PATIENT-RELATED FACTORS WHICH INFLUENCE THE SUCCESS OF SELF-MANAGEMENT SUPPORT TO CHRONICALLY ILL PATIENTS ACCORDING TO GENERAL PRACTITIONERS AND PRACTICE NURSES: A CROSS SECTIONAL STUDY

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Nederlandse Samenvatting

Titel

Patiëntfactoren die het succes van zelfmanagement support aan chronisch zieke patiënten beïnvloeden volgens huisartsen en praktijkondersteuners.

Inleiding

Chronische zorg wordt toenemend uitgevoerd in de eerste lijn door huisartsen en praktijkondersteuners. De gezondheidszorg heeft een overgang gemaakt naar een benadering waarin patiënten hun eigen ziekte moeten managen: zelfmanagement. Zelfmanagement ondersteuning wordt al toegepast in de praktijk, maar er is nog onvoldoende kennis over welke patiëntfactoren volgens huisartsen en praktijkondersteuners het succes van zelfmanagement ondersteuning kunnen beïnvloeden.

Doel en Onderzoeksvraag

De onderzoeksvraag is: 'Welke patiëntfactoren zijn van invloed op het succes van zelfmanagement ondersteuning aan chronisch zieke patiënten volgens huisartsen en praktijkondersteuners?' Kennis van deze patiëntfactoren biedt inzicht in hoe huisartsen en praktijkondersteuners denken, wat zij belangrijk vinden, en hoe dit gebruikt kan worden voor toekomstig onderzoek.

Methode

Deze beschrijvende, cross-sectionele studie, vond plaats onder huisartsen en praktijkondersteuners die werkzaam zijn in huisartspraktijken in de eerstelijns gezondheidszorg in Nederland. Dataverzameling vond plaats tussen februari en juni 2014 door middel van een online, zelf in te vullen vragenlijst.

Resultaten

In totaal hebben 219 respondenten, waarvan 106 huisartsen en 113 praktijkondersteuners, de vragenlijst ingevuld. De belangrijkste patiëntfactoren volgens huisartsen en praktijkondersteuners zijn motivatie (93.2%), kennis van de ziekte (82.6%), opleidingsniveau (80.4%), vertrouwen in eigen kunnen (77.2%) en behandelrelatie (60.3%).

Conclusie

Dit onderzoek geeft inzicht in de belangrijkste patiëntfactoren die het succes van zelfmanagement ondersteuning beïnvloeden, echter weten we niet of deze factoren ook daadwerkelijk invloed hebben op de besluitvorming van huisartsen en praktijkondersteuners in de dagelijkse praktijk.

Aanbevelingen

Meer onderzoek is aan te bevelen om te beoordelen welke patiëntfactoren de besluitvorming van huisartsen en praktijkondersteuners in de dagelijkse praktijk beïnvloedt.

Resultaten van dit onderzoek biedt ook inzicht voor onderzoekers en beleidsmakers om nieuwe, of meer op maat gemaakte zelfmanagement interventies te ontwikkelen.

Trefwoorden

Zelfmanagement; Chronisch_ziek; Huisartspraktijk; Patiëntkarakteristieken

English Abstract

Title: Patient-related factors which influence the success of self-management support to chronically ill patients according to general practitioners and practice nurses.

Background

Chronic care is increasingly embedded in primary care by general practitioners and nurses. Health care has made a transition to an approach that enables patients to manage their own chronic diseases: self-management. Tailoring self-management is already being done in practice to a certain extent, but we still lack knowledge of which patient-related factors influence the success of self-management support by general practitioners and nurses.

Aim and research question(s)

Research question is: 'Which patient-related factors influence the success of self-management support to chronically ill patients according general practitioners and practice nurses?'

Knowledge of the patient-related factors provides insight in how GPs and nurses think, what they find important, and how this can be used for future research.

Method

This study, with a descriptive cross sectional design, took place among general practitioners and nurses working in primary care in the Netherlands. Data collection was carried out between February and June 2014 through a self-administered online questionnaire.

