M.E. patients to have significantly impaired levels when exposed to this task.

Mrs X's copy of the picture was well organised and with no omissions (36/36; 100th percentile). At delayed recall her drawing was well structured with most details present (23/36; 55th percentile). This finding corresponded with the results of visual reproduction subtest (WMS-R).

FORMULATION

Mrs X is operating within the average range of intelligence functioning which is compatible with her estimated premorbid

level of functioning. While there was slight evidence of psychomotor slowness, planning and perception were within normal limits. Overall memory function was within the average range. However, there were some areas which deviated from this:- some deficits were indicated in delayed free recall of verbal information as opposed to cued verbal recall, and also cued visual memory compared with free recall. Measures of attention and concentration were above average which may indicate an increased expenditure of effort to obtain these results. Mrs X's clinical interview and HAD score did fulfilled the diagnostic criteria of major depressive episode, however she admitted did not wish to acknowledge this component for fear that her M.E. would be dismissed. The affective illness appears to be a feature of this presentation and thus will probably have implications in terms of some the cognitive difficulties reported. Mrs X has become increasingly dependent on her family during this illness and may be obtaining some degree of secondary gain from this.

Formulation DSM IV

Axis 1: 296.22 Major depression, single episode without psychotic features moderate.

Axis 2: No diagnosis

Axis 3: M.E. not confirmed medically; duration 8 years

Axis 4: Psychosocial Stressors : loss of job; marital discord; enduring circumstances of ill health.

Axis 5: Current GAF: 51 Highest GAF in past year: 55

DISCUSSION

The above case highlights the difficulty in delineating the reported cognitive deficits from affective illness, where concentration and psychomotor slowness are also features. In this instance the depressive element appears to be sequential to the M.E., although from the literature (Taerk 1987), this does not always appear to be the case.

The most notable features of Mrs. L. performance was the overall apparent normality, in direct contrast to the difficulties she described. Her complaints of a very poor memory, was not substantiated in the results, with a possible exception the Rivermead. These findings bear some support to previous studies in terms of the psychomotor retardation (Ray 1993), and what would be expected in terms of the performance of someone with depression and or M.E., also to some extent Grafman's (1993), findings that "M.E. patients had some mild memory impairment, but only on tasks requiring conceptually driven encoding and retrieval process." He concluded that memory impairment is typically mild and involves memory processes that participate in conceptualising information. Although this is not precisely the picture presented in this case, Grafman's conclusions goes some way towards giving an explanation to the nature of the deficits recorded in this case. However it does not explain the difference between self reported memory difficulties and measures of cognitive impairment.

Firstly at interview comments made about memory are relative and not absolute, suggest that other factors such as low mood and fatigue could possibly be colouring reports. It is well known that when depression is a feature, people tend to be negatively bias towards their true performance and underestimate their achievements (e.g. Teasdale 1995). It is possible that reports of cognitive difficulty are a feature of emotional distress. However, against this argument would be the fact that M.E. patients who were not emotionally distressed would not also be reporting memory deficits, and research and clinical practice have indicated that this is not necessarily the case.

Secondly, it is hypothesised that the aspects being tapped by the objective measures are different in some way from the subjective ones. In real life few tasks are as highly focused and specific in their content as objective measures. It is possible that difficulties being reported are when a multitude of skills are being tapped into. There are many different measure of quality of attention, and performance on one task does not necessarily predict performance of another (Broadbent 1986). The results on the Rivermead, which includes subtests that involve some distraction and split attention, are possibly more realistic and tap the difficulties described more accurately than in more formal neurological testing. Furthermore in real life, not only do daily living tasks require a larger number of skills to be used simultaneously, they also require sustained attention and concentration. The

results here did in fact demonstrate that this maybe a problem with some poorer "delayed" memory measures, which would support this argument.

Undoubtedly fatigue will also have implications for performance, this was keenly observed during the assessment. Ray (1993), argued that compensatory effort will be used in such cases to overcome the fatigue and this extra effort may account for the patient perceiving that she has performed poorly or report being worn out by tasks in the absence of evidence of objective performance impairment. Without this compensatory effort, it may be that a far more marked deterioration would be recorded.

Thus while the ecological validity of these formal tests are questioned, the interplay between perception and affective disorders are important. In some studies reporting cognitive deficits, depression was not a significant feature of the subject group (Riccio et al. 1992, Grafman 1993).

Smith (1992), concluded that the objective impairments observed in M.E., including psychomotor slowness, could not be accounted for by depression, while other studies (Scheffers et al. 1992), found no correlation between reaction time and scores on the BDI, and Ray (1992), found a relationship between speed and emotional distress but not to cognitive impairment. In this study where depressive features are relevant, it would be difficult not to consider emotional status to be a least a

feature of the performance speed, or of the physical aspects of M.E., impairing the performance of the motor tasks, however the literature infers that psychomotor slowness is a feature of M.E.

Overall this case study highlights some of the possible interplay between the cognitive deficits reported in M.E., the symptoms of extreme fatigue and that of affective disorders. In clinical cases, unlike some "clean" research samples, patients present with a broad range of difficulties and it is important to appreciate the complex relationships of these interacting variables.

REFERENCES

Behan, P.O., Behan, W. M., Bell, E.J. (1985). The postviral fatigue syndrome. An analysis of the findings in Fifty Cases. *Journal of Infections* 10,211-222.

David, A., Wessely, S., Pelosi, A. (1988). Postviral fatigue syndrome: Time for a new approach. *British Medical Journal* 296,696-699.

McEverdy, C.P., Beard, P.W. (1970). Royal Free Epidemic of 1955; A reconsideration. *British Medical Journal* 1,7-11.

Benton, A.L., Hamsher, K de S.(1976, Manual Revised 1978). *Multilingual Aphasia Examination*. Iowa City; University of Iowa.

Broadbent, D.E., Broadbent, M.H., Jones J.L. (1986). Performance correlates of self-reported failure and obsessionality. *British Journal of Clinical Psychology* 25,285-300.

Grafman, J, Schwartz, V, Dale, J, Scheffer, M, Houser, C and Straus, S. (1993). Analysis of Neuropsychological functioning in patients with chronic fatigue syndrome. *Journal of Neurology, Neurosurgery and Psychiatry* 56, 684-689.

- Holmes, G., Kaplan, J., Gantz, N., Komaroff, A.L., Schonberger, L.B., Straus, S.E. et al. (1988) Chronic Fatigue syndrome: A working case definition. *Annals of Internal Medicine* 108, 387-389.
- Keller, R. (1991). *Psychosomatic Syndromes and Somatic Symptoms*. American Psychiatric Press Inc. Washington D.C.
- Kruesi, M. J., Dale, J. Straus, S.E. (1989). Psychiatric diagnoses in patients who have chronic fatigue syndrome. *Journal of Clinical Psychiatry* 50, 53-56.
- Manu, P., Lane, T., Mathews, D. (1988). The frequency of chronic fatigue symptoms in patients with symptoms of persistent fatigue. *Annals of Internal Medicine* 109, 554-556.
- Nelson, H. E., Wilson, J. (1991). *National Adult Reading Test (NART)*. Windsor, England: NFER - Nelson.
- Scheffers, M.K. Johnson, R., Grafman, J., Dale, J.K., Straus, S.E. (1992). Attention and short term memory in chronic fatigue syndrome patients: An event-related potential analysis. *Neurology* 42, 1667-1675.
- Sharpe, M.C., Archard, L.C., Bantavala, J.E., Borysiewicz, L.K., Clare, A.W., David, A., et al. (1991). Guidelines for the conduct of research into the chronic fatigue syndrome. *Journal of the Royal Society of Medicine* 84, 118-121.

Smith, A.P. (1992). Chronic fatigue syndrome and performance. In: *Handbook of Human Performance*, vol 2 261-278. London: Academic Press.

Osterreith, P.A. (1944). Le Test de Copie d'une Figure Complexe. *Archives de Psychologie* 30,206-356.

Ray C., Phillips L. (1993). Quality of attention in chronic fatigue syndrome: Subjective reports of everyday attention and cognitive difficulty, and performance on tasks of focused attention. *British Journal of Clinical Psychology* 32,357-364.

Riccio M., Thompson C., Wilson B. (1992). Neuropsychological and psychiatric abnormalities in myalgic encephalomyelitis: A preliminary report. *British Journal of Clinical Psychology* 31, 111-120.

Taerk G.S., Toner B.B., Salit I.E., Garfinkel P.E., Ozersky S. (1987). Depression with Neuromyasthenia (Benign Myalgic Encephalomyelitis). *International Journal of Psychiatry in Medicine* 17,49-56.

Teasdale J. (1995). How dose cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help. *Behaviour Research and Therapy* 33,25-39.

Wechsler, D (1981). *Wechsler Adult Intelligence Scale Revised*. San Antonio; The Psychological Corporation.

Wechsler, D (1987). *Wechsler Memory Scale Revised*. San Antonio. The Psychological Corporation.

Wessely S., Powell, R. (1989). Fatigue syndromes: A comparison of "postviral" fatigue with neuromuscular and affective disorder. *Journal of Neurology, Neurosurgery and Psychiatry* 52,940-948.

Wilson, B, Cockburn, J & Baddeley, A (1991). *The Rivermead Behavioural Memory Test*. Bury St. Edmunds, England. Thames Valley Test Company.

Zigmond, A.S. & Snaith, R.P. (1984). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica* 67,361-370.

CLINICAL CASE RESEARCH STUDY

NUMBER TWO

THE COGNITIVE BEHAVIOURAL TREATMENT OF
A PATIENT WITH KLEPTOMANIA

WRITTEN IN ACCORDANCE TO THE CRITERIA SET DOWN IN BEHAVIOURAL
AND COGNITIVE PSYCHOTHERAPY (AVAILABLE IN APPENDIX SIX) .

ABSTRACT

This paper presents a single case study of a patient with kleptomania of two years duration, who was successfully treated using cognitive/behaviour therapy. Previous drug therapies had been useful in alleviating her depressive symptomatology and reducing the frequency of her stealing behaviour, however this behaviour had not been eradicated. The efficacy of this treatment is argued in light of the predisposing and maintaining factors surrounding the problem behaviour. Behaviour change was maintained during times of emotional distress and had continued at two month follow-up.

INTRODUCTION

Kleptomania was first described by Matthey in 1816 (Seguier, 1966a), and even at that time was recognised as being a small but distinct subgroup of thieves, who impulsively or compulsively stole worthless or unneeded items, which were easily obtainable by through legitimate means.

Although the phenomenon has varied in its description over the years, most of these state that stealing is out of character; may occur during an altered state of consciousness and are impulsive or compulsive in nature. DSM IV (1994), classifies it as "Impulsive-control disorders not elsewhere classified", using the following criteria:- a. Recurrent failure to resist impulse to steal objects that are not needed for personal use or for their monetary value. b. Increasing sense of tension immediately before committing the theft. c. Pleasure, gratification, or relief at the time of committing the theft.

d. The stealing is not committed to express anger or vengeance and is not in response to a delusion or a hallucination. e. The stealing is not better accounted for by Conduct Disorder, a Manic episode, or Antisocial Personality Disorder. Thus individuals with kleptomania steal in response to reduce their level of symptoms, (Goldman 1991) and differ quite considerably from the average shoplifter who steals for personal gain.

Issac Marks (1990) in his editorial paper, described a group of disorders, including kleptomania as a behavioural (non chemical) addiction. He stated that its obsessive-compulsive nature shared features with addictions in terms of the WHO definition of a dependence syndrome (Edwards 1986), including: (1) repeated urge to engage in a repeated behavioural sequence that is counterproductive, (2) mounting tension until the sequence is completed, (3) rapid but temporary ability to switch off the tension by completing the sequence of the behaviour, (4) gradual return of the urge over hours days or weeks, (5) external cues of the urge unique to the particular addictive syndrome, (6) secondary conditioning of the urge to both environmental and internal cues, (7) and it also shared similar strategies for relapse prevention.

Other papers have observed that Kleptomania frequently has associated psychopathology. The most frequently reported has been mood disorders (Bradford & Balmaceda 1983; Coid 1984; Fishbain 1987; Gudjonsson, 1987). McElroy et al. (1989), reported twenty kleptomaniacs, all of whom had a diagnosis of

major mood disorder; seventeen of these, met the criteria for four or more disorders (eating disorders, panic attacks, obsessive compulsive disorder, sexual dysfunction). It was reported that all of the patients had noted a relationship between the affective symptoms and their stealing behaviour and all had sought treatment for the disorder other than the kleptomania.

Many theorist have suggested that kleptomania may be related to depression, by providing tension relief or pleasure and thus provide an antidepressant effect. Recently, Gudjonsson (1987), reported the case of a middle aged woman with major depression whose compulsive shoplifting transiently alleviated her depressed mood by exerting "sudden mood-elevating and anxiety relieving effects". While Coid (1984) described a fifty-four year old woman, with no previous convictions, whose impulsive stealing of unneeded food items rapidly relieved profound depression and anxiety due to diazepam withdrawal.

Current treatment practices are either based on the model of compulsive/impulsive behaviour and are behaviour orientated, or are drug orientated, usually focusing on the concomitant disorder. A number of authors report relative success in the application of behaviour therapy (Kreutzter 1972; Gauthier & Pellerin, 1982; Glover 1985; Gudjonsson 1987), and drug therapies - most commonly antidepressants (Fishbain 1987, 1988; McElroy et al. 1989; Feder 1988; Burnstein 1992). This approach tends to present with a more mixed review (e.g. Gudjonsson 1987) drugs were only partially effective in

eradicating the behaviour. Fishbain (1987,1988) and McElroy et al. (1989), both reported that in three patients treated with antidepressants, kleptomania urges recurred with drug discontinuation, and responded again when drug was re-instituted.

