

SCHIZOPHRENIA AND THE EFFECT OF PATIENT EDUCATION

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Schizophrenia is the most frequent admission diagnosis to a psychiatric facility (Statistics Canada, 1976). Although the diagnosis of schizophrenia does not convey the message of hopelessness that it once did, many problems such as social adjustment and the lack of health promoting behaviours, specifically medication adherence, often preclude the adaptation necessary for improved health (Pyke, 1979; Serban & Thomas, 1974; Van Putten, 1978).

The literature suggests that the individuals' knowledge, attitudes and beliefs pertaining to their illness may be important variables that relate positively to health behaviours (Caplan, Robinson, French, Caldwell, & Shinn, 1976; Given, Given, & Simoni, 1978; Tagliacozzo & Ima, 1970). Beliefs regarding schizophrenia may in fact be inhibiting positive health behaviours as the illness remains in the minds of many a frightening and often unmentionable disease (Lancaster, 1976; Masnik, 1974; Wing, 1978). Educational strategies which have been found to be effective in altering health beliefs, knowledge, attitudes and values about other diseases (Green, 1979), generally are not utilized to dispel the fear of schizophrenia. These strategies have not been validated as effective intervention techniques for psychiatric populations (Blackwell, 1976; del Campo, Carr, & Correa, 1983).

The purpose of this study was to provide baseline data about the effect of patient education on schizophrenic inpatients' health knowledge, beliefs and general health motivation pertaining to their illness.

LITERATURE REVIEW

Although an abundance of literature exists concerning schizophrenia and its treatment, very few studies have focused on patient education for this group (del Campo et al., 1983).

In several studies educational strategies were utilized with different psychiatric populations achieving varied outcomes. Powell, Othmer and Sinkhorn (1977) found that they had good attendance and re-admission rates in three homogeneous aftercare groups in which they taught patients about their illness. In another study, the effect of

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patient education for a group of schizophrenic day care patients resulted in improved measures of self sufficiency and the ability to work for those who completed the program (Jeffries, Note 1). A further positive trend associated with educational interventions was found by Seltzer, Roncari and Garfinkel (1980) in a group of 67 psychiatric inpatients. Results indicated that 9% of the experimental group who received a series of nine lectures about their illness and treatment were noncompliant with medication, while 66% of the control group were noncompliant with medication, after a five month period. The experimental group was also found to be less fearful of addiction to medication and side effects. On the other hand Witt (Note 4) failed to demonstrate improved medication compliance for psychiatric outpatients who received an educational program congruent with their locus of control. Nonetheless, Witt did find that significantly more patients who placed a high value on health complied with medication than patients who placed a low value on health.

Schizophrenic patients health beliefs have not been described extensively in the literature, although some literature concerning attitudes about illness and treatment exists.

Attitudes toward psychiatric illness and treatment have been reported independently and in relation to behaviour. The attitudes of psychiatric patients toward their illness were described by Giovannoni and Ullman (1963) as being comparable to the negative attitudes held by the general public. Specific attitudes toward schizophrenia have been correlated with levels of socially expected activities and lower symptom levels as measured by the Katz Adjustment Scale (Soskis & Bowers, 1969). A positive integrating attitude as opposed to a negative isolating attitude toward schizophrenia relates to increased social activity and decreased symptom levels. Factors contributing to a positive integrating attitude were not specified. Of note is the finding that favourable attitudes toward the treatment and the psychotherapist are associated with good treatment outcomes (Brady, Zeller, & Reznikoff, 1959; Lee, 1979).

In contrast to the aforementioned studies Serban and Thomas (1974) found that positive attitudes toward medication and outpatient care did not correlate with medication compliance or outpatient followup. A recent study by del Campo et al. (1983) reports a similar finding where a positive attitude did not result in the desired response. Specifically, they found that despite the fact that schizophrenic patients acknowledged their illness, they also denied that their readmission to hospital was related to their illness. The authors state that this documented dichotomy is typical of patients with a schizophrenic illness.

Studies concerning educational strategies and health beliefs in other populations demonstrate that health knowledge and beliefs are alterable and may relate positively to health behaviours (Haynes, Taylor, & Sackett, 1979; Marston, 1970). However, further research is required to determine the effect of patient education on health knowledge and beliefs of schizophrenic patients.

