Implementation of evidence based practice in mental health nursing

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Publication date:
2012

Implementation of Evidence Based Practice in mental health nursing. An action research study

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The research for this thesis was conducted at the Knowledge Centre for implementation and evaluation of Evidence Based Practice, Fontys University of Applied Sciences, Eindhoven, in cooperation with Tranzo, Tilburg School of Social and Behavioral Sciences, Tilburg University, Tilburg and Mental Health Care Tilburg and Eindhoven.
The printing of this thesis was financially supported by the Education and Research Institute, Tilburg University

ISBN: 978-90-5335-580-0
Printing and lay-out: Nikki Vermeulen, Ridderprint BV, Ridderkerk, the Netherlands

Implementation of Evidence Based Practice in mental health nursing. An action research study

Proefschrift

ter verkrijging van de graad van doctor aan Tilburg University
op gezag van de rector magnificus, prof. dr. Ph. Eijlander,
in het openbaar te verdedigen ten overstaan van
een door het college voor promoties aangewezen commissie
in de aula van de Universiteit
op maandag 5 november 2012 om 14.15 uur

door

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geboren op 8 juni 1961 te Venlo

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Contents

Chapter 1

Background and Study design

1.1 Introduction

Patient story

"In fact, I've been sitting on a park bench for years. That's due to the fact that I'm unemployed and have no other activities because I have a very disturbing handicap. I can't communicate because it could be dangerous for the others with whom I make contact. There are a limited number of people who can have contact with me without them being at risk. It is so bad that even people I see on TV, or book authors, can be attacked by me. That's why I do as little as possible, some walking, cycling or sitting in the park. It really restricts my social life. Other people go to work and have colleagues around them. They can at least earn something and buy themselves something nice. I can hardly ever do that, I don't have the money.

Every morning I stand up, lay the table and smoke a cigarette, and then it starts. In the noise I hear voices. There's an industrial site nearby which produces a lot of noise and I hear all sorts of voices. I try to tell myself that the voices are coming from there, but of course that's not the case, they're coming from inside my head. It's an illness. They used to say: "You don't have a filter." Now my coach says: "For some reason or another there's not enough of a chemical in your head, and so it needs to be topped up in order to quieten things down," otherwise things won't go well for me. It's just an illness. I have a depot, which works for about 4 weeks, and in the fifth week things start to get bad again and I have problems with the voices again.

Yeah, those voices are so disturbing that I'm quick to gather my things together and my bike, then go for a bike ride for a while, that helps sometimes.

I have a large family that I see once or twice a year. This is no life for me, but the family doesn't always understand that. They think: "Where are those voices you keep talking about?" They can't see anything and they don't think there's anything wrong with me, but there is something wrong with me. But, they haven't realised that yet, they can't see it. On top of that, they're really busy with themselves and their families. I'll have to get through this on my own".

This story is a compilation of different stories I heard interviewing the clients who participated in this research on implementing Evidence Based Practice in a mental health nursing setting in the Netherlands.

As a mental health nurse working with clients with a severe mental illness, you can hear such a story quite often and you have to decide how to react to the person who tells the story. Nurses are making a lot of such decisions every day when they take care of their clients. As Grypdonck (1) illustrated a few years ago, a nurse has to make several decisions even during an apparently simple situation; e.g. the mealtime of a care dependent client. In this situation a nurse has to decide about: where does the client eat? How many help will I offer? How can I minimalize the feeling of dependency? Do we talk and if so, what do we talk about during the meal, etc.?

Transferring this to the presented patient story above, a mental health nurse has to make some of the following decisions; is it recommendable to challenge the reality of the client

and if I do so, how should I do this? Is it helpful for the client to improve his social network and how can I support that? Does he wants to work and if so, how can I support that? How can I improve his coping in dealing with his voices, etc?

Making deliberate choices, by using several sources of knowledge, that is what Evidence Based Practice (EBP) is all about. EBP is coming from Evidence Based Medicine (EBM), started at the McMaster University in Canada in 1992, where EBM finally was defined as the integration of best research evidence with clinical expertise and patient values in clinical decision making (2). As clinical decision making is not reserved by the medical discipline but is also applicable to other disciplines, the term 'medicine' is broadened into 'practice' (3). The term Evidence Based Practice will be used further in this thesis. Evidence Based Practice has developed into one of the world wide trends in international healthcare (4).

A lot has been written about this topic (5-11), often concluding that the clinical decisions nurses (or other professionals) are making, are sub optimal (not evidence based) so that clients in that case do not receive the care they need. This was also my point of departure as a nurse, educator and researcher, starting this thesis. I wanted to do 'something about that' trying to improve the care of clients with severe mental health problems by facilitating mental health nurses in the (further) implementation of evidence in their practice. The way the facilitation of the nurses took place and the outcomes that have been achieved will be described in this thesis.

Another point of departure was the notion that Evidence Based Practice is not as easy and linear as Sackett et al. (2) are presenting it. In their opinion, nurses or other health care workers 'only' have to act according a rational 5 step model to deliver evidence based care. With that point of view EBP is individualised and isolated from the context nurses, or other health care workers, work in. Nowadays there is a widespread recognition that implementation of evidence based practice requires system change implicating both the individual and organisation (12). In spite of that recognition, the majority of the implementation strategies are still only targeting at factors related to individual professionals, particularly their knowledge, attitudes or routines (13).

To facilitate the implementation of evidence based practice in this thesis and in order to be able to focus on both the nurse and the nursing context, the PARIHS framework has been used. This framework, developed in 1998 (14) and later refined (12, 15-17), consists of three elements: evidence, context and facilitation, which have a dynamic simultaneous relationship and can be positioned on a "high" to "low" continuum. The assumptions of the framework are that the implementation of evidence will be more successful if:

- the evidence that is to be implemented is robust and matches professional consensus and patients' preferences.
- The context is conducive for change and the facilitation of the implementation is skilled and suitable for the context.

In this thesis the framework has been used as a diagnostic instrument before the implementation, as an instrument to focus on relevant aspects during the implementation and as an evaluation instrument at the end of the implementation process.

1.2 What do we know about implementation?

Many authors (10, 14, 16, 18-28) have considered the question of why it is so difficult to get health care professionals practicing evidence based care and which factors are influencing the implementation of EBP. Plas et al. (29) conclude that the factors that influence the implementation of new knowledge, are very diverse.
Authors use several lists of factors and different classifications of these factors. This makes the exchange of knowledge more difficult. Several conceptual models (e.g. Rosswurm and Larrabee (30), Stetler (31), Greenhalgh et al. (28) and frameworks, such as the PARIHS framework (12) try to relate these factors and thereby show the complexity of implementation.

Greenhalgh et al. (28) and Grol et al. (32) present an overview of research traditions and theories used in the implementation of innovations in health care. Grol et al. (32) mention that most of these theories are based on the same underlying, but scientific still sketchy principles in order to successful implement change in health care. Greenhalgh et al. (28) conclude on the basis of their meta-narrative review that the implementation of an innovation is a non-linear process characterised by setbacks and unanticipated events.
Halfens & van Linge (33) studied which strategies are effective for the implementation of guidelines by nurses. The authors conclude that educational strategies do improve the knowledge of nurses, but not their behaviour or patient outcome. Multiple strategies (a combination of education with one or more other strategies such as participation or aids) are fairly effective in terms of improving the knowledge and behaviour of carers, but have hardly any effect on patient outcome.
Thompson et al. (10) conclude in a more recent review that there are very few methodologically strong studies into the implementation of research use in nursing. In the four studies they found, education was the most frequently used form of intervention for promoting the use of research results in nursing. In line with Halfens & van Linge (33) conclusion, Thompson et al. (10) ascertain also that education on its own, does not prove to be an effective strategy, but when education was combined with the training of a local opinion leader, then increased research utilisation was observed. This same positive result was found by Thompson et al. (10) in the only study (34) in which education was not the primary component. Instead of education, researchers and nurses participated in multi-disciplinary committees, formed to optimize pain management.
Based on the factors influencing the implementation of an innovation, several authors (12,

33, 35, 36) advise that the characteristics of the health care context, the new knowledge, the actors involved, and their possible interactions should be taken into account within the implementation. This is consistent with the topic mentioned by Greenhalgh et al. (28) that a growing body of implementation literature is calling for a practical, whole systems research approach instead of a controlled world research approach insufficiently cognisant of the context.

Action Research is a methodology, an approach, which satisfies these points, since action research directly addresses the problem of the division between theory and practice (37). Instead of doing research on a social setting and the people within it, it is research carried out either by the actors themselves or researchers working in collaboration with them. It is research "with" instead of research "on" people. Participation and knowledge of those involved in the context is essential because it looks at questions that arise from practice.

1.3 Action Research and paradigms

Several authors (38, 39) are making a distinction between three research worldviews or paradigms: positivism, hermeneutic/interpretative and locate AR in another worldview; the critical paradigm.

Positivism is primarily based on the assumption that an objective reality exist 'out there'. This reality can be caught by an independent value free researcher and the outcome can lead us to generalizable knowledge. A researcher in this paradigm develops a pre-structured research design with specific questions (39) and valid and reliable instruments to collect the data. These data will present an objective reality that exists outside a human being and that only has to be described by the detached value free researcher. A nurse, or another practitioner, has to implement the findings of the research. In this worldview there is an objectivistic ontology (*what is reality?*) and epistemology (*what is knowledge?*) (38). Although this paradigm is often used in healthcare research it didn't seem suitable for this thesis. The pre-structured design that is used in this paradigm, is not suitable because this makes it impossible to adapt to the interaction of the health care context, the new knowledge that is implemented and the health care professionals involved. Besides that is the use of evidence to be seen as a social process (36, 40) dependant on the communication between stakeholders (e.g. nurses, clients, and researcher) with varying perspectives while in the positivistic worldview practitioners are more considered as 'objects' and a researcher as a detached observer. For such a social process to take place it is necessary that the relationship between me as a researcher and the nurses is a subject – subject relationship.

Such a relationship fits better in the hermeneutic/interpretative paradigm, where reality is seen as a creation of people and not as something that can be measured in an objective way by a detached researcher. In this paradigm it is important to look at the whole and take

account of the context and subjective meanings of the researched in a particular situation. Research in this worldview is focussing more on describing the context as it is perceived or experienced by the researched, than on changing it. Reality, as research, is in this paradigm, by definition subjective and value laden. This approach follows also a subjectivist ontology and epistemology (38). Looking at my goal to improve the nursing practice, the shortcoming of the hermeneutic/interpretative paradigm is the lack of concern about changing practice and their over reliance on the researcher as expert instead of the practitioner (41).
As well in the positivistic as in the hermeneutic paradigm, research is seen as something that is done by researchers, while practitioners 'just' have to implement the findings of these studies. Knowledge creation is separated from applying this knowledge in to practice.
The critical paradigm, in which AR is located, is a worldview based on the epistemological assumption that research is not only to describe, explain or predict the reality but also to change it (42). The researcher in this paradigm is not a detached (positivistic) or involved (hermeneutic) observer, but a change agent who is sharing power with the researched, so they can become empowered fellow researchers trying to improve their practice and learning from it.
Knowledge creation is in this research linked to the application of this knowledge in practice. According to Coghlan and Brannick (38), this approach follows a subjectivist epistemology like in the hermeneutic paradigm, but an objectivist ontology, like in the positivist paradigm.
The origins of Action Research lie in the first half of the 20th century, and Lewin is often cited as the person who first used the term (43). In these early days AR already had an emancipatory and empowering intention, because it was designed to increase the problem solving capacities, the chances of self-determination and to improve the influence of the decision making processes of organisations in which the research subjects act (44).

By conducting a systematic review of the role of Action Research in UK healthcare settings, Waterman et al. (43) arrived at a definition with the following core:

> *Action Research (AR) is a period of inquiry that describes, interprets, and explains social situations while executing a change intervention aimed at improvement and involvement. It is problem focused, context-specific and future-oriented. AR is a group activity with an explicit critical value basis and is founded on a partnership between action researchers and participants, all of whom are involved in the change process. The participatory process is educative and empowering, involving a dynamic approach in which problem identification, planning, action and evaluation are interlinked.*

Waterman et al. (43) conclude that two criteria are fundamental to Action Research. In the first place, an intervention must be carried out as part of a cyclic process.
For Action Research, the cycle progresses from problem identification or diagnosis (including

reflection), to planning, action (implementation of change and monitoring), and evaluation/ reflection to a new situation analysis.
The second fundamental criterion of Action Research concerns the partnership between the researcher and those being investigated in the research process.
In Action Research, those being investigated are actually co-researchers. Partnership is seen as essential for developing practical knowledge and for implementing changes in practice. This partnership also makes this knowledge accessible to everyone and not only to a group of researchers, so that Action Research also embodies an emancipatory element. AR is research with people and not on or for people as research in the other paradigms. The partnership and the level of participation of those being investigated (the co-researchers) can vary. Arnstein (45) has developed an often cited participation ladder (from manipulation till citizen control) that is critiqued by others (46, 47) because of the normative character of it. The minimum level of participation of those being investigated needed to guarantee success is not yet known (43).
Action Research is nowadays used as an umbrella term covering various types and, depending on the author, different classifications. Grundy & Kemmis (48) for instance are identifying three modes of AR (technical, practical and the critical emancipatory mode), Hart and Bond (49) are sketching a continuum in which four types of Action Research are distinguished and Cassell & Johnson (50) are presenting five different AR approaches differentiated by their underlying philosophical stances (table 1.1).

Looking at the three different ways to classify AR one can discover similarities and differences between the typologies. One of the similarities is the goal of the liberation of marginalised groups in the critical emancipatory (52), empowering (49) or participatory (53) AR studies. In these studies the status quo is questioned to emancipate disempowered groups and change the social structure, while in the technical or experimental AR studies the social structure is not, or not as much, at stake because the goal is to improve and develop knowledge about that improvement within a certain structure.
The type of AR and the underlying philosophical stance becomes important if you try to evaluate an action research study. Action Research is often criticised because the methods and findings of a study are not replicable or generalizable to another situation (54). The knowledge that is created is local knowledge, supposed to be relevant for the practitioners in the AR study and cannot easy be generalized to other settings. As qualitative research can't be judged by quantitative criteria, AR needs to be judged by their own criteria of quality.
Cassel & Johnson (50) conclude that it is a pointless mission to articulate a set of quality criteria to apply to all AR and that is why each AR project should be evaluated by means of standards derived from its particular philosophical stance. For action researchers this means that it is necessary to articulate their ontological and epistemological stance as a basis for an evaluation of that research.

Table 1.1 Different types of Action Research

Grundy & Kemmis (48)	Hart & Bond (49)	Cassel & Johnson (50)
Technical: An outside researcher encourages the participants to improve the efficiency and effectiveness (51) of their practice.	**Experimental**: Its focus is primarily on the discovering of general patterns to serve as the basis for choices	**Experimental:** Based on positivist philosophical assumptions *(erklären),* looking for causal relations that are embedded in an accessible reality.
Practical: The researcher is the facilitator of a reflective learning process of practitioners. Together they identify problems and develop and implement an action plan to overcome these problems. In this kind of AR the practical reasoning of practitioners is developed (52).	**Organisational**: its focus is on overcoming resistance and creating more productive working relationships	**Inductive:** Use of qualitative methods *(verstehen)* to produce a form of grounded theory with the aim to reflexively enhance single and double loop learning.
Critical emancipatory: The facilitator has the intention to promote emancipation of the practitioners by enlighten them, so they will undertake democratic strategic action to change social processes (52).	**Professionalizing**: Its focus on practice, and reflects the aspirations of developing professions (such as nursing) to raise their status and to develop working practice based on research	**Participatory Action Research:** Participation of the elite of the organisation in the research process where the researcher usually works in a consultancy role based on positivism.
	Empowering: Is characterised by the adoption of an anti-oppressive position in which there is collaboration with vulnerable groups in society	**Participatory:** Addressing the perceived needs of a whole community defined in their own terms, concerned to critique the status quo as social constructions and simultaneously emancipate people by giving them a voice. Based on critical theory with a **realist** ontology and subjectivist epistemology.
		Deconstructive action research: Is based on the scepticism that language can represent reality (postmodernism) resulting in we can produce a plurality of realities which offer no epistemological basis for preferring one understanding above the other. Deconstructive action research is about creating space for alternative narratives without advocating any preference (50)

This Action Research study has an empowering intent because during the research a common orientation with the nurses will be sought in which critical consciousness about the nursing care and the context is raised to initiate change. Change that is driven by the needs of the patients.
In line with Boog (44) I expect that by cooperating with the nurses in such a way, the nurses can become enlightened and empowered and capable of continuing even after this research is ended, because both their professional skills and a learning culture has been further developed. Such an empowered staff is according to Manley (55) one of the components found within an effective (person centred and evidence based) culture.

In the last chapter of this thesis I will discuss this stance and explore the limitations and strengths of my research.

1.4 Goal and research question

The goals of this research are twofold and linked to the AR methodology. The first goal is to enhance evidence based nursing practice and the second is to develop knowledge about the implementation of EBP in mental health nursing.

- Enhancing mental health nursing practice through the use of more knowledge derived from research, personal clinical expertise as well as the preferences and experiences of clients and develop a nursing context, during this process, where nursing care matches more the needs of their clients.
- Developing knowledge about the (successful) implementation of EBP in mental health nursing setting using AR.

To reach these goals two mental health nursing settings in the Netherlands were found who are willing to participate in a research study with the following research question:

In what way is Action Research with an empowering intent appropriate to implement Evidence Based Practice in a mental health nursing setting in the Netherlands and what is the effect of this implementation on the care experienced by the client, the nursing interventions and the context in this setting compared to a comparative setting?

To answer this main research question, the following questions derived from it were addressed:

- What is Evidence Based Practice?
- What is known about implementing evidence-based practice in nursing through Action Research?
- Which factors have to be dealt with in a mental health nursing setting, so the

implementation of EBP with AR with an empowering intent will be successful?
- How is EBP implemented through AR with an empowering intent and what are the outcomes for the use of evidence, the context and the facilitation in the setting?
- What is the effect of the implementation of EBP in mental health nursing using AR with an empowering intent on the care experienced by the client, the nursing interventions and the context compared to a comparative setting?

1.5 Design and methods

The AR study, embedded in a comparative design, is conducted in two Mental Health care organizations in the south of the Netherlands, after approval by the Medical Ethics Committee. The organizations are chosen because they are partners in a research program of Tranzo, a scientific centre of care and welfare of Tilburg University.
The allocation of the setting where the AR took place and comparison setting was based on pragmatic motives and decided by the management of both organizations, so the allocation is not randomized. Both settings deliver care for patients with severe mental illness.
During the study the nurses of the AR setting are facilitated by the researcher in the implementation of EBP, while the nurses of the comparison setting lacked this facilitation. The role of the researcher in the comparison setting was limited to collecting data and feeding these data back to the nurses and clients of this setting.
The AR setting had 2 units offering care to a total of 89 long-term patients. Patients varied in age from 25yrs to 65yrs. The majority lived within the hospital grounds or in houses in the neighbouring village, still close to the hospital. Each unit has its own manager and a team of nurses. Each nurse in the team is a primary nurse for several clients, responsible for planning, evaluating and coordinating nursing care.
To further enable the coordination and continuity of care, nurses collaborate with the multi-disciplinary team, consisting of a psychiatrist, psychologist and a social psychiatric nurse, all of whom are stationed on site.
The comparison setting is, compared to the AR setting a smaller, supported living service for long-term patients with severe mental illnesses who cannot live independently due to their illness or inadequate social/family support. A safe home environment is provided for 31 patients where they are supported in their further personal development. As in the intervention setting, care is based on a vision of rehabilitation, in which patients are helped to utilize their own abilities as much as possible, enabling them to function as optimally as possible. There is 24 hours support for all clients, provided by 10 employees with a nursing or social pedagogical background. Similar to nurses from the AR group, each employee has her own case load of clients and collaborates with a psychiatrist and social psychiatric nurse. Unlike the AR setting the other disciplines are not stationed on site.
After patients had agreed to participate and given informed consent, their primary nurses

were also invited to participate and give informed consent. This gave both patients and nurses a 'voice' in the study. Other nurses than the primary nurses were also invited to take part.