To date there has been relatively few studies which provide empirical background information concerning the possible etiology of kleptomania, however, the psychoanalytic literature suggests that kleptomania is a symptom of underlying conflict. With the presence of depression and disturbed sexuality, analysts proposed mechanisms they felt could explain the disorder. Fenichel (1945), discussed kleptomania and other forms of stealing as the gratification of id impulses and as an expression of infantile needs. Abraham (1968), traced kleptomania back to the child's feelings of neglect concerning proofs of love; in stealing, the child finds a substitution for a lost pleasure. Unfortunately there is paucity of more modern data, in terms of case studies and more rigorous research detailing the background of the kleptomania and family history are required to refute or confirm these claims.

The following case study aims to focus on the predisposing and maintaining factors of one patient who presented with a two year history of kleptomania, for which a cognitive behavioural treatment approach was used.

CASE HISTORY

JR, a twenty-one year old woman, currently in the final year of art school, referred to psychology as a court recommendation following a shoplifting offence (February 1994). She had started shoplifting approximately two years ago, around the same time that she developed a depressive illness, although it is not clear which problem developed first. Treatment consisted of a Paroxetine medication under the supervision of psychiatry, this was successful in alleviating the depressive symptomatology from "severe/moderate with a query of psychotic features" to being "in remission", in the space of about six months. Medication was discontinued, following psychiatric advice approximately eight months ago. Incidents of stealing reduced from approximately three to once or twice a week, however the stealing was still perceived by JR as an uncontrollable urge out with her control.

JR described experiencing the urge when she was feeling sad or had experienced some form of disappointment. She described feeling dizzy, hot, excited and experiencing a heightened sense of awareness; walking past people but only seeing them as "things," in the way of getting what she wanted. This feeling which preceded the act of shoplifting deadened any negative or sad feelings she had and replacing them with a powerful feeling of control. In order to avoid the urge, she abstained from shopping as much as possible and would only go if accompanied by another person. The items she stole varied and were frequently of no use to her, but tended to be things

she could conceal in her pockets. However, at the time she was caught and arrested, she was attempting to steal a dress. She often had sufficient money to purchase the items, and sometimes return the stolen items to the shop at a later date. JR described her behaviour in ego-dysontic terms (Davidson 1965), feeling extremely ashamed of her behaviour stating that when she was not feeling down she would never steal from a shop.

JR was an only child from the North of England. Her parents, both teachers were given early retirement on mental health grounds approximately five years ago. She described a fairly happy early childhood, although from the age of about eight she recalled her parents experiencing marital problems, which finally culminated in a divorce some ten years later. She described her parents and especially her father being extremely open with her, this openness appears to have led to a lack of boundaries within their relationship. Her father frequently discussed details of his sex life and affairs. He regularly made sexual comments towards her, although she denies that he ever followed this through in terms of physical sexual abuse. Recently her father had an affair with one of JR's cousins, who bears a striking resemblance to JR, he himself made the link and insinuated that it could have easily have been her.

JR talked much less about her mother, in her earlier childhood it would appear that she was the stricter of the two parents who did provide some guidelines on rights and wrongs, however

this relationship has changed as JR has got older and there now appears to be something of a role reversal, between JR and her mother.

JR has conflicting feelings about both of her parents and feels guilty about this. She appreciates their openness and wants to be appreciative of them, however in doing so she is enmeshed in whatever their current difficulties are. While both her parents are academically bright, she feels they do not possess much in the way of common sense. JR feels it is her duty to help them avoid the difficult situations they cause for themselves. She frequently visits her mother, although cannot confide in her, and corresponds with her father, who lives in France and has recently remarried. JR avoids seeing her father when alone because she is fearful of dealing with any sexual advances and is uncomfortable with the sexual content of his conversation.

It was formulated that while this behaviour originated with a depressive illness and has links with low mood, both the depression and the stealing appears to relate to her upbringing and current family relationships. From her upbringing she was not provided with clear rules by her parents. Possibly as a result she now has difficulty, expressing, and more so, trusting her own needs and feelings, she is unclear in herself about what other people might view as acceptable. There appears to be a large area of conflict between what she believes in herself and the values set down by her family.

TREATMENT

Seven appointments with one follow-up appointment were offered, involving the following main steps:

1. Introducing and explaining the cognitive/behavioural model, using JR's behaviour, thoughts, mood, biology and environment (Padesky 1990) as examples to explain the model.
2. Focusing and challenging her thoughts which a. initiated her stealing behaviour and b. followed an episode of stealing.
3. The use of behavioural experiments to challenge her perceived level of control regarding her stealing.
4. Behavioural Anxiety Management techniques (controlled breathing, and desensitisation to previously avoided situations i.e. specific shops and shopping alone).
5. Exploring her relationship with her family (including assertive techniques).

It was discovered that there was a relationship between negative events, how JR interpreted these events and her stealing behaviour. Although not clinically depressed she still exhibited some "thinking errors" (Beck 1979), when faced with difficulties and beliefs about loss of control, resulting in her stealing. J.R. completed a diary of these thoughts and they were explored and challenged during treatment.

It was discovered that JR had selected shops from which to steal, and nearly always selected small items, in order to reduce the opportunity of being caught, thus revealing a level of control within the behaviour. This allowed JR to review how she perceived her active participation when stealing, thus she was gradually able to alter her perception that it was out with her control. Behavioural experiments were used to test out her beliefs about her control levels. Desensitisation was used to encourage JR to restarted going to previously avoided stimuli (specific shops and shopping alone).

Using Guided Discovery, JR revealed that her stealing, at least in part, related to wanting her mother to label her as a thief and say she was bad. JR described feeling confused that her parents had an ethos of never condemning people's behaviour, everything, was seen as being acceptable to them. However, JR felt cynical of this, believing that it was just an image for those around and a different set of rules applied to her. She admitted she was challenging her parents to accept her, despite her behaviour, and at the same time wanting rules and guidance for what she had done.

Interestingly, her family did not condemn her behaviour when she was charged, and the kleptomania continued. Thus the second part of therapy which followed, related directly to this, and involved identifying her feelings and beliefs about herself and her relationship with her parents.

Two factors emerged as important. Firstly, her conflicting feelings about values and an inability to trust her own

emotions compared with those of her family. These were identified and included areas of racial prejudice and the role of women in society, but undoubtedly most prominently for her the area of relationships and how sex played a role within relationships. JR had been brought up with 1960's values of sexual promiscuity. She had experimented with this and felt it was not right for her. Therapy focused on these conflicting feelings, identifying and exploring her beliefs relating to them.

The second factor which was explored involved her current relationship with her parents. The underlying issues in this relationship were discussed and the ways in which her current behaviour and belief maintained the situation. She felt guilty that she had mixed feelings towards her parents; feeling angry at herself for not approving of them entirely. This appeared to relate to her fear that she would not make a better parent than they had, and thus did not want to judge them too harshly. She felt duty bound to help them out of their continuing crises, and in many ways had a reversed roles with them. Treatment linked together her beliefs and her actions and explored ways in which she could deal with some of the issues, including assertiveness training.

RESULTS

Treatment consisted of seven appointments, plus one follow-up. After the third appointment JR reported having no difficulty resisting the urge to steal and as treatment progressed she coped with a variety of disappointments, without stealing. These including her boyfriend finishing their relationship, and failing to get a place at a New York Art School, (having been wrongly offered a place due to a clerical error only a few days before). Instead she dealt with these by confiding in two of her friends. However, more notably, she experienced a very upsetting event, following the fourth appointment. She was hitch hiking to her mother in England, and was subjected to verbal indecent assault by the lorry driver who gave her a lift. This distressing event lasted several hours. JR not only did not steal, in response to this event, despite the fact the opportunity presented itself, she also was able to express her feelings of upset to her mother. JR managed to deal with these disappointments, which would have previously been a problem, without as she reported, even thinking about stealing at that time or in the aftermath, when she was feeling calmer.

At a two month follow-up, this behaviour was maintained. However, more time is needed to fully assess the extent of behaviour change.

In focusing on her relationship with her parents. JR was able to use future visits of her father, and his new wife to JR's mother's home. Her father wanted to meet with JR, prior to the

visit in a hotel room, to collude with him, in his opinion that his ex-wife needed psychiatric care. He also planned to stay in the same house with his ex-wife. JR was able to assert herself by refusing to meet up with her father in the setting he chose, she was also able to give her opinion of what he was doing and saying, while removing her responsibility from their behaviour, i.e. "If it was me I wouldn't do this, but you have to decide what is right for you". She did go down and see them for a weekend when they stayed with JR's mother in the same house, (they did not take her advice). In retrospect she felt it would have been better not to have visited them at this time, and trust her initial judgement, that it would be a bad idea to see them when they were all together.

JR was a very motivated and resourceful patient and probably due to that, fewer sessions were required for rapid change to be observed. While her stealing appears to have entirely extinguished, other issues behind it, may take much longer to resolve. There was evidence that JR was able to address some of her family issues and recognise some of her own needs and follow these. As implementing these changes is probably a long term goal, it may be appropriate to offer more appointments at some point in the future. This would serve the purpose of allowing JR to consolidate the changes currently focused on before addressing the fundamental beliefs. JR is aware of that the option of returning to treatment is open.

DISCUSSION

This case study highlights the effectiveness of a treatment intervention which focuses not only in the presenting behavioural problem but in attempting to understanding the predisposing and maintaining factors and cognitions which are involved in the behaviour. It is argued that if a strict behavioural intervention had been used many of the difficulties relating to JR's stealing behaviour would fail to have been addressed. This case study also highlights an alternative intervention to that of drug therapy, which in this instance, as with others in the literature (e.g. Gudjonsson 1987) drugs were only partially effective in reducing the behaviour.

This cognitive intervention, focused in on two of the possible three levels: firstly the behaviour itself, and secondly the underlying beliefs and assumptions surrounding the behaviour. The third level of underlying schemas, which may maintain and drive the behaviour were not addressed for the purpose of this case study, as dramatic behaviour changes were observed, using the first two levels. However, this approach is a feasible option, if changes are not maintained at long term follow up.

It has been argued that kleptomania represents a continuum of abnormal stealing. McCord and McCord (1956), proposed that kleptomania be expanded to include all impulsive thefts "without cognitive motivation and goal" (see Elizur & Jaffe 1968). McElroy (1991), believed that if this was the case kleptomania may represent only the most severe variant of a

continuum of abnormal stealing, and this family of shoplifters may be more common than previously suspected. Thus it is vital to grasp the underlying factors in attempting to develop effective treatments for this patient group. Systematic studies are required which explore the compulsive/impulsive nature of stealing and its relationship with associated disorders. This may then lead to a greater basis from which to develop appropriate and effective treatment models.

REFERENCES

- Abraham, K. (1968). *Selected papers on Psychoanalysis*. Basic Books. New York.
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders (4th edition)*. American Psychiatric Association, Washington D.C.
- Bradford J., & Balmaceda R. (1983). Shoplifting: is there a specific psychiatry syndrome? *Canadian Journal Psychiatry* 28, 248-254.
- Beck A.T., Rush A.J., Shaw B.F., Emery G. (1979). *Cognitive Therapy For Depression*. Wiley, New York.
- Burnstein A. (1992). Fluoxetine-lithium treatment for kleptomaniacs. *Journal of Clinical Psychiatry* 53, 28-29, (letter).
- Coid ,J. (1984). Relief of diazepam-withdraw, syndrome by shoplifting. *British Journal of Psychiatry* 145, 552-554.
- Davidson, H. A. (1965). *Forensic Psychiatry* (2nd edition). Ronald Press, New York.
- Edwards, G. (1986). The alcohol dependence syndrome: a concept as stimulus to enquiry. *British Journal of Addiction* 81, 175-186.

Elizur, A. & Jaffe, R. (1968). Stealing as a pathological symptom. *Israeli Annals of Psychiatry* 6, 52-61.

Feder, R. (1988). Lithium augmentation of clomiprimine. *Journal of Clinical Psychiatry* 49, 458, (letter).

Fenichel, O. (1945). *The Psychoanalytic Theory of Neurosis*. Norton, New York.

Fishbain, D. A. (1987). Kleptomania as risk taking behaviour in response to depression. *American Journal of Psychotherapy* 41, 598-603.

Fishbain, D.A (1988). Kleptomania behaviour response to perphenazine - amitriptyline HCL combination. *Canadian Journal of Psychiatry* 33, 241-242, (letter).

Gauthier J. & Pellerin D. (1982). Management of compulsive shoplifting through covert sensitisation. *Journal of Behavioural Therapy and Experimental Psychiatry* 13, 73-75.

Glover J.H. (1985). A case of kleptomania treated by covert sensitization. *British Journal of Clinical Psychology* 24, 213-214.

Goldman, M. J. (1991), Kleptomania: Making sense of the nonsensical. *American Journal of Psychiatry* 148, 986-996.

Gudjonsson, G.H.(1987). The significance of depression in the in the mechanism of compulsive shoplifting. *Medicine, Science and the Law* 27, 171-176.

Kreutzter, C. (1972). Kleptomania: a direct approach to treatment. *British Journal of Medical Psychoanalytic Association* 15, 641-685.

Marks, I. (1990). Editorial- Behavioural (non-chemical) addictions. *British Journal of Addiction*, 85, 1398-1394.

McElroy S.L., Hudson J.I., Pope H.G., Keck P.E. (1991). Kleptomania: clinical characteristics and associated psychopathology. *Psychological Medicine* 21, 93-108.

McElroy, S.L., Pope H.G., Hudson, J.I., Keck ,P.E., White, K.L.(1991). Kleptomania: a report of 20 cases. *American Journal of Psychiatry*, 148, 652-657.

McElroy, S.L., Keck, P.E., Pope, H.G. & Hudson, J.I. (1989). Pharmacological treatment of kleptomania and bulimia nervosa. *Journal of Clinical Psychopharmacology* 9, 358-360.

Padesky, C.A., Mooney K.A. (1990). Presenting the cognitive model to clients. *International Cognitive Therapy Newsletter* 6, 1-2.

Seguier, H. (1966a). Review of the history of Kleptomania. *L'Encephale* 55, 452-456.

CLINICAL CASE RESEARCH STUDY – NUMBER THREE

THE COGNITIVE BEHAVIOUR TREATMENT OF A
PATIENT WITH A BORDERLINE PERSONALITY DISORDER

WRITTEN IN ACCORDANCE TO THE CRITERIA SET DOWN BY BEHAVIOURAL
AND COGNITIVE PSYCHOTHERAPY (AVAILABLE IN APPENDIX SEVEN) .