CONCEPTUAL FRAMEWORK

The revised Health Belief Model by Becker & Maiman (1975) (Appendix) was selected for use in this study for several reasons: the model's components have been demonstrated to be alterable (Becker, 1974; Mikhail, 1981); some research studies confirm the predictive value of the model in relation to health behaviour (Haynes, 1976; Mikhail, 1981); the model may be applied to various health issues and populations, yet maintains educational and behavioural specificity (Kirscht, 1974). A modified version of the Health Belief Model specifies the specific factors to be considered in this study (see Figure 1). Permission to modify Becker & Maiman's model was not requested since the original intent or meaning was not altered. For the purposes of this study the components of the model were defined as follows:

- Health knowledge: The patient's understanding of the diagnosis, prescribed medication and the ability to recognize early return of symptoms.
- Health belief: What one perceives to be true concerning health. The beliefs consist of:
 1. Perceived resusceptibility: The patient's estimation of the likelihood of having another schizophrenic episode. Also included is the patient's estimation of the accuracy of the diagnosis.
 2. Perceived severity: The patient's estimation of how serious it is to have a schizophrenic illness and what consequences it will have on other aspects of life.
 3. Perceived benefits and barriers: The patient's evaluation of recommended health behaviours including both advantages such as control of symptoms and disadvantages such as side effects.
- General health motivation: The patient's general concern about health matters. Also included are the patient's feelings about doing what the doctor or other health professionals say.
- Modifying factors: Additional factors as specified in Figure 1.