Twelve patients from the AR setting and all of their primary nurses (N=11) participated in the research. The number of (non-primary) nurses participating fluctuated as they only joined those cycles of the study that interested them. In the comparison group ten patients were recruited, including all of their six primary nurses. No non-primary nurses participated in this setting.

The first phase of the AR was a diagnostic analysis of both settings, using the PARIHS framework. After this analysis the nurses of the AR context were facilitated by the researcher while the nurses of the comparison setting lacked this facilitation. Data have been collected before, during and after the implementation of EBP in the intervention setting and at the beginning and ending of the study in the comparison setting.

The research in the comparison setting started later than in the AR setting, because there was some ambiguity which setting was comparable to the AR setting and was willing to participate in the research. In Table 1.2 the overall research design is presented.

Table 1.2 Overview overall research design

1.6 Data collection

The following tools have been used to collect information about the central topics in this research: the care experienced by the client, nursing interventions and the context where EBP is implemented/nurses work. These tools are chosen by the researcher before the start of the study.

The 'care experienced by the client' was analysed by the Need for Care Questionnaire (NCQ). This questionnaire was developed in the Netherlands by Kroon et al. (56) and was used by the researcher with clients individually. The results of the questionnaire show the care needs perceived by the client, the care clients receive and the frequency these needs are met. The questionnaire was used at the beginning and at the end of the study so results could be compared.

In order to realize the valuing of patient experiences as evidence and judging of patient experiences as relevant, the implementation of EBP focused on those care items of the NCQ that patients feel are the most significant for their well-being and nursing care is suboptimal.

To assess the *nursing interventions*, the researcher interviewed the nurses of both settings at the beginning and at the end of the study. During these focus group interviews an inventory was made of the nursing interventions that were currently used for those care items of the NCQ that patients feel are the most significant for their well-being and nursing care is suboptimal.

The *nursing context* is assessed by the Values Clarification Exercise (VCE), the Evidence Based Cared Benchmark (EBCB) and by observations and conversations with nurses and management in the intervention setting.

The *Values Clarification Exercise* is a tool frequently used for developing a common/shared vision and purpose (57) and enables the explication of stakeholder values and beliefs, forming the first step of putting these into practice. In this exercise participating nursing staff was invited, in small groups, to clarify their values and beliefs about Evidence Based Practice The common themes that came up were then used to guide the nurses from the intervention group during the following phases of this action research. The themes of the AR group were used by the researcher for comparison with those of the other context. In both settings the VCE was used in the beginning and at the end of the study.

The *Evidence Based Cared Benchmark* is based on a literature review carried out by Feasy and Fox (58). The aim of the instrument is to gain insight into the participant perspective for the lack of congruence between practice and research, as well as identify gaps in the organizational infrastructure for implementing evidence-based practice (58). In both settings the EBCB was filled out two times individually by the nurses and at the end of the research in the intervention setting a third time collectively. The results of the individual answered EBCB were analysed by the researcher and presented as a member check to the participants.

The observations and conversations took only place in the AR setting where the researcher was present one day a week. During these days, conversations took place with clients, nurses and/or management and observations were made by for instance attending staff meetings. The goal of these observations and conversations was to get accustomed with the context and create partnership, so the facilitation of the nurses in the implementation of EBP was suitable for the nurses in the setting. The conversations were recorded with permission of the stakeholders and transcribed or taken down during or immediately after the conversation. The results of this were fed back as a member check and adjusted if necessary. The observations of the researcher were discussed also with the stakeholders and as the conversations written down in a log book. In the comparison setting these observations, conversations and facilitation of the nurses did not take place.

1.7 Who is the researcher?

Because an action researcher is not a detached observer who describes and analyses in an objective way, but instead is an actor in the research context who participates with the other stakeholders, I would like to introduce myself.

I am a registered nurse and a nurse educator who has been teaching nursing bachelor and master degree courses for almost 20 years now. Before this I was a mental health nurse, a field of nursing that still had and still has my special interest.

In these 20 years in education I have taught a wide range of topics, varying from technical and communicative skills to quality of care, mental health nursing and research. In doing this I became skilled and experienced in facilitating groups and individuals, a relevant competence in an AR project. Reflecting on my educational experience in the nursing faculty, I was convinced that the behaviour of (student) nurses is determined more by their peers in practice and the workplace culture than it is by education in nursing faculty. This made it sensible for me to leave nursing faculty and enter nursing practice.

Because I am one of the members of the Knowledge Centre for implementation and evaluation of Evidence Based Practice, it was obvious to me that my PhD research should be in line with the strategic vision of that centre. This vision says that the theory-practice gap can be bridged by generating knowledge in cooperation with (mental health) nurses and or clients.

Because of my nursing background, my facilitating skills and knowledge of the relevant mental health nursing literature, I believed that nurses could see me as someone who 'knows about mental health nursing'.

As well as my professional profile, there is also a more personal component. My colleagues and others describe me as calm, with good listening skills, analytical and reliable. In addition, despite the assurance of others that it is not necessary, I still have doubts about my knowledge and skills. If I regard my performance I tend to see it as a half empty glass rather

than a half full one. I set high standards for myself and have the tendency to give greater weight to things that are less successful than those that are successful. I find it difficult to acknowledge that there is something I cannot do or something I do not know, and do not readily ask for help or advice.

In social situations I usually choose the safe option and dislike unforeseen situations and conflict. As a result I am unlikely to cause such situations and if they arise I tend to keep quiet until the worst has passed. This last characteristic, of which I have become even more aware during the research and writing of the thesis, is something of a drawback if one wishes to facilitate and AR study in which the journey and the travelling companions are an unknown factor, and in which change and learning demand that everyone (including the researcher) has to leave their 'comfort zone'.

At the time I wrote my research proposal I was one of the early birds of the Knowledge Centre for the Implementation and Evaluation of Evidence Based Practice in nursing. This Centre, together with stakeholders, tries to develop and implement an evidence based, person centred culture in health care and education.

At this Centre I had the opportunity to do my PhD and develop my expertise in cooperating with colleagues, students and nurses in implementing EBP in education and nursing practice. My major incentives in starting my PhD research were the further development of my professional and personal knowledge and skills and the contribution my research could make to the improvement of care in mental health nursing. The nursing profession is the biggest profession in health care and compared to other professions, nurses have the most contact with clients. If there is a research - practice gap, as is often stated in literature, much can be gained for the nurses and for their clients.

Enthusiastic about this opportunity, I looked for a professor who was willing to be my supervisor during my PhD journey. So I met Henk Garretsen and Joop van den Bogaard, the chair and a member of Tranzo, a scientific centre of the Tilburg University, aiming to build a bridge between science and mental health practice, a goal very similar to that of the Knowledge Centre. Henk and Joop were experienced researchers in mental health, EBP, and implementation research. They both agreed and with Karen Cox, one of the clinical chairs of the Knowledge Centre, we formed my PhD team. I began to write my PhD proposal. The preparation of my journey as an action researcher had started.

During this journey a lot of foreseen and unforeseen things happened. The most unforeseen and saddening experience was the sudden dead of one of my supervisors, Joop, who advised me critically and with so much dedication in the first part of my journey. This made me realise the relative importance of my journey, although it often felt that my life and my PhD journey were one and the same. I am glad that Inge Bongers was willing to accompany me on the second half of this journey. She dared to take the risk of jumping onto a moving train and showed that this can work out well.

When I started at the Knowledge Centre I was inspired by the ideas of one of our clinical chairs, Angie Titchen. She introduced new ideas about the implementation of evidence in nursing practice and the way such an implementation can be researched. In that period I became acquainted with Action Research, the PARIHS framework, critical social science and another concept until then relatively unfamiliar in the Netherlands, Practice Development. This concept was defined as: 'a continuous process of improvement towards increased effectiveness in patient centred care. This is brought about by helping healthcare teams to develop their knowledge and skills to transform the culture and context of care. It is enabled and supported by facilitators committed to systematic, rigorous continuous processes of emancipatory change that reflect the perspectives of service users' (59).

In the phase in which I started to write my PhD research proposal I was still struggling with this new knowledge and looking for ways to combine it with my existing knowledge base so I could integrate this in the proposal.

Finally my proposal was approved by my professor and other supervisors and afterwards also by the Medical Ethics Committee. My research plan was ready. Although it was not developed in cooperation with mental health nurses and their clients, I thought it was 'open enough' for nurses and clients to become enthusiastic about participating. Because of the literature I had read and the experience I had as nurse and educator, I was aware that there was a considerable chance that nursing care was not evidence based, but this opinion did not cause me to consider that this could mean that EBP was not a topic of concern for nurses. The only 'thing' that still was missing after the approval, was a nursing context with nurses and clients interested to make the journey with me. I had to come in 'somewhere' and 'somehow' and because the writing and approving of the proposal took so long, I wanted to start as soon as possible.

In trying to find my fellow travellers I presented my research proposal to the highest management level of a mental health organisation in order to discover whether this organisation was interested in it. This mental health organisation was affiliated to Tranzo and had agreed to collaborate on the basis of a long term research programme. The manager showed an interest and gave me several names and telephone numbers of middle managers to contact. The first middle manager I contacted sounded really interested and invited me to come to his location to discuss the research study and its implications. We agreed that I would send him the research proposal so he could prepare himself and that he would invite one of the senior nurses to join us. I was nervous about this meeting. I did not know the organisation and I was very eager to get in and start, so I thought the 'selling' of my research proposal had to be good.

Arriving too early at the first meeting I entered the mental health organisation. The air inside was 'thick'; I smelled cigarette smoke and saw people wearing clothes that had not been fashionable in years. I asked for the toilet and I was asked if I was a doctor. I explained that

I would like to do some research in the organisation and was also directed to the toilet. The toilet floor was flooded with urine; my shoes were sticking at the floor. Was this to become my swampy lowlands?
I then asked for the manager's office and was welcomed by the manager and a senior nurse and invited to present my research because they had not enough time to read the research proposal. Halfway through the meeting the senior nurse left because she had another appointment. I continued explaining the research study and the manager said he was really interested because he thought that conducting the research could bring the nurses of two separate care units together - a goal he saw as desirable. At the end of the meeting I got a 'Go ahead' from the manager.
I was very satisfied by his interest; at that point his reasons were not so important to me. At the end of the meeting we agreed that he would inform the other manager and the nurses of the units about the research and we made an appointment for a presentation of the research project to the nurses and to the clients interested in the research. I was happy because I thought I 'was in' and could finally carry out the action research study I had conceived. My journey had begun.

1.8 Outline of this thesis

The first chapter has introduced the research topic and presented the design of the study. Chapter 2 presents a critical analysis of the concept Evidence Based Practice.
Chapter 3 is a systematic review answering the question: what is known about the implementation of EBP in nursing through action research?
In the fourth chapter the diagnostic analysis of both settings is presented before the implementation of EBP. In this analysis the PARIHS framework is used to compare the two settings and assess the factors that have to be dealt with so the implementation of EBP in the AR setting will be more successful.
Chapter 5 describes how EBP is implemented and shows the results of this implementation in the AR setting on the care experienced by the client, the nursing interventions and the context where EBP is implemented.
In the sixth chapter the outcomes of the implementation of EBP in the AR setting are compared with the results of the other setting.
In the last chapter**,** chapter 7 I discuss the overall findings of the study, and reflect on the limitations and strengths and make recommendations for further research on the implementation of EBP in mental health nursing.

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Chapter 2

Evidence Based Practice; a critical consideration

Munten G, Cox K, Garretsen H, Bogaard van de, J. Evidence Based Practice; een kritische reflectie. Verpleegkunde. 2006;21(2):148-56.

Abstract

The aim of this study is to analyze critically the way the concept Evidence Based Practice usual is applied and to propose opportunities to tackle some of the limitations. Research has been conducted into the literature on the way EBP usually is applied.

Although the literature suggests that EBP is the integration of research evidence, clinical expertise and patient values, the research evidence is the one that seems to be valued the most. Besides within this focus on research evidence quantitative research has a higher status than qualitative research. The other sources of evidence, (clinical expertise and patient values) do not get the attention they need.

The way EBP usually is applied has some shortcomings. Examples are the limited attention on: the core of nursing (client-nurse interaction), the context where the interaction takes place and the expertise of the client and the nurse. Recommendations are given to tackle these shortcomings so EBP will be really the integration of the different sources of evidence one can find in the literature and increase the chance that EBP is implemented successfully in practice.

2.1 Introduction

Although Evidence Based Practice (EBP) originated in the field of medicine, the nursing profession is giving the concept an increasing amount of attention. This article will first examine the way in which this concept is usually realised, and then the disadvantages inherent in this form of realisation will be subject to critical analysis. Next, the possibilities to realise EBP in a broader sense will be considered, so that the preferences and knowledge of the client and the clinical expertise of the nursing staff receive proper attention. The integrated model of EBP will serve as a basis for PhD research carried out in the Mental Health Service areas of Eindhoven and the Kempen and in Mid-Brabant

2.2 The origins

The quality of care offered is a matter of continuous discussion in healthcare. The care should contribute to the results desired by the client and to be offered in the most efficient way possible. In this health professionals play a crucial role since they are continuously making decisions that influence the quality of care.

Attention to the quality of care is not new, nor is the use of research results in clinical proceedings. The Evidence Based movement came into being in 1992 at the McMaster's University in Hamilton in Canada, attempting explicitly to improve medical care by basing treatment on the best available evidence obtained with the help of scientific research. The name given to this is Evidence Based Medicine (1). Since then evidence based work has become a world-wide trend in international healthcare (2). Since the evidence based method of working is not limited to a particular discipline but applicable to all professionals in healthcare, instead of emphasising a specific discipline such as Evidence Based Medicine or Nursing, increasing use is made of the generic term Evidence Based Practice.

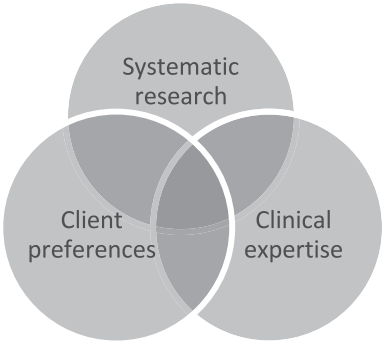
2.3 What is EBP and what is the usual method?

Evidence Based Practice has been defined in various ways. In the first publication dealing with Evidence Based Medicine in 1992 the concept was described as '*the process of systematically finding, appraising, and using contemporaneous research findings as the basis for clinical decisions*' (3). In this description then, the emphasis lies on the use of scientific research in clinical decisions. Sackett et al. (4, 5) later extended the description by including the clinical expertise of the practitioner, defining EBM as '*the conscientious, explicit and judicious use of current best evidence about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.*'

Clinical expertise here was defined as '*the ability to use clinical skills and past experience to rapidly identify each patient's unique health state, individual risks, benefits of potential*

interventions, and personal values and expectations.' A few years later the client, the central focus of healthcare, was included in the description of EBP. The previous definition was replaced by '*the integration of best evidence with clinical expertise and patient values.*' (1). These *patient values* were defined as '*unique preferences, concerns, and experiences each patient and family brings to the clinical encounter, which should be integrated into clinical decisions.*'
A graphic interpretation of this later opinion of Sackett et al. (1) is as follows [figure 2.1].

Figure 2.1. Model of Evidence Based Practice



Although various authors (6-8) represent EBP in other ways, in this article this model will be used because it is frequently cited and forms the basis for other models.
According to Sackett et al. (1) Evidence Based Practice consists of five consecutive steps ideally taken by a health professional in order to solve a clinical problem in the best possible way:

1. In the first place the clinical problem brought to a health professional by a client should be translated into an answerable question.
2. With the help of this question the health professional seeks out research publications with which the question can be answered.
3. These publications, once found, are assessed critically on the grounds of validity, relevance and applicability.
4. Following this, the outcomes of these evaluations are integrated with the clinical expertise of the professional and the preferences of the client.
5. Finally the health professional considers how effective and efficient were the previous steps taken, so that it might be possible to improve on them the next time.

It is obvious that this manner of working makes great demands on an individual health professional. Various authors (9-13) state that research shows that many members of the nursing profession lack the necessary knowledge for these steps, so that this forms a barrier,

as well that of the context in which nursing staff work, (14, 15) forming a hurdle to the implementation of research results in nursing practice.
In addition, the method described above is time consuming and as a result more and more professionals choose a more efficient approach in which guidelines based on research are drawn up. Professionals can then apply these guidelines by integrating them with their expertise and the preferences of the client.

2.4 Critical consideration

Various authors (7, 16, 17) remark that while in EBP the importance of systematic research, client preference and clinical expertise are all included, in the realisation of EBP the focus lies on the sphere of systematic research. This limited 'narrow' view of EBP can be found in the number of publications (18-21) in which it is concluded that practice is insufficiently evidence based. This conclusion invariably means that clinical decision-making is insufficiently based on research results. It seems that the degree to which treatment is based on the preferences of the client or the expertise of the health professional means nothing, or at least much less, in judging whether the process is "Evidence Based or not".
In addition, this 'narrow' view of EBP can be recognised in the number of publications (22-28) which examine the barriers experienced by health professionals in applying research results (instead of the use of their own expertise or client preference) in clinical treatment. From this 'narrow' idea of EBP it is then logical that the solution for the problem of nursing staff working insufficiently Evidence Based is chiefly sought in supporting health professionals in searching for, evaluating and applying research data.
On these grounds French (29), dealing with nursing, and Williams and Garner (5), concerned with psychiatry, conclude that the use of the term Evidence Based Practice really does not add anything to the long tradition of quality improvement and research based practice.

2.4.1 Qualitative and quantitative research

Within the dominant paradigm of scientific research the results of quantitative research in general, and the systemised reviews of the Randomized Clinical Trial (RCT) in particular, are seen as the strongest form evidence in cases of intervention research (16, 30-34). The RCT is generally regarded as the 'gold standard'. Even so, this opinion is not undisputed. Meijel (35) summed up various limitations of the RCT, and other authors (13, 16, 36-37) criticise the 'gold standard' by emphasising that the realisation of client care, for a great part, is determined by the process that takes place between a unique client and an individual health professional. This view is supported by research (38-39) that demonstrates that the quality of the relationship with the health professional influences the care results achieved. This means that not only is the intervention, which is often examined through RCTs, important but also the manner in which the intervention is executed should be considered, the extent

to which it is tailored to the client and the client's experience of the relationship with the health professional. These aspects belong far more to the field of qualitative research than the quantitative methods used predominantly in EBP.
An RCT does give a handhold when evaluating the efficacy of a particular intervention, but it offers no insight as to why an intervention is effective and which processes contribute to this efficacy (35, 40). Qualitative research in which use is made of the client's perspective is extremely suitable for this, and moreover offers the possibility of exploring what the symptoms, the interaction and the interventions mean to the client. (16, 35, 41-42).
On the basis of these arguments this article will not endorse the frequently used hierarchy of strength of evidence, but following the example of other authors (8, 16, 40, 42-44) will advocate the use of multiple research methods whereby the link between the research question and the design used determines the strength of the evidence rather than the research design alone.
Quantitative experimental research to assess the efficacy of interventions is, and will remain necessary, but since the context of this type of research deviates from the complexity of daily practice quantitative research should be accompanied by qualitative research in which attention is given to the actual situation and the processes that take place within that context.

