Integrating Telehealth into Primary Care Provision by Nurses: A Feasibility Study

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Journal:	Nurse Education Today
Amount of words:	3794
Amount of words Dutch abstract:	283
Amount of words English abstract:	298
Reporting guideline:	The TREND Statement

Dutch summary

Integratie van Telehealth in de huisartsenzorg door verpleegkundigen: een haalbaarheidsstudie

Achtergrond: Technologie speelt een steeds belangrijke rol in het leveren van efficiënte en effectieve huisartsenzorg. Het gebruik van telehealth door verpleegkundigen is echter beperkt. Training kan bijdragen aan meer kennis, vaardigheden, zelfvertrouwen en competenties bij verpleegkundigen om telehealth te integreren in de praktijk.

Doel: Het testen van de haalbaarheid van een telehealth training en het onderzoeken van de effectiviteit op het gebruik van telehealth in de praktijk.

Methode: Een experimenteel mixed methods design waarbij de kwantitatieve data is verkregen middels vragenlijsten en gebruikersgegevens. De kwalitatieve data is verzameld door observaties en interviews. De training werd geëvalueerd op basis van het evaluatiemodel van Kirkpatrick.

Resultaten: Verpleegkundigen waren positief over de training en vonden de training waardevol voor de praktijk. Praktische instructies over het gebruikte systeem moeten naar mening van de verpleegkundigen worden toegevoegd. Er was sprake van een toename van kennis en self-efficacy. De training heeft niet geresulteerd in een toename van het gebruik van telehealth. Redenen die de respondenten hiervoor aangeven zijn het gebrek aan computervaardigheden en kennis van het systeem, de patiëntenpopulatie en het wordt gezien als een proces dat tijd kost.

Conclusie: De training is haalbaar op de eerste twee niveaus van Kirkpatrick; de reactie op de training was positief en er is een toename in kennis en self-efficacy. Het gedrag (niveau 3) is echter niet veranderd, er is geen toename in het gebruik.

Aanbevelingen: Meer onderzoek is nodig om te achterhalen waarom er geen effect is van de training op het gebruik van telehealth. Toekomstig onderzoek kan zich ook richten op het evalueren van de training op een grotere schaal.

Keywords: Verpleegkundige - Telehealth - Training - Opleiding - Huisartsenzorg

Abstract

Integrating Telehealth into Primary Care Provision by Nurses: A Feasibility Study

Background: Technology plays an important role in the delivery of efficient and effective care in primary care. However, the use of telehealth in primary care by nurses is limited. Education and training can provide nurses with knowledge, skills, confidence and competencies, to be able to integrate telehealth into daily practice.

Aim: To test the feasibility of a telehealth training and to examine the effect on the use of telehealth in daily practice.

Method: A mixed methods experimental design. The quantitative data were obtained by a self-developed questionnaire and user statistics. The qualitative data included observations and interviews. The training was evaluated based on the four level evaluation model of Kirkpatrick.

Results: Nurses evaluated the training positively and found the training valuable for practice. Practical instructions about the used online health portal could be supplementary to the training as conceptualised. There was an increase of knowledge and self-efficacy The training did not lead to an increase in the use of telehealth in clinical practice. This was dedicated to the lack of computer skills, the lack of knowledge of the online health portal, the patient population and the increase in use is seen as a process that takes time.

Conclusion: The training is feasible on the first two levels from Kirkpatrick. The nurses reacted positively to the training and there was an increase in knowledge and self-efficacy. The training did not resulted in a change of behavior (level 3), because there was no increase in use.

Recommendations: More research is necessary to examine why there is no effect from the training on the use of telehealth in daily care. Future research can also focus on evaluating the training on a larger scale.

Keywords: Nursing – Telehealth – Education – Training – Primary care

Introduction

Worldwide there is a shift of care towards home and community which will lead to an important role for primary care. Primary care is facing several challenges such as the ageing population, an increase in people with chronic diseases and multimorbidity, and the limited workforce (1-4). Technology can play a key role to support and enhance efficient and effective care in primary care (1,2,5). Technology in healthcare has the potential to deliver cost-effective, higher quality healthcare and better management of people with long term conditions (4,6-8). Unfortunately, the use of technology in primary care by nurses is still very limited.

