INTERVENTION EFFECTS ON LIFESTYLE COUNSELING QUALITY

Abstract

Background: Studies have shown that counseling about risk factor-related lifestyle habits can produce significantly beneficial changes in stroke patients' lifestyle habits. However, it is not sufficient nearly to provide a patient with appropriate information, but the quality of lifestyle counseling is also essential. The aim of the study was to investigate the effects of lifestyle counseling intervention on lifestyle counseling quality in stroke and TIA patients.

Methods: Post-test control group design was used. Stroke and TIA patients (n=98), divided into intervention and control group, completed Counseling Quality Questionnaire after receiving lifestyle counseling at the hospital (January 2010-October 2011). Data were analyzed with analysis of variance.

Results: The patients rated lifestyle counseling quality quite high in terms of all sum variables except patient centeredness. Counseling quality except for counseling resources was estimated to be significantly better by the intervention group.

Conclusion: Lifestyle counseling quality at hospital can be enhanced by counseling intervention. More attention to factors that promote patient centeredness of counseling is required since patient centeredness has repeatedly been recognized as the weakest aspect of counseling by both stroke patients and other patient groups.

Keywords: counseling, health care quality, intervention, stroke, transient ischemic attack

Lifestyle counseling intervention effects on counseling quality in stroke and TIA patients

Stroke patients have the right to be fully informed about their health status, about the aim of their treatment, alternative treatments available, the effects of the treatment on their everyday lives, and about other issues that concern their care. In Finland the content of counseling is administered by legislation.[1] Stroke patients inevitably need the valuable information to cope with their new situation and, particularly, to manage essential lifestyle changes after discharge from hospital.[2] Earlier studies have shown that counseling about lifestyle habits related to risk factors can produce beneficial changes in stroke patients' lifestyle habits.[3] However, it is not sufficient merely to provide patients with appropriate information, the quality of counseling is also highly important. More attention should be paid to the delivery and process of stroke patient lifestyle counseling.[2-3]

Most of the studies investigating quality-related stroke patient counseling generally describe counseling needs[4-5] and satisfaction of stroke patients.[6] According to the model by Kääriäinen[7], key features of good quality counseling include patient centeredness, interactiveness, goal-oriented implementation, provision of sufficient counseling for each patient, a focus on advantages of counseling, and adequate resources.[8, 13-14] Good-quality lifestyle counseling at hospital should aim to support patients to adhere to lifestyle change and should include provision of information on stroke, of behavioral lifestyle factors (e.g. diet, safe alcohol consumption, stress management, physical activity, smoking and weight control) and of medication adherence.[9-10] Poor adherence decreases the effectiveness of treatment, which may lead to recurrent strokes and complications, signifying a burden not just for the stroke patients themselves but also for the healthcare organization and society.[11] The aim of the study was to investigate the effects of lifestyle counseling intervention on lifestyle counseling quality in stroke and TIA patients.

Materials and methods

Sample and setting

Post-test control group design was used. The sample (n=98) consisted of stroke and TIA patients treated in a neurological unit at a university hospital in Finland (January 2010-October 2011). The first 53 patients constituted a control group receiving counseling with prevailing counseling practice. The next 45 patients who received the lifestyle counseling intervention constituted the intervention group. The patients were asked to participate in the study according to the following inclusion criteria: 1) a current diagnosis of ischemic stroke or TIA, 2) a presumption that the patient would eventually be discharged, 3) patients were able to give informed consent and complete a self-administered questionnaire, and 4) patients were of working age (18-65 years).

Intervention

The description of the intervention and its effects on adherence to lifestyle change have previously been published.[10] Briefly, the intervention was carried out as follows*:* To start with, the nurses in the unit were given training concerning stroke risk factors by organizing education days with the same content twice to verify that most of the nurses were able to participate. In addition, a structured lifestyle counseling conversation was planned: the goal of the conversation was addressed together with the patient based on their earlier knowledge and experience about stroke risk factors and on the current understanding of their lifestyle. Further, six nurses were guided how to use pre-formulated risk factor conversations prior to patients' discharge.