Results

In total, 219 respondents, of which 106 general practitioners and 113 nurses completed the questionnaire. The most important patient-related factors were motivation (93.2%), knowledge of disease (82.6%), education (80.4%), confidence in own abilities (77.2%) and treatment relationship (60.3%).

Conclusion

This study provides insight in the most important patient-related factors which influence the success of self-management support, however, we do not know whether these factors actually influence general practitioners' and nurses' decision making in daily practice.

Recommendations

More research is recommended to assess which patient-related factors influence the decision making by general practitioners and nurses in daily practice. Results of this study also provide insight for researchers or policymakers to develop new or more tailored self-management interventions.

Keywords

Self-management; Chronically_ill; General_practice; Patient_characteristics

INTRODUCTION

There are currently around 5.3 million chronically ill patients in the Netherlands who are the major users of health care (1-2). In recent years, a transition from secondary care to primary care was necessary to maintain the quality of care and keep health care affordable (3). Almost all of the chronically ill patients, most of them with COPD, Asthma and diabetes mellitus, have more than once a year contact with the general practitioner (GP) or practice nurse (nurse) (2). Along with this transition, health care has shifted from expectations that diseases will be managed primarily by physicians to an approach that enables patients to manage their own chronic diseases (4). This approach is called self-management: "The individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and lifestyle changes inherent in living with a chronic condition. Efficacious self-management encompasses ability to monitor one's condition and to affect the cognitive, behavioral and emotional responses necessary to maintain a satisfactory quality of life" (5). This self-management approach is seen as a promising approach to meet the needs of patients suffering from chronic diseases and to decrease the burden on the health care system (6). GPs and nurses support chronically ill patients in their self-management: they assess whether and how the patient can apply self-management and tailor care to the individual patient (3). GPs support of patient self-management plays an important role in the success of self-management and improve patient outcomes (7). Moreover, tailoring self-management to the specific needs of a patient might be the key to effective implementation of self-management support (8).

Several studies investigated possible facilitators or barriers for the success of self-management support according to patients themselves. Aloha et al. (2013) reviewed several barriers to self-management of diabetes such as: motivation, self-efficacy, co-morbidity, knowledge of disease and coping and problem-solving skills (10). Kerr et al. (2007) investigated how co-morbidities influence diabetes patients' self-management and treatment priorities. They concluded that type and severity of co-morbid conditions influenced diabetes patients' self-management (11). The study of Gallant et al. (2003) concluded that greater levels of social support are related to better self-management behaviors (12). Most of the published literature related to factors that influence the success of self-management support focused exclusively on patients, rather than care providers. To our knowledge, there is a lack of literature about what care providers think are important facilitators or barriers in the success for self-management support. In a qualitative study of Touwen et al. (2013), nurses were interviewed to explore how nurses assess chronically ill patients regarding their potential for self-management and how they tailor care to the individual patient. In this study, nurses could identify several patient-

related factors, however, they found it difficult to identify factors that were really important to assess. Although this study explored the perspectives of 15 nurses, the views of GPs were not addressed (Touwen et al. (2013), unpublished data). Since chronic care is increasingly embedded in primary care, perspectives of GPs are also important and should be investigated to obtain a comprehensive picture of what actually reflects general practice. Nevertheless, there are possibly also differences in care provider characteristics and how care providers look at patient-related factors and the success of self-management support en to self-management in general. In literature, several general factors were found, which could apply to GPs and nurses. Older GPs and nurses, or GPs and nurses with more work experience, may be more confident regarding their ability to make decisions. GPs will probably make other decisions than nurses, because their level of education is different, and they will have followed other additional courses (13-17).

PROBLEM STATEMENT

Self-management support is being applied in primary care by GPs and nurses, but we lack knowledge on what they think are patient-related factors which could influence the success of self-management support. This is important knowledge, as this provides insight in how care providers think and what they find important and whether these factors play a role in care providers' decision making with regard to self-management support. We also know that differences in care provider characteristics could influence their thinking about patient-related factors and their perspective on self-management support, but we lack knowledge how this relates to which kind of self-management activities are applied in practice and to what extent. Previous studies investigated patient-related factors and how they influence the success of self-management in small groups of nurses. However, patient-related factors were not clear and still need to be verified in a larger sample, which also includes GPs working in primary care. Therefore, as a preliminary step of a study focused on decision making, the present study will focus on which patient-related factors influence the success of self-management support to chronically ill patients according to GPs and nurses, and in addition, to understand how tailoring self-management support is applied in primary care and whether GPs and nurses consider the same factors to be important.

