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# Gender Differences in Living with Diabetes Mellitus

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## ABSTRACT

The aim of this review is to discuss the gender difference among diabetic population. Metabolic control, age and gender significantly affect their psychosocial responses to disease. Psychosocial problems may also occur secondary to negative diabetes related experiences including diagnosis, increased stress and onset of complications. Although significant problems do not occur in all diabetic population, they occur in few patients. More work is needed in the area of identifying those patients having adjustment difficulties to diabetic related challenges. This review indicates that male diabetics are observed to be living more effectively with diabetes, lesser depression and anxiety but more energy and better positive wellbeing

**Key words:** Diabetes Mellitus, Gender difference, Teenagers, Sexual Health, Depression

## 1. INTRODUCTION

Diabetes mellitus is characterized by abnormalities in insulin production, action or both, and its prevalence in UK varies from 2.7 % to 4.1 % of the population. Further, diabetes is more prevalent in males (2.3 %), than in females equals to 1.4 % (1). A perusal of the nature and treatment of diabetes underscores two important issues. First, diabetes is the most psychologically and behaviorally demanding chronic disorder. Second, diabetes cannot be cured, it can be controlled. Diabetes patients have to learn to live with the disease.

Living with diabetes means coping with the regimen of dietary management, physical exercise and periodic testing. Patients following a diabetic regimen are faced with several unique psychological and behavioral changes. The regimen involves many daily behavioral tasks as well as changes in basic life habits, such as diet and exercise, all of which must be performed throughout life.

Perhaps most important from a psychological and behavioral perspective, the patients must adhere to the demanding requirements of diabetes managements while knowing that the eventual onset of complications is almost inevitable. Thus diabetes management calls for a change in the patient's habits and life style (2).

It was only a decade ago that psychologist began to realize the potential contribution of their expertise to diabetes and its treatment (3). The last ten years have witnessed a significant increase in the number of research studies conducted in this area (4). The majority of studies on psychology adjustment to diabetes have been conducted on children and adolescent. Factors like metabolic control and cohesiveness in the family significantly influenced adjustment to the disease. Age and gender were significant in adult diabetics (3).

## 2. DISCUSSION

Gender differences in the management and control of chronic illness like diabetes during adolescence have been highlighted and in relation to diabetes various for this difference have been put forward (5). Pond et al. (6) found that the quality of diabetes control was worse in women than men at all ages from the mid-teens onwards and the author suggest that this may be because women often have to cope with both their diabetes and the care of their families. A recent study in Germany conducted to analyze the gender differences in the association of adherence and poor glycaemic control in a cohort of type 2 diabetes patients. Study results found significant gender-specific differences in the association of adherence and poor glycaemic control. In men, poor glycaemic control was found in 37% of the participants reporting non-adherence and in 19% reporting adherence. On the other hand, in women, poor glycaemic control was found in 19% of the participants reporting non-adherence and in 18% reporting adherence (7).

More generally Charmaz et al. (8) highlights the ways in which feminine and masculine identities can be both beneficial and problematic for diabetes management. The author argues that although traditional assumptions of male identities, such as an active problem solving stance, can encourage men to recover from illness. The author also argues that illness can relegate a man to a position of marginalized masculinity in the gender order. In comparison, women with diabetes showed a greater adaptability to illness, and were far less likely to attempt to recapture their past selves once they had defined physical changes as permanent. However these studies failed to take into account other factors (such as stress at work or low mood due to lack of support from peers for the patient) that could have led to the behavior pattern of the gender and which could have affected the results.

William et al. (9) conducted a depth interviews of 10 young women and 10 young men aged between 15 and 18 years, Type 1 diabetes and found that diabetes to have gendered meanings and consequently, teenage girls and boys differed as to whether or not they assimilated diabetes into their identities and health professionals need to recognize the part they may unwittingly play in reinforcing gendered management styles. Partly as a result of this, girls may be more likely to hide non adherence and adaptations of regimens and to have consequent feelings of guilt and self-blame. Girls adapting regimens to suit their daily lives. It should also be noted that the greater adaptability that girls show towards living with diabetes may have detrimental effects. Girls may lower their expectations for themselves, which can also result in poorer control of blood glucose levels. In contrast teenage boys may also manage diabetes in gendered ways, often with the aim of making their disease publicly invisible. It may therefore be very difficult to persuade them to use a regimen of 4 injections per day, as they are unlikely to perform injections in public settings, such as at school. In general boys may be less likely to let their disease impact on their achievements. Study also indicates that teenage boys are more likely to move between two extremes, with the majority managing very well and a small minority managing poorly. However, it appears to be very little research done in exploring the relationship of the denial of the disease and gender. More qualitative research needs to be done in the field of gender differences in living with diabetes mellitus.

Sriram et al. (2) conducted questionnaires analysis on a sample of 226 patients with diabetes, 143 males and 83 females found that, with regard to the psychosocial correlation it is observed that female diabetes had a slightly higher score on anxiety. In contrast male were significantly more satisfied, had lesser social worries, lesser stress due to the illness, higher score on positive well-being and also rated their health as being better. Male coped far better than females, females tended to adopt an independent approach to diabetes. Though, they failed to take the female in to an account, such as cooking and caring for family, which may make it difficult for them to follow their own diets, medications and eating schedules.