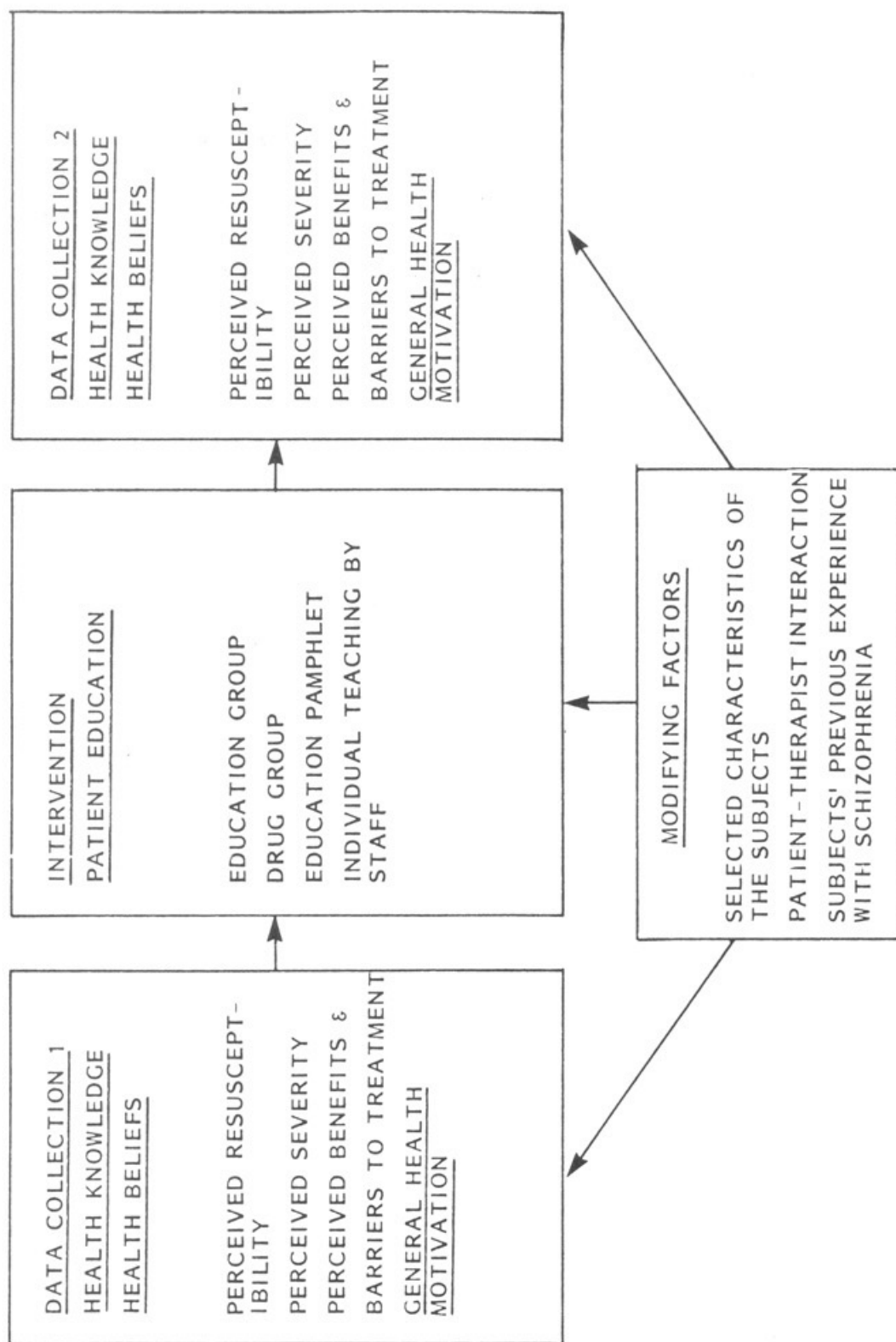


Figure 1. Conceptual framework. Adapted from Becker & Maiman (1975).

METHODOLOGY

A descriptive comparative design was developed for the purpose of determining the effect of educational strategies on schizophrenic inpatients' health knowledge and beliefs. The design included two data collection periods: 1) pre-education, when patients were determined to be mentally competent and able to participate in the study and 2) post education, which occurred at the completion of the hospitalization. The education provided for patients in the study setting consisted of one or more of the following:

- participation in an education group, in which patients were taught about their illness and the positive outcomes of treatment and also were helped to deal with feelings related to their illness;
- participation in a drug group, in which patients were taught about their medications;
- provision of an educational pamphlet, which provided factual information about their illness and identified positive outcomes of treatment;
- individual teaching by staff pertaining to their illness.

The study was conducted at a university affiliated psychiatric hospital. Data collection occurred on several inpatient units where one or more forms of patient education, as outlined above, were integral to the care of schizophrenic patients. A variety of health professionals, primarily nurses, physicians, social workers and occupational therapists were responsible for the ongoing administration of inpatient education, throughout the duration of the hospitalization, generally 10-20 weeks. A small convenience sample of 16 resulted from the data collection.

Instrumentation

The main instrument used in the study was an interview schedule (Interview Schedule A) developed by the investigator based on the conceptual framework and the Standardized Compliance Questionnaire (Sackett, Becker, Macpherson, Luterbach & Haynes, Note 3). In addition, a short interview form was developed by the researcher to elicit the patient's perception of the educational strategies. Data related characteristics of the sample and the subject's medication regimen were collected from the chart.

The interview schedules have not been tested for reliability and validity. As yet, variables of the Health Belief Model have not been tested with a schizophrenic population which places major limitations on both the validity and reliability of Interview Schedule A. However, certain procedures were instituted to increase validity and reliability.

The provision of a structured interview schedule helped to ensure the reliability of the data and also reduced interviewer bias. The pretest conducted by the investigator, and the review of the instrument by two clinical nurse specialists who have expertise in the field, also established the content validity of the interview schedules. Further, reliability of the interview schedules was enhanced, since the investigator conducted all the interviews at both data collection periods.

Methodological Problems

Several methodological problems were encountered during data collection, which resulted in the small sample size. Many patients were unfortunately discharged precipitously prior to the second interview and thus could not be included in the sample. There was also a lack of definitive criteria for the inclusion of patients in the various educational activities, which resulted in diverse clusterings of educational experiences and thus did not allow the use of comparison groups in the study design. As well, there was a decrease in the number of patients admitted to the units with a diagnosis of schizophrenia during the data collection period. These methodological difficulties are often encountered when collecting data in natural settings (Diers, 1979).

DISCUSSION AND FINDINGS

Selected characteristics of the sample studied revealed a population that is representative of other schizophrenic populations described in the literature. The majority of the sample were young, between the ages of 25-34, suggesting that schizophrenia is an illness of adolescents and young adults (Babigian, 1975). Further, most of the sample were single, had not been working for six months or more, were presently unemployed and had from one to nine previous hospital admissions in different institutions. These characteristics reflect the ongoing problems of social adjustment and the lack of health promoting behaviours, which is well documented in the literature (Pyke, 1979; Van Putten, 1978; Jeffries, Note 2).

Knowledge Related To Illness

In this study three areas of knowledge, specifically diagnosis, ability to recognize early return of symptoms and medication, were considered important for patients with schizophrenia.

Diagnosis

Although it remains a controversial issue whether or not to tell the patient the diagnosis of schizophrenia (Masnik, 1974), the majority of patients knew their diagnosis prior to education. This suggests that patients had prior knowledge concerning schizophrenia, possibly from previous admissions or other sources.