OBJECTIVES

The primary aim of this study was to explore which patient-related factors influence the success of self-management support according to GPs and nurses, subsequently followed by a step to explore if there are differences between care provider characteristics and these patient-related factors. The secondary aim was to explore the perspectives of GPs and nurses on self-management support and to explore whether there are differences in perspectives related to certain care provider characteristics. Knowledge of the important patient-related factors provides insight in how GPs and nurses think, what they find

important, and how this can be used for future research, that will focus on the decision making process of GPs and nurses with regard to self-management support.

RESEARCH QUESTION

Which patient-related factors influence the success of self-management support to chronically ill patients according to GPs and nurses?

Secondary questions:

- Are there differences between function, age, years of work experience and type of practice and the patient-related factors that GPs and nurses considered as important?
- What is the perspective of GPs and nurses on self-management support?
- Are there differences between function, age, years of work experience and type of practice and GPs' and nurses' perspective on self-management support?
- Which self-management activities are implemented in practice by GPs and nurses?

METHODS

Design

This study, with a descriptive cross sectional design, took place among GPs and nurses working in primary care in the Netherlands. A descriptive design was chosen because the aim is to describe and explore GPs and nurses perspectives. It is a cross sectional design because it involves data collection from a population at one specific point in time.

Participants

There are about 8000 GPs and 3500 practice nurses working in circa 4100 general practices in the Netherlands (22). GP trainers, GPs, GPs in training and nurses working in general practices in the Netherlands were approached to participate in this study. The inclusion criterion for GPs in training was: final study year. We aimed to receive a minimum of 100 completed questionnaires for each group of GPs and nurses. Considering a 25% response rate, a minimum of 400 GPs and 400 nurses should be approached. Probability sampling and snowball sampling methods were used in this study to achieve a large number of GPs and nurses. GPs were recruited through the Utrecht University, the Maastricht University and the University of Amsterdam. Nurses were recruited by an organization for practice nurses in the Netherlands by e-mail. We asked GPs and nurses to share our questionnaire with other GPs and nurses. Because we approached GPs and nurses through university settings and an organization, and as a result of the snowball sampling, it was not possible to calculate a response rate.

Measurements

Data collection took place by means of an online questionnaire. The questionnaire was developed by our research team, consisting of a nursing scientist and primary care scientist. Literature had been consulted and we interviewed an expert in the field of medical decision making for identifying patient-related factors that had to be included in the questionnaire. The questionnaire was pilot-tested by three GPs and three nurses. We asked them to assess the clarity and relevance of the questionnaire, whether the questions and answer options were complete and to monitor the time it takes to complete the questionnaire. This had been done to establish face and content validity of the questionnaire (23). There was no substantive feedback on the questionnaire, only some practical tips. The questionnaire could be completed within 10 minutes.

Care provider characteristics:

In the first part of the questionnaire, care providers were asked about a number of general characteristics in order to get an idea of the representativeness of all care providers and because some data were necessary for analysis. This part consisted of multiple choice questions about sex, age, province, environment, type of practice, function, years of work experience and additional courses.

Main outcome are the patient-related factors:

Care providers had to choose from a list of 15 patient-related factors which they believed were important in the success of self-management support. In addition, they had to rank the five most important patient-related factors from 1 to 5, where 1 represented the most important patient factor and 5 the least important.

Secondary outcomes are the perspectives of GPs and nurses on self-management support:

Care providers had to choose the five most important supporting self-management activities from a list of 19 activities. In addition, they had to indicate the extent to which they apply these activities in practice: 'never'; 'sometimes'; 'most of the time' or 'always'. Furthermore, there were three multiple choice questions about the role of the care provider in self-management support, about the purpose for applying self-management support and about the importance of self-management support. Other secondary outcomes are the differences in patient-related factors and perspectives between GPs and nurses; differences between type of practices (solo practice, duo practice, health center); differences between ages and differences between years of work experience. Depending on the average and the distribution of the number of respondents, the cut-off point for the two ages- and work experience groups will be determined based on the results of the questionnaire.