The starter page of the formulated file included detailed instructions for nurses on the conversation process. It was emphasized that stroke is a long-term illness, and the risk of secondary stroke can be minimized by adhering to lifestyle change and medication prescribed, moreover it is possible for everyone to have an effect on risks of recurrent event of stroke or other vascular events in the future. The risk factors related to lifestyle habits were discussed, one at a time, with the patients, focusing on the importance of: 1) a healthy diet, 2) weight control, 3) regular exercise, 4)

moderate alcohol use, 5) stress management, and 6) smoking cessation after stroke. Particular attention was paid to the risk factors most relevant to the individual patient. Each patient‘s participation in counseling was noted in their electronic patient records. Counseling was noted in electronic patient records for each patient. The patients also received a follow-up booklet containing information about overall risk factors and their treatment.

Control group’s counseling, before the intervention, consisted of disorganized routines. Lifestyle counseling was not standardized, consequently its structure and content depended on the personal competence of individual nurses and doctors. In most cases, it only involved providing practical advice about prescribed medications, or general advice. The purpose of the intervention was to systematize the lifestyle counseling process to benefit patients as early as possible.

Instruments

The patients evaluated the quality of lifestyle counseling with Counseling Quality Questionnaire[7] at the hospital on the day of discharge. It included 87 items in total, regarding counseling resources (10), sufficiency of counseling (25), implementation of counseling (35), advantages of counseling (16), and overall quality score of counseling (1). The participants’ responses were scored using a five-point Likert scale, ranging from strong agreement to strong disagreement. The questionnaire has been tested in earlier studies[8,12-13], showing good content and construct validity as well as good to excellent internal consistency (α 0.8-0.9).

Ethical considerations

The research process was conducted in accordance with The Code of Ethics of the World Medical Association.[14] Written informed consent was obtained from all participants, who were informed that they could contact the researcher if they had any further questions about the study. The control group also received counseling following general practices before the intervention. The research

was conducted following the permissions from the nursing committee and the ethical committee of the hospital (ETMK: 83 180/2009).

Data analysis

The data analysis was based on descriptive statistics and statistical tests that were performed using SAS v9.2 (SAS Institute). Sum variables were created based on knowledge gleaned from earlier studies, tested by factor analysis showing good to excellent (α=0.88-0.97) reliability. Nine sum variables were created: counseling resources (α=0.88, 10 items), counseling about stroke as an illness and its treatment (α=0. 92, 11 items), counseling about implications of stroke for everyday life (α=0.91, 5 items), counseling about recovery after stroke (α=0.90, 9 items), patient centeredness of counseling (α =0.91, 9 items), interactiveness of counseling (α=0.96, 17 items), goal-orientation of counseling (α=0.95, 9 items), and advantages of counseling (α=0.97, 16 items). One separate question scoring for overall quality of counseling was used. Analysis of variance (ANOVA) was used to test differences between the two groups. Results were deemed significant if $p < 0.05$, and the results meeting this criterion are discussed.

Results

Most participants (58.2%) had suffered a stroke, their mean age was 56.5 years (±8.4, range 18-65 years) and slightly more than half (53.1%) were male (Table 1).

Quality of lifestyle counseling – differences between the intervention and control groups

As shown in Table 2, the patients rated the lifestyle counseling quality they received quite high, especially the intervention group, in terms of all sum variables except patient centeredness. The intervention group scored all aspects of counseling significantly higher than the control group, except for counseling resources.

Discussion

The presented results demonstrate that the patients rated the counseling they received quite high, in terms of all quality parameters except patient centeredness, and the intervention group rated it higher than the control group. Accordingly, previous studies have shown that patients with long-term diseases have been moderately satisfied with the counseling they have received in hospitals.[12,15] Moreover, patient centeredness has also been poorly rated, relative to interactiveness and goal-orientation, in previous studies examining counseling quality.[5,12] Patient centeredness has repeatedly been reported to be a strong predictor for positive outcomes of counseling for patients,[12,16] and earlier evidence shows that patient-centered interactions may promote adherence and lead to improved health-related outcomes.[17-18]

The results indicate that lifestyle counseling quality can substantially be improved. This is important to realize because certain aspects of counseling quality may promote patients' adherence to lifestyle change. Patients who have better knowledge and who are motivated to perform self-care and consider the results of care to be important are more likely to adhere to a healthy lifestyle in the future.[17,19] Previous findings also indicate that the delivery style of counseling relates to patients' adherence,[17,20] especially to medication.[19,20] Earlier studies have also found positive associations between adherence to healthier lifestyles and good interactions in patient care, especially in patient-doctor relationships,[21] but also in nurse-patient relationships.[17]