ABSTRACT

A wide variety of treatment are currently being developed for the treatment of personality disorders. This paper briefly reviews these treatments and the outcomes data available. Then it describes one of these treatments, namely the schema focused approach of cognitive behaviour therapy, (Young 1990), in the form of a single case study. The case is described and formulated in detail according to Young's model. Outcome measures report a reduction in depression and anxiety , but no change in reported reasons for living or behaviour.

INTRODUCTION

DSM IV defines personality disorder as personality traits, (i.e. enduring patterns of perceiving, relating to and thinking about the environment and oneself, which are exhibited in a wide range of important social and personal contexts), which become inflexible or maladaptive. This maladaptation or inflexibility usually results in either significant functional impairments or subjective distress and can be defined as personality disorder.

A wide variety of treatments currently being developed, included: dialectical behaviour therapy (Linehan 1987 a,b,c), Kernberg's expressive psychoanalytic psychotherapy (1982,1984,1989), and schema-focused cognitive therapy (Beck 1990, Young & Lindemann 1992), cognitive interpersonal therapy (Dawson 1988, Safran 1992), the wholesale implementation of

Gestalt approaches, as well as a variety of pharmacological interventions (see Stein 1994 for review).

Kernberg's psychoanalytically orientated psychotherapy is specifically for the treatment of borderline personality disorder (Kernberg et al. 1989). The central treatment intervention include the persistent use of clarification and confrontation of experiences of the self and others that have been "split off" or dissociated, and interpretation of the defence that maintains the dissociation. The treatment focuses on current interactions and experiences in the patient's life, particularly the interaction with the therapist. Kernberg had also described a psychodynamically orientated supportive psychotherapy for borderline patients. In contrast to the former approach it does not require therapist neutrality (Kernberg 1982).

Since maladaptive interpersonal behaviour is a key element of most personality disorders, it is not surprising that interpersonal theorists and researchers have begun to apply their models to the personality disorders. Relationship Management Time-Limited Group Treatment (RMG), has been developed by Dawson (1988). The primary goal of this intensive treatment, is to develop an increased capacity to successfully handle various interpersonal interactions. Treatment strategies attempt to lead the patient into assuming self-initiated, problem-solving responses to conflictual situations.

Cognitive Therapy, which was originally developed for the treatment of depression, and use extensively for other Axis I disorders has recently been modified for the treatment of personality disorders. Much of this work has focused on borderline personality disorder (e.g. Fleming and Pretzer 1990). However a manual outlining conceptualisations and treatment strategies for all of the Axis II disorders is now available (Beck et al. 1990). A basic assumption of the cognitive approach is that the dysfunctional attitudes and behaviours associated with personality disorders are a result of specific kinds of maladaptive schemas or cognitive structures that produce the biased judgements and interpretations in certain types of situations. The typical schemas of personality disorders are believed to be similar to those that are activated in Axis I disorder, but are more consistently operative and, part of normal everyday information-processing. As with the Axis I disorders, cognitive and behavioural techniques are directed towards the development of new schemas and modification of old ones. However, a larger variety of cognitive strategies, and a longer duration of cognitive re-working, is generally required for patients with personality disorders (Beck et al. 1990).

Various behavioural approaches have also been applied to the personality disorders. Linehan (1987 a,b,c), has developed a comprehensive behavioural approach for patients with borderline personality disorder and parasuicidal behaviour. Strategies and interventions include training interpersonal

skills, emotional regulation, and distress tolerance. Other standard behavioural approaches have been used in the treatment of personality disorder, including systematic desensitisation, social skills training, and graduated exposure (Linehan 1991).

One of the difficulties with personality disorders is the lack of treatment outcome studies. The Menninger Study (Kernberg 1973), is probably the best known. Here forty-two patients with "borderline personality organisation" (sic), were treated with psychoanalysis, expressive psychotherapy, or supportive psychotherapy. Findings included: a. a high level of ego strength predicted a positive outcome, for all treatment conditions; b. patients with high ego strength and high quality of interpersonal relationships showed less improvement with supportive therapy than with psychoanalysis or expressive psychotherapy; and c. patients with low ego strength benefited the most from expressive psychotherapy, combined with hospitalizations needed.

Waldinger and Gunderson (1984), conducted a survey of analysts who had written about the outcome of 78 moderately impaired patients. Treatment sessions averaged three per week for four and a half years. According to therapists' reports, patients improved significantly in all areas, and the longer they were in treatment the better the outcome.

Linehan et al. (1991) reported the results of a one-year treatment with Dialectical Behaviour Therapy (DBT), compared to treatment as usual (TAU), for forty four parasuicidal women meeting the criteria for severely dysfunctional borderline personality disorder. The treatment which included twice weekly group sessions and individual sessions plus the twenty-four hour availability of the therapist had strikingly low attrition rates compared with TAU, and a significant reduction in frequency and severity of parasuicidal behaviour. No difference was found between these groups on measures of depression, hopelessness, suicidal ideation, or reasons for living.

As far as this author is aware little published research of controlled outcome studies using schema focused approach of cognitive therapy with borderline patients is currently available, although there is research underway (Davidson, Padesky).

As Cognitive Behaviour Therapy is the treatment of choice for a-historic type Axis I disorders, it seems a legitimate argument that it may well prove to be effective in the treatment of historic axis two problems. This study presents the case of a patient who presented with a personality disorder and was treated using a schema focused approach to cognitive therapy (Young 1990) and focuses on some of the pertinent issues of treatment of personality disorders.

CASE HISTORY

JH a twenty nine year old single woman, was referred by her G.P. for symptoms of anxiety and depression, she had previously been seen by a consultant psychotherapist in 1988, following a suicide attempt. She reported finding this intervention to be of little use to her. At the initial appointment, JH described a number of depressive symptoms including disturbed sleep during the night and hypersomnia during the day, lethargy, and had negative views about herself, the world around her and saw no future. She reported feelings of nausea which she attributed to antidepressant medication (Prozac), which she stopped taking, however, the nausea had continued. She reported other physiological symptoms of increased arousal and a high level of avoidance. In the past she had mainly worked as a domestic, with her longest period of employment lasting six months. She normally resigned from these jobs either due to her difficulties getting on with her colleagues or, her abhorrence of the policies and management at the various work localities. Her most recent employment was a domestic in a psychiatric hospital, which she had given up at Christmas. The depressive features she described became significantly worse around this time, and appear to relate to her lack of invitations to any of the events or nights out at work and having no place to go on Christmas day.

She described a very unhappy childhood, in which her father drank to excess and regularly raped and beat up her mother,

and was continually arrested for misdemeanours. JH frequently witnessed the beatings in the middle of the night, and described running in her night wear to the police station, to get help. This pattern continued for most of her childhood. She felt the small community in which she lived shunned her for her father's behaviour, and JH described being ostracised each week when the local newspaper published her father's police charges. During this period JH's only sibling, a brother, lived with the maternal grandmother. JH expressed anger at being left to survive and no one removing her from the situation. Her parents eventually separated and JH's mother remarried a psychiatric patient whom she had previously nursed. At this time JH was working in the psychiatric hospital where this man had been a patient, and experienced rebuke from the staff for her mother's choice of partner. Following this marriage JH left home (aged sixteen).

JH had no close relationships herself, or with her family, and blames her mother for not protecting her as a child. She identified herself as being quite different from other people. She was extremely derogatory of anyone who holds a position of responsibility, and generally mistrusting of those around her. She expressed feelings of anger at other people and in order to maintain a modicum of social contact feels she had to subjugate her own needs. She was extremely socially isolated, and saw herself as being ugly and quite unloveable. As sessions progressed, she admitted that her problems had been fairly consistent throughout her life, and the only time she

had felt different was a period at which she had gone to college, but drank to excess to help her cope. She did not complete her college course, due to exam anxiety and was extremely angry with the system for this. Her previous two suicide attempts, one when she was nineteen and the other aged twenty three were both overdoses and were of serious intent. She reported suicidal ideation, saying that she did not understand why others felt life was worth hanging on to, and was considering jumping out of her eighth storey window, but was concerned that this would not be high enough to actually kill her. She reported no other plans. JR was extremely underweight, and reported having difficulty eating, but did not fulfil the diagnostic criteria for Anorexia Nervosa.

Initially at appointments it proved extremely difficult to form a therapeutic relationship. It was not easy to negotiate a problem list, as soon as one aspect was focused on she challenged the efficacy of this, stating that her difficulties were not being taken seriously. She was extremely challenging and a master of "Yes, but". It soon became apparent that the therapist would have to have little need to win any power struggles, nor be seen to be in any way passive to the difficulties. Her problems were held in a very ego-syntonic manner, and could not relate to herself ever having viewed the world differently. She reported feeling angry as being seen as a "patient".

Her BDI score was forty-three, indicating very severe depressive symptomatology, but subjectively was quite different from other very depressed patients, and her BAI score was 20. On the SCID, she met the full criteria for "Borderline", personality disorder. She also met with some of the criteria for Passive-Aggressive Personality Disorder, but not sufficient to meet the full diagnostic criteria.

In Young's schema questionnaire, (Young 1990) JH scored highly under the categories of Connectedness (emotional deprivation, abandonment and loss, mistrust, social isolation and alienation), and Worthiness (defectiveness/unloveable, and social desirability).

Thus the formulation using Young's model was developed as follows: (see over)

INFLUENCES ON DEVELOPMENT

Mother	Father	Brother	People in Authority
unable to cope. unable to defend herself or JH	Drunk, abusive, unloving	Removed/more worthy than JH	(G/parents;Police) no action/ignored JH
\			/
\			/
\			/

EARLY HISTORY

Rejection by father, grandparents; needed to take on role of "mother"; Alienated from brother, people living close by and school peers. High experience of conflict with little or no action.

DEVELOPMENT OF UNCONDITIONAL CORE BELIEFS

- Early Maladaptive Schema

Everyone, is inherently bad and uncaring.

People, especially those in positions of authority, do not care.

I am unloved and not worthy of being loved.

SCHEMA MAINTENANCE

Chooses unstable friends/partners; cannot ask for needs to be met. Over-reacts to any evidence of deprivation. Does not express anger to those who have annoyed her. Isolates herself from others; stays on the periphery of any activities. Denigrates other people.

SCHEMA AVOIDANCE

Avoids relationships/friendships/; Avoids arguments or asking for her rights (directly); Remains socially isolated; Avoids going out to work.

SCHEMA COMPENSATION

Narcissistic manner with people she meets and works with.

BEHAVIOUR - Avoidance of people/relationship; strict vegan lifestyle/ eats very little. Denigrates people especially those in authority.

AUTOMATIC THOUGHTS - "Life is dreadful, people do not care about anything/ nobody loves or cares about me".

EMOTIONS - Depressed.

TREATMENT

The treatment as described below consisted of five main steps:

1. Relationship - building on collaboration
2. Identifying Schemas (through the therapeutic relationship).
3. Educating/Exploring with the patient about Schemas.
4. Re-working (remodelling) the Schemas.
5. Assertiveness Training.

Treatment goals were initially difficult to define, with problems changing and JH denigrating any decision about the focus of treatment, even although these were made jointly. Young (1990), proposes that with "borderline", patients many of the difficulties presented in their life will appear in the therapeutic relationship. Thus initial focus, as suggested by Young was on developing a collaborative supportive style of therapy, which could serve as a bases on which to focus on her difficulties. This involved changing from a problem solving focused approach, to one based on supportive counselling, using empathy, but which also actively acknowledged the passive aggressive features. Behavioural techniques were used, including relaxation and exposure, to help with her physiological symptoms of anxiety and Behavioural Experiments were set up targeting her avoidance of going out with people she knew.

As treatment progressed, the therapeutic relationship itself was initially used to challenge her schemas. As Young

described (1990), "schemas are not easily relented and if they are, movement is only exhibited in very small amounts" e.g.:

Therapist: "So one of the problems you feel is that no-one in authority cares? Is that right?"

J.H: "Yes, nobody cares, or bothers to understand how I feel"

Therapist: "Is that what you feel happens here?"

J.H: "But it is different here."

Therapist: "What do you mean by different",

J.H. "Well you are educated, it's really uneducated people who don't care."

Therapist: "So what you are saying is that education predicts how much someone listens?"

J.H: "Yes, well it is the uneducated people in authority, that don't even think far less care"

Therapist: "But we got off to a bad footing, and you thought that I didn't care, is that right?"

J.H: "I'm not sure - possibly."