Data collection

Data collection was carried out between February and June 2014 through a self-administered online questionnaire with the Survey Monkey software (20). A cover letter with information of the study and instructions about the questionnaire was included. To encourage a reply, three weeks after the initial mailing, reminders were sent out.

Ethics

This study was conducted according to the principles of the Declaration of Helsinki, 6th version, October 2008 (21). No ethical permission was required because this study did not fall under the Dutch Medical Research Involving Human Subjects Act (WMO).

Data analysis

All statistical procedures were performed using SPSS version 20.0 for Windows (24). Results are presented in tables for the total group of respondents, and for GPs and nurses separately. Chi-square (X^2) test was used for analyzing differences between GPs and nurses, age groups, type of practices, and years of work experience. Assumptions for this test were to ensure that the expected frequency in any cell is not less than 5 (<20%) and the minimum expected count is at least one. When the assumptions were not met, the fisher exact test was used. All statistical tests were two-sided and comparisons with a p-value <0.05 were considered significant.

RESULTS

PARTICIPANTS

In total, 219 respondents completed the questionnaire, including 106 GPs and 113 nurses. For an overview of the baseline characteristics, see Table 1. For comparisons between the age groups and years of work experience, based on the results, a cutoff point of 49 was determined for age, and a cutoff point of 9 was determined for years of work experience.

PATIENT-RELATED FACTORS

The most important patient-related factors according to the care providers were: motivation (93.2%), knowledge of the disease (82.6%), education level (80.4%), self-efficacy (77.2%) and doctor-patient relationship (60.3%). With regard to the ranking of the five most important patient-related factors, the same factors were ranked from 1 to 5 as most important to less important by both GPs and nurses.

Differences between care providers and the found patient-related factors

GPs and nurses considered the same patient-related factors to be most important, as can be seen in Table 2. Between GPs and nurses, more GPs indicated education level (p= 0.00), doctor-patient relationship (p= 0.05), degree of autonomy (p= 0.03), ethnicity (p= 0.04) and kind of disease (p= 0.04) as more important. Between age groups, care providers with a young age indicated age (p= 0.01), degree of autonomy (p= 0.05) and a supporting network (p= 0.00) as more important. Furthermore, care providers with less work experience indicated age of the patient as more important (p = 0.00).

PERSPECTIVES ON SELF-MANAGEMENT

The five key activities representing self-management support according to the care providers were: increase understanding of disease (68.9%), establish common goals (58.9%), help patients take ownership of their care (53%), teaching skills (44.3%), encourage adjusting medication dosage (39.3%) and stimulation medication adherence (39.3%). The care providers' role regarding self-management support was mostly coaching (65.8%); the main purpose for applying self-management was mostly patients' active role and their responsibility for their own care (65.3%); and care providers found self-management support for chronically ill patients especially important in order to improve the quality of chronic care (59.4%).

Differences between care providers and their perspectives on self-management

Differences between GPs and nurses, GPs indicated giving delayed prescription as more important (p= 0.00), nurses indicated teaching skills (p= 0.01) and increase understanding of disease (p= 0.00) as more important. See Table 3 for the perspectives on self-management support and differences between GPs and nurses. Between age groups, care providers with a young age indicated stimulation medication adherence as more important (p = 0.03), care providers with an old age indicated establish common goals (p = 0.02) as more important.