Impaired sexual function in men is a well-documented complication of diabetes. Although women have the same risk to develop diabetic complications. Some women's poor health protective behavior may be explained by research on the effect of sex role stereotyping and sexism on women's behavior in general, for example women often put other people's needs before their own (10). They may also be influenced by external factors, such as feeling that they must please their husbands or lose weight to be appealing, even at the expense of their health and well-being (11).

Van Boemel et al. (12) conducted interview of 55 year old married woman, the mother of 3 children, diagnosed diabetes 14 years earlier, found that the woman believed that her husband would not be supported of her health requirements, so remained silent until she developed a severe complication related to her diabetes. She was afraid that her husband would react to her diabetes by saying that it was her disease and that she alone would have to control it, which would have confirmed her belief that he would not care if she was ill and would not give her any support. Therefore she did not discuss her condition with him until she lost the vision in one eye. Later, she could not broach the subject of diabetes and a change of diet with her husband.

Her ingrained belief that she needed to put her family's needs above her own and her concern about potentially causing her husband's anger interacted almost synergistically with her denial. However, her beliefs about her family's reaction to her illness were inaccurate, since her husband was willing to modify his behavior to accommodate her health needs as soon as he learned of them.

Moreover differences in health protective behaviors have been noted between men and women with diseases like diabetes and tuberculosis that include a social component. In these diseases, interactions with others may be influenced by the diseases or individuals with the disease may rely on other to help them be complaint, in the latter case, women have been found to be less complaint in some situations (13). However, a woman's adherence to traditional sex roles may be a hidden barrier to her compliance with a diabetic regimen. The women may not be willing to change her family's life style to accommodate her health needs, may not feel that she has strong support from her family or may be unwilling to discuss her illness with her husband (14).

Though a lot of studies have been done on gender differences in living with diabetes mellitus, there are very few large scale trials done. Most of the studies do not involve randomization of the subjects thereby giving scope for bias. A large proportion of the studies in this field have been either of qualitative or mixed (both qualitative and quantitative) approach, with very few quantitative studies done, moreover the studies had control trials, where both the groups differed at base line along many clinically meaningful dimensions impeding the confirmation of clear treatment effect.

A study indicates that men and women have different attitudes and behaviors related to diabetes care (15). Men and women have different illness orientations (16). Women are more sensitive to illnesses, more able and likely to rest during an illness, and more willing to seek medical advice. Another study found that women were found to have a greater interest and concern for diabetes and were more likely to perceive symptoms (17). Women make greater use of diabetes services and have a larger network of people with whom to discuss medical problems (18). Women also report more illnesses than men. However, women appear to be more knowledgeable about and sensitive to the symptoms of diabetes, and seek care more frequently than men (19). Some of these differences may have evolved from the different roles that men and women traditionally have played within the family structure, with women having greater responsibilities for family health.

Differences between men and women with regard to their attitudes and behaviors associated with diabetes have not received as much attention in the literature. Furthermore, most of the studies in gender differences in living with diabetes mellitus have been cross sectional which cannot resolve the direction of casual relations underlying associations between gender and diabetes. There is a need for more longitudinal studies about gender and diabetes. Other limitations of the studies done in this field are the relatively small sample size, bias towards higher socioeconomic groups, use of adult, modified questionnaires, which might not totally be unbiased. There is an urgent need for controlled, large scale trials to form a consensus about gender differences in living with diabetes mellitus. Moreover, future studies should investigate whether men and women who

endorse traditional sex role adhere to diabetic regimens differently by comparing which areas of their diabetic regimens men and women comply with.

Yoshimura et al. (20) found that in elderly Japanese patients with type 2 diabetes increased energy intake per kilogram of standard body weight correlated with increase of BMI in men, but not in women. Intakes of soft drinks in both sexes and alcohol in women correlated with increase of BMI. These results suggest there are sex differences in the pathogenesis of obesity in elderly type 2 diabetic patients from an aspect of nutritional intake. Hyperinsulinemia in type 2 diabetes and obesity is often escorted by cancer. Gender is important in cancer epidemiology. Chiou et al. (21) conducted a study to analyze the gender differences in hospitalized cancer patients with or without type 2 diabetes. The study result suggested that diabetes increased mortality of cancer patients in both genders, with higher increases in gender-specific than in non-gender-specific cancers.

Ischemic heart disease is one of the most common complications in diabetic patients. Kramer et al. (22) analyzed whether or not gender differences exist in diabetes and ischemic heart disease medication among people with type 2 diabetes. The study results showed that diabetic men might be more thoroughly treated compared to women. Men with diabetes are significantly more likely to receive oral combination of drugs such as ACE inhibitors and calcium channel blockers in the presence of coronary heart disease as compare to the women diabetic patients.

### 3. CONCLUSION

Male diabetics are observed to be living more effectively with diabetes, lesser depression and anxiety but more energy and better positive wellbeing. They are more satisfied with their management of the disease and experience lesser social worry. Gender differences become crucial when one has to learn to live effectively with diabetes. Female diabetics need to develop a more positive attitude towards the disease and its management. This is crucial, especially in those responsible for tasks such as take care of family and cooking, which make it difficult for them to follow their own medication, exercise, take care of feet and check blood sugar and eating schedules. They need to realize that the disease can be controlled and it is they themselves who have to do so, undoubtedly, with support from others such as their physician, husband, friends, relatives and the family members. Women must therefore develop a more positive attitude towards the disease and its management.

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