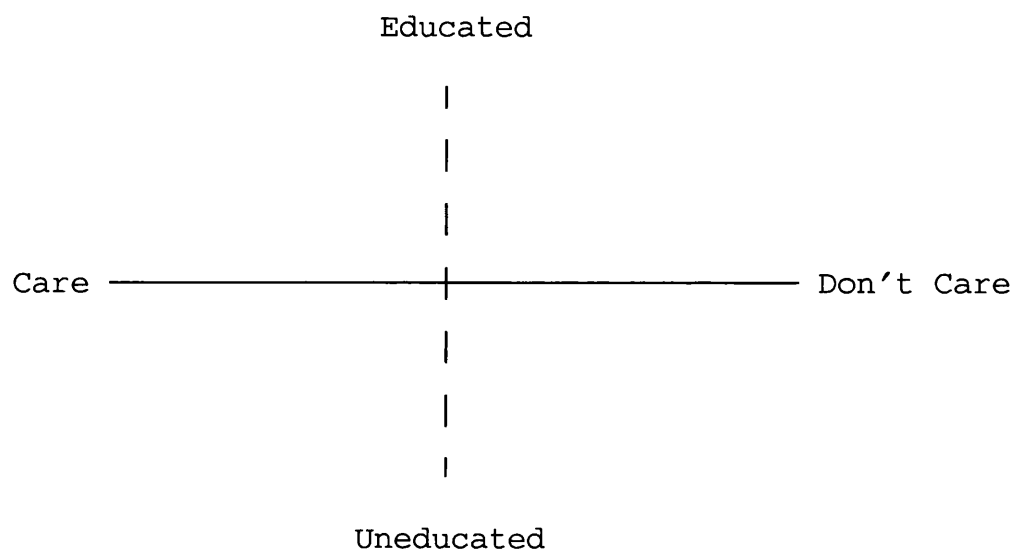
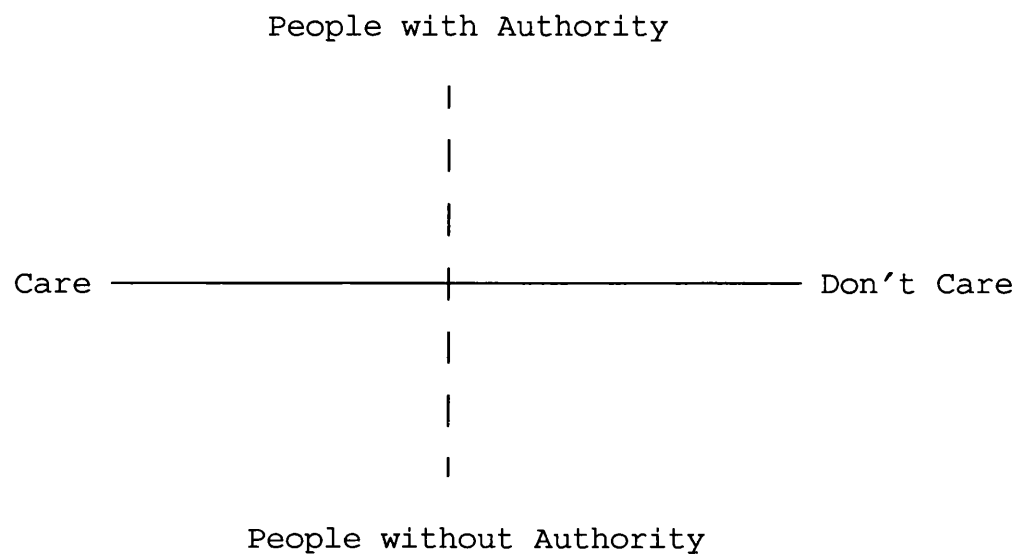
Schemas focused on difficulties in her relationships and included: "Everyone, is inherently bad and uncaring".

"People, especially those in positions of authority, do not care".

"I'm ugly and unloveable - People need to be good looking to be loved",

"No-one can be trusted; everyone looks after their own needs."

The double axis technique, was used to explore these schemas. JH placed all the people she knew into categories on the diagram and through this, evidence against her schema was slowly collected:



This technique was repetitively used to look at evidence from her own experiences, throughout all of the identified schemas. Flash cards were developed with alternative schemas for her to refer to between appointments.

Assertive techniques were explored using role plays, involving encounters with people she found difficulty dealing with.

Due to her suicidal ideation and depressive features psychiatric opinion was sought. At the time of this appointment the psychiatrist assessed her as no longer being at risk. No other psychiatric intervention was offered and all medication was stopped. Following this JH started taking benzodiazepines which she purchased on the street.

RESULTS

After five months of weekly appointments, in which a direct cognitive approach had been used at twenty-three appointments, JH's BDI score had reduced to thirty, and her BAI had reduced to fifteen. A marked reduction in her suicidal feelings were observed but little change in her everyday behaviour. She was able to review some of her schemas and alter them slightly post hoc, during appointments. However, more often than not, this was fairly reluctantly done and it did not generalised into her everyday thinking. She reported finding the treatment approach, to be of little help to her, and while both objective and subjective reports of anxiety and depressive symptomatology did support some change over the

five months JH felt the quality of her life was no different, but according to the literature this is not uncommon (Linehan 1991).

DISCUSSION

Despite JH's negative view of therapy, it is argued that changes did take place, as marked by her reduction in depression and anxiety. This change was larger than that reported by Linehan (1991) in terms of BDI, who reported no shift on this measure. Thus suggesting that a cognitive behavioural approach has an additive effect to behaviour therapy alone, in the treatment of borderline cases. A similar finding to that of Linehan was the continual high levels of perceived hopelessness and no change reported in reasons for living. Despite this fact, these findings do support a cognitive behavioural approach.

It is widely written that schemas are extremely rigid and difficult to change, the literature talks of them in a concrete way i.e. "loosening" them before they change (Young 1990). The difficulty with this approach in therapy is that the process of changing something so fundamental to the person is an extremely arduous task, especially if in making change, a safe alternative is not provided. Young et al. (1992) argues that the purpose of the therapeutic relationship is to provide a relationship in which alternatives are provided. This may have some credence. However, in a situation where a patient has never had any "good" or "good enough"

relationships, within their own childhood, in which to assimilate their current experiences, it must make this task of change even more difficult. It is argued that this factor of early childhood experience, is perhaps one indicator of poor outcome, and possibly when supportive work within the therapeutic relationship is highly appropriate. This would correspond to findings from the Menninger study (Kernberg 1973). The similarity of these findings, may also relate to the integration of the use of the therapeutic relationship, from the realms of psychodynamic work to cognitive behavioural therapy, which is not standard practise in cognitive treatments.

One of the main difficulties with the treatment of personality disorders is the time scale. Most of the treatments are both intensive and exceedingly prolonged (Kernberg 1982; review by Waldinger and Gunerson 1984; Linehan 1991), thus excluding their inclusion into current health service practise. The treatment presented here involved over twenty-three hours of therapy, which is less than that proposed by other treatment approaches, but it is easily understood how treatment could develop from months to years. It is argued that when so much fundamental change is needed then a more progressive approach maybe worthy of investigation. Thus, an on-going, less intensive intervention, in separate blocks over many months or years, may provide a useful tool in promoting and sustaining long term change and provide the patient a strong sense of control over the process.

REFERENCES

- Beck, A.T, Freeman, A. (1990). *Cognitive Therapy for Personality Disorders*. New York: Guilford Press.
- Dawson, D. (1988). Treatment of the borderline patient: Relationship Management. *Canadian Journal of Psychiatry* 33, 370-374.
- Fleming, B., & Pretzer, J. (1990). Cognitive-Behavioural Approaches to Personality Disorders. In M. Herson (Ed.). *Advances in Behaviour Therapy*. Newbury Park, C.A: Sage.
- Kernberg, O. (1973). Summary and conclusions of "Psychotherapy and psychoanalysis: Final report to the Menninger Foundation's psychotherapy research project." *International Journal of Psychiatry* 11, 62-103.
- Kernberg, O. (1982). Supportive psychotherapy with borderline conditions. In J. Cavener & H.Brodie (Eds.). *Critical Problems in Psychiatry*. Philadelphia: Lippincott.
- Kernberg, O. (1984). *Severe Personality Disorders*. New Haven and London: Yale University Press.
- Kernberg, O., Selzer, M., Koenigsberg, H., Carr, A., & Appelbaum, A. (1989). *Psychodynamic Psychotherapy and borderline patients*. New York: Basic Books.

Linehan, M. (1987a). Dialectical behaviour therapy for borderline personality disorder. *Bulletin of the Menninger Clinic* 51, 261-276.

Linehan, M. (1987b). Dialectical behaviour therapy in groups: Treating borderline personality disorders and suicidal behaviour. In C.M. Brady (Eds). *Women in groups*. New York: Springer.

Linehan, M. (1987c). Dialectical behaviour therapy: A cognitive behavioural approach to parasuicide. *Journal of Personality Disorders* 1, 328-333.

Linehan, M., Hubert, A., Suarez, A., Douglas, A., Heard, H. (1991). Cognitive-behavioural treatment of chronically parasuicidal borderline patients. *Archives of General Psychiatry* 48, 1060-1064.

Safran, J.D., McMain, S. (1992). A Cognitive Interpersonal Approach to the Treatment of Personality Disorders. *Journal of Cognitive Psychotherapy* 6, 59-68.

Stein, G. (1994). Physical Treatments of the personality disorders. *Current Opinion in Psychiatry* 7, 129-136.

Waldinger, R.J., & Gunderson, J.G. (1984). Completed psychotherapies with borderline patients. *American Journal of Psychotherapy* 38, 190-202.

Young, J.E. (1990). *Cognitive Therapy for Personality Disorders: A Schema Focused Approach*. Sarasota, FL; Professional Resource Exchange, Inc.

Young, J.E., Lindemann, M. D. (1992). An Integrative Schema-Focused Model for Personality Disorders. *Journal of Cognitive Psychotherapy* 6, 11-23.

APPENDIX ONE

MAJOR PROJECT PROPOSAL LITERATURE REVIEW

THE NATURE OF INSULIN DEPENDENT DIABETES MELLITUS AND RELATING
FACTORS DURING ADOLESCENCE

<u>Contents</u>	<u>Page No.</u>
1. Contents Page	i
2. Journal Submission Guidelines	ii

DIABETIC MEDICINE

Aims

This journal is an information exchange on all aspects of diabetes mellitus and aims to interest everyone helping diabetic patients whether through fundamental research or better health care. The journal provides a multidisciplinary

forum combining original articles, reviews, comment, news and correspondence by which it is hoped to increase knowledge about the aetiology and pathogenesis of diabetes and its complications and to promote new ideas about manage-

ment and education. *Diabetic Medicine* welcomes original articles for possible inclusion in any section of the journal. Reviews, comments and editorials are usually invited by the Editor, though all ideas are gratefully received.

Editorial Philosophy

The aim of *Diabetic Medicine*, as of the BDA itself, is to advance knowledge about diabetes and its management. *Diabetic Medicine* should be of interest to those working in the centres of excellence, but the overwhelming need is to extend this interest to a wider audience and to generate a climate where diabetes will be identified as a subject

deserving more health care resources. The time has come when diabetes should move to centre stage rather than accepting a minor role amongst the medical specialities. *Diabetic Medicine* generates interest in diabetes through a combination of original articles, reviews and news commentaries, if in their selection, there is a tendency to favour clinical

research, this should be counterbalanced by greater emphasis on the effective reporting of new research into the fundamentals of diabetes and its pathogenesis in reviews and commentaries. Readers should be attracted by highlighting of controversial issues and examination of their scientific basis or clinical relevance.

Notes for Contributors

1. Authors should familiarize themselves with the style and content of articles in *Diabetic Medicine* before preparing a manuscript. For example, the use of the word 'diabetic' as a noun must be avoided. The preferred use is 'people with diabetes' or (adjectively) 'diabetic patients'. Authors should use either the terms IDDM and NIDDM or Type 1 diabetes and Type 2 diabetes. The Editor retains the right to refuse a manuscript at any stage of the publication process, and to publish a paper under whatever group heading is considered appropriate.

Copyright in published papers will be vested in the publisher. A copy of the Publishing Agreement for *Diabetic Medicine* is reproduced in each volume. Additional copies are available from the Editor or from the publisher, or contributors may photocopy the agreement from the journal. A copy of this agreement, signed by the author named for correspondence, must accompany articles submitted for publication.

2. Four copies of a submitted manuscript (including illustrations) should be sent to the Editor. Outside the United Kingdom manuscripts may be sent to a Local Associate Editor. Only one set of original figures is required for line diagrams, if photocopies are included with the copies of the manuscript. Submissions should be typed, double-spaced, on A4 (297 x 210 mm) paper with a 5 cm left hand margin.

Electronic Submission: When a paper is in its final form and has been accepted for publication, it would be helpful to the publisher if you were to supply 2 disks containing the final version. These MUST be accompanied by an identical hard copy printout. The disks should be clearly labelled with the file name (e.g.:

DIAMHL (The first three letters represent the Wiley journal code and the next 3 letters the author's initials [if an author only has 2 initials the middle letter should be 'X']

the date, the author's name, the hardware and software package used.

The preferred medium is a 5.25 or 3.5 inch disk in Macintosh or MS-DOS. We are able to deal with most standard software packages currently available, although our preference is for WordPerfect, Word or TeX (and or one of its derivatives).

We are also able to accept line artwork/graphics on disk. We are currently successfully using Adobe Illustrator and Aldus Freehand files. If you wish to supply these graphics on disk, then we need to have the source files in addition to the Encapsulated PostScript file that is called into the text file. This is to enable us to amend the artwork, as required, for the journal format. Again, each file should be carefully named, using the same code as for the text, but adding a reference for the figures, e.g.:

The disks must be accompanied by a hard copy printout. If the disk and the paper copy differ, the paper copy will be treated as the definitive version.

3. Original articles should conform to the uniform requirements for manuscripts submitted to biomedical journals – the Vancouver style (*Br Med J* 1988; 296: 401–403) – as adopted by *Diabetic Medicine*. The layout should be divided conventionally into subsections, each starting on a new page.

IMPORTANT: Anonymous Peer Review The peer review process for *Diabetic Medicine* is anonymous and authors should write so as to avoid identifying either themselves or their affiliations. Acknowledgements should be presented on a separate sheet.

Title page: Only one copy of the article should bear a complete title page including: title; authors (initials and surnames but without qualifications); authors' affiliations; name and full address of the author who will check proofs and deal with correspondence (with telephone and fax numbers); a running title not exceeding 75 characters including spaces. The remaining three copies of the article must show the title only.

Second page: a summary of less than 200 words which should be comprehensible in isolation from the rest of the paper and include the main data and indications of statistical significance; a list of key words should be given for reference purposes.

Third page: should begin with the introduction. The main part of the paper (generally entitled 'Patients and Methods') should then follow with detailed methods, the results and a discussion. The correct hierarchy of headings and sub-headings should be indicated (e.g. with letters A, B, C, etc.). Note: each main section should start on a new page.

Abbreviations: for chemicals and measurements follow the style of *Diabetologia* (1985; 28(9): A8–9); concentrations are given in litres, according to the SI convention; commonly recognized clinical abbreviations (SC, CSII, hGH) are acceptable if introduced when first used; novel or unusual abbreviations should be avoided; some common abbreviations (bdi) are not internationally recognized. Divisions should be indicated by the negative superscript system (e.g. mmol l⁻¹).

Footnotes: should not be used except in tables.

