PROCESS EVALUATION OF A TAILORED IMPLEMENTATION STRATEGY OF AN IV TEAM IN THE INTENSIVE CARE UNIT: A PILOT STUDY

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INTRODUCTION

To maintain and improve quality of care, it is important that new knowledge is disseminated and implemented in clinical practice. There are different ways of implementing innovations. Implementation is: “a methodical and systematic introduction of innovations and/or changes of proven value, with the aim to get a structured place in the professional practice, in functioning of the organisation or in the structure of the healthcare” (1). Effective strategies for implementation often consist of multiple components. The use of single component strategies, such as educational interventions, is shown to be less effective compared to a multifaceted approach (2).

It is assumed that effectiveness of implementation depends on taking into account barriers of implementation (3). To improve effectiveness, barriers have to be identified, strategies need to be developed and implemented (4). A tailored implementation strategy (TIS) aims to improve professional practice by taking account of prospectively identified barriers to change (3) and appears to be more effective compared to other implementation strategies. The effectiveness of tailored or multifaceted implementation strategies in the Intensive Care Unit (ICU) has been demonstrated in five studies (5-9). One of these studies (6) investigated the impact of the implementation strategy itself. However, evidence on optimal identification of barriers and the best way to address tailored interventions is lacking (3).

A model gives a systematic structure and a rationale for activities (10). A theoretical model taking into account the complexity of a context, is the Innovation Contingency Model (ICM) of van Linge (11). This ICM is based on the relationships between factors and processes in the context of innovation (Figure 1).

INSERT FIGURE 1

Hereby, the focus of this model is to implement innovations based on a tailored strategy. The model of van Linge consists of three principles. First, the configuration approach, which is "A configuration is a coherent set of characteristics of a system" ((11) p155). There are four configurations: team-oriented, development-oriented, rule-oriented and result-oriented. The core dimensions in these configurations are flexibility versus control and internal focus versus external focus (Figure 2). The second principle is the strata of layers, namely operational features, explicit values and basic assumptions. The last principle is formed by the strategy contingency approach. Pivotal for implementation success is a high mutual fit among the innovation, persons, team, organization and environment (together the context).

The context of innovation is considered as complex, dynamic and full of tensions and paradoxes.
In line with the ICM of van Linge, a TIS will be chosen based on actual situation, which implies a fit between the context and the desired situation.

INSERT FIGURE 2

Application of a theoretical model for tailored implementation (TI) in ICU appears to be promising. The organization of the ICU is complex. Barriers and facilitators to consider with implementation in ICU is presence of a multidisciplinary team (12) and the pursuit of evidence-based practice by ICU nurses (13). Culture (11) and the attitude towards the innovation influences the implementation. Smit, et all. (14) showed that innovation characteristics and attitude were both significantly associated with nurses' intention to implement an innovation.
Given the complexity of the ICU the ICM of van Linge (11) will be used in this research. Also, the attitude on the innovation is taken into account. The innovation used in this study is an Intravenous (IV)team.

Background about the innovation

Relevant factors to prevent complications of peripheral venous catheters (PVC) consist of insertion technique, occurrence of chemical thrombophlebitis, and application of hand hygiene measures (15-20). In addition to these factors, it has been shown that availability of an IVteam responsible for introducing and maintaining infusions, additionally reduces the number of complications resulting from peripheral infusion (17,21-25).

PROBLEM STATEMENT

Although the additional value of TIS has been demonstrated, little is known about aspects of its process in practice (11). According to the ICM implementation success is influenced by a high mutual (mis)fit among the context. To optimise a TI it is important to understand the interaction in this context and innovation. In addition, attitude on the innovation is an important aspect which influences the implementation. A process evaluation of TI will provide more insight how TI is carried out and experienced in the ICU.

AIM

The aim of the study is to explore the experiences with a TIS in the ICU and to gain knowledge to further refine the TIS.

RESEARCH QUESTION

How is the process of a TIS of an IV team experienced by ICU nurses?

Secondary research questions:

- Which TIS is most suited to the present “organization-attitude-innovation” fit?
- How is the TIS delivered?
- Is there a change in attitude of ICU nurses on the innovation after TI?

METHOD

Design

A Mixed Method process evaluation approach was conducted. The process evaluation focusses on gaining knowledge about what can go wrong with the implementation of the intervention and the opportunities to make adjustments in time (26). A qualitative method, focus groups, was used to monitor the TIS as performed and experienced by the involved ICU nurses. In addition, a quantitative method, pretest-posttest, was used to obtain a change in attitude on the innovation (Figure 3).

INSERT FIGURE 3

The TIS itself was developed by means of the WIK-, WAK- and Innovation Attitude questionnaire (27).

Setting

The implementation took place in the ICU of a large Dutch teaching hospital with two locations. In the same setting as the ICU nurses, High Care (HC) nurses are working. The working relationship between the nurses of ICU and HC is intense and the HC nurses are working with the same medical manager, managers, intensivists and ICU residents as the ICU nurses.

Duration

The study was conducted between December 2013 and May 2014.

Population

The study population were all 67 registered ICU nurses. Inclusion criteria were: registered ICU nurse and working in ICU during the research period. Exclusion criteria were trainees and students.

Stakeholders participated in focus groups or filled out WIK- and WAKquestionnaires. Stakeholders involved were managers, HC nurses, intensivists and ICU residents.