Various terms are used to describe the use of technology in healthcare. In this study we focus on telehealth. Examples of telehealth are making appointments and ask for repeat prescriptions online, use an application for self-monitoring or take a view at lab results and also a consult by e-mail or online chat (9). The increased use of telehealth in primary care has important implications for nursing practice in primary care (10). As a result, more education is incorporated in the use of telehealth in (under)graduated nursing programs. This increased attention for telehealth nursing competencies is emphasized in the different nursing standards worldwide (11-14). These standards, however, lack in giving concrete proposals how nurses should be trained in order to be able to integrate the use of telehealth technologies in nursing practices.

Although nurses continue to become more computer literate, a substantial number have not yet acquired adequate knowledge and skills to incorporate new technologies into their practice (4,15,16). Barriers of using telehealth in nursing practice are negative attitudes toward computer technologies, no self-efficacy and ability in using telehealth applications, lack of knowledge and skills and lack of adequate education and training (4,16-20). In addition, the need for nurses to have adequate training does not have a high priority in some cases within the general practitioner culture (4).

Training programs must be developed and offered to primary care nurses to provide them with knowledge and skills, confidence and competencies, to be able to integrate telehealth into daily practice. Recent studies explored nursing telehealth competencies and described that nurses should have skills in assessing, using communication technology, communicating with other health care providers, teaching patients and families, managing data, and helping the patient in making appropriate decisions (21). Van Houwelingen and colleagues (22) describe specific

competences required for nursing telehealth activities. These competences and skills can be a starting point for the development of a telehealth training for nurses.

So far, no studies have been found that have examined the effectiveness of training programs for primary care nurses in the use of telehealth. Therefore training evaluation must occur on different levels, for example described by Kirkpatrick (23). The model for training evaluation from Kirkpatrick is a widely used model for training evaluation (23). Training evaluation is necessary to determine whether a program met the expectations of the participants, to know if participants acquired adequate knowledge and to find out if it has led to the desired behavior or result (23).

Aim

The primary aim of the study is to test the feasibility of a telehealth training for primary care nurses based on previous defined competencies and tasks for using telehealth (22). The secondary aim is to explore the effectiveness of the training on the use of telehealth by primary care nurses and their patients.

Method

Design

A feasibility study was conducted using a mixed methods embedded experimental model (Fig. 1)(24) .
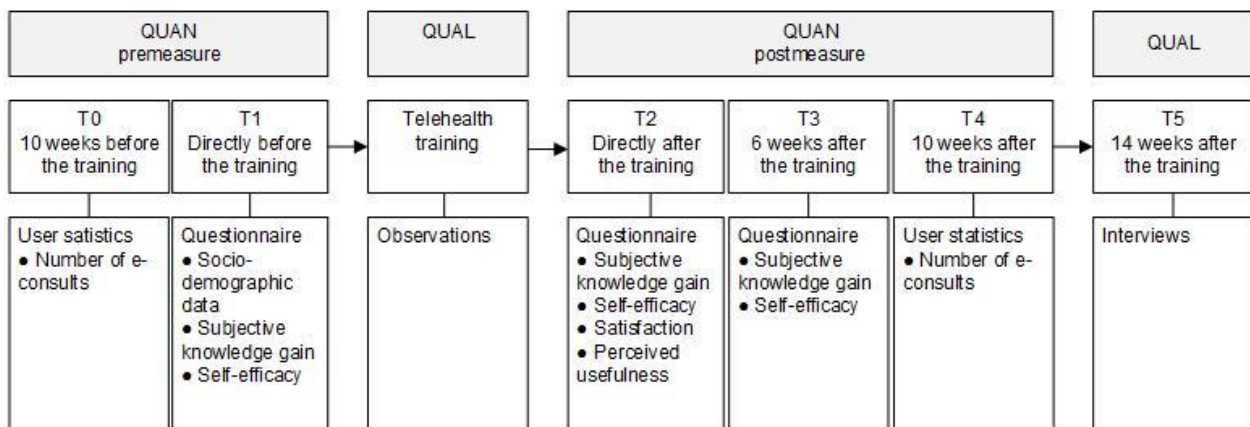

Figure 1: The mixed methods embedded experimental model including the data collection methods and outcomes measures for the quantitative measurement times.

The training evaluation model from Kirkpatrick was used to formulate the outcome measures to test the feasibility of the telehealth training (23). The model defines a useful taxonomy of

program outcomes and offers a more complete evaluation model in relation to other common evaluation models (25). Kirkpatrick describes four kinds of outcomes that should result from a highly effective training program: (1) reaction, (2) learning, (3) behavior and (4) results (26). The first three levels will be addressed in this study using quantitative and qualitative data (27).