References: are only acceptable if already published or if formal acceptance has been given for publication when the journal title is followed by '(in press)'; they are indicated in the text by bracketed numbers and listed in order of quotation in the text, and given in the Vancouver style, for example:

1. Kohner EM, McLeod D, Marshall J. Diabetic eye disease. In: Keen H, Jarrett RJ, eds. *Complications of Diabetes*. 2nd edn. London: Edward Arnold, 1982: 19–108.
2. Sculpher MJ, Buxton MJ, Ferguson BA, Humphreys JE, Altman JB, Spiegelhalter DJ et al. A relative cost-effectiveness analysis of

3. Jarrett RJ. Insulin and hypertension. *Lancet* 1987; ii: 748–749.

4. Illustrations should be separate from the text and numbered with Arabic numerals. Line drawings, radiographs and photographs (clear, sharp, well-contrasted) should be good quality, glossy photographic prints, trimmed at right angles and their final printed size 120 to 36 mm for column width, or to a maximum 181 mm for page width. Prints from existing half-tone illustrations cannot be accepted. Computer generated illustrations must be submitted as laser printer output at a resolution of 300 dots per inch or greater on high quality paper, or as output from a photocomposing machine. Dot-matrix printer output is unacceptable. All illustrations must be numbered and the top indicated on the back. Insets, lettering, arrows etc should be applied using template run on letters or carefully inserted by an experienced hand. It is often necessary to print photographs in a slightly different size from the originals, and authors are therefore recommended to use scale bars to indicate magnification. Authors should indicate in the margin of their manuscript the ideal place for inserting illustrations in the text. The author must guarantee that the reproduction of illustrations in which a patient is recognizable is approved either by the patient him/herself or his/her legal representative.

Figure legends: must be comprehensible in isolation from the text; they should include keys to symbols and indicate the statistical significance of differences.

5. Tables should be typed double-spaced each on a separate sheet and identified by Arabic numerals corresponding to the order in which they appear in the manuscript. A brief title should head the table. Explanatory matter should be in a footnote.

6. Reproduction of previously published material is generally only permissible in review articles. It is the author's responsibility to obtain written permission for this from the holder of the original copyright, which should be acknowledged.

7. The author named for correspondence will receive page-proofs for correction approximately 4–6 weeks after acceptance. Only corrections of factual or printers' errors are possible at the proof stage.

8. No manuscript or figures will be returned following publication unless a request for return is made when the manuscript is originally submitted.

9. Twenty-five offprints of published articles (other than letters, corrections and media reviews, plus a copy of the issue in which they appear, will be provided free of charge. Additional copies may be purchased on the offprint order form which will accompany the proofs. Offprints will be sent to the author named for correspondence unless otherwise stated.

10. There will be no page charge.

APPENDIX TWO

MAJOR RESEARCH PROJECT PROPOSAL

THE ROLE OF PSYCHOLOGICAL FACTORS AND METABOLIC CONTROL IN ADOLESCENTS WITH INSULIN DEPENDENT DIABETES MELLITUS.

<u>Contents</u>	<u>Page No.</u>
1. Contents Page	iii
2. Unpublished Research Questionnaires	
- Autonomy Questionnaire	iv
- Parental Questionnaire	vi

AUTONOMY QUESTIONNAIRE

For each question place across on the line which best explains what usually happens.

1. Who usually does your injections?

I do them	I mainly do	Someone else	Someone else
all myself	them myself	mainly does	does them
		them for me	all for me

|-----|

2. Do you remember to take your injections?

I always	I mainly	Someone else	I always need to
remember	remember	usually reminds me	be reminded

|-----|

3. Who decides when to change your insulin does?

I always	I mainly	Someone else	Someone else
decide	decide	usually decides	always decides

|-----|

4. Who usually decides what you eat at home?

I always	I mainly	Someone else	Someone else
decide	decide	usually decides	always decides

|-----|

AUTONOMY QUESTIONNAIRE CONTINUED.

5. Who usually decides what you eat when you are not at home?

I always	I mainly	Someone else	Someone else
decide	decide	usually decides	always decides

6. Who usually decides when you test your blood for glucose?

I always	I mainly	Someone else	Someone else
decide	decide	usually decides	always decides

7. Who usually records your blood test results?

I do them	I mainly do	Someone else	Someone else
all myself	them myself	mainly does	does them
		them for me	all for me

8. Who usually decides if you take exercise?

I always	I mainly	Someone else	Someone else
decide	decide	usually decides	always decides

PARENTAL QUESTIONNAIRE

For the question below place a cross along the line at the point which you feel accurately reflects your child's diabetic regime:-

Who usually looks after your child's diabetes?

Entirely my	Mainly my	Mainly someone	Always some-
child	child	else e.g.	one else e.g.
		myself/Doctor.	myself/Doctor.

|-----|

APPENDIX THREE

MAJOR RESEARCH PROJECT PAPER

THE ROLE OF PSYCHOLOGICAL FACTORS AND METABOLIC CONTROL IN
ADOLESCENTS WITH INSULIN DEPENDENT DIABETES MELLITUS

<u>CONTENTS</u>	<u>PAGE No.</u>
1. Contents Page	vii
2. Journal Guidelines	viii
3. Table 3 - Results to Question 3 in full	xi
4. Table 4 - Results to Question 4 in full	xii
5. Table 5 - Significant Sex Difference Results (not included in main paper)	xiii
6. Table 6 - Non-significant Sex Difference Results (not included in main paper)	xiv
7. Description of Sex Difference Results	xv

INSTRUCTIONS FOR AUTHORS

CONTENT

Diabetes Care is a journal for the health-care practitioner that is intended to increase knowledge, stimulate research, and promote better management of people with diabetes mellitus. To achieve these goals, the journal publishes original articles on human studies in the areas of epidemiology, clinical trials, behavioral medicine, nutrition, education, health-care delivery, medical economics, and clinical care. The journal also publishes clinically relevant review articles, clinical observations, letters to the editor, and health/medical news or points of view. Topics covered are of interest to clinically oriented physicians, researchers, epidemiologists, psychologists, diabetes educators, and other professionals.

Send manuscripts to the editor, Allan L. Drash, MD, *Diabetes Care* Editorial Office, Children's Hospital, Rangos Research Center, 3705 Fifth Avenue, Pittsburgh, PA 15213; (412) 692-5851.

Diabetes Care requests the submission of articles on computer diskettes. Authors should submit diskettes with the final version of their manuscripts along with the typed revised manuscript. Diskettes must be labeled with the following information: 1) author's name, 2) article number, 3) software and hardware used.

Please do not separate your document into different files. The entire document, except for graphics, should all be in one file, i.e., text, references, figure legends, etc. Please use the manuscript number of your article as the file name.

Diskettes must be produced on IBM, IBM-compatible, or Apple comput-

ers. Authors using Apple computers should not use the "Fast Save" option.

The use of data on diskettes will often speed the processing of an author's manuscript. However, the advantages of using diskettes are easily lost if authors do not adhere to standard conventions of style and formatting. Please observe these guidelines:

1. Do not attempt to make your output approximate or match the typeset page. Simply format your manuscript as you normally would.
2. Make sure that any special characters (including Greek and mathematical characters) are clearly marked on the hard copies of the manuscript. If your word processing program has an extended character set offering special characters, use them.
3. Never type the letter "l" for the numeral "1" and never interchange the letter "O" for the numeral "0."
4. Do not divide words by manually hyphenating at line endings. Let the text wrap. If your word processor has automatic hyphenation turn it off to prepare your electronic manuscript.
5. Do not place figure captions and tables within the text. The copyeditor will indicate the placement of this material within the text. Put figure legends after the text of your article.
6. Prepare references in the style set forth by *Diabetes Care*. Do not use the footnote/endnote functions found in some word-processing software. Instead, reference numbers in text should be in normal type in parenthesis. If references are not in the proper style, diskettes may be returned to authors for revision.

Original articles report clinical investigation in areas relevant to diabetes. Articles should not exceed 5,000 words (about 20 typewritten double-spaced pages), including tables, figure legends, and references necessary to support the data and their interpretation. The following features are essential: hypothesis testing, suitable controls, appropriate statistical methods, clear reporting of results, and conclusions supported by the results. Papers will be judged on their uniqueness and importance.

Short reports are succinct case reports, observations relating to the practice of diabetology, and other brief communications. Text should not exceed 1,500 words (about 6 typewritten double-spaced pages).

Technical articles are descriptions and assessments of material and devices used for the care of patients with diabetes. Articles should not exceed 5,000 words.

Commentaries are short critical articles on topics in diabetes care and on articles that appear elsewhere in the issue. Unlike reviews, commentaries should not attempt an exhaustive literature review but analyze a few carefully selected findings. Text should not exceed 1,500 words.

Clinical practice observations are based on original clinical findings that tested, refined, validated, or questioned aspects of clinical practice. Text should not exceed 1,500 words.

Case reports and clinical observations are short reports relating noteworthy individual case experiences. They should not exceed four typewritten double-spaced pages, including references. The suggested format includes a one paragraph introduc-

tion, a history and examination section, an investigation section, and a concluding one or two paragraph comment section.

Letters to the Editor include opinions on topics published in the journal or relating to diabetes in general. Letters should not exceed 300 words.

Diabetes Care publishes only material that has not been printed previously or is under consideration for publication elsewhere, with the exception of an abstract less than 400 words in length. The American Diabetes Association holds the copyright on all material appearing in *Diabetes Care*. All authors must sign a letter acknowledging 1) no prior publication and 2) copyright transfer to the ADA (in accordance with the Copyright Revision Act of 1976) as follows:

We approve the submission of this paper to *Diabetes Care* for publication and have taken due care to ensure the integrity of this work. We confirm that neither the manuscript nor any part of it has been published or is under consideration for publication elsewhere (abstracts excluded). Any reference to or use of previously published material protected by copyright is explicitly acknowledged in the manuscript.
(In consideration of ADA reviewing my (our) submission, the undersigned author(s) transfers, assigns, or otherwise conveys all copyright ownership to ADA in the event the work is published.)

Signature of all authors

Diabetes Care subscribes to the requirements stated in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (*N Engl J Med* 324:424-428, 1991) that authorship implies substantial contributions to conception and design or analysis and interpretation of data and drafting of the article or critical revision for important intellectual content.

All authors must complete the duality of interest disclosure statement, which can be found in every issue of *Diabetes Care*. All human investigations must be conducted according to the principles expressed in the Declaration of Helsinki. All studies involving animals must state that guidelines for the use and care of laboratory animals of the authors' institution or the National Research Council or any national law were followed.

MANUSCRIPT FORMAT AND STYLE

Five copies of the entire manuscript, including tables and figure legends (original plus 4 photocopies), must be submitted. If black and white graphs or charts are used, submit 3 original sets of prints; the other 2 sets may be photocopies. If photographs are used, 5 glossy sets must be included. Manuscripts must be typewritten double spaced (including references, tables, and figure legends) on one side of 8 1/2 × 11 inch (21.6 × 27.9 cm) nonerasable white bond paper. Provide margins of at least 1 inch at top, bottom, and both sides of each page. The manuscript should be arranged in the following order: title page, abstract, introduction (no heading), research design and methods, results, conclusions, acknowledgments, references, figure legends, and tables. Number pages consecutively beginning with the title page.

Title page

Titles should be brief. Also, include a short running title (less than 40 characters): first name, middle initial, last name, and highest academic degree of each author; affiliation in English of each author during the study being reported; name, address, telephone number, fax number of corresponding author, and email address; and 3-6 key words for subject indexing of the article (the word *diabetes* is too general).

Abstract

The abstract should not exceed 250 words. It must be self-contained and clear without reference to the text and should be written for a general journal readership. The abstract must be in a structured format: *Objective*, purpose or hypothesis of study; *Research Design and Methods*, basic design, setting, number of participants and selection criteria, treatment or intervention, and methods of assessment; *Results*, significant data found; *Conclusions*, validity and clinical applicability.

Text

Terminology and style. Articles should be written in clear, concise English following the recommendations for scientific

writing found in the CBE Style Manual (3rd ed., 1983, Bethesda, MD, Council of Biology Editors). All accepted manuscripts will be edited according to the CBE Style Manual and The Chicago Manual of Style (14th ed., 1993, Chicago, IL, The University of Chicago Press) by ADA professional publications staff. The authors are responsible for all statements made in their articles or editorials, including any editing changes made by staff.

The designations insulin-dependent diabetes mellitus (IDDM or type I) and non-insulin-dependent diabetes mellitus (NIDDM or type II) should be used when referring to the two major forms of diabetes mellitus. The term *diabetic* should not be used as a noun.

Abbreviations. Abbreviations should be used only when necessary, e.g., for long chemical (HEPES) or procedure (ELISA) names or terms used throughout the article, and must be defined at first use. Abbreviate units of measure only when used with numbers. Abbreviations may be used in tables and figures. The CBE Style Manual contains lists of standard scientific abbreviations.

Units. Measurements should be in Système International (SI) form (see SI table in the January and July issues). Glycosylated hemoglobin should be expressed as percentage of total and as standard deviation from mean control levels.

Materials. Authors should provide the name and location of the source for specified chemicals and other materials only if alternate sources are considered unsatisfactory.

Acknowledgments. Acknowledgments should contain brief statements of assistance, financial support, and prior publication of the study in abstract form, if needed. **References.** References should be listed according to the following examples. All authors must be cited and inclusive page numbers provided. Journal titles should be abbreviated according to the Serial Sources for the BIOSIS Data Base; for unlisted journals, complete journal titles should be provided. Authors are

responsible for the accuracy of the references.