Informed consent and ethical approval

The study was conducted conform the Helsinki declaration (28) and reviewed by the ethical committee of the UMC Utrecht, which authorized the study and decided that further approval conform the Medical Research Involving Human Subjects ACT (WMO) (29) was not required. The Science Committee of the hospital in which the research took place, gave their permission as well. All participants of the focus groups signed a consent form prior data collection and audiotaping. They participated voluntary and were able to quit at any time. The participants received no compensation for participation.

Data collection

Figure 3 shows time schedule of the measurements.

Demographics

Collected socio-demographic data of the ICU nurses included age, gender, fulltime or part-time employment and years of working experience in ICU.

Experiences of ICU nurses on the process of the TIS

A qualitative method was used to collect data on the experiences of ICU nurses with the TIS. Data about the process were collected four and eight weeks after the beginning of the implementation. An invitation was send by email to 67 ICU nurses of whom 30 were also IVteam members and 20 HC nurses. In addition, colleagues were asked face-to-face by researcher. Focus groups consisted of three ICU nurses participating in IVteam, three other ICU nurses and three HC nurses. This group size allows participants to share insights and observations (30). Structured focus groups were led by the main researcher. During these sessions a second researcher noted interactions as well as nonverbal communication by participants. Data collection was guided by a topic list (Table 1) which was based on the topic list used in the research of Döpp, et all. (31). All data were audiotaped and transcribed verbatim.

INSERT TABLE 1

TIS

The WIK- and WAK questionnaires of van Linge were used in the development for the TIS. The validated WIK-questionnaire (32) includes 12-items with a five point Likert scale from strongly disagree {1} till strongly agree {5}. The validated WAK-questionnaire (33) includes 24-items with the same answer options as the WIK questionnaire. See table 2 for validation questionnaires. All 67 ICU nurses and all stakeholders working in ICU were asked to complete these questionnaires.

INSERT TABLE 2

Delivery of the TIS

Potential discrepancies between the planned TIS and the actually delivery of the strategy were collected through focus groups. The difference may influence the experience on the TIS.

Innovation Attitude

The quantitative part of the study consisted of a one group pre-test- post-test design. Quantitative data of "Innovation Attitude" were collected by sending a validated questionnaire (27) (table 2) to all 67 IC nurses of whom 30 were also IVteammembers in the first two months and the last month of the project. As ultimate implementation effects may not be accomplished in three months, the intermediate outcome of the attitude on the innovation was measured in this study.

Data analysis

Demographics

Socio-demographic data for ICU nurses are presented as frequencies.

Experiences of ICU nurses on the process of the TIS

The focus groups were analysed by thematic approach (34). The main researcher coded the transcripts through open coding, axial coding and selective coding (35). The audiotapes and memos were dated and labelled. The researcher made notes of unusual, interesting or contradiction comments while listening, reading and transcribing. The coded paragraphs and sentences were converted to themes. A second researcher (Dr. v. Linge), who did not attend the focus groups, reviewed and changed if applicable or supplemented the themes after each focus group. Themes categorized from the first focused group were used in the second focus group in order to get new information to reach saturation (30,34). Final themes, were

established by comparing themes of both researchers and by discussing its content until consensus was reached. Coding was supported by software program NVIVO V.10.

TIS

Data from WIK- and WAK questionnaires and “Innovation Attitude” questionnaire were analyzed using standards for internal and external fit (WIK/WAK) and subscale scores of the “Innovation Attitude”. Subsequently, the decisions rules implementation strategies (11) and the “Innovation Attitude” were used by the main researcher and a second researcher and expert (Dr. v. Linge), to select strategies that would be best in this particular context. Memos would be maintained with regard to the strategy, because it may influence the implementation.

Delivery of the TIS

Data were analysed through focus groups as described in experiences of ICU nurses.

Innovation Attitude

The estimated effect size is unknown, therefore an effect size for medium effect was chosen (0.5). To detect an effect size of 0.5 with a power of 0.80 and a p-value of 0.05 (two-tailed), the calculated sample size was 63 nurses.

Normally distributed data were expressed as means (standard deviation) and compared with a Students T-test. When data were not normally distributed, Mann Whitney test was used. The level for significance was a p-value of <0.05 (2-tailed) (34-36).

Individuals with missing values (more than 10% of the items) were excluded. The remaining missing values were replaced with the most neutral score, the value three. Data were analysed using IBM® SPSS® Statistics Standard Grad Pack version 22.0 (SPSS®, Inc., Chicago, IL)

RESULTS

The recruitment and response of participants are presented in figure 4. Thirty ICU nurses are part of the IVteam. Post-test Questionnaire Innovation Attitude was sent to 64 ICU nurses, because three ICU nurses left the ICU. Two participants of the focus groups dropped out, because of a changing shift and for personal reasons.

INSERT FIGURE 4

Demographics

Fifty-three women (between 24 and 59) and 14 men (between 24 and 56) were working ICU during the study period, including 49 part-timers and 18 full-timers. Three full-timers left de ICU. The years of working experience was known of 54 ICU nurses and varied between two months and 24 years

Experiences of ICU nurses on the process of the TIS

Experiences on TIS varied among respondents. The first focus group revealed that participants experienced more involvement compared to previous implementation projects. The knowledge about the innovation was better and participants experienced improved clarity about the project. As various implementation strategies have been carried out in the department, participants indicated they prefer a theory based implementation strategy as this has a clear pattern. However, two individuals indicated that they preferred an implementation based on daily practice. Although, they acknowledged the additional value of a theory based implementation strategy. Participants of the second focus group experienced no differences between TIS and implementation strategies that have been applied previously. See table 3 for quotes.