2.4.2 Consequences of the dominant method of scientific research

In the view of EBP discussed above, evidence is regarded chiefly as coming from quantitative scientific research and used to support clinical decisions on, for example, diagnosis and intervention. This evidence is regarded then, as more reliable than the preferences of the client and clinical experience that has been built up by the health professional over years of practical experience (16). This focus on the application of research results has had consequences for the attention given to the two other sources of the model drawn up by Sackett et al. (1), clinical expertise and client preference.
While according to Offringa et al. (31), client preference should be given a central role in evidence based work, due to the emphasis on the application of research results, it has received only limited attention. In the Netherlands this has recently led to the refusal of the Pandora Foundation, which promotes the interests of (ex) psychiatric clients, to sign the multi-disciplinary guidelines 'Depression' that were drawn up on the basis of 'evidence', by which is meant scientific research results. The Foundation was of the opinion that the patient perspective was underrepresented and that the guidelines were not drawn up from the point of view of the client but only for the efficacy of an isolated intervention with regard to the measurable reduction of symptoms (45).
Various other authors (16, 46-47) also point out the fact that clients have other priorities than those of the professionals. The research of Tallon et al. (48), confirms this, so that it

has been advocated (46-47) that the client should have an active role in the acquisition of knowledge and in research.
A second consequence of the emphasis on the application of scientific research is the limited attention given to the explication of the clinical experience of health professionals. As a result, this experience is not made available to other professionals or for scientific research so that no new knowledge is developed and tested in practice. Moreover such experience offers a common point of departure in the implementation of EBP from which care can be improved.
A third consequence is the lack of clarity about which manner of integration of client preference, clinical expertise and scientific research should be used so that the client receives the care that fits his situation and needs.
These consequences will be further discussed below.

2.5 Client preference

One of the demands made on care is that it should be client-centred, as well as being effective and efficient. In healthcare the attention to the central role of the client can be found in various areas. In the first place it can be found, on paper at least, in the vision expressed in the policy documents of almost all healthcare organisations, and the use of such concepts as 'tailored care' and 'client-centred care', so that it seems self-evident that the client and his preferences take a central place.
Moreover the central role of the client can be found in legislation (for example the WGBO [law on health treatments agreement]) and the fact that the government stimulates the involvement of client groups in the planning of healthcare and the development of guidelines. The basis for this is the assumption that involving clients makes care more accessible, more suitable to the situation and that health and the quality of life are improved (49).
What is the importance of client preference? Schickler (50), following Williams and Wood (51), gives various reasons why it is important to know the patient's perception of things, the most important of which is getting to know and understand the perspective and priorities of the other person. In this way the nurse has the chance to understand the client in his own context, so that from this understanding a common goal can be pursued. In regard to the way in which the client's perspective and priorities can be integrated in the decision-making process Colyer and Kamath (52) suggest the this can be done by inventorying and prioritising the problems as seen from the client's perspective. In addition, the client can be involved by determining the characteristics of the intervention, as he sees them, and the benefit he derives from them as he experiences it (5, 53-54). In this way the client measures the efficacy of the intervention by his own standards. At the same time this evidence can be used for the substantiation of good practice management.

In this way the efficacy of the care offered is measured against the degree to which the care successfully meets the needs of the client (42). This means that the efficacy of an intervention should be measured with the help of those parameters that are relevant for the client. Moreover, questioning the client about the 'benefit' experienced acknowledges that the client is the true expert (42). The client, certainly one with a long-term illness, is the person who from his own experience really knows what are the consequences of the illness, which are the best ways to live with it and to cope with it, and which outcomes are, for him, the most relevant. Taking this into consideration it is more fitting to speak of 'experience expertise' then client preference.

In the framework of the implementation of Evidence Based Practice this means that clients (if they so wish) should be actively involved in the prioritising of subjects that are susceptible to improvement in practice management and the determining of relevant goals.

The involvement of the client presupposes an active client who collaborates in making the decisions that must be made. Various authors (55-57) point out that not all clients are prepared to take such an active part. The degree to which a client is willing to do so is dependent, among other things, on the nature of the client's problem. It appears that with problems of a socio-psychological nature and of life style there is a preference for participation in decision-making, while with acute serious physical problems the preference is for a health professional who is more directive and takes the decisions (57-58). In addition, the degree to which clients want to be involved also depends on social class, level of education, age and previous experience of health professionals (57-59). On these grounds, following McKinstry (57), it is recommended that nurses should determine each time at what point and to what degree clients are willing and able to be involved in decision-making.

2.6 Clinical expertise

Various authors (7, 60-63) call the clinical experience on which the professional draws 'tacit knowledge'. This knowledge is rarely to be found in scientific literature, but is present in practice, of an intuitive nature and based on experience. The importance of the utilisation of both this knowledge and that garnered by scientific research is emphasised by Colyer and Kamath (52) by saying that practice without clinical expertise would be tyrannised by inapplicable or unsuitable knowledge, while practice without scientific research runs the risk of being ineffective and inefficient.

In literature concerning clinical expertise two directions can be distinguished and in which clinical expertise plays a role at various levels. In the first it is the task of the professional to take a decision in the 'right' way, together with the client, in regard to what the problem is and what should be done about it. In this decision, taken at the micro-level by the client and the health professional, evidence from scientific research aided by clinical expertise is *applied*. Here the expertise of the professional is in the service of the clinical decision-making

at micro level. In this situation no knowledge/evidence is produced, but the professional is seen as one who forms a bridge between client and scientific knowledge and who filters back and forth, mediates and translates (42, 63). In this way the professional integrates his intuitive knowledge with empirical knowledge by considering whether the research done is relevant for this particular context (63). RCTs give information about groups of people rather than an individual applicant for care (5).

The model of steps given in the introduction to this article is exemplary for the opinion that a professional, with the aid of his expertise, applies knowledge.

In the other view the professional is, as well as the person who applies the evidence from scientific research, the one who, together with the client, *generates* clinical evidence or practice based evidence. This view of clinical expertise is to be found in work by various authors, among others (5, 16, 37, 42, 62, 64). In this approach clinical expertise does not only serve direct client care, but also makes a contribution to the development of knowledge and practice. A professional who acts from this standpoint is someone who reflects by asking himself if his interventions contribute to the results desired by the client in a specific context. He both gives help and examines the efficacy of his own actions. In the academic workplaces that have been set up in various places in the Netherlands a trend can be discerned to bring practice and research together to go hand in hand more than they have done in the past.

Literature gives various ways in which clinical expertise can be explicated and tested: methods mentioned include case studies (16, 42, 64-65) critical (self) reflection (65), supervision (5, 64) the use of the 360˚ feedback and stories of clients (66-68).

If this local knowledge is explicated and tested then it can serve as a basis for scientific research in order to see to what extent this knowledge is susceptible to generalisation or of use in other contexts. In this way a cycle comes into being consisting of results from practice, practice based evidence, that lead to scientific research that, in turn, can lead to improvements in care – and that is what it is all about.

2.7 Conclusion and discussion

The traditional manner of realising EBP results in a number of limitations. From this traditional view it is usual that in the implementation EBP the professional is supported in the search for, the evaluation of and the application of evidence gathered chiefly from quantitative scientific research in daily practice. This is a relevant activity but as such is not sufficient since it appears that professionals use research results in a selective and strategic manner (24), and in addition to these results other factors play a role in the decisions made by a health professional (7). Moreover the processes that take place in the context of the nurse and the client, the nucleus of care, are left out of consideration. Qualitative research can offer the necessary complement and thus deserves to be better valued than is now the case.

A further consequence of this traditional view is that there is relatively little attention paid to

the setting or culture in which the professional gives care, while research (14-15) shows that this forms a formidable barrier in the implementation EBP. It is then clear that an approach to the implementation of EBP in which explicit attention is paid the setting in which the care takes place is to be advocated.

For good practice management more sources of knowledge than just scientific knowledge are necessary. The model drawn up by Sackett et al. (1) consists of three sources of knowledge that must be integrated. Before this integration can take place the sources of knowledge first must be separately clarified.

More use can be made of the expertise of experience of the client in the support of action, so that clients can play a greater role in the implementation of EBP than is often the case at the moment. In the text it is shown how nurses can do so in the context of direct care. For the implementation of EBP in a particular setting this means that subjects must be chosen that connect directly to the problems as they are experienced by the clients and that goals should be chosen that are relevant for the client.

The clinical expertise of the professional, as the third source of knowledge, can be explicated by offering the professional the opportunity to reflect on his practice methods. The local knowledge resulting from this can then be tested and linked to the knowledge derived from scientific research.

If EBP is implemented in a nursing context there should be attention paid to this. Nurses should have the opportunity to share their knowledge with each other and where necessary to complement this with knowledge garnered from scientific research and the experiences of clients.

With this method of work a nurse is regarded as a 'knowledgeable rejector' instead of an 'ignorant receiver' (24). In this way knowledge is seen not so much as something to be discovered but as something that emerges from critical debate. Moreover this increase the chance that the nurse feels to be the 'owner' of the changes that are being brought about (24): as we know the involvement of the target group always plays a part in any successful implementation (69), including the implementation of EBP.

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Chapter 3

The implementation of Evidence Based Practice in nursing using Action Research. A review

Munten G, Bogaard van de J, Cox K, Garretsen H, Bongers I. Implementation of evidence-based practice in nursing using action research: a review. Worldviews on Evidence Based Nursing. 2010 Sep;7(3):135-57.

Abstract

As is often reported in literature exploring the research-practice gap, applying the principles of Evidence Based Practice is easier said than done. Action research is a methodology with an explicit intent of linking the worlds of research and practice. This review attempts to answer the question: What is known about implementing EBP in nursing through action research? Twenty one action research studies have been used to answer this question. To prevent possible confusion over terminology, this paper uses a conceptual framework of four main target groups at whom implementation strategies are aimed and the various types of intervention.

Studies often failed to name the implementation strategies applied, necessitating deduction from the text by the reader. In most of the studies the implementation strategy was directed at a combination of target groups. Many of the reviewed projects reported positive contextual outcomes, 'knowledge improvement' among nurses and to a lesser degree improved 'performance'. Patient outcomes were the least reported outcome measure.

With an element of caution, this review concludes that the implementation of EBP using action research is a promising approach. Caution is needed because the lack of detailed descriptions of implementation strategies, their intensity and frequency prevents us from drawing firm conclusions. These are important consideration for any action researcher intending to implement EBP using this methodology.

3.1 Introduction

Evidence Based Practice (EBP) is now a well-established concept in nursing literature. In this paper Sackett's definition of EBP is used. Sackett et al. (1) defines EBP as an integration of best research evidence with clinical expertise and patient values in clinical decision making. Nevertheless, practicing evidence based practice is no sinecure, as witnessed by the citing of a gap between research and practice by various authors (2-5). This gap also exists within the medical profession (6-7).

This paper initially considers the factors that help and hinder the implementation of EBP as well as what is known about the effectiveness of implementation strategies and interventions. Specific attention is then paid to action research as an implementation strategy that may be suitable for EBP. After a theoretical consideration of action research, a review (N = 21) is presented that answers the question: "What is known about the results of implementing EBP in nursing using action research?" The results of the various research projects are dealt with successively, classifying them, paying specific attention to the target group at which the implementation strategy was focused as well as the various strategies applied. Finally, the results and limitations of the available research projects are discussed.

3.1.1 Factors that help and hinder implementation

Many authors (6, 8-17) have considered the question why it is so difficult to get health care professionals to adopt research results. The Barriers to Research Utilization Questionnaire (BRUQ) developed by Funk et al. (18) has often been used to identify the factors that are considered barriers to research implementation in nursing practice (16). The authors identified 29 barriers and clustered them around four factors that nurses perceive as obstacles to research utilisation in practice. These four factors are:

1. Characteristics of the adopter: the nurses research values, skills and awareness.
2. Characteristics of the organization: setting, barriers and limitations.
3. Characteristics of the innovation: qualities of the research.
4. Characteristics of the communication: presentation and accessibility of the research (18).

The importance of the organisational context is also emphasized in the PARIHS framework. This framework also describes factors that help the implementation of Evidence Based Practice. Developed in 1998 (9) and later refined (13, 19-21) the framework presumes that the most successful implementation of evidence seems to occur when:

- evidence is scientific and matches professional consensus and patients' preferences,
- the context has features of learning organisations, with transformational leaders and appropriate monitoring and feedback mechanisms (21),
- there is an input of skilled facilitators who adapt their facilitation strategies based on the availability of resources, the context's culture and values, the style of leadership and evaluation activities (21).

Gerrish et al. (16) later developed and tested a tool (Developing Evidence Based Practice Questionnaire) for investigating factors associated with evidence based practice among nurses in England. This tool consists of 10 identifiable factors that help and hinder the implementation of evidence based practice. Eight factors in this tool demonstrated high reliability (Cronbach's $\alpha \geq 0.7$). One of the differences between this tool and the BRUQ (18) is a broader interpretation of the term 'evidence', to include documents such as clinical protocols and guidelines, in addition to research evidence. This broader interpretation of evidence can also be found in the PARIHS framework.

Plas et al.(22) conclude that the factors that influence the implementation of new knowledge are diverse. This raises the issue of competing terminologies, where authors use their own list of factors (or a different classification of the same factors) and terms making the sharing and use of this knowledge in day-to-day practice even more difficult.

To prevent possible confusion over terminology, the authors of this paper have chosen to carry out this review using a conceptual framework developed by Plas et al. (22). The conceptual framework was specifically developed for this purpose and will be explained more fully in the method section**.**

3.1.2 The effectiveness of strategies and interventions

Bero et al. (23) conducted an overview of 18 systematic reviews of interventions to promote the implementation of research findings in health care. Most of the included studies focus on physician behaviour, although nurses' behaviour is also taken into account.

Thompson et al. (17) warn that generalizing findings from existing reviews to the nursing profession is problematic because of the different nature and (social) structure of nursing compared to medicine. This required us to restrict our search for studies to those focusing on the nursing profession.

Halfens & van Linge (4) studied which strategies are effective for the implementation of guidelines by nurses. This study concluded that whilst educational strategies do improve nurses' knowledge it did not affect their behaviour or patient outcomes. Multiple strategies (a combination of education with one or more other strategies such as participation or aids) are fairly effective in terms of improving the knowledge and behaviour of carers, but have hardly any effect on patient results.

Thompson et al. (17) conclude in a recent review that there are very few methodologically strong studies on the implementation of research findings in nursing. In the four studies they found, education was the most frequently used form of intervention for promoting the use of research findings in nursing. However, education on its own did not prove to be an effective strategy. In their review Thompson et al. (17) found that when education was combined with the training of a local opinion leader, increased research utilisation was observed. The same positive results were also found in the only study not using education as

the primary component but rather researchers and nurses participating in multi-disciplinary committees formed to optimize pain management (24).
Several authors (4, 25, 26) advise that characteristics of the context, the new knowledge, the actors involved, and their possible interactions should be taken into account when implementing change.
Action Research methodology is a form of implementation which satisfies these points as it directly addresses the problem of division between research and practice (27). Instead of being research 'on' a social setting and the people within it, it's research (in collaboration) 'with' stakeholders within their natural context. Participation and knowledge of those involved in the context is essential. This makes a closer look at what action research has to offer in the implementation of Evidence Based Practice worthwhile.

3.1.3 What is Action Research?

The origins of Action Research lie in the first half of the 20th century, and Lewin is often cited as the person who first used the term (28). He was interested in a social science that could help resolve social conflicts.
This aim immediately identifies the differences between Action Research and other research methodologies: change (action) and research are combined. An Action Researcher not only wishes to gather knowledge about a particular situation, but also to (help to) improve the situation while investigating it.
By conducting a systematic review (N=59) of the role of action research in UK healthcare settings, Waterman et al. (28 p. 11) arrived at the following core definition:

> *Action research (AR) is a period of inquiry that describes, interprets, and explains social situations while executing a change intervention aimed at improvement and involvement. It's problem focused, context-specific and future-oriented. AR is a group activity with an explicit critical value basis and is founded on a partnership between action researchers and participants, all of whom are involved in the change process. The participatory process is educative and empowering, involving a dynamic approach in which problem identification, planning, action and evaluation are interlinked*.

Waterman et al. (28) conclude that two criteria are fundamental to action research. First an intervention must be carried out as part of a cyclic process.
Staring with problem identification or diagnosis (including reflection), the cycle move on to planning, action (implementation of change and monitoring), and rounds off with evaluation/reflection before starting a new situation analysis.
The second fundamental criterion of Action Research concerns the partnership between the researcher and those being investigated in the research process.

In action research, those being investigated are often referred to as co-researchers. Partnership is seen as essential for developing practical knowledge and for implementing change in practice. This partnership enhances the accessibility of the knowledge created, to a wider public than a group of researchers, and so helps achieve the emancipatory intent of action research.

The partnership and the level of participation of those being investigated (the co-researchers) can vary. The minimum level of participation needed to guarantee success is not yet known (28).

Action Research is an umbrella term covering various types and, depending on the author, different classifications.

In this article the typology of Hart and Bond (29) is used. They sketch a continuum in which four types of Action Research are distinguished on the basis of 7 criteria (educative base, individuals in groups, problem focus, change intervention, improvement and involvement, cyclic processes and research relationship). The four types of Action Research Hart and Bond (29) distinguish are**:** experimental, organisational, professionalizing, and empowering. The 'experimental' type is focused primarily on discovering general patterns which serve as the basis for choices, while the 'organisational' type is more concerned with overcoming resistance and creating more-productive working relationships (29). Moving along the continuum is the 'professionalizing' type which is focused on practice, and reflects the aspirations of developing professions (such as nursing) to raise their status and develop practice based on research. Finally at the other end is the 'empowering' type which is characterised by the adoption of an anti-oppressive position in which there is collaboration with vulnerable groups in society.

The literature contains some indications that action research is a suitable methodology for bridging the gap between practice and research, and for implementing new knowledge. In their review (70% of the study participants were nurses, the other 30% were medical staff, educators, students and management), Waterman et al. (28) established the following short-term outcomes:

- learning results (67% of the studies) split between personal development (29%) and professional development (38%),
- changes in working practice, services, provision of training, and the attitude and perceptions of the staff (60%).

Long-term effects (impacts) were found by the authors in 54% of the studies. The two most important areas where these effects were achieved are changes in the provision of training (28%) and in clinical care (22%).

To bring the above review up-to-date, and to place more emphasis on the implementation of EBP within the nursing profession, a new review has been carried out with the question: *What is known about the results of implementing EBP in nursing through Action Research?*

3.2 Methods

To answer this question, a search was carried out using Academic Search Premier in which Medline and CINAHL are combined. A combination of the following keywords were used to search both the text and the titles of the articles: 'Action Research', 'Evidence Based Practice', 'Evidence Based', 'Implementation', 'Implementing', and 'Nursing'. Search expanders were also used to cover related concepts. There were no restrictions placed on the year of publication. A problem arose when trying to identify unambiguous, universally accepted criteria for assessing the quality of Action Research. In their review, Waterman et al. (28) encountered the same problem and therefore defined their own criteria. However, these have not been universally accepted. We too, had to formulate our own inclusion criteria, show in Table 3.1.

Table 3.1 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
• Implementation of EBP in nursing (so not, for example, in education) • Target group consists mainly of nurses and/or patients receiving nursing care • Partnership between researcher and those being investigated must be described • Action Research cycle(s) must be recognisable • Result must be described and substantiated • Published in a peer reviewed journal	• Not an Action Research project that has actually been carried out, an argument in favour of Action Research or a preparatory study for an Action Research project (N=17) • Target group does not consist mainly of nurses and/or patients receiving nursing care (N=4) • No implementation or no relation to EBP (N=16) • Collaboration between researcher and those investigated hasn't been made sufficiently clear (N=8) • No results are reported or the results described are poorly substantiated (N=10) • No insight is offered into the different phases of the cycle (N=7)

Initially 60 articles were found. A search for additional articles was made using the snowball method which resulted in another 18 articles. Finally, Dutch literature was searched using the Dutch database INVERT. This resulted in one more article, using the search terms 'actieonderzoek' and 'verpleegkunde' (30).

The abstracts of all 79 articles were examined for relevance to the central review question. In those cases where the abstract did not contain sufficient information to decide whether or not it was relevant, the whole article was read.

Of the 79 articles found, 24 satisfied the defined criteria. In some cases (N=6), the same Action Research was discussed in more than one article which reduced the review to 21 Action Research projects.

A total of 55 articles were excluded from the review. Table 3.1 shows how many were excluded per criterion. Sometimes more than one reason was used for excluding the same article, which accounts for total number of exclusions (62) being higher than 55.