Journal articles:

Banting FG, Best C: The internal secretion of the pancreas. *J Lab Clin Med* 7:251-266, 1922

Abstracts:

Seaborn J: Gastrointestinal side-effects of high-fiber diets in diabetic rats (Abstract). *Gut* 33:A430+, 1992

Books:

Allen FM: *Studies Concerning Glycosuria and Diabetes*. Cambridge, MA, Harvard Univ. Press, 1913

Chapters in books:

Stauffer W, Renold AE: Pathophysiology of diabetes mellitus. In *Joslin's Diabetes Mellitus*, 11th ed. Marble A, White P, Bradley RF, Krall LP, Eds. Philadelphia, PA, Lea & Febiger, 1971, p. 35-98

Government publications:

Fajans SS (Ed.): *Diabetes Mellitus*. Washington, DC, U.S. Govt. Printing Office, 1976 (DHEW publ. no. NIH 76-854)

Figures. Figures should be professionally drawn and photographed or produced on a laser printer. For laser-printed figures, paper specially made for camera-ready copy (such as Hammermill Laser-Print Plus) must be used (paper having an opacity of 90 or more and a whiteness of 90 or more). Each figure should be marked in soft pencil on the back showing the orientation (an arrow pointing up), the first author's name, and the manuscript number. Figures must be unmounted and no larger than 5 × 7 inches. Where possible photographs and gels should be cropped to one or two columns in width.

In most instances figures will be reduced to one column width (about 2 1/4 inches) and should be produced accordingly. Authors should reduce the figures on a photocopier to make sure that all relevant data points can be distinguished and that all labeling is clearly readable. Information on the axes should be succinct, using abbreviations where possible, and the label on the y-axis should read vertically, not horizontally. Key information should be placed in any available white space within the figure; if

space is not available, the information should be placed in the legend. In general, figures with multiple parts should be marked A, B, C, etc., with a description of each panel being placed in the legend rather than on the figure.

Lines in graphs should be bold enough to be easily read after reduction, as should all symbols used in the figure. Data points are best marked with the following symbols, again assuring that they will be readily distinguishable after reduction: ○ ● □ ■ ▲ △. Bars should be black or white only unless more than two data sets are being presented; further bars should be drawn with clear, bold hatch marks or stripes, not shades of gray.

Color photographs incur an additional charge, paid by the author; they should not be submitted for reproduction in black and white. Materials (e.g., figures and tables) taken from other sources must be accompanied by written permission for reproduction obtained from the original publisher and author.

Tables. Tables should be double spaced on separate pages with table number and title. Tables with internal divisions (Tables 1A and B) should be submitted as individual tables, i.e. Tables 1 and 2. Symbols for units should be confined to column headings. Abbreviations should be kept to a minimum and defined in table legend. For footnotes, use the following symbols consecutively, left to right, top to bottom of table: * † § || ¶.

MANUSCRIPT SUBMISSION

All contributions, including solicited articles and symposia, are critically reviewed by the Editors and invited referees. Reviewers' comments are usually returned to the authors. The decision of the Editors is final.

Authors must submit manuscripts with an accompanying cover letter that includes the address and telephone and fax numbers of the person responsible for negotiations concerning the manuscript. Authors are encouraged to suggest six possible reviewers for their manuscript. All communications to the Editors must be in writing.

All manuscripts and editorial cor-

respondence should be addressed to Allan L. Drash, MD, Editor, *Diabetes Care*, Children's Hospital of Pittsburgh, Rangos Research Center, 3705 Fifth Avenue, Pittsburgh, PA 15213 (phone +12-692-5851, fax +12-692-5960).

SUBMISSION OF SUPPLEMENTS

A proposal for a supplement must first be submitted to the publications department of the ADA. The proposal must specify:

1. The name of the pharmaceutical firm sponsoring the supplement (not merely the name of the public relations agency handling its publication)
2. If the supplement is based on a symposium, indicate where and when the symposium was held and how the speakers and papers were selected.
3. Whether authors will be paid, and, if so, how much.

If the proposal is approved, the sponsor then must submit a proposal to the Editor of *Diabetes Care*. Initial approval by ADA does not commit an editor to accept a proposal in whole or part. All manuscripts are subject to the same peer review as other manuscripts in the journal.

ACCEPTED MANUSCRIPTS

Accepted manuscripts will be scheduled for publication as soon as possible. Authors will receive 2 sets of page proofs; one set (master copy) is for making corrections and the duplicate set is for the author's files. Master proof, original manuscript, and artwork should be returned within 48 hours of receipt to Production Editor, *Diabetes Care*, American Diabetes Association, 1660 Duke Street, Alexandria, VA 22314. Failure to do so may delay the publication of the article to another issue.

FINANCIAL OBLIGATIONS

A charge of \$50 per journal page is assessed for original articles and short reports to help defray publication costs. The author who is to assume responsibility for payment should be identified on the manuscript.

Table 3: (Corresponds to Question 3 - Results Section)

One way analysis of variance. Main effects of Age of Onset in term of the Psychosocial and Demographic factors.

Variable	df	f ratio	f prob
Global Self Esteem	2,56	1.13	0.32
Appearance	2,55	1.17	0.31
Athletic	2,55	1.06	0.35
Sociability	2,55	2.73	0.07~
Scholastic Achievement	2,55	0.40	0.66
Behaviour	2,55	0.21	0.80
Autonomy Total	2,58	0.80	0.45
Doing Inject.	2,58	0.59	0.55
Remember. Inject.	2,58	0.15	0.85
Insulin Dose	2,58	0.04	0.95
Eat Home	2,58	0.46	0.62
Eat Out	2,58	0.39	0.67
Blood Test Decide	2,58	0.39	0.67
Blood Test Record	2,58	0.81	0.44
Exercise Decide	2,58	0.57	0.56
Parental Influence	2,58	0.002	0.99
DKN-Knowledge	2,58	3.69	0.03*
Att-19 Emot. Adjustment	2,58	0.13	0.87
HbA1	2,58	5.92	0.004*
Pubertal Status	2,53	0.344	0.71

~p<0.1; *p<0.05

Table four: (Corresponds to Question four - Results Section)
 One way analysis of variance. Main effects of Pubertal Status
 in term of the Psychosocial and Demographic factors.

Variable	df	f ratio	f prob
Global Self Esteem	2,51	2.53	0.08~
Appearance	2,50	5.58	0.006**
Athletic	2,50	2.53	0.08~
Sociability	2.50	1.21	0.30
Scholastic Achievement	2,50	0.72	0.48
Behaviour	2,50	0.00	0.99
Autonomy Total	2,53	0.78	0.45
Doing Inject.	2,53	2.27	0.11
Remember. Inject.	2,53	0.04	0.95
Insulin Dose	2,53	0.99	0.37
Eat Home	2,53	0.19	0.81
Eat Out	2,53	1.16	0.31
Blood Test Decide	2,53	1.24	0.29
Blood Test Record	2,53	0.78	0.46
Exercise Decide	2,53	1.25	0.29
Parental Influence	2,53	1.47	0.23
DKN-Knowledge	2,53	2.16	0.12
Att-19 Emot. Adjustment	2,53	0.34	0.71
HbA1 (Metabolic Control)	2,51	7.62	0.001**
Duration	2,53	0.08	0.92

**p<0.01; *p<0.05; ~p<0.1

Table 5: **SIGNIFICANT SEX GROUP DIFFERENCES**

Variables	MALE			FEMALE			t	p	sig
	n	mean	sd	n	mean	sd			
HbA1	30	8.5	1.1	28	9.5	2.2	2.19	0.02*	
Doing Inject.	32	1.7	0.9	29	1.2	0.4	2.86	0.006**	
Eat home	32	2.5	0.9	29	2.1	0.8	2.06	0.048**	
Exercise	32	1.1	0.4	29	1.4	0.8	1.8	0.077~	
Autonomy Tot.	32	15.6	2.2	29	14.0	3.3	2.2	0.028*	
Global Self Est.	32	18.5	2.3	26	16.8	3.1	2.3	0.024*	
Athleticism	32	17.7	4.1	26	14.8	4.0	2.6	0.01*	
Appearance	32	17.2	2.9	26	14.8	4.0	2.56	0.01*	
Puberal Stat.	29	1.8	0.3	27	2.5	0.5	6.3	0.000**	

**p<0.01 *p<0.05 ~p<0.1

Table 6: NON-SIGNIFICANT SEX GROUP DIFFERENCES

Variables	MALE			FEMALE			t	p sig
	n	mean	sd	n	mean	sd		
Insulin dose	32	2.4	0.9	29	2.1	0.9	1.1	0.27
Eat Out	32	1.7	0.8	29	1.5	0.6	1.2	0.23
Blood Test	32	2.1	0.8	29	2.2	0.8	0.4	0.69
Record Blood	32	2.0	1.0	29	1.6	0.7	1.3	0.18
Behaviour	32	16.7	3.0	26	16.8	3.4	0.07	0.94
Att-19	32	71.6	15.0	29	68.5	17.2	0.74	0.46
DKN-Knowledge	32	14.6	3.4	29	15.1	3.4	0.58	0.56
Duration	32	5.8	3.6	29	5.8	3.9	0.00	0.99
Parental Quest.	32	2.8	0.6	29	2.6	0.6	1.31	0.19
Scholastic Achieve.	32	17.7	3.1	26	17.2	3.6	0.57	0.56
Sociability	32	19.9	2.9	26	18.5	3.9	1.5	0.13

DESCRIPTION OF SEX DIFFERENCE RESULTS - TABLE 5-6

Table Five and Six, indicates the sex differences, which were assessed using unpaired T-tests. Table Five, with the significant results, shows that in this sample, females are more likely to do their own injection than the males ($t=2.86$; $p=0.006$); decide what to eat at home ($t=2.06$; $p=0.048$); and also have poor metabolic control ($t=2.19$; $p=0.02$), but it also should be noted that the female group were also more physically mature ($t=6.3$; $p=0.000$) than the males in this sample.

Males, as a group reported perceiving themselves as being more athletic, ($t=2.6$; $p=0.01$), having higher global self-esteem score ($t=2.3$; $p=0.024$), reporting higher autonomy scores ($t=2.2$; $p=0.028$), and perceive their appearance more positively than females ($t=2.56$; $p=0.01$). There is also a trend effect, with males more likely to decide to take exercise ($t=1.8$; $p=0.077$) than the females. Table six above lists the non-significant sex differences.

APPENDIX FOUR

SMALL SCALE SERVICE EVALUATION PROJECT

CARDIAC REHABILITATION – AN EVALUATION OF STANDARDS
AND BEHAVIOUR CHANGE IN POST-MYOCARDIAL-INFARCTION PATIENTS

<u>CONTENTS</u>	<u>PAGE NUMBER</u>
1. Contents	xvi
2. Journal Guidelines	xvii
3. Cardiac Rehabilitation Questionnaire	xviii
4. Nursing Standards	xxv

Guidelines for contributors

THE following are offered as general guidelines for authors. Editorial staff are pleased to discuss possible submissions.

Length of contributions: Papers should ideally be no longer than 3,000 words, although in exceptional circumstances we publish papers of 5,000 words or more. Articles should be shorter, no more than 2,500 words. Authors should keep tables and illustrations to a minimum; in any case, the paper should ideally include no more than four of either. Tables should be typed on separate sheets, and used only when their content cannot be explained textually.

Presentation: Papers or articles should be typed, with double spacing, on one side of A4 paper. Authors should supply three copies of their submission, and retain a copy for their own reference.

Authors should list on a separate sheet the title of the paper; their names and initials; their degrees and professional qualifications; their current appointments; and posts at the time of writing or conducting the research.

Structure: Research papers should, where appropriate, conform to the structure of abstract, introduction, methods, results, discussion, acknowledgements and references. The abstract should be no more than 100 words and should summarise what was done, the main findings and their implications.

References: References should be numbered in the order in which they appear in the paper. They should give the full names and initials of all authors, unless there are more than six, when only the first three should be used followed by: *et al.* Names should be followed by the titles of the article; the title of the journal; the year of publication; the volume number; and the first and last page numbers (see 1 below). Journal titles should be given in full, or abbreviated according to the style of *Index Medicus*. Titles of books should be followed by the place of publication; the publisher; and the year (see 2 below).

1. Aitken PP, Eadie DR. Reinforcing effects of cigarette advertising on under-age smoking. *British Journal of Addiction* 1990; 85: 399-412.

2. Reynolds M. *Gynaecological Nursing*. Oxford: Blackwell Scientific Publications, 1984.

Acknowledgement of submissions: All submissions are acknowledged immediately. Responses to further correspondence are made as appropriate.

Peer review: Research papers submitted to the Health Education Journal undergo a peer review process. On the basis of the referees' response, papers will either be rejected, accepted subject to revision, or accepted unconditionally. For articles and other submissions peer review is used more selectively.

Acceptance of submissions: On acceptance, the Editor retains the right to make stylistic changes, decide on the date of publication (generally within three-six months of acceptance) and shorten material if necessary.

House style: Papers will be edited to conform with house style with regard to spelling and presentation. Titles and acronyms should be given in full on first usage. Unnecessary capitalisation should be avoided. Where percentages are referred to in the text, the words 'per cent' should be used, rather than '%'.

Proofs: Authors are sent one copy of the proofs of their paper, article or letter. Corrections should be confined to typographical errors or matters of accuracy. Extensive amendments are not acceptable. Authors should return proofs as soon as possible, preferably within two days of receipt, and not later than the date given in the covering letter.

Reprints: These are available if ordered well in advance. Please ask for details of current charges for bulk orders.

Copyright: All material received by the Health Education Journal is assumed to be submitted exclusively. It is understood that contributions have not and will not be published elsewhere, unless this has been expressly invited or agreed by the Editor.

The author bears the responsibility for checking whether material submitted is subject to copyright or ownership rights; for example, in the use of tables and figures. If a submission is finally published, the copyright becomes that of the *Health Education Journal*, and permission for any reproduction must be sought from the Editor.

Dual publication: If a submitted paper has been published elsewhere, or is being considered for another publication, the author(s) must inform the Editor.

Accuracy and liability: A contribution is accepted on the strict understanding that its author is responsible for the accuracy of all information contained in the contribution and that references to named people and/or organisations are both accurate and without libellous implications.

CARDIAC REHABILITATION QUESTIONNAIRE

SECTION A ; SOME INFORMATION ABOUT YOURSELF.

Q1 WHY WERE YOU ADMITTED TO THE ROYAL ALEXANDRA HOSPITAL?