For the quantitative data, a pretest-posttest design was used to explore whether changes in subjective knowledge gain, self-efficacy and number of e-consults have occurred among the primary care nurses who received the telehealth training, and to evaluate the training as conceptualized (28). A qualitative component, using observations during the intervention, was conducted to examine the process of the intervention (24). Supplementary, exploratory interviews were conducted to better explain the outcomes of the quantitative data. The priority of this model is established by the quantitative data and the qualitative dataset is subservient (24). The quantitative data was analysed first and then the qualitative data were collected and analysed.

Population and domain

The study sample consisted of nurses working in an urban primary care practice in the Netherlands, in which care, research and education are closely connected. The general practice is embedded within an organisation that consists of five general practices who provides care to approximately 38.000 patients.

Nurses working in all the five general practices and who met the following inclusion criteria were invited to participate in the study:

- Registered nurses with a postgraduate education to primary care nurse or clinical nurse specialist;
- Dutch speaking and reading;
- Willingness to participate in the telehealth training.

A purposeful sample was used to select individuals who could provide rich information about the outcomes of the quantitative data.

The telehealth training

The telehealth training was developed by the research group for demand-driven care in collaboration with a general practitioner working as e-health consultant, and is based on nursing telehealth tasks or activities and the corresponding competencies (29). It consisted of two

separate sessions of approximately two hours, which included a short introduction of the online health portal, knowledge transfer and role-playing in which the attention is focused on the telehealth tasks. Between the sessions, nurses had two weeks to complete an assignment in clinical practice. The training was provided by the researcher (CvH) and a general practitioner from the primary care practice.

Data collection

Data was collected between November 2015 and May 2016. For the quantitative data, questionnaires and user statistics were used. The qualitative component existed of observational notes during the training and interviews were administered.

Operationalization of Kirkpatrick's levels

The feasibility of the telehealth training was tested based on the following outcomes of Kirkpatrick's model.

Reaction and Learning

The first level measured the reaction of the nurses to the training program. This was operationalized by the satisfaction of nurses with the training and their perceived usefulness of the training. The second level measured the knowledge that nurses have acquired, operationalized by subjective knowledge gain.

Behavior

Level three measured the behavior of nurses, if they are capable of applying the acquired knowledge, skills and competences in daily practice. This was operationalized by measuring the self-efficacy of nurses and the number of e-consults.

Questionnaire

The questionnaire was administered directly before the training (T1), directly after the training (T2) and 6 weeks after the training (T3) and existed of 4 parts: Socio-demographic data, perceived usefulness and satisfaction, subjective knowledge gain and self-efficacy (Fig. 1). The questionnaire was developed and composed by the researchers CvH and MP. Expert validation was used to improve the content validity of the questionnaire (30). One general practitioner and one nurse assessed if the items were relevant to the construct being measured and if key items were not omitted (30).

The socio-demographic data of the nurses included: gender, age, education level, years of working experience with telehealth, function, years working in general practice, working hours per week and experience with technology devices and programs.

The perceived usefulness of the telehealth training was measured with four items used from the validated questionnaire 'training evaluation inventory' (31). Nurses completed these items on a five-point Liker scale ranging from 1 (strongly disagree) to 5 (totally agree). The satisfaction with the training was measured by 2 items. First nurses were asked to write down what their expectations were of the training. Second they rated their fulfilment of their expectations on a scale 1-10.

The nurses' subjective knowledge gain was measured with nine questions. The nurses were asked on a 5-point Likert scale, from strongly disagree till totally agree, how much knowledge they have about subjects of interest for the use of telehealth in practice.

The extent of self-efficacy for the use of telehealth was measured with three items. Nurses rated their confidence on a scale on a scale 1-10, with 1 meaning 'not able at all to' and 10 meaning 'totally able to'. The telehealth tasks focussed on 'health education', 'support patients in the use of technology' and 'judge the patients cognitive ability and technological skills'.

User statistics
User statistics were collected over the period from 10 weeks before the training till 10 weeks after the training and included the number of e-consults carried out by the primary care nurses and their patients and were obtained from the electronic record system. The number of e-consults was collected for each of the five locations.

Observations
Observational data was collected during the training sessions by means of field notes. The observations involved active listening and watching and recording behaviors (28).