INSERT TABLE 3

Theme one: Factors related to delivery of TIS among ICU nurses

Communication

The open attitude of the implementers to receive feedback was experienced positively by ICU nurses and HC nurses. However, several nurses in the second focus group indicated that they lacked information on what was done with feedback given earlier.
Disseminating information by email was not preferred by nurses, they indicated a shortage of available time as the main reason for not reading their email.

Education

The opportunity for nurses to actively join the IVteam was experienced as positive, although it was mentioned that this possibility should have been emphasized more. During the implementation process feelings of incompetence emerged by several nurses of the IVteam. Additional training courses were provided to the IVteam.

Theme two: Factors related to prior conditions in ICU

Facilitators

Several nurses mentioned that a successful implementation in general takes time, no specified how long, and that new adjustments have to be done if necessary.

Barriers

One participant indicated a lack of clarity of the conditions and minimum requirements to join the IVteam. Joining the IV team and operating procedures of the IVteam were not clear for most of the participants. After eight weeks, information about the procedure for consulting the IVteam was still unclear for some participants.

Members of the IVteam experienced a short time between practising with the ultrasound machine and the operational start of the IVteam on the wards. Members of the IVteam, as well as the non-members and HC nurses experienced the IVteam as a time consuming activity. Hereby, a lack of formation of nursing staff was judged as a limitation for successful implementation in daily practice. In addition, members of the IVteam felt uncomfortable, due to a lack of experience, time consumption and the fact that they had to leave collegues with their patient(s) behind, while carrying out a procedure for the IV team.

The lack of clarity regarding the allocation of responsibilities among the two implementers was experienced differently by the participants.

Theme three: Factors related to prior condition for the general wards

Communication with general wards was experienced largely negative by participants of the focus groups. All participants indicated that wards that could ask for assistance of the IVteam were not well informed about the protocol, which resulted in a lot of unnecessary requests by these wards. Also, the majority of the participants indicated that the message which was published in the house bulletin of the hospital contributed to misperceptions about the aims and the operational procedure of the IVteam. In addition, collaboration and communication with collegues of the anaesthesiology and first aid departments was indicated as problematic. The participants had the impression that consultation with members of these departments, in the preparation phase of the IV team implementation fell too short.

TIS

Analysis of the WIK- and WAK questionnaires

The WAK showed a team-orientated culture and the WIK showed result-orientated culture. They both scored four or higher on basic beliefs and explicit value, but not at the operational

stratum. See figure 5 for scores of the WIK- and WAK questionnaires of ICU nurses and stakeholders for each layer of systems of the configurations.
Many scores on the WIKquestionnaire are around three, which indicates a slight knowledge of the innovation. Indeed, innovation development was parallel to the inventory of the WIK- and WAK questionnaires.

INSERT FIGURE 5

The “Innovation Attitude” was reasonably positive. See table 4 for mean score of the pre-test. The perception of the benefits of the IVteam seemed detached for organization and quality. However, less for their own job satisfaction and productivity.
Therefore a communication and dissemination strategy was chosen. The focus was on the result-orientation of the IVteam. In a team-oriented configuration there is less strict distinction between development and deployment (11). Of note, it is pivotal that the mode of communication is highly interactive.

INSERT TABLE 4

Delivery of the TIS

Following the present organization-attitude-innovation fit of ICU, the implementation strategy as initially developed is described in table 5.

INSERT TABLE 5

The items six, seven and ten have not been carried by implementers as planned. The working meeting did not take place in the research period. Based on the results of the focus groups, the implementers took the following actions: achievements of the IVteam and handling of the feedback so far, were reported in the weekly news bulleting of the ICU. In addition, a revised version of the procedure was announced by email and week’s news.

Innovation Attitude

A total of 21 IC nurses replied to the pre-test questionnaire “innovation Attitude” and 20 replied to the post-test questionnaire. No missing values were in the pre-test. Three missing values were in the post-test.
On the 5 subscales of Innovation Attitude, only the subscale “complexity” showed a significant difference (p=0.022). The experienced complexity is increased (Table 4).

DISCUSSION

The first focus group demonstrated that TIS was experienced positively by the study population. Participants of the second focus group experienced no differences between TIS and implementation strategies that have been applied previously. The main results of how TIS was delivered revealed that the preparatory phase was not completed before the clinical introduction of the IVteam. The Innovation attitude of ICU nurses only changed significantly on the subscale “complexity”.

Boundary conditions and the organization around are important and has to become clear, before it can be accepted by individuals (11,37). Similar to the finding in Hayes et all. (38), there was no adherence to the guideline because participants were not familiar with the guidelines. Participants were influenced more by attitudinal and contextual barriers (38). In future research this may be prevented by using a method for identifying important contextual barriers and selecting implementation strategies that take account of them. Wensing, et all. (39) shows more evidence is needed on the advantages and disadvantages of these methods.

The delivery of the TIS may have influenced the experiences on the TIS. Nevertheless, participants of the first focus group experienced more involvement, improved clarity about the project and beter knowledge about the innovation. Due to the problems experienced with the haziness of the procedure of the IVteam one or more meetings were held with intensivists, manager of a department and anaesthetists. This time consuming meetings may explain why several planned interventions did not take place and may be the main reason that the second focus group experienced no difference with the TIS. The positive experiences on the TIS may be influenced by using ICM. Participants indicated they prefer a theory based implementation strategy as this has a clear pattern and they acknowledged the additional value of a theory based implementation strategy.

