Health beliefs and perceptions: implications for type 2 diabetes self-management

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## Abstract

Diabetes is a major public health menace across the globe and it is associated with physical, emotional and socio-economic consequences. Existing literature supports the use of diabetes education as a tool to minimise the impact of the medical condition. However, the current figure revealed that beliefs and perceptions of patients may constitute a barrier to attendance. This paper provides insight into the impact of patient's perceptions and beliefs on attendance at diabetes education centres.



**Key words:** Health belief, Healthcare utilisation, Self-management, Diabetes.


## Background

Although several policy initiatives such as the National Institute for Health and Care Excellence and United Kingdom National Service Framework (1, 2) recommended diabetes education for all the newly diagnosed patients, substantial evidence indicated that diabetes education programmes are underused (3). Compliance with a heath advice is often challenging as demonstrated by anecdotal evidence pertaining to the initial period of lifestyle changes necessitated by the ongoing global Covid-19 pandemic. There are many reasons responsible for failure to comply with healthcare instructions, however, it constitutes a waste of scarce resources within the National Health Service and this requires appropriate interventions (3-4).

## Methods

In this analysis of a survey of patients at four diabetes education centres in the south east of England, data were collected from 207 newly diagnosed patients with type 2 diabetes who were referred for structured patient education. The purpose of the study was to investigate the impact of health beliefs on healthcare compliance using the Health Belief Model[1] as the underpinning theory. The Health Belief Model (HBM) is a psychological model that attempts to use the attitudes and beliefs of an individual to predict and explain their health behaviours. Becker et al(5) postulates that the probability that a person will undertake a recommended health action depend on perceptions and beliefs, which in turn are linked to compliance.

The variables within the health belief model are psychological constructs; therefore, questions were generated to examine the influence of these beliefs on attendance and their responses were captured on a five –point Likert scale anchored at the extremes by 1 (strongly disagree) and 5 (strongly agree) as shown in table 1. The questionnaire covered demographic characteristics and health belief model constructs. The study conducted a survey to examine the differences in perceptions and beliefs of patients comprising attenders (n=102) and non-attenders (n=105) following approval from Berkshire research ethics committee. The data collected through this deductive methodology was analysed statistically using Chi-square and T-test.

**Table 1: Health beliefs and attendance behaviour**

| | Question 1 | | Question 2 | | Question 3 | | Question 4 | |
|---|---|---|---|---|---|---|---|---|
| | Attenders | Non-attenders | Attenders | Non-attenders | Attenders | Non-attenders | Attenders | Non-attenders |
| Strongly agree | 58 (57%) | 51 (49%) | 44 (43%) | 13 (12%) | 8 (8%) | 18 (17%) | 2 (2%) | 17 (16%) |
| Agree | 39 (38%) | 19 (18%) | 50 (49%) | 22 (21%) | 12 (12%) | 52 (50%) | 5 (5%) | 32 (31%) |
| Neither agree nor disagree | 2 (2%) | 12 (11%) | 4 (4%) | 12 (11%) | 18 (17%) | 22 (21%) | 16 (16%) | 30 (29%) |
| Disagree | 2 (2%) | 16 (15%) | 2 (2%) | 35 (34%) | 47 (46%) | 11 (11%) | 36 (35%) | 22 (21%) |
| Strongly disagree | 1 (1%) | 7 (7%) | 1 (1%) | 17 (16%) | 16 (16%) | 1 (1%) | 40 (39%) | 4 (4%) |
| Total responses | 102 (100%) | 105 (100%) | 101(99%) | 99 (95%) | 101 (99%) | 104 (99%) | 99 (97%) | 105 (100%) |

Q1: *'I belief that taking responsibility to care for myself is an important aspect of my care'*

*Q2:* '*I belief that attending the session is beneficial to improve my health'*

*Q3:* : *'I belief that using the internet and talking to other people is a good way to learn about diabetes'*

*Q4: I belief that my diabetes is well controlled and therefore do not need to attend the session'*

## Findings

The demographic status revealed that the age distribution of majority of the participants ranged between 41 – 65 years, there were more females than males in the study group and the findings of the ethnic origin of the participants showed a wide variation between the two groups of patients within the four localities. This demographic variation in the localities reflects Britain's diverse ethnic society (6). The data also showed that more than half of the total number of respondents have family history of diabetes (n=112, 54%) and a substantial number of them are non-attenders (n=73, 65%).

In using the HBM constructs to understand the likelihood that patients will engage with diabetes education as an intervention to promote their self-care management knowledge and skills, the Chi-square analysis showed that positive relationship exist between beliefs and attendance behaviour (Table 1). There was a statistically significant association between belief about motivation for self-care and attendance behaviour $x^2$ (4, N=207), = 75.39, p = .001. The findings in question number 2 showed a statistically significant association between their belief about the benefit of the session in developing self-care abilities and attendance behaviour $x^2$ (4, N=200), = 75.39, p = .001. A comparison of both groups in question 3 showed a statistically significant association between perception about the usefulness of the education and attendance behaviour $x^2$ (4, N=205), 64.79, p = .001. As shown in the final question (table 1), there is a significant association between belief about diabetes control and attendance behaviour $x^2$ (4, N=204), 68.52, p = .001.

**Discussion**

The mean score of the whole constructs' mode (perceived threat, perceived benefit and motivation) was higher for the attenders in comparison to those who did not attend the education sessions. This was confirmed by the result of the Independent T-test, t (165.69) = 12.43, p < .001 and therefore showed a significant difference between the population on beliefs and attitude towards diabetes education. These findings are consistent with the findings of some previous studies which showed that beliefs about the seriousness of their

medical condition and benefits of the sessions influenced the level of their preparedness to engage with self-management programmes (4, 7-8).

Association between health beliefs and utilisation of healthcare services with the intention to predict the role of beliefs in health decision-making processes is evident in the data (5, 9-11). The questionnaire survey revealed that some participants, particularly, non-attenders felt that their diabetes is mild and therefore well controlled. The data collated from the patients also indicated that their perception in relation to the benefits of the new behaviour was a key determinant of attendance (3, 7-8). Overall, the results indicated that attenders in this study reported a more positive belief about self-care, importance of diabetes education and belief about the seriousness of diabetes as a medical condition in comparison to the people that failed to attend the session.

Limitations of the study includes the use of non-experimental approach which does not allow definite conclusions regarding the causal relationships between the identified variables and attendance. In addition, the use of purposive sampling technique and small sample size may restrict the generalisability of the findings. Regardless of these limitations, we captured the views of patients from four sites with different socio-demographical characteristics. Also, this study has established the influence of individual perceptions and beliefs on healthy behaviour.

## Conclusion

The findings revealed that beliefs held by the participants have an impact on attendance behaviour and negative beliefs constitute a hindrance to effective self-management behaviour. Consequently, the study has highlighted the importance of influencing patients' perceptions and beliefs that are congruent with positive health behaviour. This is important because it has a potential to enhance their quality of life and reduce the financial burden of managing diabetes. Finally, we acknowledged that behaviour change is complex, hence, policy and guidelines alone is not enough to produce the desired effect.

## Article points

- Incidence of diabetes is a global public health concern
- Diabetes education is a key component of diabetes management
- Health belief may have a positive or negative impact on healthcare utilisation
- Poor healthcare utilisation has negative resource implications for the National Health Service
- Behaviour change is complex and may be challenging
- Instigating and sustaining healthy behaviour requires individual motivation

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