Between years of work experience, respondents with less work experience indicated stimulation medication adherence as more important (p= 0.04), respondents with more work experience indicated encourage adjusting movement behavior as more important (p= 0.01). We have seen what are important self-management activities according to care providers, but these differed from the most commonly implemented activities in practice, since they were: increase understanding of disease and encourage smoking cessation, medication adherence, adjusting movement behavior and diet adherence. With regard to the application of self-management support in practice: nurses indicated to apply more self-management support in practice than GPs. See Table 4 for the differences in average rating between GPs and nurses and the application of self-management activities in practice. Between age groups, care providers with a young age applied more MI (p = 0.04) and care providers with an old age were more likely to encourage smoking cessation (p= 0.03). Between practices, in health centers and duo-centers they are more likely to encourage patients to adjust medication dosage (p = 0.04). In solo- and duo-centers most of the care providers never organize group interventions and consultations aimed at self-management, in health centers care providers are more likely to do this sometimes (p = 0.02). Between years of work experience, care providers with more work experience were more likely to giving a delayed prescription (p = 0.00) and to encourage smoking cessation (p= 0.02) and care providers with less work experience were more likely to increase understanding of disease (p = 0.05).

DISCUSSION

This study provides insight from a large group of GPs and nurses what are important patient-related factors which influence the success of self-management support. These are motivation, knowledge of disease, education level, self-efficacy and doctor-patient relationship. Until now, most of the published literature related to factors that influence the success of self-management support focuses exclusively on patients, rather than care providers. In a study of Audulv et al (2012), 21 patients with a chronic disease were interviewed about factors which could influence their self-management integration. They mentioned factors like experiences of illness, life experiences and situation, social support, knowledge and beliefs and values as important facilitators or barriers (21). In a review of Nam et al (2011), several barriers of diabetes self-management from the perspectives of patients were summarized, like attitudes and beliefs, knowledge, ethnicity, financial resources, co-morbidities and social support (22). Kerr et al. (2007) concluded that according to patients, type and severity of comorbid conditions influence diabetes patients' self-management and Gallant et al. (2003) concluded that social support are related to better self-management behavior. Results from those studies were not all similar to our findings. Factors like motivation and education level are perceived by care providers in our study as more important, in literature, patients indicated factors like comorbidities, illness- and life experience and social support as more important.

Several differences were found with regard to the importance of patient-related factors and differences between care providers. One of these patient-related factors was age, care providers with a young age indicated age as more important than care providers with an old age. A possible explanation for this might be less of work experience. Respondents with less work experience found age also more important. These results are consistent with those of Sanz de Acedo Lizarrage et al (2007). They researched factors that affect decision making: a difference was found due to age in participants' perception that determines their decision processes (15). In our study, many nurses followed training in MI, found MI important and applied MI in daily practice. Only a few GPs followed training in MI and they find it also less important. A possible explanation for these results may be a lack of adequate training in MI for GPs. A study of Noordman et al (2012) concluded that MI skills are not easily applicable in daily practice. Care providers who want to apply MI skills should follow a lot of training or sessions in MI (25). Our study showed that in practice, nurses applied more self-management support than GPs. A possibly explanation for this fact could be that GPs had less time for their patients than nurses. Studies of Blakeman et al. (2006) and Noordman et al (2012) confirmed this possibly explanation: the majority of GPs identified limited consultation time as a factor that has impact on their abilities to facilitate self-management. GPs also indicated that nurses have more time for self-management support and that nurses

were seen as being predominantly responsible for the running of structured chronic disease management (25-26).

The major strength of this study is the large sample of GPs and nurses with a large variation in terms of age, years of work experience, province and kind of practices, which makes our study representative for the population of GPs and nurses in the Netherlands. Another strength is that the questionnaire for this study is developed by several researchers and experts. The questionnaire is tested first on a small sample before it was sent to the respondents. This increased the validity of the questionnaire. A limitation is the unmeasured validity and reliability of the questionnaire. Another limitation could be the comparison in years of work experience. Mean years of work experience of the nurses was 7.5 years. With a cutoff point of 9 years, most of the nurses will belong to the group with less work experience, as well as the group of GPs in training who almost have no experience in practice at all. The results of the comparisons between years of work experience may therefore not be representative. By using a questionnaire we revealed patient factors that are explicitly considered important by GPs and nurses. However, we do not know whether these factors actually influence their decision making in daily practice. This study was a first step for further research to assess which patient-related factors influence decision making by GPs and nurses.