The meaning the patient gives to a particular diagnosis is another factor which affects health behaviour. A capacity for understanding the illness will in part determine the meaning an individual attributes to a particular disease. In order to ascertain individual interpretation of schizophrenia, patients were asked to describe in their own words what the diagnosis of schizophrenia meant to them. Appropriate characteristics of schizophrenia which indicated understanding included a general conceptualization of the disease as a serious mental illness, psychosis or biochemical disorder which might arise from certain psychological stresses, as well as the following specific symptoms: hallucinations, delusions, poor reality testing and lability of mood. Patients who could identify at least four such attributes were considered to have a reasonable understanding of the meaning of the disease. Despite the fact that the patient education presented schizophrenia mainly as a biological disorder, few patients identified schizophrenia as a biochemical disorder. Their ability to describe the attributes of schizophrenia tended to improve following patient education, although this improvement was not significant. Generally patient interpretation of schizophrenia was limited. Even after education only 10 patients were able to accurately identify two or more characteristics of schizophrenia.

Return of Symptoms

This area of knowledge appears to be of significance in the treatment of patients for schizophrenia. If patients recognize early symptoms of schizophrenia it is postulated that they will respond promptly to the need for treatment (Hansell, 1978). In this study, application of the McNemar test for difference demonstrated that after patient education significantly more patients were able to recognize the early symptoms of schizophrenia, such as sleep or eating disturbances and/or slight mood lability, rather than the later hard-core symptoms such as hallucinations, delusions or thought disorders ($\chi^2 = 4.08$, $p < .05$). This finding is particularly hopeful as it indicates that patients can learn about early symptoms which may ultimately promote earlier treatment and decrease both the frequency and length of hospitalizations.

Medication

The importance of adherence to medication regimens has been well documented in the literature (May & Tuma, 1976; Hogarty, Goldberg, & Scholer, 1974). As might be expected, all of the sample were taking medication for schizophrenia. It is generally thought that in order to take medication properly, patients should have knowledge of their medication. There was no significant improvement in patients' knowledge of medication following patient education. The findings of the study are in keeping with those of Seltzer et al., (1980) who also failed to find any significant difference in patients' drug knowledge five months after a series of nine educational lectures. This finding is perplexing as virtually all patients reported receiving education in this area; it may be that it was not providing the information patients required or that the strategy of presentation was not appropriate. A further possibility is that learning may have occurred, which the study instrument did not capture.

A summary of the changes that occurred in patients' knowledge after education are presented in Table 1. The findings indicate that patients are able to learn more about their illness, particularly the recognition of early symptoms. However, there were surprising gaps in knowledge, related to medication.

Table 1
Change In Patients' Knowledge Pertaining to their
Illness after Patient Education

| Area of Knowledge | Direction of Change | | |
|--------------------|---------------------|---|-----------------|
| | + | — | 0 |
| Diagnosis | 4 | 1 | 10 ^a |
| Return of Symptoms | 9* | 3 | 4 |
| Medication | 6 | 3 | 7 |

* $\chi^2 = 4.08$, $p < .05$

^a Numbers do not add up the total sample because one subject had not been told the diagnosis and could not respond to questions in this area.

HEALTH BELIEFS AND GENERAL HEALTH MOTIVATION

Almost no change was observed in the specified health beliefs before and after patient education. On the other hand, a number of health beliefs held by the patients were found to be desirable and indicative of healthy outcome behaviours, as described by Becker & Maiman (1975), and thus did not require modification. For example, patients believed they would be resusceptible to another episode of their illness and had confidence in the diagnosis. As well all patients expressed an optimistic and hopeful attitude toward their treatment and reported that they felt their medication could keep them from becoming ill again.

Similar to health beliefs, there was no significant change in general health motivation after patient education. Notwithstanding the lack of measurable change, patients were found to have a high measure of general health motivation, both before and after patient education.

The conceptual framework of the study suggests that health beliefs and general health motivation will have predictive value in relation to health behaviour. The health beliefs and general health motivation of the sample described in the study generally seem to be congruent with those described as desirable in the conceptual framework. Therefore, it might be reasonable to expect that this group of patients would engage in health promoting behaviours. This expectation seems in contrast to general reports from the literature regarding schizophrenic patients' inability to progress toward improved health (Pyke, 1979, Van Putten, 1978; Jeffries, Note 2) and the finding in this study that the majority of the sample had a number of previous admissions. This dichotomy in behaviour and cognition was also documented in studies by Serban and Thomas (1974) and del Campo et al. (1983). As noted previously, del Campo et al. (1983) suggest that this division is typical of a schizophrenic population.