Interviews
The goal of the interviews was to gain more insight into the outcomes of the quantitative data and to gain an in-depth, comprehensive understanding of the perceived usefulness and the satisfaction with the training. The interview guide was used based on the first three levels of Kirkpatrick (26) and the results of the quantitative data. Interviews were recorded and transcribed.

<u>Procedures</u>

Nurses were informed about the study through an information letter by e-mail. The letter included a short introduction of the study, the aim, the procedures, expectations, potential risks and benefits, and the data management. Also explained was that participating in the study is voluntary and anonymous.

Nurses were invited for the first telehealth training session. Before the start of the training, nurses were asked to fulfil the first questionnaire on paper. All nurses received a personal code to encrypt the questionnaires and were asked for informed consent.

After the second training session, nurses were asked to complete a questionnaire on paper once again. During this session observational notes were taken. Six weeks after the second session, nurses were asked to complete the last questionnaire digital.

Two individuals working in the primary care setting were asked to participate in an interview. Before the interview, they were asked for informed consent.

<u>Data analysis</u>

Questionnaire and user statistics

Descriptive analyses were used to analyse the socio-demographic data, including percentages.

The internal consistency of the survey constructs was tested by measuring Cronbach's alpha, to examine if all the items measured the same construct (32).

Normality was checked for subjective knowledge gain and self-efficacy using the Shapiro-Wilk tests. The normal distribution could not be assumed for all the data. Therefore the non-parametric related samples Wilcoxon Signed Rank test was used to measure differences between mean scores between T1 and T2, T2 and T3 and between T1 and T3 for the overall scores from the items of subjective knowledge gain and self-efficacy. The level of statistical significance used for all analyses was $p < 0.05$.

The variables from perceived usefulness are further analysed with descriptive analyses, including means and standard deviations.

The expectations for the training are independently rated on a scale 1-10 by two researchers. When the ratings differ, the average of the two ratings was used. The expectations were

multiplied with the satisfaction rate (1-10). This was added and divided between the sum of the average ratings of the researchers.

The user statistics were tested for normality with the Shapiro-Wilk tests. The data was not normally distributed, therefore the nonparametric Wilcoxon Signed Rank test was used. The number of e-consuls were collected for each location of the primary care practice. We examined if there was a significant difference in number of e-consults before and after the intervention per location.

All data analyses were performed using the statistical software, IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.

Observations and Interviews

The semi-structured interviews were recorded and transcribed. Both the field notes and the verbatim transcription of the interviews were analysed according to the process of open, axial and selective coding (33).

Ethical issues

The study was conducted according to the principles of the Declaration of Helsinki (34) and the Medical Research Involving Human Subjects Act (14). The Netherlands Association for Medical Education (NVMO) Ethical Review Board gave approval for the study.

Results

The response rate was 80%. Twelve nurses participated in the study, 11 female nurses and one male nurse. The mean age was 41 years (SD 10.7). Most nurses were highly-educated (n=11). Concerning experience with telehealth, 4 nurses had no experience, one nurse had experience with telehealth for half a year and 7 nurses had experience with telehealth for more than a half year. Nurses used their smartphone, Internet and E-mail on a daily basis. Three nurses dropped out of the study. Two nurses after the second training session and one nurse did not complete the last questionnaire (Table 1). In addition, two semi-structured interviews were held, of approximately 45 minutes, with a primary care nurse (RN), working at two different locations, and a general practitioner (GP). The revealed quantitative and qualitative results will be presented according to the evaluation levels of Kirkpatrick.

<u>Reliability of questionnaire constructs</u>

The reliability of the survey constructs self-efficacy, subjective knowledge gain and perceived usefulness were calculated by Cronbach's alpha at T1, T2 and T3. The complete list of items and accompanying median scores, 1st and 3rd quartile, and Cronbach's alpha are presented in Table 2.

<u>Level 1: Reaction</u>

Quantitative results

Nurses were satisfied with the training, they scored the training with a mean of 7.6 (SD 0.84). The training scored a mean of 6.7 when the satisfaction was considered with the expectations of the nurses.

The nurses' general impression of the usefulness of the training scored a median 4.0 (agree). Seven (70%) nurses found the invested time valuable (agree) and the training applicable (agree) in clinical practice. Almost all nurses perceived the training usable (agree/strongly agree).