CONCLUSION

The most important finding to emerge from this study is that motivation, knowledge of the disease, education level, self-efficacy and doctor-patient relationship are the most important patient-related factors which influence the success of self-management support according to GPs and nurses. GPs and nurses indicated the same factors as most important. In practice, nurses applied more self-management support than GPs. The most important self-management activities were increase understanding of disease, establish common goals, help patients take ownership of their care, encourage adjusting medication dosage and teaching skills. The role as caregiver was seen as mostly coaching; the main purpose for applying self-management was mostly patients' active role and their responsibility for their own care; and care providers found self-management support for chronically ill patient especially important in order to improve the quality of care.

RECOMMENDATIONS

This study provides insight in the most important patient-related factors which influence the success of self-management support according to GPs and nurses. However, we do not know whether these factors actually influence their decision making in daily practice. So more research is recommended to assess which patient-related factors influence the decision making by GPs and nurses in daily practice. Results of this study also provides insight for researchers or policymakers to develop new or more tailored self-management interventions in which the patient-related factors found by this study could be taken into account.

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TABLES

Table 1. Care provider characteristics

		Total respondents n = (219)	GPs n = 106 (48.4%)	Nurses n = 113 (51.6%)
Age in years	Mean +/- SD	45 +/- 10.9	46 +/- 11.7	45 +/- 10.2
Gender	Men n (%)	49 (22.4%)	46 (43.4%)	3 (2.7%)
	Women n (%)	170 (77.6%)	60 (56.6%)	110 (97.3%)
Type of practice	Solo-practice n (%)	55 (25.1%)	26 (24.5%)	29 (25.7%)
	Duo-practice n (%)	73 (33.3%)	39 (36.8%)	34 (30.1%)
	Health Centre n (%)	91 (41.6%)	41 (38.7%)	50 (44.2%)
Years of work experience	Mean +/- SD	11 +/- 8.9	15 +/- 10.9	7.5 +/- 4.3
Additional courses	Additional training for GPs n (%)	5 (2.3%)	5 (4.7%)	0 (0%)
	Additional training for nurses n (%)	53 (24.2%)	1 (0.9%)	52 (46%)
	Training motivational interviewing n (%)	101 (46.1%)	24 (22.6%)	77 (68.1%)
	Training self-management n (%)	52 (23.7%)	7 (6.6%)	45 (39.8%)
	No additional courses n (%)	90 (41.1%)	73 (68.9%)	17 (15%)

Table 2. Important patient-related factors according to care providers

Patient-related factors	Total respondents n (%)	GPs n (%)	Nurses n (%)	Chi2 (p-value)
Motivation	204 (93.2%)	98 (92.5%)	106 (93.8%)	0.69
Knowledge of the disease	181 (82.6%)	88 (83%)	93 (82.3%)	0.89
Education level	176 (80.4%)	94 (88.7%)	82 (72.6%)	0.00
Self-efficacy	169 (77.2%)	82 (77.4%)	87 (77%)	0.95
Doctor-patient relationship	132 (60.3%)	71 (67%)	61 (54%)	0.05
Autonomy	122 (55.7%)	67 (63.2%)	55 (48.7%0	0.03
Supporting network	109 (49.8%)	59 (55.7%)	50 (44.2%)	0.09
Private situation	103 (47%)	47 (44.3%)	56 (49.6%)	0.44
Age	101 (46.1%)	53 (50%)	48 (42.5%)	0.26
Ethnicity	80 (36.5%)	46 (43.4%)	34 (30.1%)	0.04
Disease severity	74 (33.8%)	39 (36.8%)	35 (31%)	0.36
Co-morbidity	74 (33.8%)	41 (38.7%)	33 (29.2%)	0.14
Economic situation	72 (32.9%)	39 (36.8%)	33 (29.2%)	0.23
Kind of disease	70 (32%)	41 (38.7%)	29 (25.7%)	0.04
Seriousness of lifestyle problem	63 (28.8%)	31 (29.2%)	32 (28.3%)	0.88

* When more than 20 % of the Expected counts was > 5, the Fisher exact test was measured.