Nursing attitudes towards the IVteam did only change on the subscale Complexity, possibly due a short implementation time and the precieved short preparatory phase. Audit and feedback generally leads to small but potentially important improvements in professional practice (40). Sharing the feedback more actively after the first focus group, could have influenced the experience on the TIS.

The study strengthens the knowledge on TI in the ICU, as to date only a limited number of implementation studies have been conducted in this setting. Furthermore, the study was

strengthened by the use of a model for implementation and the mixed methods data collection.

However, several limitations should be recognized. The implementation period of three months was too short to enable a change in nurses' attitude. Through lack of response to the questionnaires and missing values, the TIS may have been biased. The revised set of techniques to recruit participants for the focus groups may have introduced bias. The involvement of the researcher may have been positive as negative. Barriers were encountered quickly and actions were taken if necessary. On the other hand, the involvement of the researcher may have given bias, because of the knowledge already known before the focus groups which may have influenced the questions. In future research, all these aspects should be taken into account.

CONCLUSION

This pilot study provides experiences for future substantive studies on TI being carried out.. It shows positive experiences on TIS and the importance of the delivery of the TIS.The use of TIS including Innovation Attitude can be seen as a positive experience of implementing the IV team. The results can be used to increase outcomes in a potential larger study

RECOMMENDATIONS

Interventions and study period should be selected with great attention in future studies. More clinical research on ICM in ICU using Mixed Method process evaluation for a longer period is recommended to explore experiences and gain more knowledge to further refine TIS in ICU.

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TABELS AND FIGURES

Table 1.

Topic list Focus group

TOPIC LIST FOCUS GROUP TAILORED IMPLEMENTATION STRATEGY
Date Focus group: Participants + function:
OPENING QUESTION
• How do you think that the tailored implementation of the IV team has delivered? (feedback, feedback of results)
HOW IS TAILORED IMPLEMENTATION EXPERIENCED BY THE PARTICIPANTS IN RELATION TO THE CURRENT WAY (S) OF IMPLEMENTATION
• Is there perceived difference between the current method (s) and the method of implementation tailored implementation strategy? If so, what difference (s)? • How do the nurses feel about the tailored implementation strategy?
REGARDING TAILORED IMPLEMENTATION STRATEGY
• What are the perceived strengths and weaknesses of the implementation? • Are there barriers? If so, what? • Are there any side effects to it? • What do you need in order to facilitate the implementation better next time (e.g. financial, human and organizational aspects)
REGARDING THE INNOVATION IV TEAM
• Experiences • Unexpected events? How is dealt with them? • Communication (internal / external) • Strengths and weaknesses • Enough resources?

Table 2.

Validation of the WIK, WAK and "Innovation Attitude" questionnaires

The WAK- questionnaire had been validated with a Cronbach's Alpha of 0.70-0.81 for the WAK-questionnaire and 0.71-0.78 for the WIK-questionnaire. Intern consistencies of the five subscales of the questionnaire "Innovation Attitude" described by Buwalda are: subscale Complexity: items 1 t/m 7: IC = .76; subscale try out options: items 8 t/m 10, IC = .87; subscale Operational compatibility: items 11 t/m 14, IC = .87; subscale compatibility Targets: items 15 t/m 17, IC = .80; subscale comparative advantage: items 18 t/m 21, IC = .86.

Table 3.

Quotes of four variables and stating responses associated with each variable

First experiences in general of the focus groups

…I'm a nurse, I'm practical. Yes I am serious, and what you are saying about the strategy, I really don't know where you're talking about.

yeah, I totally agree with one ..... all those big words, I don't get it……..

Theme one: Factors related to delivering an implementation strategy among ICU staff

Communication

Little feedback is given about how much cannulas succeeded, so much has happened and we have addressed that

Accessibility, asking feedback and inventories, etc. I think that's all very fine

Education

Well, I've seen more emails though and there was obviously a team, if you joint the IVteam then there was training. And the ultrasound machine has been on the ward for two weeks for practicing

It is especially in the beginning that people who were in the IV team, said they did not feel qualified, so how can you start a team without skilled people.

Theme two: Factors related to prior conditions in ICU

Facilitating factors

I can imagine that if you start something new, there should always be done adjustments and that certain things are not quite right yet

Barriers

Were members of the IVteam be aware of their responsibilities and how and how to carry out their role?

…but if we go on like this and you will receive a call 4.5 times a day, and there are 16 patients in ICU, which is of course not always, but imagine that you are very busy, then you can hardly miss a person…
No, but the point is you deliver acute care and when there is a trauma or whatever signal goes off, you run to the place. But to let patients come to the ICU to give a cannula….well you are not as fast. Sometimes I have been with a patient for half an hour.

Theme 3: Factors related to prior condition for the general wards

I think if you had prepared in advance, you had obviously heard people on the ER. It is a sensitive issue and you may had more suggestions.

Table 4.

Scores "Innovation Attitude"

Subscale	Mean pretest (N=21)	Mean posttest (N=20)	p-value	Scoreranges pretest	Scoreranges posstest
Complexity	2,39	2,90	,022[a]	1,29-4,14	1,86-4,43
Comparitive advantage	3,32	3,15	,451[a]	1-5	2,25-4,43
Try out Options	3,13	3,02	,395[b]	1-4	2-4,33
Operational Compatibility	3,50	3,34	,170[b]	1-4,25	2-4,25
Compatible Targets	3,48	3,34	,623[b]	1-4,33	1,33-4,33

[a] **Students T-test p<0,05 significant (2-tailed)**
[b] **Mann Whitney p<0,05 significant (2-tailed)**

Table 5.
Tailored implementation strategy of the IVteam

1. Provide feedback of the results of the WIK & WAK questionnaires within two weeks to the team by email

2. Dissemination of knowledge about the IV team to non-members of the IV team and other stakeholders by email. Hereby indicating, the purpose of the IV team, as well as the operational procedure and time frame and planned evaluations. .