Qualitative results

Nurses described a positively experience with the part of the training about the development of required competences. The observational data showed that many nurses were not familiar with the online health portal because the short explanation of the online health system lead to many questions. *"You don't see what the patient sees, therefore it is not possible to support the patient in the use of telehealth. I am afraid to offer the possibilities of telehealth because I'm not aware of how to use it myself." (RN)*

This is confirmed by the data from the interviews which revealed that nurses lack in enough knowledge about the online health portal and need practical knowledge of the use of the online health portal. *"The basics were not there yet. Many nurses did not know how to use the system." (RN)* Both the nurse and the general practitioner suggested that instructions of practical use of the system should be more included in the training and to their opinion the training was very general and not practical and concrete. *"I think it was a nice training, but on the other hand it was very general. The part about competence training…how concrete is it?" (GP)*

Level 2: Learning and Attitudes

Quantitative results

There was a significant difference between T1 and T2 (p = 0.005) and between T1 and T3 (p = 0.007) for the overall score of subjective knowledge gain. No significant difference was found between T2 and T3.
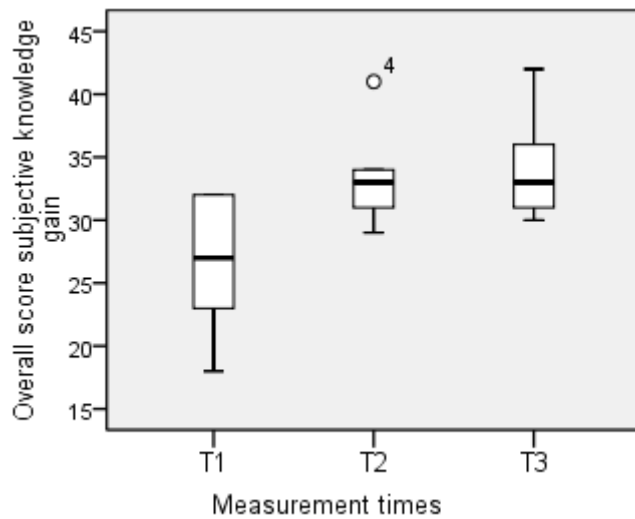
Figure 2: Boxplot of the overall scores of subjective knowledge gain by nurses (n=9) at measurement times T1, T2 and T3. The overall score of subjective knowledge gain exists of the sum of 9 questions on a 5-point Likert scale.

There was a significant difference between T1 and T2 (p = 0.017) and between T1 and T3 (p = 0.025) for the overall score of self-efficacy. There was no significant difference between T2 and T3.
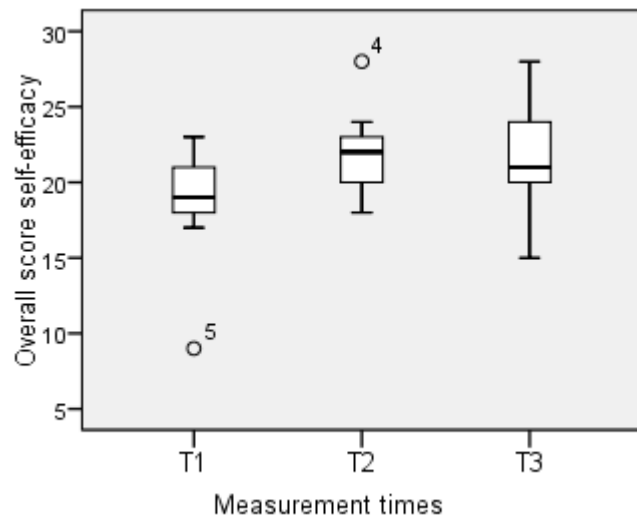
Figure 3: Boxplot of the overall scores of self-efficacy by nurses (n=9) at T1, T2 and T3.
The overall score of subjective knowledge gain exists of the sum of 3 questions on a 5-point Likert scale.

Qualitative results

The nurse described that the training resulted in awareness: new ideas emerged how to use telehealth in practice and the subject revived inside the organisation. In addition, the nurse expressed that the training also resulted in making the use of telehealth a subject of discussion, both between nurses and patients and between nurses themselves. *"I know offer a brochure to patients and start a conversation about the possibilities of telehealth… I don't decide in advance that a patient is not suitable, I just ask the patient." (RN)*

Level 3: Behavior

Quantitative results

The total number of e-consults added from all five locations increased from two (ten weeks) before the training, to ten (ten weeks) after the training. This was no significant difference (p=0.180).