3.3 The conceptual framework

As mentioned earlier, this review uses a conceptual framework developed by Plas et al. (22) to prevent potential confusion over implementation terminology. Plas et al. (22) developed the conceptual framework based on a literature review of the Dutch implementation literature (2000 – 2005) in (preventive) health care. The Dutch literature was completed using a selection of international implementation literature chosen by the researchers and an expert panel. The researchers acknowledge that they did not included all the relevant literature.

Based on the chosen literature, a provisional framework was developed that was further refined by two expert panel meetings. The usefulness of the refined framework has then evaluated by (a) applying implementation strategies and influencing factors found in the literature to the framework, (b) by researchers and professionals working in the field of implementation critiquing the framework. This resulted in the final conceptual framework published in the Netherlands in 2006.

Implementation strategy is defined as:

The whole set of goal oriented, cohesive activities used to implement a specific way of working or product, aimed at changing something or bringing about lasting change (22 p. 15).

Plas et al. (22 p. 16) define influencing factors as: *factors that help, or hinder, an implementation process or implementation strategy*.

The framework distinguishes various influencing factors in terms of four target groups (ranging from the individual end user to society as a whole) at whom the strategy is aimed, and various strategies (ranging from individual feedback to contracting care providers) related to the same four target groups.

The various factors influencing implementation and implementation strategies are presented in tables 3.2 and 3.3.

Table 3. 2 Influencing factors of implementation in four different domains

Individual: 'end user' (laymen/patients)	Individual: 'intermediaries' (carers, teachers, etc.)	Organisation (care institution, school, department, team)	Society as a whole (care system, other social sectors)
Individual cognitions	Individual cognitions	Organisation structure and working processes	Professional development
Individual motivations	Individual motivations	Organisation processes	Financial incentives
Individual behaviour	Individual behaviour	Available resources	Regulations
	Teams of professionals		
	Networks of professionals		

Table 3.3 Implementation strategies in four different domains

Individual: 'end user' (patients/ laymen)	Individual: 'intermediaries' (caregivers, teachers, etc.)	Organisation (care institution, school, department, ward, team)	Society as a whole (care system, other social sectors)
Mass media Use of mass media for education and guidance	**Mass media** Use of mass media for education and guidance	**Change of strategic objectives** Change in the long-term objectives of an organisation in order to encourage a certain change, for example more attention for older patients in hospital.	**Influence on the social agenda** Activities to bring certain themes higher on the social policy and political agendas. Example: demanding attention for a subject in the public media
Material for the individual Use of material intended for the individual (folders, self-study packages, CD ROM, etc.) for education and guidance	**Material for the individual** Use of material intended for the individual (folders, self-study packages, CD ROM, etc.) for education and guidance	**Change in organisation size** Change in organisation size (in terms of staffing and other resources or service output) to encourage a particular change, for example: hospital merger	**Professional development of professions** Professionalization of a profession to encourage a particular change. Example: start of development of national guideline
Personal contact Use of personal contact (with care provider, fellow sufferer, etc.) for education and guidance	**Personal contact** Use of personal contact (with care provider, fellow sufferer, etc.) for education and guidance	**Change in physical environment** Change in physical environment of the organisation to encourage a particular change. Example: move of department to different building.	**Financial incentives for laymen/patients** Use of financial reward or risk to encourage a particular change. Example: larger own risk for medical insurance
Meetings in small groups Use of meetings in small groups (self-help group, etc.) for education and guidance (arbitrary: up to 15 persons)	**Meetings in small groups** Use of meetings in small groups (self-help group, etc.) for education and guidance (arbitrary: up to 15 persons)	**Change in mix of competences** Change in staffing make-up to encourage a particular change. Example: employ more nurses relative to doctors.	**Financial incentives for carers / institutions** Use of financial reward or risk to encourage a particular change. Example: the introduction of a Diagnosis-Treatment Combination
Meetings in large groups Use of meetings in large groups (self-help group, etc.) for education and guidance	**Meetings in large groups** Use of meetings in large groups (self-help group, etc.) for education and guidance	**Change in professional roles** Change in tasks and responsibilities of professionals to encourage a particular change. Example: development of nurse practitioners	**Contracting of care providers** Use of contracting of care providers to encourage a particular change. Example: contract with medical insurer
Feedback based on measurements Use of feedback for individual functioning, based on measurements, for education and guidance	**Feedback based on measurements** Use of feedback for individual functioning, based on measurements, for education and guidance	**Change in teams** Change in structure or functioning of teams to encourage a particular change. Inclusion of paramedics in multi-professional team	**Legislation** Implementation of legislation to encourage a particular change. Example "quality law of care-institutions"
Decision support Use of aids for cognitive support of individual decisions. For example automated advice, reminders, decision aids	**Decision support** Use of aids for cognitive support of individual decisions. For example automated advice, reminders, decision aids	**Re-design of working processes** Change in the structure of working processes to encourage a particular change. Example: care chain for stroke patients	

Table 3.3 Implementation strategies in four different domains *(Continued)*

Individual: 'end user' (patients/ laymen)	Individual: 'intermediaries' (caregivers, teachers, etc.)	Organisation (care institution, school, department, ward, team)	Society as a whole (care system, other social sectors)
Change in living or working environment Change in living environment to encourage a certain lifestyle. Local mobility/exercise facilities.	**Change in living or working environment** Change in living environment to encourage a certain lifestyle. Local mobility/exercise facilities	**Standardisation of working processes** Working out of recommendations or regulations for working processes to encourage a particular change. Examples: guideline, protocol	
Use of symbols Use of people or organisations expected to influence the attitude of individuals. Terms include: champion, opinion leader, role model. If the symbol actually does something, this must be noted separately	**Use of symbols** Use of people or organisations expected to influence the attitude of individuals. Terms include: champion, opinion leader, role model. If the symbol actually does something, this must be noted separately	**Computerisation of working processes** Change in the use of information in working processes to encourage a particular change. Example: computerisation of dossiers	
		Change in internal communication Communication with individuals and parts of the organisation to encourage a particular change, including the fostering of support. Example: communication on new strategic objectives	
		Change in external communication Communication with individuals and organisations connected to an organisation including laymen / patients. Example: regional consultation	
		Change in leadership and culture Change in leadership methods or shared standards and values in an organisation. Example: selection of a different type of manager	

To answer our review question, a table (table 3.4) was prepared displaying answers, per included article, to the following questions.

- What innovation was implemented during what period of time?
- Who of the group being investigated were included in the research group (i.e., who played an active role in the research process)?
- What type of Action Research design was used, according to Hart & Bond's (29) classification ? To obtain a picture of the interrater reliability of classifying the projects, each co-author classified four of the included articles chosen at random. The results were then compared with the classifications made by the first author. This resulted in a Cohen's Kappa of 0.89, an almost a perfect agreement (31).
- What implementation strategy, as described by Plas et al. (22) conceptual framework, was used and with whom? The interrater reliability of this question was measured in the same way as described above. The Cohen's Kappa was 0.52, demonstrating a moderate agreement (31).
- What are the results of the Action Research project, using the headings:

1. knowledge of the practising professional
2. performance of the practising professional
3. patient outcomes
4. outcomes relating to the context.

In this review, the context is understood as '*the environment or setting in which the proposed change is to be implemented*' (19). This environment with its systems, processes and structures is characterised by the culture, the leadership, and the degree to which use is made of evaluation (19). Culture is defined as: the values and beliefs underpinning (32) 'the way things are done around here' (33) which gives the context a character and feel (34). Manley (32) describes three components and several cultural indicators of these components, found within (what she calls) a transformational (=effective) culture. These three effective culture components are: staff empowerment, practice development and a workplace context where all stakeholders are of value and quality is everyone's concern (32).

Leadership (the second element of the context) is important because a leader can change the organizational culture and create a context that is more conducive to the integration of evidence and practice (35).
Evaluation (the third element of the context) and context are linked because the culture of an organization influences the type of evaluation tools used and the way the results of these tools are presented and valued (35). Evaluation has a twofold importance: it generates knowledge that can be used to guide practice; it shows whether change was effective or efficient as well as whether further change is needed (19).
The issues that emerged from the review of the papers included in table 3.4 are discussed

in more detail in the rest of this paper. The following topics are considered in succession: the duration of the research project; the composition of the research group and the type of Action Research. The target group of the implementation is then considered, and the interventions used for implementing EBP are described. The section ends with an overview of the findings.

3.4 Results

3.4.1 Duration of the research projects

The duration of the research projects ranged from 2.5 months (55) to 4 years (45, 49). The average duration of the implementation was 22 months. Once again, different articles reporting the same Action Research project were treated as one article.
In five articles (38, 39, 51, 52, 56) failed to report how long the Action Research project lasted.

3.4.2 Composition of the research group

Which participants being investigated play a (more or less) active role in the research? Of the 21 Action Research projects seventeen included only professionals in the research group. Four research projects (41, 53, 55, 59) included a combination of patients and professionals in the research group.

3.4.3 Type of Action Research

As stated earlier, Hart and Bond's (29) classification of Action Research projects was used. The seven criteria (as above described) were used initially. However, classifying an Action Research project was not straight forward. The characteristics of an individual project sometimes meant that it met the criteria of different types of Action Research. In addition, not every article provided sufficient details to enable assessment using all of the Hart and Bond criteria. In spite of this, the classification process resulted in an almost perfect agreement between assessors (0.89 Cohen's Kappa).
The most frequently occurring type of Action Research was 'professionalizing' (N=10), followed by 'empowering' (N=6), 'experimental' (N=3), and 'organisational' (N=2).

3.4.4 What is the target group of the implementation strategy?

In line with Plas et al.(22), an implementation strategy is understood to be a totality of connected activities targeted at achieving the introduction of a particular product or method of working, setting a specific change in motion, or realising a permanent change.
As shown in table 3, Plas et al. (22) distinguish four target groups (ranging from an individual end user to society as a whole) at whom or at which the strategy can be directed. An implementation strategy can also be directed at more than one target group, and each target group can be the subject of more than one strategy or intervention. The strategies in the articles were often not named and consequently often had to be deduced from the text.

Table 3.4. Results of the included articles

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
1. (36)	Preparation of Best Practice Statements to inform nursing care of older people. (length 3.5 year)	Community of Practice of geographically dispersed groups of registered nurses from the NHS and independent care homes with expertise in caring for older people in Scotland (n=30).	Professionalizing	▪ Intermediary; Personal contact, material for the individual, feedback based on measurements, meetings in small/large groups, mass media ▪ Organisation; standardisation of working processes, changes in internal communication, changes in external communication	Knowledge: ▪ expertise development by knowledge sharing ▪ more focused perspective on gerontological nursing Performance: ▪ significant improvements in nutrition and hydration assessment, recording and individualized monitoring at 6 and 15 months after implementation ▪ person centred care planning Context: ▪ guidance based on diverse forms of evidence ▪ participation is leading to group ownership to promote good practice
2. (37)	Developing action planning skills (a key step in achieving change) with a practice development strategy in an acute hospital in the UK. (length 3 year)	Nurses and practice developers for whom action planning was an issue.	Professionalizing	▪ intermediary; meetings in small/large groups, material for the individual, personal contact ▪ Organisation; standardisation of working processes, change in professional roles, changes in leadership and culture, changes in internal communication	Knowledge: ▪ barriers to successful action planning to be recognised and adressed Performance: ▪ live action plan with progress against objectives Context: ▪ a patient forum is run and feedback is integrated ▪ reviewing team structure to adress patients issues ▪ adjustments for ease of use by patients ▪ workplace culture has shifted towards increased team responsibility for change
3. (38)	Implementing validated pain assessment tools across a children's hospital (length not reported) in Northern Ireland.	Researcher and a clinical nurse specialist in pain	Experimental	▪ intermediary; meetings in small/large groups, personal contact ▪ Organisation: standardisation of working processes, changes in internal communication	Knowledge: ▪ After 6 months 55% of the nurses demonstrating knowledge how to use the tool Performance: ▪ 23 % of the children have a pain assessment tool at 6 months and 40% at 1 year. ▪ Nurses are involving more parents In pain management of their children ▪ Differences in what the nurses said they were doing and the evidence provided by charts
4. (39)	Developing, implementing and evaluating a new model of care in an acute medical ward in Australia. (length not reported)	Nursing staff (n=13)	Professionalizing	▪ End user: personal contact ▪ intermediary: meetings in small/large groups, feedback based on measurements, personal contact, decision support ▪ Organisation: changes in internal communication	Knowledge: ▪ Expanding knowledge by sharing their knowledge Patient outcomes: ▪ significant more satisfied with physical care and discharge planning ▪ significant improvement in ADL ▪ significant improvement of knowledge about medication Context: ▪ enthusiasm to change practice ▪ empowerment in planning and changing practice

Table 3.4. Results of the included articles *(Continued)*

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
5. (40)	Improving pressure ulcer prevention in a nursing home in the UK. (length 9 months)	Home nursing and care staff	Professional-izing	▪ Intermediary: meetings in small/large groups, feedback based on measurements, personal contact ▪ Organisation: standardisation of working processes, changes in internal communication	Performance: ▪ Improvements of pressure ulcer benchmarking scores Patient outcomes: ▪ significant reduction of incidence of pressure ulcer Context: ▪ improvement of professional relationships and communication ▪ staff are more in control and is able to influence others ▪ development and implementation of system of supervision
6. (41)	Facilitating learning with people who have a mental illness and incontinence who are residing in Supported Residential Facilities in South Australia. (length 12 months)	2 researchers, continence nurse advisor and clients (N=37) with both a mental illness and incontinence	Empowering (clients)	▪ End user: meetings in small/ large groups (12x), feedback based on measurements, personal contact, decision support	Knowledge: ▪ better understanding of impact of mental illness Patient outcomes: ▪ more knowledge about incontinence and strategies ▪ more use of self management strategies ▪ improvement of continence status
7. (42)	Facilitate changes in moving and handling practice for patients with stroke by empowering staff of a stroke unit to effect meaningful change in the UK (length 2.5 year)	Nursing staff of the stroke unit (N=12)	Professiona-lizing	▪ intermediary: material for the individual, meetings in small/ large groups, change in physical environment, personal contact ▪ Organisation: changes in internal communication	Knowledge: ▪ knowing how to move and handle stroke patients ▪ identification of issues that influence moving and handling practice Performance: ▪ more handling according care plan Context: ▪ staff felt empowered through active participation ▪ staff felt validated ▪ more aware of self and others ▪ enhanced understanding nurses and physiotherapists ▪ regard for patient and staffs safety ▪ Rehabilitative handling workshop in the hospital ▪ ongoing audit to monitor ▪ (changes are still maintained)

Table 3.4. Results of the included articles *(Continued)*

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
8. (43)	Development and implementation of an assessment constructed from service users experience in a memory clinic in Wales.(length 14 months)	Specialist memory clinic nurse, staff of the memory clinic (Clients experiences were used).	Empowering	▪ intermediary; meetings in small/large groups, feedback based on measurements ▪ Organisation; changes in internal communication, changes in leadership and culture	Knowledge: ▪ Recognition of the need to relate the user knowledge to practice based knowledge Performance: ▪ more person centred assessment and interventions Context: ▪ care more organised according clients wishes
9. (44)	Development and implementation of multidisciplinary assessment guidelines in a female ward for older people in a hospital in the UK (length 3 year)	Project leader and multidisciplinary stakeholders: from medical, nursing and social care therapy from both the hospital and community trust	Professional-izing	▪ intermediary: meetings in small/large groups, personal contact, feedback based on measurements ▪ Organisation; standardisation of working processes, changes in internal communication, computerisation of working processes	Knowledge: ▪ increased staff knowledge Patient outcomes: ▪ Improvement of perception of involvement, continuity of information and satisfaction ▪ Reduction of reported functional problems on going home Performance ▪ 44% of staff identified standardized assessment as a component of recharge planning ▪ Some diagnostic instruments were completed for all patients ▪ Other instruments are not used Context: ▪ Extended roles ▪ National recognition of project leader ▪ Joint appointment university and hospital to support practice development ▪ Changes are sustainable 3 years after leaving project leader
10. (45) a) (46)	Promoting face down posturing of patients following virtreo-retinal surgery for macular hole in a hospital in the UK. (length 4 year)	Nursing staff, clinical nurse manager and a senior physician from inpatient ward and outpatient setting (N=19). They used patients experiences	Professional-izing	▪ Intermediary; meetings in small/large groups, material for the individual, personal contact ▪ Organisation; change in professional roles, change in mix of competences, changes in internal communication	Knowledge: ▪ more knowledge why and how to use equipment and factors influencing posturing Patient outcomes: ▪ patients are clearer about what is expected and more likely to posture quickly and longer Performance: ▪ nursing care more appropriate and consistent although some areas progress could be made Context: ▪ new nurse practitioner post ▪ a loan system for posturing equipment ▪ communication on ward improved ▪ teaching sessions and packages ▪ staff is contacted by professionals outside the Trust for consultation

Table 3.4. Results of the included articles *(Continued)*

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
11. (49)	Implementing multi sensory environments for older clients with dementia in a nursing home in the UK (second phase of a 4 year study)	Nursing staff (N=21) and professionals allied to medicine (N=8) working in the unit (n=29)	Professionalizing	▪ Intermediary; meetings in small/large groups ▪ Organisation: changes in Professional roles, changes in internal communication	Knowledge: ▪ Staff are more aware of therapeutic relationship and own potential Context: ▪ Staff are reminded about the patient's personhood ▪ Staff experience a positive shift in their relationship with clients
12. (50)	Implementing osteoporosis care based on agreed protocols (length 2 year) in a hospital in the UK	2 researchers, 2 nurses, 1 physiotherapist and a health educationalist.	Empowering	▪ intermediary: meetings in small/large groups, feedback based on measurements ▪ Organisation; change in professional roles, changes in internal communication	Context: ▪ Introduction of a new preventive health promotion programme for osteoporosis ▪ Setting up formal osteoporosis referral guidelines ▪ designing and developing new information packs for staff ▪ Liberating and enlightening process for the research participants ▪ Little feedback from, and interaction with and change by clinical staff
13. (51)	Implementation of a multidisciplinary integrated care pathway for patients with fractured neck of femurs on a orthopaedic ward in a hospital in the UK. (length is not clear, longer than 1 year)	Multidisciplinary staff (medicine, nursing, physiotherapy, occupational therapy and care management) of the orthopaedic ward. Size of the group isn't reported.	Experimental	▪ intermediary; meetings in small/large groups, ▪ Organisation; standardisation of working processes, computerisation of working processes, changes in internal communication	Knowledge: ▪ Increasing awareness of causes of discharge delays Context: ▪ New multidisciplinary integrated care pathway ▪ Little indication for improved multidisciplinary collaboration Performance: ▪ Discharge plans were made within 48 hours ▪ Better documentation of assessment according to care pathway (goals were rarely recorded)
14. (52)	Implementation of disciplined inquiry in the perioperative nursing arena of a large medical center in the USA. (length is not reported)	Nursing staff of a perioperative cluster. Size of the group isn't reported.	Professionalizing	▪ Intermediary: meetings in small/large groups, feedback based on measurements, changes in living or working environment ▪ Organisation; changes in internal communication, changes of strategic objectives	Context: ▪ Participation in several learning activities ▪ New facilities to stimulate the development ▪ Formalized process will serve as a prototype in other clinical areas