Major strengths of the study are that it concerns a severe global health problem and the data was collected with the instrument whose validity and reliability has been proven to be high. However, some limitations need to be addressed. The data was collected via self-reported questionnaires, a procedure that introduces well-known potential problems. Nevertheless, the patients' perception of counseling quality is crucial when counseling is aimed to be developed. The study is a part of a larger project and the data has been collected as early as between 2010 and 2011. Ageing of the data may cause concern. However, it is highly improbable that stroke patients have

changed from that. After all, valuable information has been received about intervention effects on such aspects of counselling quality which have not been investigated thoroughly. Additionally, the sample size was relatively small and focused on a working-age stroke group. Therefore, the results cannot be generalized to broader population.

Implications for nursing practice and research

Based on the results, recommendations for clinical practice and future research can be made. It is an important obligation for nursing staff courageously to bring up the lifestyle habits at the hospital phase and highlight that there is a relationship between those lifestyle habits and stroke incidence, and that secondary stroke or some other vascular event can be prevented or made less likely by adopting a healthy lifestyle. Lifestyle counseling should be patient-centered and implemented interactively between the nurse and the patient. To be more specific, the goal of counseling conversation should be addressed together with the patient, and particular attention should be paid to every patient's personal characteristics, attitudes to one's own health, to earlier knowledge about risk factors and to those risk factors most relevant to the individual patient. Thus, more attention should also be paid to educating the nursing staff in stroke units to master the counseling strategies and the risk factors for stroke with the aim of improving the lifestyle habits of patients.

More studies that promote patient centeredness of counseling is required, since it has repeatedly been recognised as the weakest aspect of counseling for both stroke patients and other groups. It is also crucial to implement further investigations of the real connections between lifestyle counseling quality and adherence to lifestyle change after stroke.

Conclusion

The findings of the study clearly indicate that lifestyle counseling quality can be enhanced. In clinical setting, the findings have potential utility in developing counseling programs to improve the quality of stroke patient counseling quality and patients' adherence to healthier lifestyle habits.

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Table 1. Background information of the participants (n=98)

Variable	*n*	%
TIA	41	41.8
Stroke	57	58.2
Age Mean =56.5/SD=8.4		
Gender		
Male	52	53.1
Female	46	46.9
Marital status		
Single	5	5.1
Courtship	6	6.1
Married/cohabitation/domestic partnership	75	76.5
Widowed	2	2.0
Divorced	10	10.2
Education		
Basic education (primary and lower secondary)	45	45.9
Upper secondary education (general or vocational)	23	23.5
Polytechnic or upper vocational diploma	23	23.5
Academic degree	7	7.1
Working status		
Working	48	47.1
Retired	32	31.4
Unemployed or laid-off	18	21.5

Table 2. The scores for lifestyle counseling quality and differences between the intervention and the control groups.

Sum variable	mean*(SD)	estimates (95% CI)	*p***
Counseling resources	77.4 (17.5)	-0.11(-3.6/3.36)	0.94
Sufficiency of counseling			
Counseling about stroke as an illness and its treatment	72.4 (20.8)	8.59 (3.81/13.19)	<0.001
Counseling about implications of stroke for everyday life	60.3 (27.1)	12.99 (7.76/18.22)	<0.001
Counseling about recovery after stroke	61.3 (23.0)	7.94 (3.42/12.47)	<0.001
Implementation of counseling			
Patient-centeredness of counseling	53.3 (27.1)	9.50 (4.81/14.19)	<0.001
Interactiveness of counseling	68.1 (23.8)	9.50 (4.87/14.12)	<0.001
Goal-orientation of counseling	62.8 (25.2)	12.14 (7.28/16.99)	<0.001
Advantages of counseling	71.7 (21.9)	7.77 (3.49/12.05)	<0.001
Overall score	66.6 (24.6)	5.29 (0.43/10.15)	0.03

Analyzed with analysis of variance, SD=standard deviation, CI=confidence limits, *Quality scores varied between 1-100, higher values indicate better quality counseling

**Significance, p<0.05