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**Abstract of Doctoral Dissertation; Graduate School of Nursing, Sapporo  
City University**

Development and Validation of a Group Educational Program to Enhance the Sense of  
Coherence in Type 2 Diabetic Patients

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**I. Introduction**

Sense of coherence (SOC) has recently been identified as a factor associated with coping behavior in people with disease and in particular with psychological burden in type 2 diabetic patients. SOC means how one addresses one's concerns and consists of three subordinate concepts: comprehensibility, manageability, and meaningfulness. Thus, SOC in type 2 diabetic patients could play a role in understanding and prediction of diabetes, coping with issues in medical treatment, and finding meaning in therapeutic behaviors. Research shows that patients' SOC may be increased by systematic group interventions. However, there have been no studies on improving SOC in type 2 diabetic patients. This study aims to develop a group educational program to enhance SOC in these patients (hereinafter referred to as "SOC group educational program") and to verify its effectiveness.

**II. Method**

**Study 1: Development of the SOC group educational program**

An individual support method to enhance SOC was derived from two analyses: a literature review and individual interviews with nurses. The results of both analyses were integrated, and after consulting a panel of specialists including physicians and nurses about its contents, the SOC group educational program for type 2 diabetic patients was developed. This program was designed to be conducted by a nurse with at least three years of experience of nursing diabetic patients.

**Study 2: Validation of SOC group educational program**

The effectiveness of this program was validated by a quasi-randomized controlled clinical trial. Participants were 40 patients (21 patients in the intervention group and 19 patients in the control group) who were receiving a diabetes education hospitalization program in a general hospital. In the intervention group, group education to enhance SOC was added to the normal education program contents. To verify the effectiveness of the intervention, a self-administered questionnaire was completed on admission and before discharge. The evaluation index

was calculated by the SOC scale and the problem area in diabetes survey (PAID). For analysis, tests of statistically significant difference were conducted.

### **III. Results**

**Study 1:** The results of the literature review and individual interviews were integrated, and contents were extracted to support enhancement of comprehensibility, manageability, and meaningfulness. Comprehensibility contents included reflecting with patients on lifestyles leading to disease. Manageability contents included finding issues and improvement in life with patients. Meaningfulness contents included supporting the compatibility of life and treatment. These results were structured and the SOC group educational program was constructed.

**Study 2:** The SOC score significantly improved in the intervention group compared with the control group. There were no differences between groups in the subscale and PAID scores. The SOC score, the PAID score, and the comprehensibility and manageability subscale scores significantly improved only in the intervention group. Changes in participant's awareness through participation in this program were grouped into the following four categories: [I understood diabetes itself further]; [I was able to have prospects for a future life]; [I became positive toward living]; [I wanted others to understand the disease].

### **IV. Discussion**

The SOC group education program, which consists of four 30-minute sessions, was confirmed to improve SOC in fewer sessions and less time than in preceding studies. We provided a place for conversation and utilized the power of a group to enable patients to influence each other. The content of this program was considered to have provided patients an opportunity to reexamine their own lives, and deepen their understanding of type 2 diabetes. On the other hand, the support to increase meaningfulness was considered insufficient. However, this program ameliorated patient's sense of psychological burden. Future themes include strengthening the support program by clearly stating the contents that can improve meaningfulness, such as giving meaning to one's self-management, in the education goals and content, as well as improving the utility of conventional educational hospitalization programs by incorporating an SOC group education program.

### **V. Conclusion**

An effective group intervention for enhancing SOC has been developed. However, it is necessary to consider the patient's increased share of medical expenses after adding this program to an educational hospitalization program. The usefulness of the program can be enhanced by integrating it into normal educational hospitalization programs.