3. Encouraging team members for report feedback / input (both oral and written) on performance of the IV team or implementation strategy, in order to enable the researcher / circulation practitioner to improve the operational procedures.

4. Create a group mail for members of the IV team, enabling them to discuss ideas, give comments and pose questions to each other

5. Addition of evaluation form and accompanying explanation to " 444/459 folder " for any interim feedback

6. Report feedback of any actions taken to the team every two weeks through the week's news bulletin of the ICU

7. Report of updated number of consulted patients by the IVteam, in week's news bulletin of ICU

8. Evaluation of the implementation strategy through structured focus groups

9. Individual and group coaching by an expert (circulation practioner) of the IV team if necessary

10. If a work meeting will take place in the next three months, ask for feedback on the IV team

Figure 1.

Innovation Contingency Model of van Linge. This figure illustrates the relationships between factors and processes in the context of innovation (van Linge, 2006)

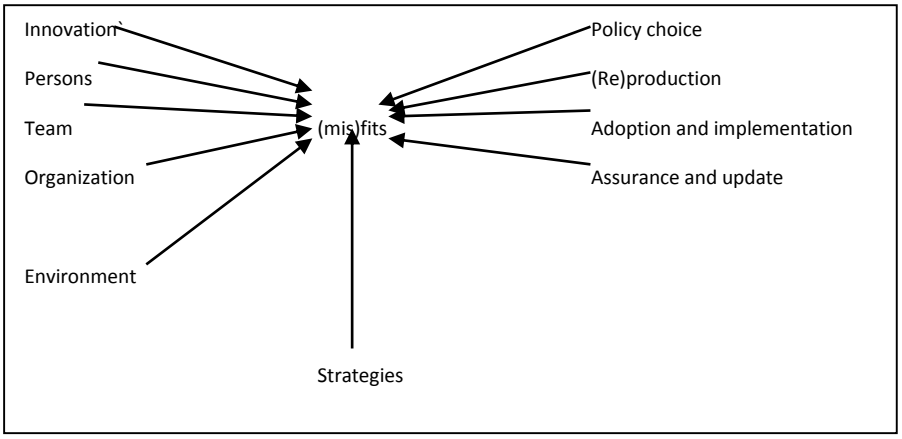


Figure 2.

Configurations of the Innovation Contingency Model of van Linge

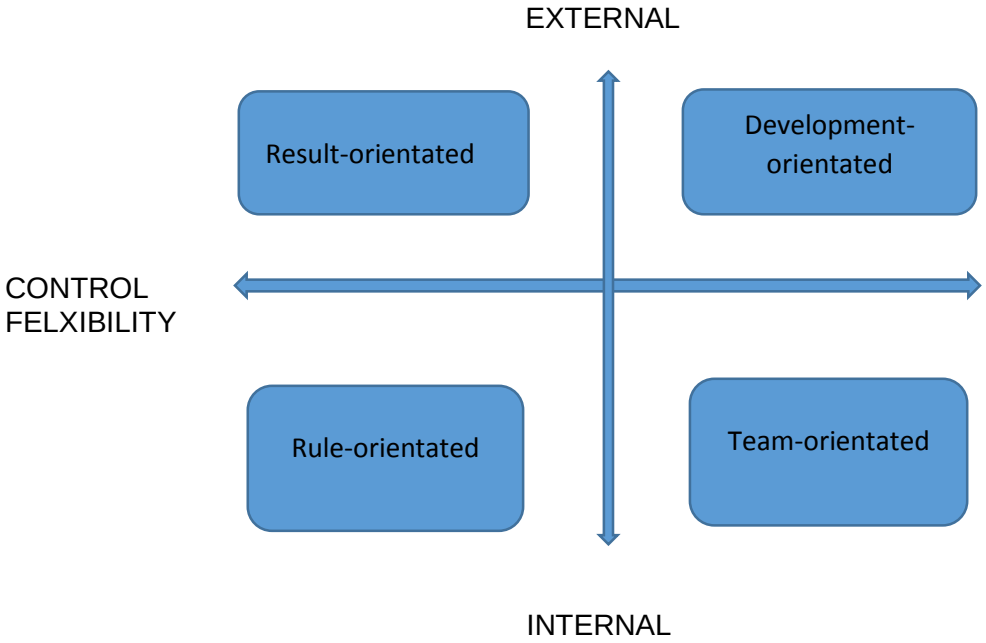
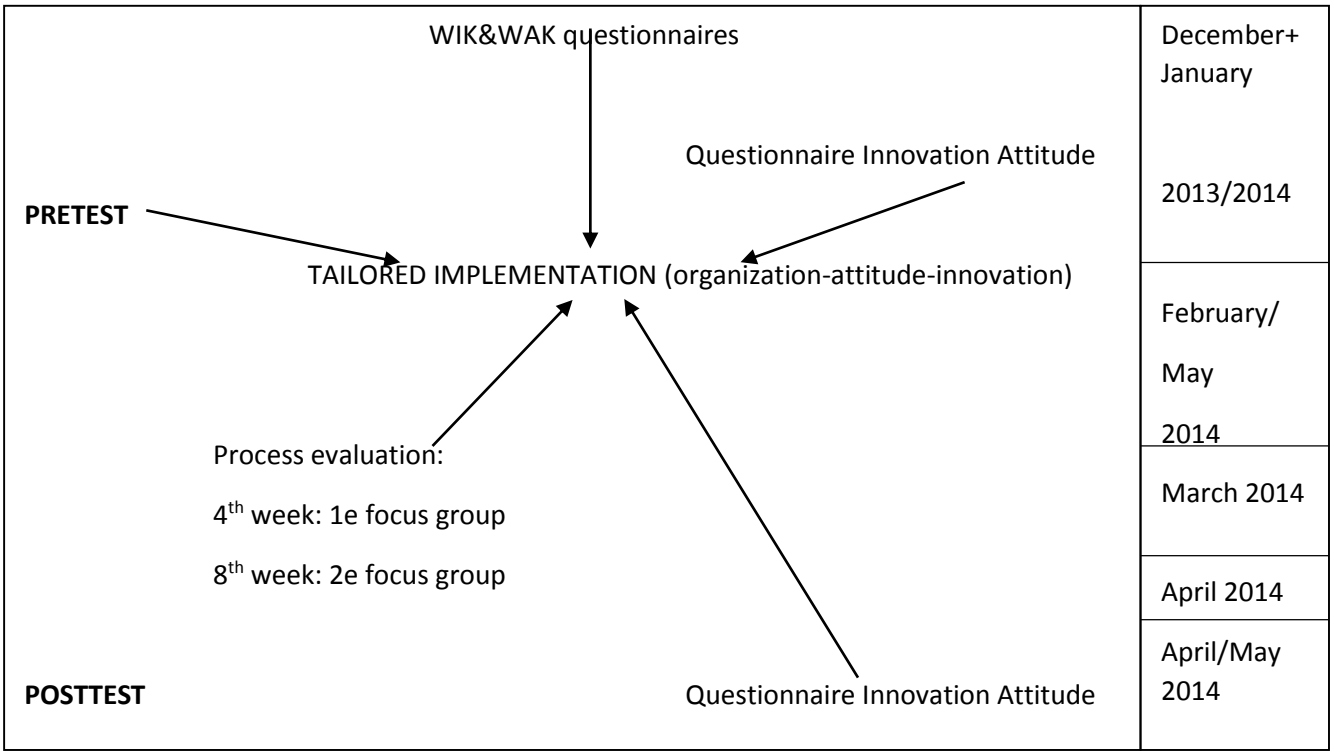