Qualitative results

The participants of the interviews gave different explanations for the minimal increase in use of telehealth. They consider the use of telehealth in practice as a process that takes time and think the number of e-consults will further increase in time. Another suggestion mentioned is that patients have a consult every three months. They discuss the possibilities of telehealth with the patient and then it is possible the patient will use it only after three months. *"It is a process….*

patients have an appointment with the primary care nurse every three months. When they introduce telehealth to patients today, patients will use it after three months." (GP) Another reason that nurses describe for the lack of use is the lack of computer skills and/or lack of knowledge of the system and limitations of the system. In addition, nurses dedicate the lack of using telehealth to the patient category. First, patients must apply for using the online health system and many patients refuses to use the online system. When they do apply for using the online system, they sometimes experience difficulties in using it.

Discussion

To our knowledge, this study is the first feasibility study that tested a telehealth training intervention. Nurses evaluated the training positively and found the training valuable for practice. Practical instructions about the used online health portal could be supplementary to the training as conceptualised. There was an increase of knowledge and self-efficacy after the training, but there was no upgrade trend over a longer period of time. Despite the positive reactions and the increase in knowledge and self-efficacy, the training did not lead to an increase in the use of telehealth in clinical practice. This was dedicated to the lack of computer skills, the lack of knowledge of the online health portal, the patient population and the increase in use is seen as a process that takes time.

The results of this study implicate that despite the daily use of technology, the nurses were not familiarized with the used system in practice and therefore needed more practical education. This is in line with a study from Alpay, et al. (15) which describes that nurses become more computer literate, but a substantial number have not yet acquired adequate knowledge. More attention must be paid to this part of the training.

While the knowledge and self-efficacy of nurses increased shortly after the training, the results showed that this increase stabilized after six weeks. Reviews about the effect of educational interventions suggest that the average effect of education will lead to approximately 5% improvement of specific aspects of professional behavior (35-37). Often, follow-up strategies are necessary to change and retain behavior. Organisational changes are also an important consideration of the transformation process and it is possible that a long term effect can be achieved by revisiting and repeating the training.

A possible explanation for not integrate telehealth into practice is the perceived negative impact on the staff-patient relationship (38). Nurses experience the change from face-to-face contact to care at a distance as a challenge to their relationship with patients (38,39). In addition, it is also possible that despite the efforts of nurses to encourage patients to use e-consults it did not resulted in an increase because the patients are not able or willing to use it.

Strengths and limitations

The results of the study should be considered with the limitations. This study was conducted in one primary care practice and therefore a small sample was used. This affects the generalizability of the results. It would have strengthened the study if more primary care practices were included. Furthermore, a validated questionnaire for training evaluation was not available, therefore a self-designed questionnaire was used. In the development phase of the questionnaire, expert validation was used to improve the overall quality and representativeness of the scale items (30). The internal consistency was considered good for the construct of self-efficacy, questionable for the construct of subjective knowledge gain and acceptable for perceived usefulness. This might have influenced the results of the study. Because of practical considerations it was only possible to interview two individuals, who worked in the primary care practice and it is probably that data saturation is not achieved.

Positive are the advantages of the mixed methods design. It resulted in a more complete and comprehensive understanding of the feasibility of the telehealth training. The qualitative data provided explanations for the quantitative data, especially why the use of telehealth did not increase in this primary care practice.

Implications for practice and future research

The training was evaluated positive on the reaction-level and knowledge-level. This a positive first step for the development of an adequate telehealth training. Further adjustment of the training is necessary to realize a change in behavior of nurses. The explanations given by the participants should be considered to further improve the training. The improved training should be tested again in clinical practice and possibly on a large scale. For example, level four of the Kirkpatrick model can be included to study if the training will lead to concrete results in practice as reducing costs, higher quality of care and improved patient outcomes. The findings are also relevant for the education in telehealth in nursing curricula. Parts of the training program could be introduced into bachelor nursing programs to integrate education in telehealth. Graduated

nurses will then be better prepared to work with telehealth in clinical practice. Overall the study will contribute to more attention to examine the effect of training programs to integrate telehealth into daily care.

Conclusion

Nurses need to be prepared to use telehealth in clinical practice. In this study the feasibility of a telehealth training is tested. The training is feasible on the first two levels of the evaluation model of Kirkpatrick. The training was evaluated positively and resulted in an increase in knowledge and self-efficacy in relation with telehealth. However, it did not lead to an increase of use. Reasons are lack of computer skills and knowledge of the system used.