- A. HEART ATTACK _____ (Please Tick)
- B. ANGINA ATTACK _____
- C. BYPASS SURGERY _____
- D. OTHER (PLEASE STATE) _____

Q2 TO WHICH AGE GROUP DO YOU BELONG. (Please Tick)

- A. 0 - 25 _____ E. 56 - 65 _____
- B. 26 - 35 _____ F. 66 - 75 _____
- C. 36 - 45 _____ G. 76 or over _____
- D. 46 - 55 _____

Q3 PLEASE INDICATE YOUR GENDER. (Please Tick)

- A. MALE _____ B. FEMALE _____

Q4 PRIOR TO YOUR RECENT HEART ATTACK WHICH OF THE FOLLOWING RISK FACTORS WOULD HAVE APPLIED TO YOU.

	YES	NO
A. SMOKER	_____	_____
B. STRESSFUL JOB	_____	_____
C. STRESSFUL LIFESTYLE	_____	_____
D. RECENT STRESSFUL EVENT	_____	_____
E. FAMILY HISTORY OF HEART DISEASE	_____	_____
F. NONE	_____	_____
G. LACK OF EXERCISE	_____	_____
H. OTHER (please state) _____		

Q5 PRIOR TO YOUR RECENT HEART ATTACK, WHAT WAS YOUR ALCOHOL INTAKE IN UNITS PER WEEK.(Please Tick)

For your guidance:

2 units of alcohol = 1 pint of beer/lager.

1 unit of alcohol = 1 small glass of wine/1 pub measure of spirit.

- A. NO ALCOHOL _____
- B. 1 - 14 units _____
- C. 15 - 21 units _____
- D. OVER 21 UNITS _____

Q6 WHICH SENTENCE WOULD BEST DESCRIBE YOUR DIET PRIOR TO YOUR RECENT HEART ATTACK. (Please Tick)

- A. MY DIET INCLUDED FRUIT, VEGETABLES, LOW FAT SPREAD, WHOLEMEAL BREAD, REDUCED FAT MILK, PASTA, RICE, FISH, CHICKEN AND OCCASIONALLY RED MEAT. _____
- B. MY DIET INCLUDED SOME FRUIT AND VEGETABLES, BUTTER, BROWN/WHITE BREAD, SOME FRIED FOODS, RED MEAT,OCCASIONALLY FISH AND CHICKEN. _____
- C. I RARELY ATE FRUIT OR VEGETABLES, I TENDED TO EAT WHITE BREAD, FULL FAT MILK, BUTTER, FRIED FOODS, RED MEAT AND SWEETS.

SECTION 2: ABOUT YOUR RECENT ADMISSION.

Q7 DURING YOUR STAY IN HOSPITAL WHICH OF THE FOLLOWING WERE YOU GIVEN INFORMATION ON. (Please Tick)

- A. RISKS RELATING TO SMOKING _____
- B. RISKS RELATING TO ALCOHOL _____
- C. HEALTHY EATING _____
- D. EXERCISE _____
- E. STRESS REDUCTION _____
- F. RELAXATION _____
- G. OTHER (PLEASE STATE) _____

Q8 WHICH OF THE FOLLOWING GAVE YOU ADVICE/INFORMATION TO ASSIST YOUR RECOVERY. (Please Tick)

- A. NURSING STAFF _____
- B. MEDICAL STAFF _____
- C. OTHER HOSPITAL STAFF (PLEASE STATE) _____
- D. INFORMATION BOOKLETS/HEALTH EDUCATION PACKAGE _____
- E. RELAXATION TAPES _____
- F. REHABILITATION TAPES _____
- G. OTHER PATIENTS FRIENDS/FAMILY _____
- H. POSTERS/NOTICES ON THE WARD _____
- I. OTHER (PLEASE STATE) _____
- J. I WAS NOT GIVEN ANY ADVICE OR INFORMATION _____

Q9 HOW DID YOU FIND THIS INFORMATION (AS PER Q8) (Please Tick)

- A. USEFUL AND HELPED ME TO MAKE THE RELEVANT CHANGES IN MY LIFE. _____
- B. TOO MUCH INFORMATION WAS SUPPLIES TOO SOON/I FORGOT SOME OF WHAT WAS SAID TO ME. _____
- C. MUCH OF THE INFORMATION I ALREADY KNEW AND IT WASN'T VERY HELPFUL. _____
- D. I DID NOT RECEIVE ENOUGH INFORMATION AND I WAS LEFT WITH UNANSWERED QUESTIONS. _____
- E. THE INFORMATION I RECEIVED DID NOT HELP ME TO MAKE ANY CHANGES TO MY LIFESTYLE. _____
- F. OTHER (PLEASE STATE) _____

Q10 DID YOU TAKE PART IN AN EXERCISE TOLERANCE TEST BEFORE YOU WERE DISCHARGED FROM HOSPITAL. (Please Tick)

- A. YES _____ B. NO _____
- AFTER YOU WERE DISCHARGED FROM HOSPITAL.
- A. YES _____ B. NO _____

Q11 IF YOU ANSWERED YES TO Q10 WERE THE RESULTS OF THE TEST EXPLAINED TO YOU. (Please Tick)

- A. YES _____ B. NO _____
- C. YES, BUT I STILL DON'T UNDERSTAND WHAT THEY MEAN. _____

Q12 WHILE IN THE WARD DID A MEMBER OF THE STAFF DISCUSS A MOBILITY PROGRAMME WITH YOU. (e.g. A gradual increase of exercise - walking etc.) (Please Tick)

- A. YES, I UNDERSTOOD AND CARRIED OUT THE MOBILITY ADVICE. __
- B. YES, BUT I HAD SOME DIFFICULTY FOLLOWING THE ADVICE. __
- C. NO, I DID NOT RECEIVE ANY ADVICE. __

Q13 WERE YOU ENCOURAGED BY STAFF TO MOVE AROUND THE WARD PRIOR TO YOUR DISCHARGE. (please tick)

- A. YES AND I FOLLOWED THEIR ADVICE. _____
- B. YES BUT I DIDN'T FOLLOW THEIR ADVICE. _____
- C. NO BUT I WALKED AROUND ANYWAY. _____
- D. NO I DID NOT MOVE AROUND THE WARD. _____

SECTION C: SINCE YOUR DISCHARGE.

Q14. SINCE HAVING A HEART ATTACK/BYPASS SURGERY HAVE YOU MADE AND SUSTAINED ANY OF THE FOLLOWING LIFESTYLE CHANGES. (Tick)

	MADE CHANGE	KEPT IT UP
A. STOPPED SMOKING	_____	_____
B. CUT DOWN ON SMOKING	_____	_____
C. CHANGED EATING HABITS	_____	_____
D. LOST WEIGHT	_____	_____
E. STOPPED DRINKING ALCOHOL	_____	_____
F. CUT DOWN DRINKING ALCOHOL	_____	_____
G. TAKEN PART IN REGULAR EXERCISE	_____	_____
H. GIVEN MYSELF MORE TIME TO RELAX	_____	_____
I. COPE BETTER WITH STRESSFUL SITUATIONS	_____	_____

Q15 WERE YOU OFFERED A PLACE ON THE CARDIAC REHABILITATION
PROGRAMME. (Please Tick)

A. YES _____ B. NO _____

IF NO TO Q15 WERE THE REASONS EXPLAINED TO YOU.

A. YES _____ B. NO _____

Q16 IF YES TO QUESTION 16 DID YOU TAKE UP YOUR PLACE ON THE
CARDIAC REHABILITATION PROGRAMME. (Please Tick)

A. YES _____ B. NO _____

C. IF NO COULD YOU TELL US WHY ?

1. DID NOT FEEL PHYSICALLY WELL ENOUGH. _____
2. NOT INTERESTED IN THIS TYPE OF APPROACH _____
3. TIMES DID NOT SUIT _____
4. TOO AWKWARD TO GET TO. _____
5. FELT TOO ANXIOUS/DEPRESSED TO ATTEND _____
6. OTHER COMMITMENTS _____
7. OTHER REASON PLEASE STATE _____

see over

Q17 WHICH IF ANY OF THE REHABILITATION LECTURES DID YOU ATTEND
AND HOW USEFUL DID YOU FIND THEM.

PLEASE MARK THEM AS FOLLOWS 1 = VERY USEFUL

2 = USEFUL

3 = NOT USEFUL

- A. PSYCHOLOGIST - EMOTIONAL REACTION TO HEART ATTACK _____
- B. PSYCHOLOGIST - STRESS HOW BEST TO COPE _____
- C. PHARMACY - MEDICATION _____
- D. DIETICIAN - YOUR DIETARY ADVICE _____
- E. CARDIAC REHABILITATION NURSE _____
- F. PHYSIOTHERAPIST - THE ROLL OF EXERCISE _____

Q18 WHAT SENTENCE WOULD BEST DESCRIBE YOU SINCE YOUR HEART
ATTACK. (Please Tick)

- A. NO CHANGE IN MY QUALITY OF LIFE. _____
- B. MY QUALITY OF LIFE HAS DETERIORATED. _____
- C. MY QUALITY OF LIFE HAS IMPROVED SLIGHTLY. _____
- D. MY QUALITY OF LIFE HAS IMPROVED A LOT. _____

Thankyou very much for completing the questionnaire, could you
now please return it in the stamped addressed envelope.

NURSING STANDARDS

Topic: Involvement and Independence
Sub Topic: Cardiac Rehabilitation
Care Group: Patient Post Acute Myocardial Infarction (MI)
Source of Production: Cardiac Rehabilitation Sister

Standard Statement: All patients with acute MI will be assessed for cardiac rehabilitation and will receive support, health education and counselling to enable them to make informed decisions about their lifestyle and take responsibility for modifying or removing risk taking factors contributing to their MI.

STRUCTURES

Cardiac Rehabilitation Sister or deputy available.
Health education packages, relaxation and rehabilitation tapes and personal stereo equipment available.
Multidisciplinary cardiac rehabilitation team and programme available. (a) Hospital (b) Community - Health Visitor led.

PROCESS

Within 48 hours of admission and continuing regularly while patient are in hospital, the cardiac rehabilitation sister advises and inform patients of optimal post MI lifestyle changes and assists them to identify their own risk factors and actions which could modify or remove these health risks. Cardiac Rehabilitation Sister offers patients a place on a rehabilitation programme where appropriate according to the

patient's exercise tolerance test results and patient's choice. Multidisciplinary cardiac rehabilitation team members deliver health education sessions over a seven week rolling programme and advise and counsel patients on an individual basis.

OUTCOME

All patients receive health education and counselling on risk factors and recommended lifestyle changes optimal in post MI survival. All patients are able to identify their risk factors and actions available to them to modify or remove these health risks. All patients are assessed for a cardiac rehabilitation programme. All patients suitable for the exercise programme incorporated in the hospital rehabilitation programme are able to decide whether or not they wish to participate.

NURSING STANDARDS

Topic:	Individualised Care
Sub Topic:	Mobility directly after MI
Care Group:	Post Myocardial Infarction Patients
Source of Production:	Acute Medical Speciality Cardiology.

Standard Statement: All patients undertaking mobility programme are given education and explanation on recommended activity after a myocardial infarction.

STRUCTURE

Up to date research based mobility programme approved by consultant cardiologist available. Qualified staff with knowledge and competence of patient's mobility programme. Research articles on mobility programmes for post myocardial infarction patients, available for staff.

PROCESS

Qualified nurse assess each patient individually and explains mobility recommendations adapted from mobility programme. Qualified nurse educate patient and implements individualised mobility programme with the involvement of relevant staff, ie cardiac rehabilitation sister and physiotherapist. Staff read and update knowledge on mobility programme.

OUTCOME

Each patient has mobility programme applicable to their individual needs. Each patient has increased confidence in undertaking physical activity after a myocardial infarction before early discharge. Qualified staff are able to provide information on up to date research on mobility programme.

APPENDIX FIVE

CLINICAL CASE RESEARCH STUDY

THE NATURE OF THE RELATIONSHIP OF COGNITIVE DEFICITS AND
MYALGIC ENCEPHALOMYELITIS

<u>Contents</u>	<u>Page No.</u>
1. Contents Page	xxviii
2. Journal Submission Guidelines.	xxix
3. Management Proposals.	xxx
4. Raw Data from Psychometric Tests.	xxxi
Wechsler Adult Intelligence Scale Revised	xxxi
National Adult Reading Test	xxxii
Rey Osterreith's Complex Figure	xxxii
The Rivermead Behavioural Memory Test	xxxii
Wechsler Memory Scale Revised	xxxiii

Behavioural and Cognitive Psychotherapy

Instructions to Authors

1. **Submission.** Articles written in English and not submitted for publication elsewhere, should be sent to Paul Salkovskis, Editor, *Behavioural Psychotherapy*, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK.

2. **Manuscript preparation.** Four complete copies of the manuscript must be submitted. Original figures should be supplied at the time of submission. Articles must be typed double-spaced throughout on standard sized paper (preferably A4) allowing wide margins all round. Where unpublished material, e.g. behaviour rating scales, therapy manuals, etc. is referred to in an article, copies should be submitted to facilitate review.

Manuscripts will be sent out for review exactly as submitted. Authors who want a blind review should mark two copies of their article "review copy" omitting from these copies details of authorship.

Abbreviations where used must be standard. The *Système International* (SI) should be used for all units; where metric units are used the SI equivalent must also be given. Probability values and power statistics should be given with statistic values and degrees of freedom [e.g. $F(1,34) = 123.07$, $P < 0.001$], but such information may be included in tables rather than the main text.

Spelling must be consistent within an article, either using British usage (*The Shorter Oxford English Dictionary*), or American usage (*Webster's New Collegiate Dictionary*). However, spelling in the list of references must be literal to each original publication.

Details of style not specified here may be determined by reference to the *Publication Manual of the American Psychological Association* or the style manual of the British Psychological Society.

Articles should conform to the following scheme:

(a) **Title page.** The title should phrase concisely the major issues. Author(s) to be given with departmental affiliations and addresses, grouped appropriately. A running head of no more than 40 characters should be indicated.

(b) **Summary.** This should summarize the article in no more than 200 words.