Figure 3.

Flowchart design. Mixed Method process evaluation



WIK: Observed Innovation Characteristics. WAK: Observed Unit Characteristics

Figure 4.

Recruitment and response of particpants.

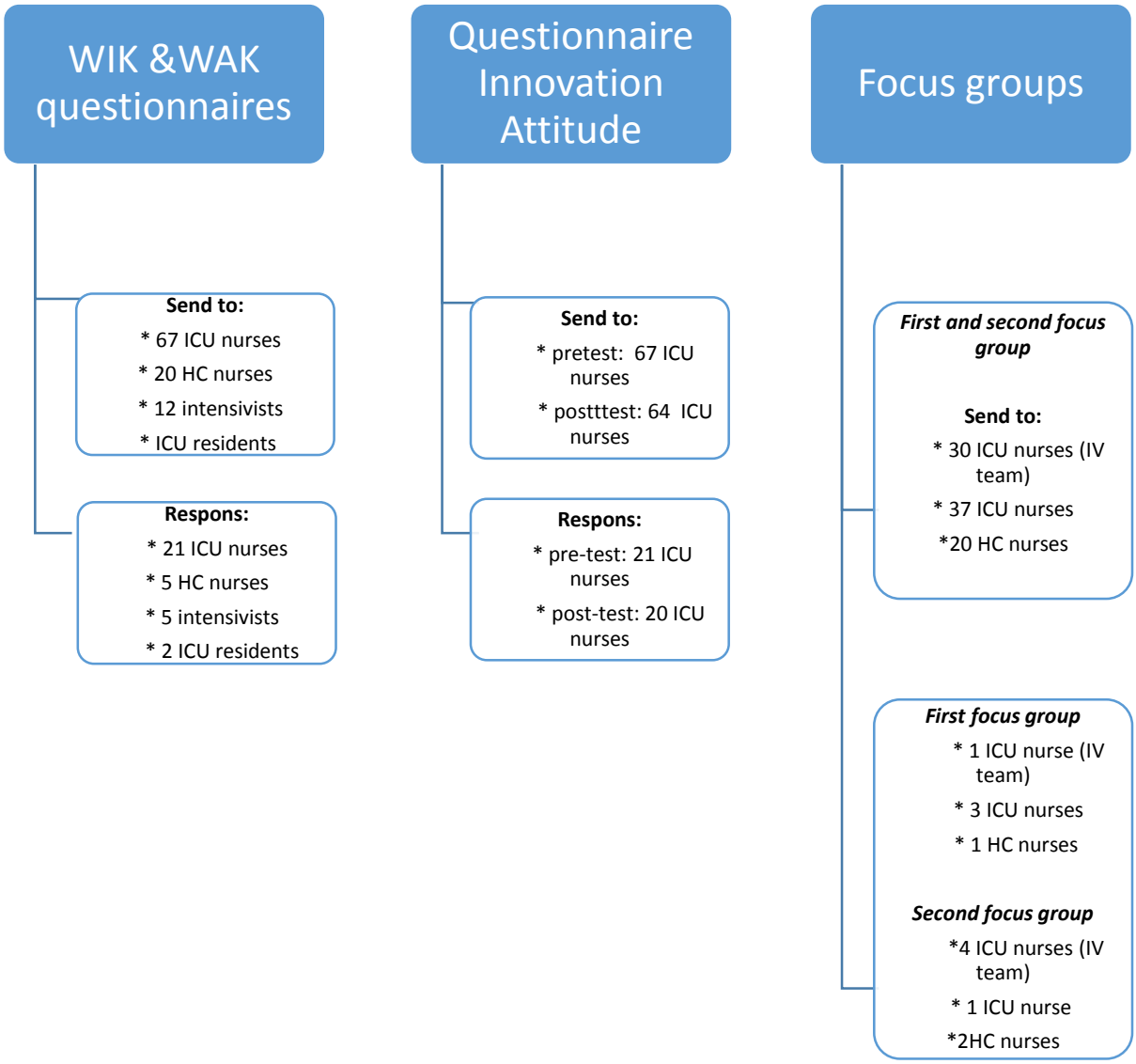
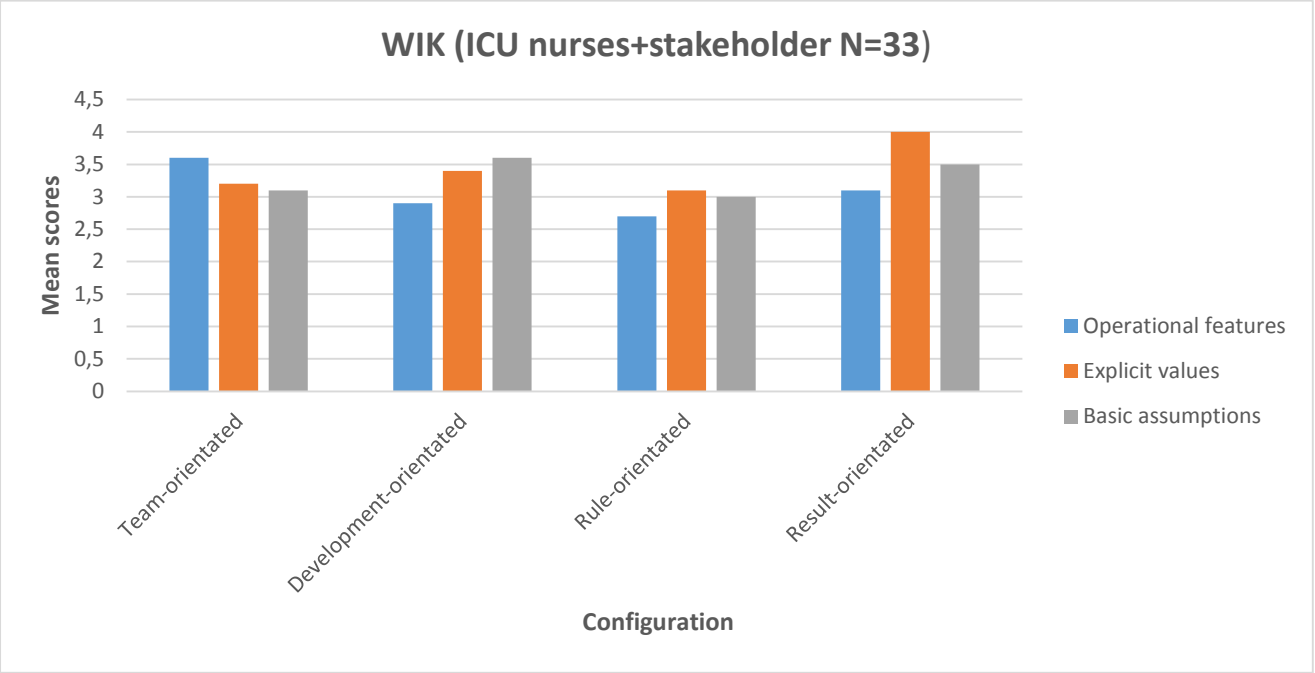
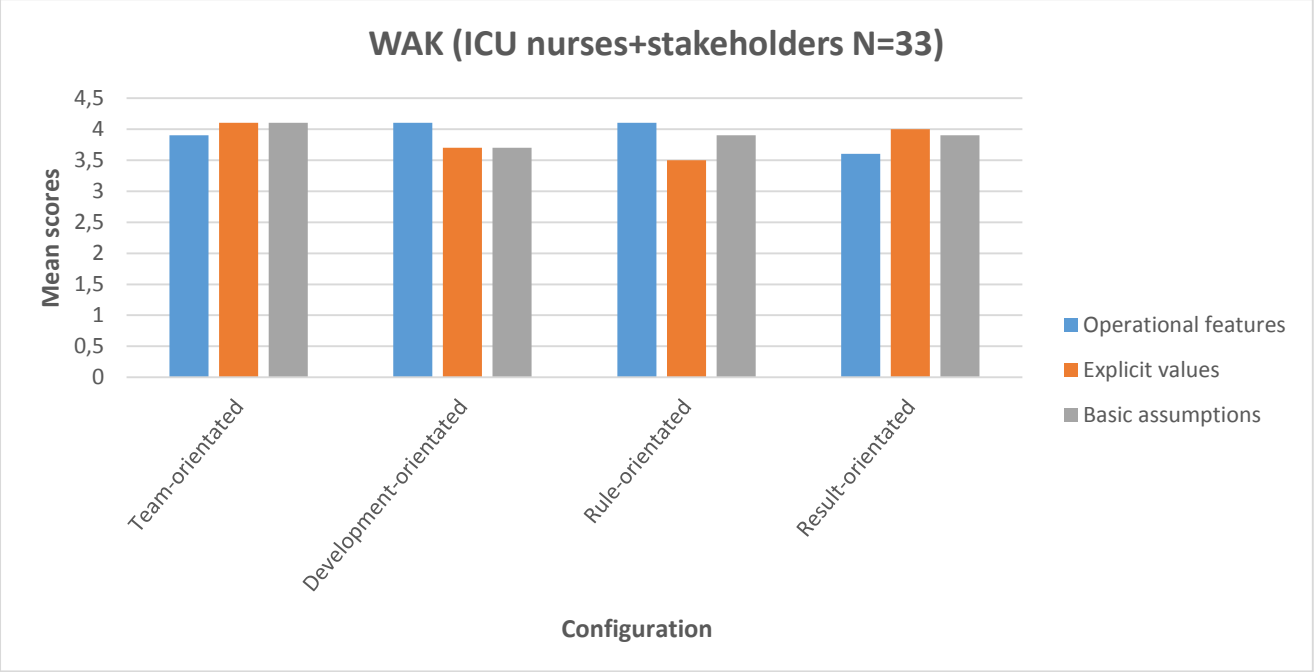