Table 3.4. Results of the included articles *(Continued)*

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
15. (53)	Better understanding of how people living with MS manage their urinary incontinence in Australia (length 4 months)	4 woman with MS and urinary incontinence and 2 continence nurse advisors	Empowering	▪ End user: meetings in small/ large groups (5x), personal contact, feedback based on measurements	Knowledge: ▪ Better understanding of how women with MS coping with incontinence Patient outcomes: ▪ Patients are more empowered by research process ▪ Better able to decide which pad to use and more able to prevent wet spots and odour
16. (54)	Development and implementation of interdisciplinary preventive discharge planning on a hospital rheumatology clinic in Denmark. (length 28 months)	Multidisciplinary staff (chief nurse, physiotherapist, occupational therapist, nurse, social worker, chief doctor, unit leader of the home care service, general practitioner, research nurse and a researcher)	Professiona-lizing	▪ Intermediary: meetings in small/large groups, feedback based on measurements ▪ Organisation; standardisation of working processes, changes in mix of competences, changes in internal communication	Knowledge: ▪ A local theory was formed about preventive discharge ▪ Insight in enabling and adverse factors in the context Context: ▪ 2 useful instruments to improve discharge. ▪ Greater feedback from patients by entering into dialogue ▪ Better contact between primary and secondary sector
17. (55)	Implementing best practice in the management of urine-incontinence by man in Australia (length 2.5 months)	4 man with MS and urinary incontinence and 1 continence nurse advisor	Empowering	▪ End user: meetings in small/ large groups (5x), personal contact, feedback based on measurements	Patient outcomes: ▪ Patients formulate action plans ▪ Sense of urgency was reduced ▪ Better sleep ▪ More knowledge about incontinence ▪ Felt empowered to make changes
18. (56)	Implementation of the assessment of pressure damage risk to patients within a large acute hospital in the UK (length is not reported)	Staff of the hospital (nurse managers, nurses, staff nurse, clinical nurse special-ist).Size of the group isn't reported.	Organiza-tional	▪ Intermediary: meetings in small/large groups, material for the individual, feedback based on measurements ▪ Organisation: standardisation of working processes, changes in professional roles, changes in internal communication	Context: ▪ New training programme on prevention of pressure damage ▪ More strategic role for skin care specialist ▪ Collecting incidence and prevalence data ▪ in 1 cluster (extra support) practice is based on appropriate evidence ▪ in other clusters this is not the case due to the lack of ownership by the managers

Table 3.4. Results of the included articles *(Continued)*

Author	Innovation	Research group	Type of Action Research	Target group and implementation strategy	Outcomes
19. (57) b) (58)	Development and implementation of a collaborative stroke training programme for nurses on a elderly care rehabilitation ward in the UK(length 5 months)	Staff of the rehabilitation ward (nurse manager, nursing staff, physiotherapists and a researcher). Size of the group isn't reported.	Organizational	▪ Intermediary: meetings in small/large groups, personal contact ▪ Organisation; change in professional roles, changes in internal communication	Context: ▪ Programme of 6 sessions is developed ▪ 7-12 nurses attended each session of the programme ▪ Participation in the programme is high (median is 6 sessions) (58): Performance: ▪ More thoughtful and conscious approach to nursing Context: ▪ attitude of nurses towards working with stroke patients is significantly improved ▪ Role of nurses is enriched ▪ Increase in confidence ▪ Barrières are breaking down ▪ closer inter- and intradisciplinary relationships ▪ more considerate of patient needs ▪ start of a continual improvement and learning
20. (59)	Identifying strategies for managing urinary incontinence with woman who have multiple (length 4 months)	8 woman who have MS and urinary incontinence and 4 continence nurse advisors	Empowering	▪ End user: meetings in small/large groups, personal contact, feedback based on measurements	Knowledge: ▪ More knowledge about management strategies of patients ▪ Nurses are able to conduct their own research groups Patient outcomes: ▪ use of more appropriate pads and effective strategies ▪ enhancement and enrichment of knowledge ▪ empowered by sharing the experiences ▪ continuation of the group after the research Context: ▪ major changes to provision and distribution of pads ▪ funding for further research on the topic

Most (N=15) of the research projects in the review used an implementation strategy directed at a combination of target groups in the conceptual framework. Only four research projects (41, 42, 47, 53, 55, 59) used a strategy limited to a single target group.
In almost all cases (N=17), the strategy was directed at professionals. The strategy was often (N=15) directed at the organisation too, and to a lesser extent (N=6) the end user, the patient, or his family. No cases were found that directed their strategy at the most abstract target group of Plas et al's. (22) conceptual framework: society as a whole.

3.4.5 Which implementation strategies were applied for the various target groups?

Implementation strategies aimed at the "professional" target group

In all the research projects (N=21) an attempt was made to implement EBP using multiple strategies. The two most applied strategies for *professionals* (intermediaries) were small or large group meetings (N=17), and personal contact (N=10). Plas et al's (22) conceptual framework differentiates between small group are large group (>15 persons) meetings. However, in this review this distinction is not upheld as group size was often not reported. Group meetings usually had an educational character. Other regularly occurring strategies aimed at professionals were feedback on the basis of measurements (N=7) as well as the use of personal material (N=6) such as folders and literature relating to education and guidance. Strategies that seldom occurred were the use of mass media (N=1) and changes to the living or working environment (N=1).

Implementation strategies for the "organisation" target group

Of the 17 research projects where the strategy was directed at the *organisation*, all involved changing internal communication (N=17). Creating a Community of Practice (36) or conducting ward meetings (39) are examples of 'changing communication'.
Other strategies that regularly appeared was the changing of professional roles (N=6) and standardising working processes (N=8) through the use of tools such as guidelines etc.

Implementation strategies for the "end user / patient" target group

Of the 5 research projects where the strategy was directed at the *patient* or his family, the most common strategies used were personal contact (5x), group meetings (4x) and feedback on the basis of measurements (4x). Other strategies such as the use of mass media, changes to the living or working environment, and the use of symbols, weren't used at all.

Implementation strategies for "society as a whole"

No interventions were directed at influencing the most abstract level of Plas et al's (22) conceptual framework: *society as a whole*. A possible explanation for this could be the fact

that only those articles describing the functioning of the nurse in direct patient care (the micro level) were included in this review, whilst 'society as a whole' is a factor at the macro level.

3.4.6 An overview of the described results

In the review, the results found in the articles are broken down according to

- the knowledge of the professional,
- performance of the professional,
- patient outcomes,
- contextual outcomes.

The results are described successively under these outcome measures.

The Knowledge of the professional

In 15 research projects, the *knowledge of the professional* was found to have increased. Examples of this increase include: a better perspective on the care of older people (36) and a better understanding of the ways in which the present way of working can be improved (37, 45) or of the impact of the illness on the patient (41).

In the remaining 6 articles, nothing is reported on changes to professional knowledge. Evidently, in these research projects, nurses' knowledge was not considered an outcome to be measured.

Performance of the professional

Nurse *performance* improved in 11 of the 21 research projects. These improvements ranged from a better screening of patients (36) to the use of preventive measures (40, 47) and better discharge planning (51). Two articles reported no improvement in performance. For example, Atwal and Caldwell (51) found that in spite of the implementation of an integrated care pathway, multidisciplinary collaboration was not improved. Ross et al. (44) also found that some of the diagnostic tools implemented were not used by nurses. In the other articles nothing was reported regarding change in nurse performance.

Did patients also benefit from Action Research?

Outcomes affecting the patient were reported in only 7 of the research projects. This outcome measure was the least reported result.

The most frequently reported patient outcome result (N=5) was an increase knowledge of those patients involved in the research (39, 41, 53, 55, 59).

There was also an increase in patient satisfaction (39), a health benefit in the form of a lower incidence of decubitus (40), or reduced functional problems after discharge (44).

Koch et al. (53, 55) also observed that patients were empowered by the research, and their self-management was extended (41) which offers a practical example of empowerment.

Contextual outcomes; culture, leadership and evaluation

Most of the research projects (N=17) reported different results related to the *context* in which the research was carried out. In this review, the context is understood to be '*the environment or setting in which the proposed change is to be implemented*' (19). This context is characterised by the culture, the leadership, and the degree to which use is made of evaluation (19). The results on culture, leadership, and evaluation are now described in succession.

Culture

In all 17 research projects that reported context results, *cultural* change in the context in which EBP was implemented was described. Examples included new care or training developed in collaboration with those involved (36, 46, 50, 51, 56, 59), a different workplace culture (37), a process of continuous improvement (58), an enduring research climate (46, 56), and a team that takes more responsibility for change (37, 40).

Various authors also found positive results in the communication and collaboration between team members and other disciplines (40, 42, 46, 54, 58) or in the nurse-patient relationship (58, 60).

Action Research appeared to create a clearer view of the barriers present in the context which influence the implementation of EBP. Some examples of these barriers are time constraints and nursing staff levels that reduced the ability to perform nursing procedures (39, 47), high workloads (47) and no ownership of the implementation by the nurses from the beginning, due to a top-down approach (54).

Apart from these positive contextual result, two authors reported that the hoped for results to the context were not achieved. Whitehead et al. (50) concluded that the changes among staff who did not act as co-researchers were limited, and Gerrish et al. (56) established that no evidence-based culture developed in other clusters that were involved in the research because of inadequate support by the management.

Leadership

No research projects reported specific results with regards to leadership.

Various research projects (36-37, 40) did describe that, as a result of the research, nurses felt responsible, personally involved, empowered (39, 42), and more influential (47). These results possibly denote the development of a culture of transformational leadership in which everyone is seen as a leader of something (19).

Evaluation

Three research projects in the review reported that implementation using Action Research led to increased evaluation. O'Neal and Manley (37) and Gerrish (56) described that more use was made of feedback from patients, and Mitchel et al. (42) described that there was a

continuous audit so that results could be monitored constantly. The other articles did not report any results on this outcome.

In their review, Waterman et al. (28) distinguish short-term results (outcomes) and long-term results (impacts). The results from the articles included in this review describe mainly short-term results. Only a few authors (N=3) describe long-term results i.e. results found one year after implementation. Examples of these are: better screening, monitoring, and record keeping 15 months after the implementation (36), greater use of measuring instruments after one year (38), and continuation of improved performance three years after the departure of the project leader (44).

3.5 Conclusion and discussion

With an element of caution, this review indicates that the implementation of EBP using Action Research is promising. In all the articles included, positive results are reported for one or more of the outcome measures referred to in this paper. Action Research would therefore seem to be a useful way of bridging the earlier described gap between research and practice. However, this positive picture can have been influenced by publication bias, since articles with positive results are more likely to be published than those describing unsuccessful implementations. An indication of this phenomenon is the fact that there are very few articles (38, 50-51, 56) in the review that reported failure to achieve the expected outcomes. The implementation strategies used in the research projects studied were often not named and consequently had to be deduced from the text. Looking inside the 'black box' of implementation is necessary if the research-practice gap is to be closed. This requires detailed descriptions of the implementation activities used in research projects**.**

The duration of the research projects described could be deduced from most of the articles in this review. However, this was not often the case with regards to the intensity, frequency and style of facilitation given by the researcher leading to results. Based on the evaluations of the articles it is therefore not possible to obtain insight into, or draw conclusions about the relationship between the intensity, facilitation style and frequency of the strategies adopted and the outcomes. Such descriptions are vitally important for implementation knowledge, whether Action Research or any another approach is used for implementing EBP. If such information were given, it would be possible to look inside the 'black box' of implementation and to draw conclusions about the manner, degree, and frequency of nursing staff facilitation required for the successful introduction of changes to their (professional) practice. We therefore strongly recommend that researchers (whether they use action research or not) should include such parameters in their publications. Hulscher et al. (61) have developed a process evaluation framework that could aid researchers and facilitators to achieve this goal. Alongside the frequency of the intervention activities, the framework also pays attention

to the features of the target group, the change agent and the features of the information imparted. It would seem logical to add 'facilitation style' to the framework too.

Classifying the various research projects using Hart and Bond's (29) conceptual framework was no easy task. During the assessment of the Action Research projects included, situations arose in which a project was assessed as meeting the criteria for one of Hart and Bond's (29) descriptors (for example: problem focus criterion for experimental AR), while at the same time meeting another descriptor criterion (for example: individuals in groups criterion for professionalizing AR). After careful discussion the reviewers agreed that each Action Research project would be classified as the type for which the most characteristics were met. Each characteristic was given the same weight, even though this move is debatable. Hart and Bond (29) have not expressed any opinion on this.

A disadvantage of the method adopted for this paper is that it gives the impression that a classified Action Research project held the same characteristics throughout the study whereas Hart and Bond (29) indicate that the type of Action Research may vary during the different cycles.

One of the difficulties in assessing the type of Action Research is caused by the fact that most authors give little information about the methodology used. This may be caused by editorial limitations on the number of words allowed for an article text. This may also explain why some research projects (45-48, 57, 58) were split into different articles.

As stated in this article, there are no generally accepted criteria for a critical appraisal of Action Research. This is clearly an undesirable situation**,** although some authors (62) argue that the researcher/practitioner is the only important judge of quality. It could also be debated whether or not universal criteria for Action Research could even be developed, or whether it is necessary to define a specific set of criteria for each type of Action Research. Hope and Waterman (63) present three avenues of thought on the relationship between validity and action research and remind us of a similar debate between validity and qualitative research.

EBP is the well-considered use of the best available evidence, from diverse sources, for patient care. Such decision-making processes, which are subject to the influence of many factors, take place within the nurse's head. This implies that simply studying nurse behaviour (17) is insufficient as an outcome measure, as this only reveals what the nurse is 'doing' and not what she is 'thinking' i.e. why she chose to act in a certain way and which alternatives she had considered.

Following Thompson et al. (17) it is recommended that, in addition to the nurse performance, additional classes of outcomes should be adopted such as the use of research literature, clinical expertise, patient values and the integration of these three in the decision-making process. Researching the decision-making process and the factors that influence this process would provides essential knowledge on how decisions are made. In addition, such

an outcome measure would do justice to the essence of EBP; the well-considered use of the best available knowledge, from different sources, in patient care.

The conceptual framework of Plas et al. (22) proved to be a user friendly tool in the assessment the different implementation strategies and target groups. The framework enabled the use of unambiguous terms, a fundamental condition for generating knowledge in the implementation arena. As stated earlier, the inter-rater reliability score for the classifying of implementation strategies using the conceptual framework was moderate (Cohen's Kappa 0.52). This moderate score was mainly caused by the fact that implementation strategies were not mentioned in the reviewed articles and therefore had to be deduced from the text.

A disadvantage of the conceptual framework is that the strategy 'meetings in small / large groups', which was the strategy most named, gives no indication of the type of interaction between participants during these meetings. We already know from the review by Thompson et al. (17) that education is the most commonly used implementation strategy, and Bero et al. (23) reported that interactive education is more effective than 'traditional' didactic educational meetings. An improvement to the conceptual framework would be to refine 'group meetings' by adding descriptions which would make clear how interactive the meetings are. However, it should also be noted that few authors included in this review offered insight into the type of interaction during group meetings.

By using Plas et al.'s (22) conceptual framework it became clear that very few interventions were aimed specifically at changing leadership and culture, even though these factors are cited by various authors (9, 19) as obstacles to the implementation of EBP. However, it could be argued that other frequently occurring interventions, such as changes to internal communication and personal contact, also contribute (indirectly) to altering culture. Various examples of the 'culture' outcome measure support this. Such dynamics between several domains and strategies are not sufficiently visible in the framework.

It is not possible to draw conclusions on whether or not Action Research is more or less successful in implementing EBP compared to designs that are less cyclic and not based on partnerships between the researcher and those being investigated. What was evident to us, is that a participatory approach leads to results that are less expected with a non-participatory approach to implementation. Examples of this are nurses feeling personally responsible for a developed guideline (36), expertise development because of knowledge sharing (36, 39), and teams feeling more responsible for the changes to care (37, 40, 47). These are examples of changes to the culture of the organisation where the implementation took place. These cultural changes were also found by O'Neal and Manley (37) and Gerrish and Clayton (64).

The participatory approach enables nurses to become empowered (42) and enthusiastic (39, 50), and tasks are extended to include that of co-researcher (46, 50). These findings

are important as they could help reduce the number of nurses (prematurely) leaving the professional due to them experiencing a lack of challenge from their work and/or a lack of personal and professional development opportunities.

As is clear from some articles (53, 65), the participatory approach also enables patient empowerment. Since, from a nursing perspective, it is important that patients maintain control over their lives and illness, more specifically for those with chronic disorders (66), this result is important too.

The importance attached to the results of this review, which are probably due to the participatory approach nature of Action Research, will partly dependent on the intended purpose of, and the opinions held on, the implementation of EBP.

If those implementing EBP see it as simply introducing specific guidelines or ways of working that were developed outside the context, and that after the introduction 'business as usual' should continue, the additional effects described above will appear superfluous. Such approaches to the implementation of EBP are more linear and top-down implementation than Action Research.

However, if the implementation of EBP is seen as involving a change in the prevailing culture so that nurses feel more responsible for their actions, reflect on their ways of working, collaboratively seek evidence-based alternatives, implement and evaluate these changes, then the additional beneficial effects described above are of great importance. In the Anglo-Saxon literature, such a way of working is called 'practice development' (67). With such a goal in mind, Action Research seems a suitable methodology for reducing the gap between research and practice by uniting these previously separate worlds. If we take the literature on contextual and cultural factors influencing the implementation of evidence in practice seriously, it seems wise to invest in an Action Research methodology.

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Chapter 4

Using the PARIHS Framework in assessing two Mental Health Care Settings for the Implementation of Evidence into Practice

Munten G, Cox K, Bongers I, Garretsen H. Using the PARIHS Framework in assessing two Mental Health Care Settings for the Implementation of Evidence into Practice. [Submitted].

Abstract

Implementing Evidence Based Practice (EBP) in nursing is difficult, and there are several factors influencing implementation. These factors should be assessed and dealt with beforehand, so that implementation can be tailored to the specific setting. The Promoting Action on Research Implementation in Health Services (PARIHS) framework [1] is used for assessing these factors.

This analysis formed the first phase of an action research study in two mental health organisations in the Netherlands. The question answered in this article is: Which factors have to be dealt with in two mental health nursing settings, so the implementation of EBP will be more successful? A comparative design was used to examine both settings. Data were collected using both quantitative and qualitative approaches.

The two settings analysed, showed many similarities i.e. few success factors for evidence implementation being present. Both settings scored low in all three factors of the PARIHS framework i.e. evidence, context, and facilitation. This implies that these settings are not receptive to change (such as the implementation of EBP), and the chance of successful implementation is low.

Although there is a lot of attention for EBP in health care literature, this study shows that EBP is a concept that is not familiar to the nurses participating in this study. Besides the nursing knowledge and expertise, the context, culture and facilitation in the two settings is also not contributing to the use of evidence. Implementation of EBP is complex and can't be restricted to individual nurses who are treated in isolation from the setting they work in.

4.1 Introduction

Evidence Based Practice (EBP) is now a well-established concept in nursing literature. Nevertheless, practicing evidence based care is no sinecure, as witnessed by the citing of the gap between research and practice by various authors (2-6). Bridging that gap, by the successful implementation of EBP is not easy due to several factors that influence the success rate of evidence implementation. Such an implementation has to be customized because there is no golden bullet for all innovations in every setting (3). This customizing process requires a diagnostic analysis of the target group and the setting, the result of which then forms input for an implementation plan (7-8). The expectation is that an implementation plan will be more successful when attuned to the factors emerging from the analysis.

In this article the Promoting Action Research Implementation in Health Services (PARIHS) framework has been used as a diagnostic tool. This framework is built on the assumption that successful implementation of evidence is a function of the relationship between the nature and the type of the evidence, the qualities of the context in which the evidence is to be introduced, and the way the implementation process is facilitated (9-10).

This article is a result of the diagnostic analysis carried out in 2005 and 2006, guided by the following question:

Which factors have to be dealt with in two mental health nursing settings, so the implementation of EBP will be more successful?

The analysis is the first phase of an action research project aimed at the implementation of Evidence Based Practice in partnership with mental health nurses caring for clients with severe mental illnesses. The aim of this analysis is to identify the factors which are of influence within implementation. Insight into these factors gives the opportunity to attune the facilitation, so nurses can be supported (in the next phase of the action research) in the use of evidence when they take care for their patients.

4.2 PARIHS framework and it's elements: Evidence, Context and Facilitation

As stated above, the PARIHS framework (9-10) has been used as a diagnostic analytical tool. The framework, developed in 1998 (10) and later refined (11-13), consists of three elements: evidence, context and facilitation, which have a dynamic simultaneous relationship and can be positioned on a "high" to "low" continuum (see Table 4.1).