(c) **Text.** This should begin with an introduction, succinctly introducing the point of the paper to those interested in the general area of the journal. *Attention should be paid to the Editorial Statement which appears in the January and July issues at the back of the Journal.* References within the text should be given in the form Jones and Smith (1973). When there are three or up to and including five authors the first citation should include all authors; subsequent citations should be given as Williams *et al.* (1973). Authors with the same surname should be distinguished by their initials. The approximate positions of tables and figures should be indicated in the text. Footnotes should be avoided where possible.

(d) **Reference note(s).** A list of all cited unpublished or limited circulation material, numbered in order of appearance in the text, giving as much information as possible about extant manuscripts.

(e) **References.** All citations in the text should be listed in strict alphabetical order according to surnames. Multiple references to the same author(s) should be listed chronologically, using a, b, etc., for entries within the same year. Formats for journal articles, books and chapters should follow these examples:

BECKER, M. R. and GREEN, L. W. (1973). A family approach to compliance with medical treatment: A selective review of the literature. *International Journal of Health Education* 18, 173-182.

THORP, R. G. and WETZEL, R. J. (1969). *Behaviour Modification in the Natural Environment*. New York: Academic Press.

ROSKIES, E. and LAZARUS, R. S. (1980). Coping theory and the teaching of coping skills. In P. O. Davidson and S. M. Davidson (Eds). *Behavioural Medicine: Changing Health Lifestyles*. New York: Brunner/Mazel.

(f) **Footnotes.** The first, and preferably only, footnote will appear at the foot of the first page of each article, and subsequently may acknowledge previous unpublished presentation (e.g. dissertation, meeting paper) financial support, scholarly or technical assistance, or a change in affiliation. Its concluding (or only) paragraph must be the name and full mailing address of the author to whom reprint requests or other inquiries should be sent.

(g) **Tables.** Tables should be numbered and given explanatory titles.

(h) **Figure captions.** Numbered captions should be typed on a separate page.

(i) **Figures.** Original drawings or prints must be submitted for each line or half-tone illustration. Figures should be clearly labelled and be camera-ready wherever possible.

3. **Proofs, Reprints and Copyright.** Proofs of accepted articles will be sent to authors for the correction of printers' errors; author's alterations may be charged. Authors submitting a manuscript do so on the understanding that if it is accepted for publication exclusive copyright of the paper shall be assigned to the Association. In consideration of the assignment of copyright, 25 copies of each paper will be supplied. Further reprints may be ordered at extra cost; the reprint order form will be sent with the proofs. The publishers will not put any limitation on the personal freedom of the author to use material contained in the paper in other works.

MANAGEMENT PROPOSALS

- (a) Referral to clinical psychology for:- assessment of cognitive therapy for depression.
- (b) Referral to psychiatry, regarding pharmacotherapy.
- (c) Management and education regarding M.E. in terms of other possible maintaining factors and interaction in terms of cognitive functioning. This would include a focus on decreasing Mrs X's high levels of dependency and increase her levels of activity.
- (d) Referral to Occupational Therapy for a practical kitchen assessment in order to identify difficulties in this area and give recommendations. This would also serve to increase Mrs X's functioning within the home.

TEST RESULTS

WECHSLER ADULT INTELLIGENCE SCALE - REVISED (WAIS-R)

<u>Verbal Tests</u>	<u>Scaled score</u>	<u>Age adjusted</u>
Information	7	8
Digit Span	10	11
Vocabulary	10	10
Arithmetic	12	13
Comprehension	9	10
Similarities	7	8

Performance Tests

Picture Completion	8	10
Picture Arrangement	10	11
Block Design	8	9
Object Assembly	4	5
Digit Symbol	5	6

Verbal IQ	=	97
Performance IQ	=	91
Full Scale	=	94

NATIONAL ADULT READING TEST (NART)

Predicted IQ 100
Predicted Verbal IQ 99
Predicted Performance IQ 100

REY OSTERREITH'S COMPLEX FIGURE TEST (REY)

<u> </u>	<u>Score</u>	<u>Max. Score</u>	<u>*Interpretation</u>
Copy version	36	36	100th percentile
Recall	23	36	55th percentile

* Percentile into which the patient's score falls by age in a normal population.

THE RIVERMEAD BEHAVIOURAL MEMORY TEST (RBMT)

Standard Profile Score = 20/24 ("Poor Memory")
Screening Score = 10/12 ("Memory Function Normal")

WECHSLER MEMORY SCALE - REVISED (WMS-R)

	<u>Raw Score</u>	<u>Percentile</u>
<u>Rank</u>		
Information and Orientation	13	-
* Mental Control	6	-
# Figural Memory	8	-
x Logical Memory I	24	53
# Visual Paired Associates	9	-
x Verbal Paired Associates	23	-
# Visual Reproduction I	38	96
* Digit Span:		
Forwards	10	81
Backwards	11	99
* Visual Memory Span:		
Forwards	10	91
Backwards	8	71
~ Logical Memory II	16	31
~ Visual Paired Associates II	4	-
~ Verbal Paired Associates II	8	-
~ Visual Reproduction II	38	97

Index

(x and #)	General Memory	= 104
x	Verbal Memory	= 103
#	Visual Memory	= 108
*	Attention/Concentration	= 122
~	Delayed Recall	= 105

APPENDIX SIX

CLINICAL CASE RESEARCH STUDY

THE COGNITIVE BEHAVIOURAL TREATMENT OF A PATIENT WITH
KLEPTOMANIA

<u>Contents</u>	<u>Page No.</u>
1. Contents Page	xxxiv
2. Journal Submission Guidelines	xxxv

Behavioural and Cognitive Psychotherapy

Instructions to Authors

1. **Submission.** Articles written in English and not submitted for publication elsewhere, should be sent to Paul Salkovskis, Editor, *Behavioural Psychotherapy*, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK.

2. **Manuscript preparation.** Four complete copies of the manuscript must be submitted. Original figures should be supplied at the time of submission. Articles must be typed double-spaced throughout on standard sized paper (preferably A4) allowing wide margins all round. Where unpublished material, e.g. behaviour rating scales, therapy manuals, etc. is referred to in an article, copies should be submitted to facilitate review.

Manuscripts will be sent out for review exactly as submitted. Authors who want a blind review should mark two copies of their article "review copy" omitting from these copies details of authorship.

Abbreviations where used must be standard. The *Système International* (SI) should be used for all units; where metric units are used the SI equivalent must also be given. Probability values and power statistics should be given with statistic values and degrees of freedom [e.g. $F(1,34) = 123.07, P < 0.001$], but such information may be included in tables rather than the main text.

Spelling must be consistent within an article, either using British usage (*The Shorter Oxford English Dictionary*), or American usage (*Webster's New Collegiate Dictionary*). However, spelling in the list of references must be literal to each original publication.

Details of style not specified here may be determined by reference to the *Publication Manual of the American Psychological Association* or the style manual of the British Psychological Society.

Articles should conform to the following scheme:

- (a) **Title page.** The title should phrase concisely the major issues. Author(s) to be given with departmental affiliations and addresses, grouped appropriately. A running head of no more than 40 characters should be indicated.
- (b) **Summary.** This should summarize the article in no more than 200 words.
- (c) **Text.** This should begin with an introduction, succinctly introducing the point of the paper to those interested in the general area of the journal. *Attention should be paid to the Editorial Statement which appears in the January and July issues at the back of the Journal.* References within the text should be given in the form Jones and Smith (1973). When there are three or up to and including five authors the first citation should include all authors; subsequent citations should be given as Williams *et al.* (1973). Authors with the same surname should be distinguished by their initials. The approximate positions of tables and figures should be indicated in the text. Footnotes should be avoided where possible.
- (d) **Reference note(s).** A list of all cited unpublished or limited circulation material, numbered in order of appearance in the text, giving as much information as possible about extant manuscripts.
- (e) **References.** All citations in the text should be listed in strict alphabetical order according to surnames. Multiple references to the same author(s) should be listed chronologically, using a, b, etc., for entries within the same year. Formats for journal articles, books and chapters should follow these examples:

BECKER, M. R. and GREEN, L. W. (1975). A family approach to compliance with medical treatment: A selective review of the literature. *International Journal of Health Education* 18, 173-182.
THORP, R. G. and WETZEL, R. J. (1969). *Behaviour Modification in the Natural Environment*. New York: Academic Press.
ROSKIES, E. and LAZARUS, R. S. (1980). Coping theory and the teaching of coping skills. In P. O. Davidson and S. M. Davidson (Eds). *Behavioural Medicine: Changing Health Lifestyles*. New York: Brunner/Mazel.
- (f) **Footnotes.** The first, and preferably only, footnote will appear at the foot of the first page of each article, and subsequently may acknowledge previous unpublished presentation (e.g. dissertation, meeting paper) financial support, scholarly or technical assistance, or a change in affiliation. Its concluding (or only) paragraph must be the name and full mailing address of the author to whom reprint requests or other inquiries should be sent.
- (g) **Tables.** Tables should be numbered and given explanatory titles.
- (h) **Figure captions.** Numbered captions should be typed on a separate page.
- (i) **Figures.** Original drawings or prints must be submitted for each line or half-tone illustration. Figures should be clearly labelled and be camera-ready wherever possible.

3. **Proofs, Reprints and Copyright.** Proofs of accepted articles will be sent to authors for the correction of printers' errors; author's alterations may be charged. Authors submitting a manuscript do so on the understanding that if it is accepted for publication exclusive copyright of the paper shall be assigned to the Association. In consideration of the assignment of copyright, 25 copies of each paper will be supplied. Further reprints may be ordered at extra cost; the reprint order form will be sent with the proofs. The publishers will not put any limitation on the personal freedom of the author to use material contained in the paper in other works.

APPENDIX SEVEN

CLINICAL CASE RESEARCH STUDY

THE COGNITIVE BEHAVIOURAL TREATMENT OF A PATIENT WITH A
BORDERLINE PERSONALITY DISORDER.

<u>Contents</u>	<u>Page No.</u>
1. Contents Page	xxxvi
2. Journal Submission Guidelines	xxxvii

Behavioural and Cognitive Psychotherapy

Instructions to Authors

1. **Submission.** Articles written in English and not submitted for publication elsewhere, should be sent to Paul Salkovskis, Editor, *Behavioural Psychotherapy*, Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK.

2. **Manuscript preparation.** Four complete copies of the manuscript must be submitted. Original figures should be supplied at the time of submission. Articles must be typed double-spaced throughout on standard sized paper (preferably A4) allowing wide margins all round. Where unpublished material, e.g. behaviour rating scales, therapy manuals, etc. is referred to in an article, copies should be submitted to facilitate review.

Manuscripts will be sent out for review exactly as submitted. Authors who want a blind review should mark two copies of their article "review copy" omitting from these copies details of authorship.

Abbreviations where used must be standard. The *Système International* (SI) should be used for all units; where metric units are used the SI equivalent must also be given. Probability values and power statistics should be given with statistic values and degrees of freedom [e.g. $F(1,34) = 123.07, P < 0.001$], but such information may be included in tables rather than the main text.

Spelling must be consistent within an article, either using British usage (*The Shorter Oxford English Dictionary*), or American usage (*Webster's New Collegiate Dictionary*). However, spelling in the list of references must be literal to each original publication.

Details of style not specified here may be determined by reference to the *Publication Manual of the American Psychological Association* or the style manual of the British Psychological Society.

Articles should conform to the following scheme:

(a) **Title page.** The title should phrase concisely the major issues. Author(s) to be given with departmental affiliations and addresses, grouped appropriately. A running head of no more than 40 characters should be indicated.

(b) **Summary.** This should summarize the article in no more than 200 words.

(c) **Text.** This should begin with an introduction, succinctly introducing the point of the paper to those interested in the general area of the journal. *Attention should be paid to the Editorial Statement which appears in the January and July issues at the back of the Journal.* References within the text should be given in the form Jones and Smith (1973). When there are three or up to and including five authors the first citation should include all authors; subsequent citations should be given as Williams *et al.* (1973). Authors with the same surname should be distinguished by their initials. The approximate positions of tables and figures should be indicated in the text. Footnotes should be avoided where possible.

(d) **Reference note(s).** A list of all cited unpublished or limited circulation material, numbered in order of appearance in the text, giving as much information as possible about extant manuscripts.

(e) **References.** All citations in the text should be listed in strict alphabetical order according to surnames. Multiple references to the same author(s) should be listed chronologically, using a, b, etc., for entries within the same year. Formats for journal articles, books and chapters should follow these examples:

BECKER, M. R. and GREEN, L. W. (1975). A family approach to compliance with medical treatment: A selective review of the literature. *International Journal of Health Education* 18, 173-182.

THORP, R. G. and WETZEL, R. J. (1969). *Behaviour Modification in the Natural Environment*. New York: Academic Press.

ROSKIES, E. and LAZARUS, R. S. (1980). Coping theory and the teaching of coping skills. In P. O. Davidson and S. M. Davidson (Eds). *Behavioural Medicine: Changing Health Lifestyles*. New York: Brunner/Mazel.

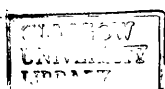
(f) **Footnotes.** The first, and preferably only, footnote will appear at the foot of the first page of each article, and subsequently may acknowledge previous unpublished presentation (e.g. dissertation, meeting paper) financial support, scholarly or technical assistance, or a change in affiliation. Its concluding (or only) paragraph must be the name and full mailing address of the author to whom reprint requests or other inquiries should be sent.

(g) **Tables.** Tables should be numbered and given explanatory titles.

(h) **Figure captions.** Numbered captions should be typed on a separate page.

(i) **Figures.** Original drawings or prints must be submitted for each line or half-tone illustration. Figures should be clearly labelled and be camera-ready wherever possible.

3. **Proofs, Reprints and Copyright.** Proofs of accepted articles will be sent to authors for the correction of printers' errors; author's alterations may be charged. Authors submitting a manuscript do so on the understanding that if it is accepted for publication exclusive copyright of the paper shall be assigned to the Association. In consideration of the assignment of copyright, 25 copies of each paper will be supplied. Further reprints may be ordered at extra cost; the reprint order form will be sent with the proofs. The publishers will not put any limitation on the personal freedom of the author to use material contained in the paper in other works.



END