Table 3. Perspective on self-management: important supporting self- management activities according to care providers

Self-management activities	Total respondents n (%)	GPs n (%)	Nurses n (%)	Chi2 (p-value)	Fisher's Exact test (p-value) *
Increase understanding of the disease	151 (68.9%)	63 (59.4%)	88 (77.9%)	0.00	
Establish common goals with respect to the treatment	129 (58.9%)	56 (52.8%)	73 (64.6%)	0,08	
Help patients take ownership of their care	116 (53%)	61 (57.5%)	55 (48.7%)	0,19	
Teach required skills to the patient	97 (44.3%)	37 (34.9%)	60 (53.1%)	0.01	
Encourage patients to adjust medication dosage guided by symptoms	86 (39.3%)	47 (44.3%)	39 (34.5%)	0,14	
Stimulating medication adherence	86 (39.3%)	44 (41.5%)	42 (37.2%)	0,51	
Encouraging self-monitoring of symptoms	80 (36.5%)	44 (41.5%)	36 (31.9%)	0,14	
Apply motivational Interviewing	69 (31.5%)	30 (28.3%)	39 (34.5%)	0,32	
Encouraging self-recording measured values	53 (24.2%)	26 (24.5%)	27 (23.9%)	0,91	
Agree with the patient that he is responsible for contacting the GP or nurse by problems	48 (21.9%)	22 (20.8%)	26 (23%)	0,69	
Encouraging to stop smoking	44 (20.1%)	25 (23.6%)	19 (16.8%)	0,21	
Encouraging adjusting movement behavior	41 (18.7%)	20 (18.9%)	21 (18.6%)	0,96	
Encouraging use of E-health	29 (13.2%)	15 (14.2%)	14 (12.4%)	0,7	
Giving delayed prescription	25 (11.4%)	23 (21.7%)	2 (1.8%)	0.00	

Agree with the patient that he is responsible for making regular follow-up appointments	21 (9.6%)	12 (11.3%)	9 (8%)	0,4	
Giving information brochures	13 (5.9%)	6 (5.7%)	7 (6.2%)	0,89	
Offering workshops/courses aimed at self-management	13 (5.9%)	7 (6.6%)	6 (5.3%)	0,69	
Encouraging diet adherence	11 (5%)	4 (3.8%)	7 (6.2%)	0,41	
Organizing group interventions and consultations aimed at self-management	10 (4.6%)	5 (4.7%)	5 (4.4%)	0,92	1

* When more than 20 % of the Expected counts was > 5, the Fisher exact test was measured.

Table 4. Application of self-management activities in practice by GPs and nurses

Items from questionnaire	Total respondents (Average rating)	GPs (Average rating)	Nurses (Average rating)
Increase understanding of the disease	2.61	2.45	2.76
Encouraging to stop smoking	2.45	2.36	2.54
Stimulating medication adherence	2.43	2.15	2.7
Encouraging adjusting movement behavior	2.39	2.23	2.55
Encouraging diet adherence	2.17	1.95	2.38
Encouraging self-recording measured values	2.03	1.88	2.18
Agree with the patient that he is responsible for contacting the GP or nurse by problems	2.02	1.91	2.11
Encouraging self-monitoring of symptoms	1.86	1.76	1.96
Establish common goals with respect to the treatment	1.80	1.63	1.96
Teach required skills to the patient	1.75	1.47	2.02
Giving information brochures	1.71	1.71	1.7
Apply motivational Interviewing	1.69	1.46	1.91
Help patients take ownership of their care	1.60	1.45	1.73
Agree with the patient that he is responsible for making regular follow-up appointments	1.48	1.53	1.43

Encourage patients to adjust medication dosage guided by symptoms	1.31	1.25	1.37
Encouraging use of E-health	1	1.08	0.92
Giving delayed prescription	0.69	1.05	0.36
Offering workshops/courses aimed at self-management	0.48	0.42	0.55
Organizing group interventions and consultations aimed at self-management	0.05	0.28	0.27
Explanation: Never = 0 point; Sometimes = 1 points; Most of the time = 2 points; Always = 3 points			