Table 4.1 the PARIHS framework (14)

Evidence

Research	
low	high
▪ Poorly conceived designed and/or executed research ▪ Seen as only one type of evidence ▪ Not valued as evidence ▪ Seen as certain	▪ Well conceived, designed and executed research appropriate to the research question ▪ Seen as one part of the decision ▪ Lack of uncertainty acknowledged ▪ Social construction acknowledged ▪ Judged as relevant ▪ Importance weighted ▪ Conclusions drawn
Clinical experience	
low	high
▪ Anecdote with no critical reflection and judgment ▪ Lack of consensus within similar groups ▪ Not valued as evidence ▪ Seen as only type of evidence	▪ Clinical experience and expertise reflected upon, tested by individual and groups ▪ Consensus within similar groups ▪ Valued as evidence ▪ Seen as one part of the decision ▪ Judged as relevant ▪ Importance weighted ▪ Conclusions drawn
Patient experience	
low	high
▪ Not valued as evidence ▪ Patients not involved ▪ Seen as the only type of evidence	▪ Valued as evidence ▪ Multiple biographies used ▪ Partnerships with health care professionals ▪ Seen as one part of the decision ▪ Judged as relevant ▪ Importance weighted ▪ Conclusions drawn

Context

Context	
low	high
▪ Lack of clarity around boundaries ▪ Lack of appropriateness and transparency ▪ Lack of power and authority ▪ Lack of resources ▪ Lack of information and feedback ▪ Not receptive to change	▪ Physical/social/cultural/structural/system boundaries clearly defined ▪ Appropriateness and transparent decision making process ▪ Power and authority processes ▪ Information and feedback ▪ Receptiveness to change

Table 4.1 the PARIHS framework (14) *(Continued)*

Culture	
low	high
▪ Unclear values and beliefs ▪ Low regard for individuals ▪ Task driven organisation ▪ Lack of consistency	▪ Able to define culture(s) in terms of prevailing values/ beliefs ▪ Values individual staff and clients ▪ Promotes learning organization ▪ Consistency of individual role/experience to value: o Relationships with others o Teamwork o Power and authority o Rewards/recognition
Leadership	
low	high
▪ Traditional, command and control ▪ Lack of role clarity ▪ Lack of teamwork ▪ Poor organisational structures ▪ Autocratic decision making processes ▪ Didactic approach to learning/teaching/managing	▪ Transformational leadership ▪ Role clarity ▪ Effective teamwork ▪ Effective organisational structure ▪ Democratic inclusive decision making ▪ Enabling/empowering approach to learning/teaching/ managing
Evaluation	
low	high
▪ Absence of any form of feedback ▪ Narrow use of performance information sources ▪ Evaluations rely on single rather than multiple methods	▪ Feedback on individual, team, system performance ▪ Use of multiple sources of information ▪ Use of multiple methods: clinical, performance, economic, experience evaluation
Facilitation	
low	high
No mechanisms or inappropriate methods of facilitation in place	appropriate methods of facilitation in place

Purpose, role, skills

Purpose	
Task	Holistic
Role	
Doing for others	Enabling others
▪ Episodic contact ▪ Practical/technical help ▪ Didactic, traditional approach to teaching ▪ External facilitator ▪ Low intensity-extensive coverage	▪ Sustained partnership ▪ Developmental ▪ Adult learning approach to teaching ▪ Internal/external agents ▪ High intensity – limited coverage
Skills/Attributes	
Task/Doing for others	Holistic/enabling
▪ Project management skills ▪ Technical skills ▪ Marketing skills ▪ Subject/technical/clinical credibility	▪ Co-counselling ▪ Critical reflection ▪ Giving meaning ▪ Flexibility of role ▪ Realness/authenticity

Evidence is defined as a combination of research, clinical experience and patient experience (10). The PARIHS framework presumes that the most successful implementation of evidence seems to occur when the evidence is scientific and matches professional consensus and

patients' preferences (high evidence).
Context, the second element of the PARIHS framework, is the setting in which the proposed change is to be implemented (10, 12). This setting is characterized by three factors: culture, leadership and evaluation (12). A context is "high" when it has features of a learning organization, transformational leadership and appropriate monitoring and feedback mechanisms. Such a context is more conducive to the successful implementation of evidence than others (15).
The third and last element of the PARIHS framework is facilitation (16). Facilitation refers to the process of enabling the implementation of evidence into practice. This can vary from providing help to achieve a specific goal (doing for others) to enabling (enabling others) practitioners to analyze, reflect and change their attitudes and ways of working (Harvey *et al.* 2002). The type of facilitation and the skills required are determined by the state of readiness of the context, in terms of acceptance and understanding of the evidence, the available resources, culture and values, leadership style and evaluation activities (15). Facilitation is "high" if there is an input from skilled facilitators who adapt their facilitation strategy to the availability of evidence and the receptiveness of the context (1). Facilitation becomes the linking pin between the other two main elements of the PARIHS framework: evidence and context.
Our choice for the framework is based on the view that implementation of evidence is not a linear process, focused on the competences of an individual nurse (or other professional), but demands organizational (contextual) changes too. Moreover, the PARIHS framework is unique in expressing the role of the facilitation during the implementation process (18). Two of the authors (GM, KC) are members of an international collaboration (PARIHS centre) where the framework is being further tested and developed.

4.3 Methods

Diagnostic analysis using the PARIHS framework was carried out as the first phase of an action research project after approval from an ethics committee, in 2 Dutch Mental Health institutions. The question the action research project is trying to answer is: what is the effect of implementing EBP in mental health nursing using action research on care experienced by clients, nursing interventions and the context? To answer this question, an action research strategy is used by which one setting (intervention or AR) is facilitated in the implementation of EBP by the first author whereas the other setting (comparison) doesn't get support in the implementation. The diagnostic analysis was carried out after the allocation of the AR and comparison setting by management of both organizations and served as a basis for planning the first step in the action research together with the nurses of the AR setting.
The AR setting had 2 units offering care to a total of 89 long-term patients with severe mental illness. Patients varied in age from 25yrs to 65yrs. The majority lived within the

hospital grounds or in houses in the neighboring village, still close to the hospital. The care units were distinct in character, one focusing more on rehabilitation whilst the other focused more on supported living, because of the intensive care these clients needed. Each unit has its own manager and a team of nurses (16 FTE and 18.3 FTE respectively). Each nurse in the team is a primary nurse for several clients, responsible for planning, evaluating and coordinating nursing care.

The nursing teams consists of a number of senior staff nurses (5.3 FTE and 4 FTE), 2 social pedagogical workers (0.7 FTE and 1 FTE) and 1 care assistant (0.8 FTE) as part of the care team.

To further enable the coordination and continuity of care, nurses collaborate with the multi-disciplinary team, consisting of a psychiatrist, psychologist and a social psychiatric nurse, all of whom are stationed on site.

The comparison setting is a supported living service for long-term patients with severe mental illnesses who cannot live independently due to their illness or inadequate social/ family support. A safe home environment is provided for 31 patients where they are supported in their further personal development. As in the intervention setting, care is based on a vision of rehabilitation, in which patients are helped to utilize their own abilities as much as possible, enabling them to function as optimally as possible. The supported living service is divided in three groups, classified according the client abilities. There is 24 hours support for all clients in all three groups, provided by 10 employees (8.7 FTE) with a nursing or social pedagogical background. Similar to nurses from the AR setting, each employee has her own case load of clients and collaborates with a psychiatrist and social psychiatric nurse. Unlike the intervention setting the other disciplines are not stationed on site. Review of the care plan takes place at least annually or when needed. The setting is managed by one care coordinator.

4.3.1 Patient and Staff selection

Both patients and staff of both organizations were informed, in writing, by the researcher and invited to a meeting in which they were offered more information on the research project. It was emphasized that participants in the AR setting could have an active role during the research process, if they wished, being offered the opportunity to directly influence care as an action research methodology was being used. Patients were also informed by their primary nurse and by doing so could pose questions to someone familiar.

After patients had agreed to participate and given informed consent, their primary nurses were also invited to participate and give informed consent. This gave both patients and nurses a 'voice' in the study. Other nurses than the primary nurses were also invited to take part. This resulted in the AR group being `fluid' rather than 'static'. Hart & Bond (18) consider this way of working as one of the attributes of empowering action research.

Twelve patients and all of their primary nurses (N=11) participated in the project. The number of (non-primary) nurses participating fluctuated as they only joined those cycles of the study that interested them. In the comparison group ten patients were recruited, including all of their six primary nurses. No non-primary nurses participated in this setting.
The diagnostic analysis has been carried out using several instruments which gave insight into the different elements of the PARIHS framework (Table 4.2).

Table 4.2 Overview of used instruments and their relation to the elements of the PARIHS framework

Instrument	Evidence	Context	Facilitation
VCE	X	X	X
EBCB	X	X	X
NCQ	X		

These instruments included: Values Clarification Exercise (VCE), the Evidence Based Care Benchmark (EBCB), and the Need for Care Questionnaire (NCQ), as well as reactions from the nurses when the results were presented as a member check. The data obtained by these instruments were presented by the researcher (GM) according to the elements of the PARIHS framework.

4.3.2. Values Clarification Exercise (VCE)

The Values Clarification Exercise (VCE) is a tool frequently used for developing a common/ shared vision and purpose (19). The VCE was chosen because it enables the explication of stakeholder values and beliefs, forming the first step of putting these into practice. As the VCE uses open questions (see Table 4.3), participant answers could identify any and/or all of the PARIHS framework elements (Evidence, Context and Facilitation) in their setting.

Table 4.3 Values Clarification Exercise (19)

1.	Evidence Based Practice means to me ….
2.	The ultimate goal of EBP is …
3.	I believe this purpose can be achieved by …
4.	I believe my role is …
5.	I believe the factors that inhibit EBP are …
6.	I believe the factors that enable EBP are …
7.	Other values/beliefs that I hold are…

In this exercise participating nursing staff were invited, in small groups, to clarify their values and beliefs about Evidence Based Practice by answering several questions jotting their answers down on 'post-its'.
The information arising from the subgroups was initially presented back to the other groups,

and then common themes across all groups were identified by the nurses in cooperation with the researcher. This presentation was recorded on audiotape. These themes were placed under the (sub)elements of the PARIHS framework and then used to guide the nurses from the AR setting during the following phases of this action research. The themes of the AR group were used by the researcher for comparison with those of the other context. In the AR setting 17 nurses participated and in the comparison setting 7 nurses joined in the exercise.

4.3.3 Evidence Based Care Benchmark (EBCB)

The EBCB is based on a literature review carried out by Feasy and Fox (20). The aim of the instrument is to gain insight into the participant perspective for the lack of congruence between practice and research, as well as identify gaps in the organizational infrastructure for implementing evidence-based practice (21). The benchmark has undergone several tests in the past and the findings were used to modify the benchmark. The benchmark has face validity but has not been tested psychometrically.

The instrument consists of 11 factors (see table 4.4) that can be scored on a continuum (see table 5) from worst (E) to best practice (A). It focuses mainly on the contextual elements of the PARIHS framework, but some factors cover also the evidence (factor 11) or facilitation aspects (factor 7, 10). For each question there is space for the nurse to justify the score given and so offer insight into the 11 factors in the setting. The EBCB was scored individually by the nurses. Each nurse justified their scores by means of a written explanation. The scores and explanations were analyzed and given back by the researcher (first author of this article) to the nurses for a member check and were placed under the elements of the PARIHS framework combined with the results of the others instruments. In the AR setting 13 nurses completed the EBCB, in the comparison setting 7 nurses.

Table 4.4. Evidence Based Care Benchmark (21)

1.	Access to library facilities
2.	Access to databases
3.	Access to journals
4.	Time given to read and critically appraise articles
5.	Time made for abstracting and disseminating evidence based finding
6.	Organization within practice area to influence practice change
7.	Strategies influencing degree of research utilization in practice area
8.	Whole organization infrastructures for promoting evidence based care
9.	Multi-professional collaboration in research utilization
10.	Support to undertake and publish of clinical research
11.	Use of evidence based clinical standards

Table 4.5 Scoring continuum Evidence Based Care Benchmark Factor 6

E	D	C	B	A
No support given to influence practice change or utilise research findings	Limited support given to influence practice change or utilise research findings	Ward networking including informal discussion groups and facilitation given to influence practice change or utilise research findings	Formalised and structured approach to influence practice change or utilise research findings	

4.3.4 Need for Care Questionnaire (NCQ)

Because the PARIHS framework assumes that the most successful implementation of evidence occurs when evidence is scientific and matches professional consensus and patient preferences (high evidence), patient preference was analysed too. The patient preferences was analysed by the Need for Care Questionnaire (NCQ) which makes the evidence from patients' previous experience of care systematically accessible. The NCQ was developed in the Netherlands by Kroon et al. (21) and includes 42 items, all of which are formulated in the same format (see table 4.6).

Table 4.6 Example item of the Need for Care Questionnaire (22)

Contact with other clients
a Do you receive help or guidance with contact with other clients? o Yes o No
b Do you, yourself, think that you need help or guidance with contact with other clients o Yes o No If Yes, would you like: o more help or guidance (than you receive now) o the same amount of help or guidance o less help or guidance
c Do you receive the suitable help or support with this? o Yes o No o not applicable (I do not receive help or guidance)

The 42 items of the NCQ are located on 6 scales: mental health (12 items divided across 2 domains: psychological help (6 items) and psychiatric help (6 items); social functioning (10 items); activities of daily living (6 items); accommodation and household skills (7 items); financial and administrative skills (4 items) and addiction (3 items). The Cronbachs alpha of all these scales varies between 0.6 till 0.83, with the exception of the addiction scale, which has a Cronbachs alpha of 0.51. The Cronbachs alpha of the whole questionnaire is 0.89, indicating internal consistency (21) .

The NCQ was used by the researcher with clients individually. Depending on the preference and abilities of the client, the NCQ was completed by the client in the presence of the researcher. The alternative method was for the researcher to read each question aloud and then note the answer given by the client.

Answering the items of the questionnaire shows the association between perceived care

needs of a client and the frequency these needs are met.
Three scores can be calculated per item; perceived need for care, care received and unmet care needs. A need is unmet when the client reports a need for care but care is not given, is insufficient or is perceived as unsuitable. The scores were analyzed and given back by the researcher to the clients for a member check and to the nurses as an evaluation of how care was perceived by their patients.

4.4. Results

What factors influencing the successful implementation of EBP did the different instruments show for the two settings? To answer this question, the outcomes of the instruments were first presented to the nursing staff and patients for member checking. After the results were confirmed and/or elaborated on, they were collated into the different elements of the PARIHS framework. The results are presented below, supported by participant quotations. The AR setting is differentiated from the comparison setting.

4.4.1 Evidence

As stated earlier, the authors of the PARIHS framework consider the concept 'evidence' as a combination of research evidence, clinical experience and patient experience.

Research Evidence

These results were obtained by means of the EBCB and the VCE.
For almost every nurse in the AR context the concept of Evidence Based Practice was unknown. Nurses indicated that they heard about the concept for the first time when the researcher introduced them to the research project.

> *"I only recently heard about the term evidence based. The questions of the Evidence Based Care Benchmark seems to presume that one is familiar with the term EBP. This is absolutely not the case in our practice setting." (EBCB)*

Nurses indicated that they don't use research evidence or evidence based guidelines in their daily practice and they are not aware of any multidisciplinary guidelines in mental health.

"*When I look at the Evidence Based Practice model you presented, I see that we rely too much on experience. There are no Evidence Based guidelines." (VCE)* Working collaboratively with the psychiatrist, psychologist and social psychiatric nurse, does not stimulate nurses to base care on research evidence.

> "*Within the multi disciplinary team there is no time or attention paid towards it"(EBCB).*

None of the nurses reads or uses research articles. Neither have they experience in searching or appraising articles.
This picture is the same in the comparison setting. The concept of EBP is unknown and

every nurse indicated that they do not deliver care based on evidence based standards or guidelines, nor were they competent in searching or appraising articles.

> "*I have never heard about it before this information. I do not have any need for research articles either." (EBCB)*.

Multi-disciplinary guidelines are unknown and basing (multidisciplinary team) care on evidence is not an issue in the comparison setting.

Patient Experience

The nurses from the AR setting indicated that they do deliver care aimed at rehabilitation, working with client choices and goals. This indicates that patient experience and expertise is utilised in nursing care.

> *"We collate, as much as possible, what clients wishes are and where they experience barriers and then try to look at ways we can realize their wishes with them." (VCE).*

Some of the nurses use tools to assess clients' preferences in a systematic way. This way of working is not common and only used by some nurses who have recently completed an educational programme in rehabilitation.

> "*In the rehabilitation model there are a lot of tools you can use to assess the wishes/ preferences/needs of patients. However, in daily practice we don't have time to use them. You know what we're like; there is always something that gets in the way. That is one of the many agreements that we have to work on." (membercheck).*

In order to gain a clearer insight into patient experience, the Need for Care Questionnaire was used.

The client answers in the intervention group (N=12) indicate that they mostly receive care (182/208 items = 88%) if they think they need care (= perceived care) (total 208 out of 504 possible items).

The match between perceived care and received care is noticeably high in the 'Activities of Daily Living' subscale. Clients stated that they receive care on all the topics (100%) on that subscale. The match was also good for the subscales: 'Social Functioning'(84%), 'Accomodation and Household skills' (84%) and 'Financial and administrative skills'(83%). The lowest match (69%) was found on the subscale 'Psychological help and exploration'.

Although a match of 88% between received care and perceived care seems adequate, the clients in the intervention group stated that for 68% (142/208 items) their needs remain unmet. A need was considered as 'unmet' when a need for care was reported but care was not given, was insufficient or was perceived as unsuitable. This was especially true for the following subscales: 'Psychological help and exploration' (72%), 'Psychiatric help' (63%), 'Social functioning' (64%) and 'Financial and administrative skills' (59%).

Nurses in the comparison setting also indicated that they worked according to a rehabilitation model of care and also assess client preferences before planning care. However, none of the nurses used any tools to assess client preferences in a systematic manner.

In the comparison setting clients (N=10) indicated that they received care for 82% (193 items) of the perceived needs (234 items). This result is comparable with that of the AR group. Similar findings (high match between care need and care received) as the AR group were also found for the subscales: 'Activities of Daily Living' (93%), 'Accommodation and Household skills' (95%) and 'Financial and administrative skills' (97%). Patients in both the AR setting and comparison group receive help in the majority of cases when they perceive a need**,** as defined by the subscales.

The answers of the clients in the comparison group showed that 74% (173/234) of their needs remain unmet. This percentage is a little higher than the AR group (68%). For the comparison group, the match between received care and perceived need was lowest for the subscale 'Social Functioning'(42/67 items = 63%).

Clinical Experience

The results of this section were gathered via the Value Clarification Exercise and remarks made on the Evidence Based Care Benchmark questions.

The nurses of the AR setting indicated that they delivered care based on their clinical experience and, because they used a rehabilitation model of care, in accordance with client preferences and goals.

> *"When I look at the EBP model you introduced we are using our experience and trying to realize our clients wishes" (EBCB).*

The nurses indicated that they had no previous experience in researching their own practice.

> "*We have never done this, is there time and room to do it then?" (EBCB).*

The nurses did not explicate nor critically reflect on their clinical expertise. During the feedback of the results they explained that they were not aware of each other's interventions, they only reported interventions in the nursing care plan, in case the primary nurse wasn't present for some time and other nurses could then ensure continuity of care.

During the diagnostic analysis period there were initiatives made by the social psychiatric nurse to organize supervision meetings, where nurses would have the opportunity to reflect on their practice.

The nurses in the comparison setting also told of their practice being based on clinical experience and working from a rehabilitation model of care.

> "*The primary nurse discusses the wishes and goals of the patient with them."(EBCB).*

As in the intervention group, the nurses in the comparison setting did not research their own practice. In contrast to the intervention group, the nurses did come together for a monthly intervision session (a meeting in a small group where nurses or other professionals,

reflect on their work in order to improve it) although generally they didn't actually reflect on clinical expertise.

> "We have *intervision on average once a month, even though the facilitation has been stopped. We mostly talk about issues related to team collaboration (workload, which priorities we hold and who is concerned about what) rather than patient situations. If we talk about patient situations we tend not to talk in a problem solving way, rather than in terms of what the impact of the event was for us or how the team views such situations."*(VCE).