There are several possible explanations for this apparent contradiction. It may be that the educational experiences during previous admissions have resulted in the current level of health knowledge, beliefs and general health motivation. Additional modifying factors such as external stressors and social supports may require exploration and inclusion in a predictive health model for schizophrenic patients. Further, although patients demonstrated some improvement in their level of health knowledge, it is questionable whether they possess sufficient knowledge regarding their illness and treatment, particularly in the area of medication. Another factor to be considered is whether the instrument for data collection was appropriate and whether health

knowledge, beliefs and general health motivation were accurately described in this group of patients. Finally the methodological problems must be taken into consideration.

Several changes which did occur in the measurement of the belief 'perceived severity' are of interest and will be highlighted. These changes may in part facilitate understanding of the apparent contradiction between the described health beliefs of this population and their suggested health behaviours.

Perceived Severity

In order to elicit data concerning the health belief perceived severity, patients were asked to estimate the consequences of the illness, schizophrenia, on their lives. In particular, application of the McNemar test for difference revealed that during their hospitalization patients reported feeling significantly more depressed about their illness over time ($\chi^2 = 4.08, p < .05$). To provide a measure of perceived severity from another perspective, certain illnesses of varying degrees of severity were selected as points of comparison. Patients' estimates of influenza, diabetes and cancer were assessed to be realistic. However, patients' estimates of the severity of schizophrenia in comparison to depression, diabetes and cancer became significantly more serious after patient education ($\chi^2 = 4.267, p < .05$).

These changes in the health belief perceived severity may suggest several hypotheses concerning the findings related to health beliefs and behaviours.

It is possible that patients who recently acquired a diagnosis of schizophrenia are engaged in a grieving process related to the illness. Given the dynamics of such a process, it is not unlikely that the optimal health beliefs represent a significant level of denial related to schizophrenia. The increased levels of depression and perceived levels of severity related to schizophrenia may be indicative of a move toward acceptance and ultimately a more realistic view of the illness.

The nature of this depression was not measured in this study and deserves further exploration. Certainly the issue of inhibiting levels of perceived severity has been examined in the literature (Leventhal, 1970). It may be that despite patients' seemingly optimal health beliefs, the nature of their depression may be so severe that it engenders feelings of helplessness and inhibits health promoting behaviours. Although the data do not allow for definitive conclusions, they emphasize the necessity for further research to explore the nature of patients' depression in relation to their acquired knowledge and beliefs regarding schizophrenia.

CONCLUSIONS

Although educational strategies have been found to be effective in influencing health knowledge, beliefs and behaviours in patients with physical illnesses, such strategies have not been documented as being beneficial to a schizophrenic population. In this pilot study, the effect of patient education on patients' health knowledge and beliefs has been examined. These initial findings suggest that patients are able to report on health knowledge and beliefs pertaining to their illness. There is some suggestion that patient education was effective in increasing schizophrenic inpatients' knowledge pertaining to their illness, although the implications of this knowledge in relation to health beliefs and behaviours require further exploration before they can be fully understood. At this time it is uncertain whether the inclusion of a patient education program for patients with a diagnosis of schizophrenia would be beneficial.