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Tables

Table 1: Baseline characteristics.

Characteristic	Nurses (n= 12)
Gender	
Female, *n* (%)	11 (91.7)
Male, *n* (%)	1 (8.3)
Age group (yr)	
<30, *n* (%)	3 (25)
31-40, *n* (%)	2 (16.7)
41-50, *n* (%)	3 (25)
51-60, *n* (%)	4 (33.3)
Profession	
Primary care nurse, *n* (%)	10 (83.3)
Clinical nurse specialist (trainee), *n* (%)	2 (16.7)
Working hours (per/week)	
0-8 hours, *n* (%)	1 (8.3)
8-16 hours, *n* (%)	0 (0)
16-32 hours, *n* (%)	9 (75)
32-40 hours, *n* (%)	2 (16.7)
Years working in General Practice	
0-1 year, *n* (%)	3 (25)
1-5 years, *n* (%)	4 (33.3)
5-10 years, *n* (%)	2 (16.7)
> 10 years, *n* (%)	3 (25)
Experience with Telehealth	
None, *n* (%)	4 (33.3)
1-6 months, *n* (%)	1 (8.3)
6-12 months, *n* (%)	5 (41.7)
> 12 months, *n* (%)	2 (16.7)
Daily use of Technology	
Smartphone, *n* (%)	12 (100)
Tablet and/or IPad, *n* (%)	6 (50)
Skype and/or Facetime, *n* (%)	0 (0)
Internet, *n* (%)	12 (100)
E-mail, *n* (%)	12 (100)
Computer/Laptop, *n* (%)	9 (75)

Table 2: De reliability of the survey constructs self-efficacy, subjective knowledge gain and perceived usefulness.

		T1	T2	T3
Self-efficacy measures[1] (*N* = 9)		Median (1ˢᵗ quartile – 3ʳᵈ quartile)		
1.	Able to provide remote health education	7 (6 – 7)	7 (7 – 8)	7 (7 – 8)
2.	Able to assess whether telehealth technology is convenient for the patient by the use of criteria as cognitive ability and technological skills	5 (4 – 7)	7 (6 – 8)	7 (7 – 9)
3.	Able to support the patient in the use of technology.	7 (6 – 8)	8 (7 – 8)	8 (7 – 8)
	Cronbach's alpha:	$\alpha = .82$	$\alpha = .84$	$\alpha = .83$
Subjective knowledge gain measures[2] (*N* = 9)				
1.	Knowledge of organisational protocol(s) and manual(s) for the use of eHealth	3 (2 – 4)	3 (2 – 4)	4 (3 – 4)
2.	Knowledge of (clinical) limitations of eHealth	3 (3– 4)	4 (4 – 4)	4 (4 – 4)
3.	Knowledge of integrating eHealth in daily care	3 (2 – 4)	4 (4 – 5)	4 (4 – 5)
4.	Knowledge of the law and rules entailed the protection and exchange of medical data	3 (2 – 3)	4 (3 – 4)	4 (3 – 4)
5.	Knowledge of the advantages of eHealth	4 (3 – 4)	4 (4 – 5)	4 (4 – 5)
6.	Knowledge of how to collect relevant patient data without face-to-face contact	3 (2 – 4)	4 (3 – 4)	4 (4 – 4)
7.	Knowledge of sources that are consulted by patients	3 (2 – 4)	4 (3 – 4)	4 (3 – 4)
8.	Knowledge of the reliability of internet sites with health information	3 (3 – 4)	4 (3 – 4)	4 (3 – 4)
9.	Knowledge of how to handle when the technology doesn't work	3 (2 – 4)	3 (3 – 3)	4 (3 – 4)
	Cronbach's alpha:	$\alpha = .67$	$\alpha = .61$	$\alpha = .73$
Perceived usefulness measures[3] (*N*= 9)		Median (1ˢᵗ quartile – 3ʳᵈ quartile)		
1.	The training is valuable for my work		4 (4 – 4)	
2.	The invested time in the training was valuable		4 (3 – 4)	
3.	Able to apply the training in daily practice		4 (4 – 4)	
4.	The training was useful for me		4 (4 – 5)	
	Cronbach's alpha:		$\alpha = .74$	

Note: [1] The items of the construct self-efficacy are rated on a scale 1-10. [2] The items of subjective knowledge gain are measured on a 5-point Likert scale. [3] The items of perceived usefulness are measured on a 5-point Likert scale and were measured once directly after the training.