4.4.2 Context

In the AR setting there was a shortage of resources that were felt important in order to keep 'up-to-date' with the outside world. Examples of the lack of resources included no local library or journals found on the unit.

> *"We do have a library, but it is based at the other location. That's why I have never been there."* (EBCB).

Journals that are felt to be relevant for finding nursing evidence are lacking, or are more than 10 years old. Nurses indicated that they would read more journals if they were available, and if there was more time and peace to do so.

> "*If they (journals) were here we'd be more inclined to use them. The barrier is too much at the moment."(EBCB)*

There are several databases and journals available on the organisations intranet, but nurses were unaware of these resources and as a consequence did not use them.

> *" No one has ever told me about the databases before. Because of your questions, I started looking and it appears that we do have access to databases but, unfortunately, I've never heard of them before."(EBCB)*
>
> "*We can reserve a large amount of professional literature via intranet. However, because this has to be reserved via intranet it's not well known and few use it" (EBCB).*

Besides the lack of resources, nurses also indicated lack of time as a big barrier to EBP.

> "*What's more, there's no time for it here. No time, or rest, to read articles properly. You have to be constantly available all the time and you're constantly interrupted. There isn't enough time to read relevant literature." (EBCB)*

The lack of time at work means that some nurses read professional literature at home, while others think that this should take place during working hours.

> "*It (reading nursing literature, GM) only happens in your own time, so I do that regularly. I only read at home"(VCE). "I don't do it. I think that when reading, preparing for something, costs time, it should be done in the bosses' time." (VCE)*

'Time' proved to be an important issue when starting the action research project. It was estimated that the research would 'cost' ± 60 hours during the planned 1.5 years. This made nurses hesitant to participate in the project.

> *"In the current situation we don't even have breaks and are doing a lot of overtime. So I don't know where the time is going to come from. The intention is that there will be time made available for this project, but there isn't any time been freed up yet. We have to do it in between everything else." (VCE).*

For the nurses it was unclear if management expected the research activities to be done on top of the regular workload, or that there would be extra time created for them to be able to participate.

Lack of time also limited the amount of knowledge exchanged between nurses. When knowledge was exchanged it was restricted to nursing handover when one shift handed over care to the next.

> "*At the moment it hardly ever happens except during handover or staff meetings, sometimes. Consequently there is hardly any possibility to discuss things like new developments." (EBCB).*

The AR setting could be characterized as turbulent. The diagnostic period was clouded by a recent fusion of several separate community houses into one care unit, which meant that a lot of time and energy was not available for other innovations i.e. the implementation of EBP project.

> *"At the moment we're too busy with teambuilding, getting everyone to work as one. The fusion of the several houses into one unit needs to be better organized before we start on EBP." (EBCB).*

This fusion of teams was the main reason one of the managers agreed to the research project: *"it will provide an opportunity for staff to work more closely together."*

Management was not of the opinion that lack of time was an important factor; they felt that nurses did not always make the most efficient use of their time or make the right choices. This opinion was not communicated directly to the nursing staff, but to the researcher.

The comparison setting also reported a lack of resources to stay 'up-to–date'. The library is, just as in the AR setting, on a different location and offered as an explanation why nurses never use its possibilities.

> "*The distance is too much. That's why I never go there."* (EBCB).

The databases which are available within the organization are, except for one, unknown to nurses. Nobody uses them. Within the setting there are some books and a subscription to 1 non-scientific journal. However, these materials are seldom used. "*I have never felt the need to use them*." (EBCB).

Nurses also indicated experiencing hardly any time to read professional literature during their shift due to high workloads and large amounts of administration. Alongside this, they also felt that there was little need to keep themselves up-to-date with the literature.

> *"The workload is high here, so there's no time left over. We spend more than an hour each shift on administration (VCE). Little time is taken to read and there's not much of a feeling that we need to do so." (VCE)*

This attitude meant that staff seldom took time to read professional literature in their own time either. Exchange of knowledge between nurses was also rare.

"*Because of the high workload we hardly have the opportunity to do something with it* (exchange of knowledge, GM)." (EBCB)

The comparison setting was, compared with the AR setting, less turbulent, with no major changes that could affect nurses. As the estimated time for participation in the research project was much lower (±10 hours), compared to 60 hours in the AR setting, it did not form a barrier for nurse participation.

Culture

In the AR context the nurses were not satisfied with the organizations resources for professional (nursing) development.

"*The organization does not invest in the improvement of nurses or nursing care. All of the clinical nurse specialists are leaving the organization*" (VCE).

In the care units there is hardly any organizational infrastructure for the sharing of knowledge or change implementation, characterizing it more as a 'task driven' than 'learning' organization.

"*If it happens (sharing of knowledge, GM) then it's done 'ad hoc' and in between everything else that needs to be done.*" (VCE).

Meetings where knowledge can be shared (also for this research project) seldom take place, due to low staffing levels, a large percentage of part-time staff and problems with the off-duty rota.

"Due to *staffing problems, heavy workload and the priority given to the primary care process, our meetings are regularly cancelled.*" (EBCB).

Nursing staff also indicate that collaboration with the multidisciplinary team is not optimal. Moreover some of the nurses are unhappy about the way decisions are made by management and the consequences these decisions have for them. This was particularly obvious when several houses were amalgamated into one care unit so that nurses had to take care of more patients than previous, as well as being confronted with the management agreement to participate in an action research project.

"*We're suddenly faced with so many new patients who we do not know. That isn't acceptable*" (VCE).

The nurses felt they were not able to participate in the decision making process and were therefore not motivated for any change, including this research project.

"*Evidence based practice is not a subject of conversation yet. The research was imposed upon us. I would have found it more logical if the proposal was put to us first. Motivation is lacking.*" (EBCB).

In the comparison setting, sharing of knowledge was also scarce, also characterising the

organization as being more 'task driven' than a 'learning organization'.

> *"During a course you can share knowledge with each other, but it's not the norm to do this on the work floor. The majority of us just 'do' and seldom take time to stop and look at how things are done. It should happen more often."* (VCE).

The nurses also indicate that communication between them and the rest of the organization is not optimal.

> "*We often have problems because of how the organization manages us, not attuned with the problems we face. There's a really big gap"* (VCE).

Leadership

As mentioned before, in the AR setting there were senior staff nurses who were supposed to 'lead' unit policy and care development.

> "*The difference between senior staff nurses and the other nurses fails to materialize in practice and potentially underutilizing their skills and role."* (VCE).

To give senior staff nurses a specific role within the research process, three of them joined the researcher to form a 'steering group' for the implementation of EBP. Other senior staff nurses had recently been appointed as leaders of several 'work groups' on the unit.

In the comparison setting nurses felt that they were not responsible for the development of care or innovations, and consequently, as in the AR setting, no professional leaders were active within the workplace.

> "*The responsibility for this type of thing lies with the unit coordinator, the unit manager and the organizations quality assurance officer that has been made responsible* for *all of the 'supported living services' within the organization."* (VCE).

Such opinions do not match the staff nurse job description, as set out in the mental health organization policy (22) which states that the nurse has a role to play in identifying, initiating and creating conditions for service development and improvement.

Evaluation

Multidisciplinary care plans in the AR setting are adjusted annually. The client and family (if they wish to participate) are present during the multidisciplinary meeting. Clients and family can raise topics that they feel need extra attention. The multidisciplinary care plans form the fundament of the nursing care plan which is drawn up by the primary nurse and sets out what the patient, the nurses and the multi-disciplinary team are going to do. Nursing care plans are evaluated every 6 weeks, together with the patient, and adjusted whenever necessary. The nurses do not use structured tools to assess or evaluate care. There are annual staff performance reviews where every nurse is appraised by the manager. The mental health institutions of the AR and comparison setting are both certificated which means there is a quality system in place that is working.

The comparison setting also holds an annual multidisciplinary meeting with the patient, primary nurse, case manager and psychiatrist. During this meeting a new plan is made, based on the care needs of the patient. From this plan the primary nurse draws up an action plan that specifies 'who does what'. The frequency with which the plan is evaluated depends on the agreements made during the meeting. As in the AR setting, nurses do not use structured tools to assess or evaluate care and the staff is also appraised annually by the coordinator.

4.4.3 Facilitation

Nurses in the AR setting did not have recent experience of working with facilitators and indicated that there was hardly any support, structure or strategy to implement change in the present and that their organization does not focus on quality improvement in nursing. Because of this, there is little confidence in the successfulness of innovations, such as the implementation of EBP.

> *"There is willingness to change, but there is hardly any support, it can't cost money. There has been a lot of research done over the last years, but it's seldom that anything is done with it" (EBCB).*
>
> *"There is no support or strategy. It is more of an 'ad hoc' event. We are developing, but not on the basis of research, nor in a structured way. There are a lot of plans for several work groups, but either they don't get off the ground or the frequency with which they meet is too low, in my opinion"* (EBCB).
>
> *"The organization chooses not to invest in professional nursing development. Example: all the clinical nurse specialists are leaving! I don't expect a lot of it (GM: the implementation of EBP) at all. We expect you to coordinate and monitor the whole process and explain to us what is going to happen"* (VCE).

Nurses in the comparison setting also report a lack of support or structure for implementing change. According to nurses the following reasons contribute to the situation: a heavy workload and insufficient support to change practice based on research.

> *"Nobody is concerned about this (implementing change, GM). I have never seen any structure. We are already so busy. We hardly manage to give basic care."* (EBCB).

4.5. Discussion

This study examined the factors in two mental health settings in the Netherlands that have to be dealt with in order to improve the success of implementing EBP. In spite of the fact that there is a lot of attention for EBP in health care literature, this study shows that EBP is a concept unfamiliar to nurses participating in this study. The settings analyzed in this study, demonstrated many similarities and few factors that positively influence the successful implementation of EBP.

Apparently, the way guidelines, such as the Multidisciplinary guideline on Schizophrenia

in Mental Health Care, are developed and disseminated does not make an impact on practice, especially for nursing staff who should be delivering care in accordance with these guidelines. This finding corresponds with Goossens et al. (23) finding that decisions made by psychiatric nurses are not evidence based, but largely ad hoc and based on experience of the individual nurse, resulting in a wide variety of actions.

All the influencing factors of the PARIHS framework demonstrate that the often proposed 5 step EBP model of Sackett et al. (24) is easy to understand, and for that reason attractive, but much too simple. Implementation of EBP is complex and can't be restricted to individual nurses (or physicians) who are asking answerable clinical questions, tracking down the best evidence related to these questions, critically appraising it so that it can be integrated with clinical expertise and patient values, and then be evaluated.

Nurses are working in contexts and cultures that influence the use and the value of evidence of all kinds. So, these factors should be better dealt with to improve the success rate of implementation. The PARIHS framework fits well with "the shifting attention of strategies to improve evidence-based decision making in health care shifting from linear and technical processes' dominated by psychological and cognitive theories of individual behavior change, toward organizational level interventions, with attention toward the development of inter-organizational clinical, learning, and research networks for sharing knowledge and innovation (26, p. 2)". In this study the authors did not use the most current typology of evidence (26) in the framework, which also includes knowledge from the local context. Knowledge from local context was not used, as the authors feel that this 'new source' of evidence do not add anything new. Knowledge on the local context is derived via the other sources of evidence; (local) research (e.g. audit and performance data), knowledge from clinical experience (e.g. knowledge about the culture of the organization and individuals within it) or knowledge from patients (e.g. patients stories and narratives).

4.5.1 Strength and Limitations

This study has several limitations. One of the limitations is that several instruments were used to cover the different aspects of the PARIHS framework whilst they were originally developed for a different purpose. The EBCB is one of these instruments. Although the EBCB has undergone several tests in the past and the findings were used to modify the benchmark (20), the instrument has not been tested psychometrically and as a result the validity and reliability of the benchmark is still unknown.

In the time the study was conducted, some instruments e.g. Alberta Context Tool (27) Context Assessment Index (28-29), PARIHS self-assessment tool (31) that assess organizational context and/or explicitly linked to the PARIHS framework, were unavailable. If these instruments had been available, and used, a more specific analysis of those elements within the PARIHS framework could have been carried out**.**

However, the use of several instruments in the study is also a strength, as they complement each other and improve the rigor of the results, methodological triangulation. The credibility of the results is also improved by feeding back the provisional results to the nurses and clients for member check (confirmation) and comment to prevent that the results were based on the expectation of the researcher.

4.6 Conclusions

In all the three elements of the PARIHS framework (evidence, context, facilitation) the score of both settings was low, reducing the chance of successful implementation. Kitson et al. (15) considers such situations as the most challenging, where facilitation issues of safety and basic competences need a lot of attention.

Nurses from both settings did not use scientific evidence and were not competent in searching for, or reviewing, scientific literature.

The wishes and preferences of clients in both settings were assessed by nurses and then a care plan drawn up. Although assessments were not systematic, clients did report receiving care for the majority of their needs (> 80%). However, this care did not match that what they felt they needed for 68 % (AR setting) or 74 % (comparison) of the items. This finding is consistent with the findings of Goossens et al. (23) and Kroon et al. (21) who concluded that clients often do not receive the right amount of care they feel they need. The items for which care was received and perceived as sufficient, were also consistent with the findings of Kroon et al. (21) who concluded that the majority of unmet needs for people with severe mental illness lie in the psychological and social domain, and well established medication and practical support are apparently dominant interventions in care, whilst patients have a greater need for more control over their own lives.

Besides clients' wishes, the nurses in this study based their interventions on their personal clinical experience. This experience is seldom explicated and consequently nurses rarely know which interventions the other is using. In doing so, they miss the opportunity to critically reflect on their own and others' interventions; to research their own practice; or to share their professional knowledge and so learn from one another.

In both settings hardly any characteristics of a learning organization could be identified, or, in terms of the PARIHS framework contexts were 'low'. Resources, making scientific literature available to nurses in the workplace, were lacking, and where resources such as databases were available, they remained unknown to the nursing staff.

In addition to the lack of resources, insufficient time and heavy workloads formed major obstacles to reading relevant literature during their shift, according to those nurses who participated in the study. Nurses felt that these two factors contributed to the limited sharing of knowledge. This result corresponds with the conclusions made by Wijngaarden and Wennink (31) who found that professional activities such as consultation, training and

supervision of others were rare in the AR context.

In the AR context there is a lack of agreement on the issue of workload between management and nursing staff. This was also found by Newman et al. (32) in their study where management indicated that the nurses did not organise their work well, whilst nurses felt that the workload was too heavy.

Staff in the AR setting indicated that their organization failed to invest in nursing innovation, and in both settings there was a lack of professional leadership and hardly any structure or strategy for implementing change.

Care plans were evaluated in both the AR and comparison setting. However, nurses did not use structured questionnaires or instruments to assess the needs of their clients or to monitor the outcomes of care. In doing so, they receive no feedback on the effects of (nursing) care, and are not stimulated (if necessary) to explore alternative interventions. In both settings, staff experienced little or no facilitation during the implementation of change, nor did they see improving care as a part of their role (comparison setting). When there is facilitation, it is poorly structured or is not based on strategy. Staff of both settings reported, up until now, not being able to influence these factors positively.

How will this analysis, using the PARIHS framework, affect the facilitation of EBP in the interventional setting?

First of all the analysis shows that the nurses in the AR setting are poorly motivated in terms of participating in the project. The researcher therefore has to concentrate primarily on building stronger relationships with the nursing staff. Partnership and shared understanding are fundamental to Action Research, without them, collective or collaborative action cycles cannot be worked through (33). The researcher will try to establish this by actively listening carefully to the nurses and seeking collaborative solutions for contextual hindrances to the project (e.g. lack of time, no sharing of knowledge).

In order to realize the valuing of patient experiences as evidence and judging of patient experiences as relevant, the implementation will focus on those care items that patients feel are the most significant for their well-being. As the analysis shows that nurses are not familiar with professional literature or databases nor experienced in searching or appraising research articles, the researcher will facilitate them in searching for evidence based interventions on these significant care items.

Due to a high workload and our need to enact the value of collaboration, all activities will be planned with those nurses of the steering committee as well as management. The activities will take place in a timeslot when sufficient nursing staff are available to participate, without negatively affecting patient care.

Nurses were not familiar with facilitation during implementation processes, change was usually implemented on an 'ad hoc basis, so it was decided that facilitation would be structured. For the implementation of EBP this means that evaluation will take place on a

regular base and all activities will be digital available to the nurses and management in the AR setting. To meet the expectations of the nurses, the facilitation will be more technical (task oriented) in nature, in the hope it can later evolve into a more holistic and emancipatory approach.

To stimulate the evaluation of care in the setting, tools for assessing and evaluating care will be searched and implemented. Furthermore, the facilitation will pay particular attention to the role of the senior nurse, in order to clarify their role and enhance their leadership potential. These collaborative actions will be undertaken with the aim of improving evidence use and creating a context that scores 'higher' on the PARIHS framework.

The results of these actions will finally be compared with how the comparison setting has evolved, without active interventions or facilitation. This will be described in another article.

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Chapter 5

Implementing EBP through Action Research in mental health nursing

Based on: Munten G, Cox K, Bongers I, Garretsen H. Implementing EBP through Action Research in mental health nursing. [Submitted]. 2012.

Abstract

After the diagnostic analysis the AR study has been conducted in the intervention setting. The study was originally planned for a 15 month period, but was because of contextual problems extended by a further 12 months. Twelve clients and all of their 11 primary nurses participated in the research. The number of (non-primary) nurses participating fluctuated as they only joined those cycles of the study that interested them.

In order to give clients a voice in the study, it was decided to implement EBP based on those care needs that clients felt were relevant. These needs were: coping with voices, social contact/loneliness and work/how to spend one's day. The diagnostic analysis identified a number of areas for improvement, which formed a small action cycle based on a collaborative action plan. Decisions were made after consensus was obtained and the researcher accustomed the facilitation of the nurses as much as possible to the needs of the nurses involved.

The overall results of this AR show that, despite high workload, progress was made during the course of the study. The percentage unmet care needs declined and the scope of nursing interventions increased as the activities of some clients. Other areas (e.g. clinical leadership and communication between nurses and management) did not improve.

Despite the extension in study time, it could also be concluded that the existing culture did not undergo a fundamental change and the study failed to contribute to develop a sense of ownership for the nurses. The facilitation style of the researcher did lead to results, but had as a negative consequence that the nurses remained in a position of 'dependency', relying on a facilitator to maintain continuity. The AR study could be classified more as an organizational or professionalizing AR study, rather than an empowering study as was originally intended.

5.1 Introduction

Although Evidence Based Practice (EBP) is a term regularly used in nursing literature, the same literature states that nursing practice is not necessarily based on evidence (1-7). It is therefore reasonable to presume that this also applies to mental health nursing.

There are several reasons offered for this discrepancy, one of which being the continued separation between the worlds of nursing practice and nursing research (6). Action Research (AR) is considered a methodology which connects these worlds (8), and a recent review by Munten et al. (1) argues the potential benefits of using this methodology for the implementation of EBP. It was therefore decided to study the implementation of EBP within a mental health nursing setting in The Netherlands using an AR approach with an empowering intent. To specify the actions of the researcher and compare them with 'regular implementation activities', his facilitation strategies are labelled by codes* referring to the implementation strategies from the conceptual framework of Plas et al. (9). This framework has been described in the third chapter of this thesis and is presented again in this chapter (table 5.1). This article describes the research journey and outcomes.