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RÉSUMÉ

La schizophrénie et l'éducation des patients

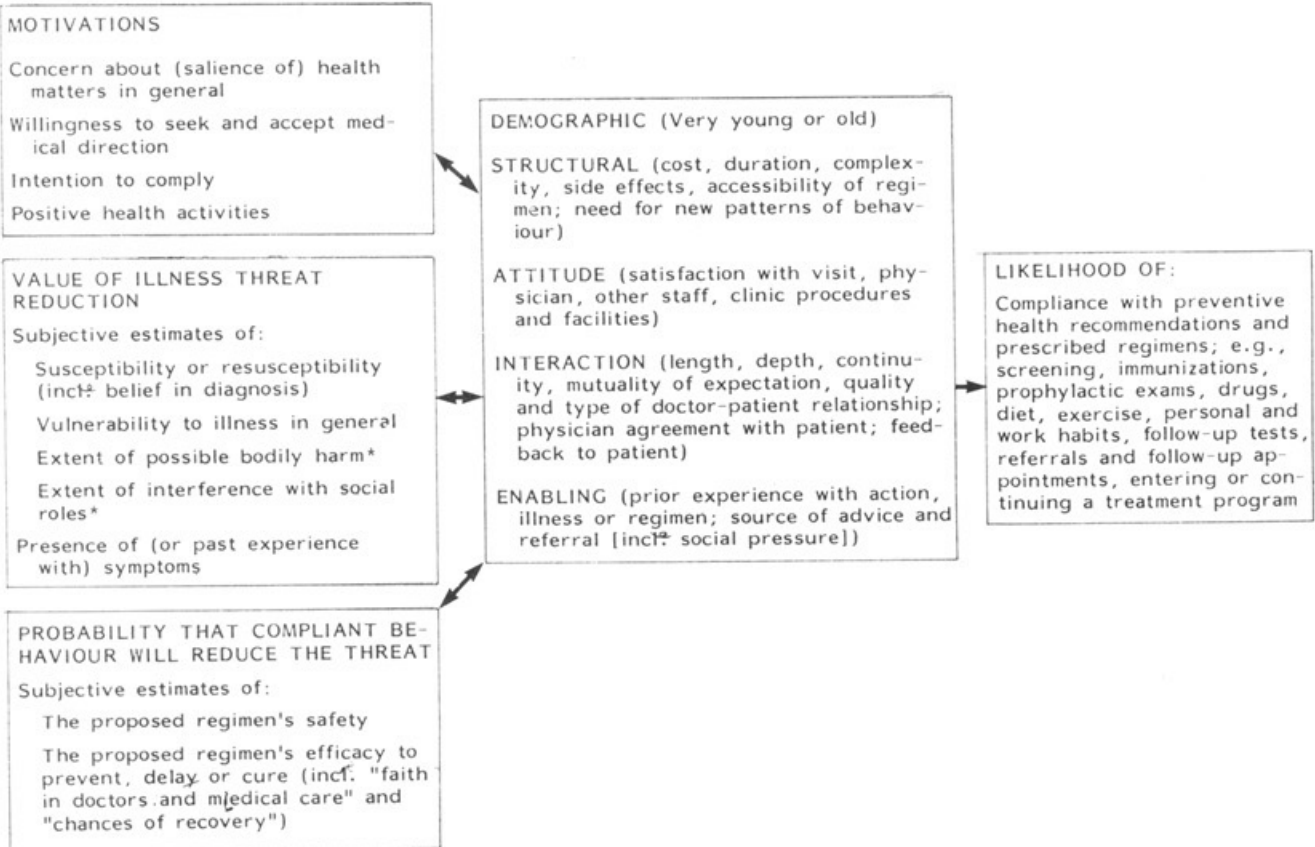
L'objet de cette étude est d'obtenir des données relatives à l'effet qu'un programme d'éducation des patients peut avoir sur les connaissances et les croyances que les schizophrènes hospitalisés entretiennent sur leur maladie. On a choisi le modèle de croyance remanié de Becker et Maiman (1975) en guise de cadre conceptuel de cette étude descriptive. L'échantillon était composé de seize hommes et femmes âgés de 25 à 34 ans, pris par souci de commodité dans divers services d'un hôpital psychiatrique rattaché à l'université de Toronto où l'éducation des patients faisait partie intégrante des soins prodigués aux schizophrènes. Dans cette étude, trois domaines ont été jugés importants pour les patients atteints de schizophrénie, à savoir le diagnostic, l'aptitude à détecter le retour précoce des symptômes, et la médication. Les résultats n'ont indiqué aucune amélioration notable dans les domaines du diagnostic ou de la médication. On a par contre noté une nette amélioration dans l'aptitude des patients à détecter le retour précoce de certains symptômes. On n'a observé à peu près aucun changement, après le programme d'éducation, dans les croyances que les patients entretiennent sur la santé. Toutefois, on a constaté qu'un certain nombre des croyances sur la santé étaient souhaitables et significatives d'un comportement sain et qu'elles ne nécessitaient aucune modification. On s'est également aperçu que les patients avaient un niveau de motivation élevé avant et après le programme d'éducation. Ces conclusions préliminaires ont suscité une recherche plus poussée.

Appendix: Revised Health Belief Model

READINESS TO UNDERTAKE RECOMMENDED COMPLIANCE BEHAVIOURS

MODIFYING AND ENABLING FACTORS

COMPLIANT BEHAVIOURS



* At motivating, but not inhibiting, levels.

Becker & Maiman, 1975, p. 20