Figure 5.

Scores WIK and WAK questionnaires of ICU nurses and stakeholders





DUTCH SUMMARY

Titel: Procesevaluatie van een op maat gesneden implementatiestrategie van een IVteam op de Intensive Care Unit: een pilot studie

Inleiding: Implementatie van innovaties wordt beïnvloed door de organisatiecultuur en attitude t.a.v. de innovatie. Een op maat gesneden implementatiestrategie houdt rekening met prospectief geïdentificeerde barrières en is effectiever dan andere implementatiestrategieën. In dit onderzoek wordt het Innovatie Contingentie Model (ICM) toegepast en wordt de attitude t.o.v. de innovatie meegenomen. De innovatie is een Intraveneus (IV)team.

Doel en onderzoeksvraag: ervaringen van IC-verpleegkundigen m.b.t. op maat gesneden implementatiestrategie beschrijven en kennis opdoen om deze strategie te verfijnen. Onderzoeksvraag: Hoe is het proces van de op maat gesneden implementatiestrategie van een IVteam door IC-verpleegkundigen ervaren?

Methode: Mixed Method proces evaluatie. De onderzoekspopulatie was gediplomeerde IC-verpleegkundigen in een Nederlands ziekenhuis. D.m.v. een kwalitatieve methode, focus groepen, werd geïnventariseerd hoe de op maat gesneden implementatiestrategie is uitgevoerd en ervaren door IC-verpleegkundigen. Een kwantitatieve methode, pretest-posttest, werd toegepast om verandering in attitude t.a.v. de innovatie te inventariseren.

Resultaten: De op maat gesneden implementatiestrategie werd positief ervaren door de eerste focusgroep. Een communicatie- en verspreidingsstrategie was de meest geschikte methode voor implementatie op de ICU. Het belangrijkste resultaat m.b.t. de uitvoering van de strategie was de niet complete voorbereidende fase en de attitude t.o.v. de innovatie is alleen significant veranderd op de subschaal “complexiteit”.

Conclusie: Deze pilot studie biedt ervaringen voor toekomstige onderzoeken. Het toont positieve ervaringen m.b.t de strategie, het belang van de uitvoering en biedt informatie om de kennis om de op maat gesneden implementatiestrategie te verfijnen.

Aanbevelingen: Er is meer (proces evaluatie)onderzoek nodig naar ICM in ICU voor een langere periode om meer ervaringen en kennis op te doen om de op de maat gesneden implementatiestrategie op de ICU te verfijnen.

Trefwoorden: op maat gesneden implementatiestrategie, process evaluatie, ICU, IVteam

ENGLISH ABSTRACT

Title: Process evaluation of a tailored implementation strategy of an IVteam in the Intensive Care Unit: a pilot study

Background: A tailored implementation strategy (TIS) aims to improve professional practice. Culture and attitude on the innovation influences the implementation. The Innovation Contingency Model (ICM) of van Linge, is used in this research and also the attitude on the innovation is taken into account. The innovation used in this study is an Intravenous (IV)team.

Aim and research question: To explore experiences with a TIS in the ICU and to gain knowledge to further refine the TIS. The main research question: How is the process of a TIS of an IV team experienced by ICU nurses?

Method: A Mixed Method process evaluation approach was conducted. The study population was registered ICU nurses in a Dutch hospital. A qualitative method, focus groups, were used to monitor the TIS as performed and experienced by involved IC nurses. In addition, pretest-posttest of the “Innovation Attitude” questionnaire, was used to obtain a change in attitude on the innovation.

Results: TIS was experienced positively. A communication and dissemination strategy was the most suitable method for TIS in ICU. The main result of how TIS was delivered revealed that the preparatory phase was not completed. Nursing attitudes towards the IVteam did only change on the subscale “Complexity”.

Conclusion: This pilot study provides experiences for future substantive studies on TI being carried out. It shows positive experience on the strategy, the importance of delivery of the TIS and provides information to refine the knowledge on the TIS.

Recommendations: More clinical research on ICM in ICU using Mixed Method process evaluation for a longer period is recommended to explore experiences and gain more knowledge to further refine TIS in ICU.

Keywords: Tailored implementation strategy, ICU, process evaluation, IVteam