Table 5.1 Implementation strategies in four different domains (9)

Individual: 'end user' (patients/laymen) (1)	Individual: 'intermediaries' (caregivers, teachers, etc.) (2)	Organisation (care institution, school, department, ward, team) (3)	Society as a whole (care system, other social sectors) (4)
Mass media (1.1) Use of mass media for education and guidance	**Mass media (2.1)** Use of mass media for education and guidance	**Change of strategic objectives (3.1)** Change in the long-term objectives of an organisation in order to encourage a certain change, for example more attention for older patients in hospital.	**Influence on the social agenda (4.1)** Activities to bring certain themes higher on the social policy and political agendas. Example: demanding attention for a subject in the public media
Material for the individual (1.2) Use of material intended for the individual (folders, self-study packages, CD ROM, etc.) for education and guidance	**Material for the individual (2.2)** Use of material intended for the individual (folders, self-study packages, CD ROM, etc.) for education and guidance	**Change in organisation size (3.2)** Change in organisation size (in terms of staffing and other resources or service output) to encourage a particular change, for example: hospital merger	**Professional development of professions (4.2)** Professionalization of a profession to encourage a particular change. Example: start of development of national guideline
Personal contact (1.3) Use of personal contact (with care provider, fellow sufferer, etc.) for education and guidance	**Personal contact (2.3)** Use of personal contact (with care provider, fellow sufferer, etc.) for education and guidance	**Change in physical environment (3.3)** Change in physical environment of the organisation to encourage a particular change. Example: move of department to different building.	**Financial incentives for laymen/patients (4.3)** Use of financial reward or risk to encourage a particular change. Example: larger own risk for medical insurance
Meetings in small groups (1.4) Use of meetings in small groups (self-help group, etc.) for education and guidance (arbitrary: up to 15 persons)	**Meetings in small groups (2.4)** Use of meetings in small groups (self-help group, etc.) for education and guidance (arbitrary: up to 15 persons)	**Change in mix of competences (3.4)** Change in staffing make-up to encourage a particular change. Example: employ more nurses relative to doctors.	**Financial incentives for carers / institutions (4.4)** Use of financial reward or risk to encourage a particular change. Example: the introduction of a Diagnosis-Treatment Combination
Meetings in large groups (1.5) Use of meetings in large groups (self-help group, etc.) for education and guidance	**Meetings in large groups (2.5)** Use of meetings in large groups (self-help group, etc.) for education and guidance	**Change in professional roles (3.5)** Change in tasks and responsibilities of professionals to encourage a particular change. Example: development of nurse practitioners	**Contracting of care providers (4.5)** Use of contracting of care providers to encourage a particular change. Example: contract with medical insurer
Feedback based on measurements (1.6) Use of feedback for individual functioning, based on measurements, for education and guidance	**Feedback based on measurements (2.6)** Use of feedback for individual functioning, based on measurements, for education and guidance	**Change in teams (3.6)** Change in structure or functioning of teams to encourage a particular change. Inclusion of paramedics in multi-professional team	**Legislation (4.6)** Implementation of legislation to encourage a particular change. Example "quality law of care-institutions"
Decision support (1.7) Use of aids for cognitive support of individual decisions. For example automated advice, reminders, decision aids	**Decision support (2.7)** Use of aids for cognitive support of individual decisions. For example automated advice, reminders, decision aids	**Re-design of working processes (3.7)** Change in the structure of working processes to encourage a particular change. Example: care chain for stroke patients	

Table 5.1 Implementation strategies in four different domains (9) *(Continued)*

Individual: 'end user' (patients/laymen) (1)	Individual: 'intermediaries' (caregivers, teachers, etc.) (2)	Organisation (care institution, school, department, ward, team) (3)	Society as a whole (care system, other social sectors) (4)
Change in living or working environment (1.8) Change in living environment to encourage a certain lifestyle. Local mobility/exercise facilities.	**Change in living or working environment (2.8)** Change in living environment to encourage a certain lifestyle. Local mobility/exercise facilities	**Standardisation of working processes (3.8)** Working out of recommendations or regulations for working processes to encourage a particular change. Examples: guideline, protocol	
Use of symbols (1.9) Use of people or organisations expected to influence the attitude of individuals. Terms include: champion, opinion leader, role model. If the symbol actually does something, this must be noted separately	**Use of symbols (2.9)** Use of people or organisations expected to influence the attitude of individuals. Terms include: champion, opinion leader, role model. If the symbol actually does something, this must be noted separately	**Computerisation of working processes (3.9)** Change in the use of information in working processes to encourage a particular change. Example: computerisation of dossiers	
		Change in internal communication (3.10) Communication with individuals and parts of the organisation to encourage a particular change, including the fostering of support. Example: communication on new strategic objectives	
		Change in external communication (3.11) Communication with individuals and organisations connected to an organisation including laymen / patients. Example: regional consultation	
		Change in leadership and culture (3.12) Change in leadership methods or shared standards and values in an organisation. Example: selection of a different type of manager	

5.1.1 What is Action Research?

The origins of AR lie in the first half of the 20th century, and Lewin is often cited as the first person to use the term (10). Lewin was interested in a social science that could help resolve social conflicts. This aim immediately differentiates AR from other research methodologies i.e. the combining of change (action) and research. An action researcher aims to gather knowledge about a particular situation and simultaneously (help to) improve that situation whilst investigating it. Conducting a systematic review of the role of AR in UK healthcare settings, Waterman et al. (10 p.11) arrived at the following core definition:

> *"Action research (AR) is a period of inquiry that describes, interprets, and explains social situations while executing a change intervention aimed at improvement and involvement. It's problem focused, context-specific and future-oriented. AR is a group activity with an explicit critical value basis and is founded on a partnership between action researchers and participants, all of whom are involved in the change process. The participatory process is educative and empowering, involving a dynamic approach in which problem identification, planning, action and evaluation are interlinked."*

Hart en Bond (11) describe a typology of action research approaches that can be placed on a continuum. These four approaches (experimental, organizational, professionalizing and empowering) share seven criteria that distinguish action research from other methodologies, describing the way AR:

- is educative,
- deals with individuals as members of social groups,
- is problem-focused, context specific and future-orientated,
- involves a change intervention,
- aims at improvement and involvement,
- involves a cyclic process in which research, action and evaluation are interlinked, and
- is founded on a research relationship in which those involved are participants in the change process (11 p.37-38).

Waterman et al. (10) conclude that two of these criteria are inextricably linked and fundamental to action research. Firstly, intervention must take place as part of a *cyclical process*. While some authors (12) use a 'looking-thinking-action' cycle, others start with 'problem identification' or 'diagnosis' (including reflection), moving on to 'planning', then 'action' (implementation of change and monitoring), rounding off with 'evaluation/reflection' before starting a new situational analysis and cycle.

The second fundamental criterion for Action Research concerns *partnership* between the researcher and those being investigated in the research process (often referred to as

'co-researchers'). Partnership is seen as essential for developing practical knowledge and for implementing change in practice. This partnership enhances the accessibility of the knowledge gained to a wider public than the researchers, and so contributes to the emancipatory intent of action research.
The partnership and the level of participation of those being investigated (the co-researchers) can vary. The minimum level of participation needed to guarantee success is as yet unknown (10).

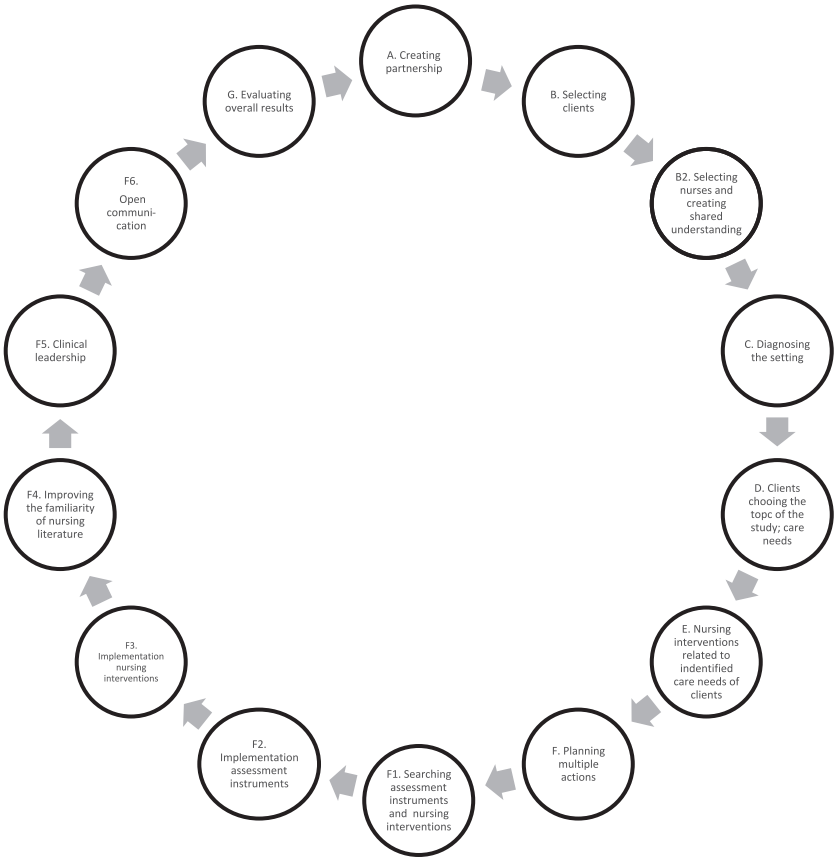
5.1.2 Setting

This AR study was conducted in a Mental Healthcare organisation in The Netherlands after approval by the (local) Medical Ethics Committee. The setting had two units offering care to 89 long-term clients with severe mental illness. Clients varied between 27 to 65 years of age and lived within the organisational grounds, or in various community based homes within the village. The location management team saw the potential of this study supporting the integration of, and collaboration between, nursing staff from the two units.
Both units had a specific character. Unit A focused on daily living and rehabilitation, whilst unit B, due to the severity of client problems, focused solely on the quality of daily living. Each unit had its own manager, leading a team of nurses (16 FTE and 18.3 FTE resp.) and social pedagogical carers (0.7 FTE en 1 FTE resp.). Each team had a number of senior staff nurses whose role involved greater contributions to unit policy and quality improvement development than their colleagues. All nursing staff were expected to fulfil the role of (co) mentor for various clients. A nurse mentor was responsible for coordination, provision, systematic planning and evaluation of care for their allocated clients. Coordinating care also involved collaborating with a multidisciplinary team of psychiatrist, psychologist and nurse specialist, all of whom shared the same home-base.

5.2 The cyclic research process

As Waterman et al. (10) concluded, one of the fundamental criterion of Action Research (AR) is, besides partnership, intervention as part of a cyclical process. The cyclical process used in this study was developed by the first author before field work began and is shown in figure 2. Both the subject of study (implementing evidence based practice in mental healthcare nursing) and data gathering techniques where therefore predetermined by the researcher. Further cycles (multiple interventions), emerged from the initial cycle. The steps within the cycle are described below, and although the figure suggests a sequential transition through the steps, some took place simultaneously, reflecting the 'messiness' of AR (13).

Figure 5. 1: cyclical research process



*Although partnership is named separately within the cycle, it received continuous attention throughout the whole cycle.

5.2.1 Creating partnership

As Waterman et al. (10) concluded, partnership between the researcher and those being investigated in the research process is fundamental to Action Research. No collective/ collaborative action cycles can be worked through without partnership and shared understandings.

The researcher, who gained access to the setting via (higher) management, was an 'outsider researcher' at the start of the study, unacquainted with the setting or those providing or receiving care. In order to enable collaboration in which clients and nurses could take on active roles; both received written information (*1.2/2.2; codes referring to the implementation strategies from the conceptual framework of Plas et al. (9)) and were

invited to an informational meeting (*1.5/2.5) on the research process where they could have their questions answered. The participative nature of AR, where participants would preferably be active and influence the study and care provision, was emphasized during the meeting, by telling that they could make decisions about activities they may or may not wish to be involved in. However, it was observed that both clients and nursing staff adopted an attitude of waiting initially. To get more accustomed to each other, I asked nurses if I could accompany them during their work and started interviewing clients, so nurses could hear from them how they experience participating in the study.

5.2.2 Selecting Clients

The client information (*1.2), compiled by the researcher and reviewed by the medical ethics committee, was experienced as being too long and difficult to read by some clients. It was therefore agreed, with the nursing staff, that clients would also be informed by their nurse mentor so that any questions about the study could be immediately answered by a person known to the client (*1.3).

Informed consent was consequently established with 12 clients (8 from unit A, 4 from unit B). All clients suffered severe mental illness, and all but one lived within the organisational grounds. These clients often experience a lack of power and control, are excluded from community life and live in conditions of poverty, unemployment and poor housing (14).

Agreements were made between the researcher and each client about the activities they would participate in during the study. Clients often forgot meetings, a common and published phenomenon (15), so reminders were sent by the researcher just before planned meetings (*1.7). This enabled clients to fulfil their agreements to participate in the study. Several clients did withdraw from the study at various stages, whilst 8 clients participated to the end of the study. Reasons for withdrawal included: transfer to another setting (N=2) and feeling of burden by participating in the study (N=3).

The outcomes of the activities with clients were used by the researcher as input for collaboration with the participating nurses (*2.6).

5.2.3 Selecting nurses and creating shared understandings

Initially, nursing staff had no active role in the study. The researcher carried out interviews with clients about how they experienced the care received. The researcher was not a known or recognised figure within the research setting, and so a communication strategy with nursing staff, via the managers and e-mail, was agreed. However, this did not prove to be effective. Nursing staff were reluctant to participate in the study at first, fearing an extra burden. They felt that they had very little knowledge of EBP, were unclear as to what would be expected of them, and the decision to conduct the study was made by management. At a time when they were already struggling with high workloads, nursing staff also felt that it was

unclear how the time spent on research activities would be facilitated. Although a 'bottom up' approach to implementation was intended for this study, nursing staff experienced it as a 'top-down' approach. The strategy to promote active participation by nursing staff, a central characteristics of AR, became a disabler rather than an enabler.

To start and build collaboration between nurses and the researcher, as well as create shared understandings of EBP and AR, several workshops were organised in order to reach as many members of the nursing staff as possible. The workshops were structured as a Values Clarification Exercise (VCE), a tool often used in Practice Development (PD) to create shared goals and visions (16). Nursing staff were invited to explicate their personal values and beliefs about EBP and the AR study. In doing so, an interactive space was created between the researcher and nursing staff. During the 1.5 hour sessions, nurses' understandings of EBP, as well as perceived enabling and inhibiting factors, were clarified so that these perceptions and expectations could be taken into consideration when planning the following stages of the study (*1.4/2.4; 3.1).

To improve communication between nurses and the researcher, giving it more structure and content, a 'steering group' was established, comprised of the researcher and 3 senior staff nurses (who were also mentors to the participating clients) from both units (*3.10). Two of the group members were approached by the managers, whilst one member volunteered himself, motivated by personal knowledge of implementing change and concerns he had regarding the troublesome start to the study. The 'steering group' collectively established the main aims of the group: to monitor the research progress and ensure good communication with all stakeholders (nurses, clients, management and other disciplines) so that the study remained on the unit agenda's and 'fitted' the local context as far as possible.

The 'steering group' met, in principle, every two weeks, for 1 hour. The researcher facilitated the sessions and ensured minutes were documented and made accessible to all stakeholders (*2.4/2.2). Alongside the minutes of the meetings, the 'steering group' published several newsletters, keeping clients and staff up to date with the study's progress.

The 'steering group' approached those nurse mentors of clients participating in the study, asking them to participate in a research group. This would enable client preferences to be used as input for nurse mentor activities (coordination and provision of care). After the researcher had reassured the nurse mentors that the time they invested in the study was determined by their own individual preferences and possibilities, all 11 nurse mentors (2 nurses mentored 2 clients) gave written informed consent. Each nurse mentor was able to participate as and when they felt it was desirable.

Other nursing staff were also invited to participate in the research activities, resulting in the research group membership not being static and varying according to which activity was taking place. Those nurses not in the 'steering group' were invited to attend planned

sessions in which the most recent results were presented and consensus reached on the ensuing action plan (*2.4/2.2; 3.1/3.10).

In light of the high work load experienced by nursing staff, the researcher planned activities in collaboration with management and the 'steering group'. Research activities were planned at times that would have minimal effect on the primary care process. These activities were planned well in advance, during the overlap between a day- and evening-shift. It was expected that this would enable the 'freeing up' of those members of staff who wanted to participate in the planned activities.

5.2.4 Diagnosing the setting; Evidence, Context and Facilitation

As mentioned before, AR is a cyclical process, and one of the first steps is a diagnostic analysis of the research setting. Such an analysis is considered important as an implementation plan should be more successful when attuned to influential factors within the setting. The PARIHS framework (17-18) formed the basis for a diagnostic tool during this phase.

The PARIHS framework was developed in 1998 (18) and later refined (17, 19-21). It consists of three elements: evidence, context and facilitation. These elements have a dynamic, simultaneous relationship, each with a 'high-low' continuum.

Successful implementation of EBP is argued to be a function of: the nature and type of the evidence (E) to be implemented; the qualities of the context (C) in which the evidence is to be introduced; and the way the implementation process is facilitated (F) (17). Evidence is defined as a combination of research findings with clinical and patient experiences (18). The framework proposes that the most successful implementation of evidence will occur when:

a) the evidence is scientific and matches professional consensus and patients' preferences (high evidence).
b) The context (the setting in which the proposed change is to be implemented), characterized by the three factors: culture, leadership and evaluation (21), is "high" (18, 21) i.e. it has features of learning organizations, transformational leadership and appropriate monitoring and feedback mechanisms.
c) Facilitated. Facilitation refers to the process of enabling the implementation of evidence into practice, and can vary from providing help to achieve a specific goal ('doing for others') to 'enabling others' to analyze, reflect and change their attitudes and ways of working (22).

The diagnostic analysis was made by the first author and presented back to clients and nurses for member checking (*1.4/1.6; 2.4/2.6). A shortened version of these results are presented below, using the three elements of the PARIHS framework. A more detailed description has been submitted for publication (23) and has been reported in the fourth chapter of this thesis.

C1 Evidence

Nurses were unfamiliar with the concept of EBP, making no use of scientific evidence in their practice, and were not competent in searching for, or assessing scientific literature. Even though they worked within a multidisciplinary team, nurses were not stimulated to provide care based on scientific evidence.

Client desires and preferences were assessed by nurses, and a care plan drawn up accordingly. Despite a lack of systematic assessment, the majority of client needs (> 80%) were attended to in one way or other. However, clients felt that care received did not achieve the desired results, indicating ineffective/insufficient care provision. Approximately 60% of their needs were not fully met. The majority of these unfulfilled needs fell within the psycho-social domain.

Nursing interventions were largely bases on client preferences and clinical experience. Nursing activities were rarely shared or discussed, resulting in nurses often having no knowledge of each other's interventions, with no critical review (sharing and contesting professional knowledge) or shared learning.

C2 Context

The research setting had few characteristics of a learning organisation, or, in terms of the PARIHS framework, a 'high context'. Resources for nurses on the unit to access scientific literature were lacking. Even when present, staff were unaware of any resources such as databases.

As well as a lack of resources, time and high workloads were seen as major obstacles to nurses searching for relevant literature during working hours. Time and workload were also obstacles named as preventing the sharing of knowledge. Nursing staff were dissatisfied with the manner in which decisions were made on the unit, experiencing the action research as something that was imposed upon them with no clarity as to how the time needed to participate in the study would be facilitated.

The nursing staff were clearly not motivated to participate in this study, experiencing their organisation as one that did not invest in nursing innovation. There was a scarcity of clinical leaders and no strategy or structure for implementing change.

Care plans written by nurses were evaluated, although no structured questionnaires or measurement tools were used to assess or evaluate client needs. Consequently, evaluations of the effects of (nursing) care were ambiguous and there was no stimulation to seek and choose alternative interventions when appropriate.

C3 Facilitation

Staff experienced little/no facilitation when implementing change. According to the nurses, if support was offered, this had no structure or strategic planning. At that moment in time, staff did not feel able to positively influence this situation.

The diagnostic assessment of the research setting was fed back to nursing staff and management. Nurses acknowledged the diagnostic description, whilst management felt that the workload described by nurses was the result of poor organisation of care by nursing staff. Management shared this opinion with the researcher in the absence of members of the nursing team, after the feedback presentation. This action raised issues around how open communication was between management and staff.

The overall conclusion of the analysis was that the setting scored low for all three elements of the PARIHS framework (evidence, context, facilitation), thereby reducing the chance of successful implementation of evidence based care. Kitson et al. (17) consider such situations as the most challenging, where issues of safety and basic competences need to be attended to first.

5.2.5 Clients choosing the topic of the study: care needs

In order to give clients a voice in the study, to meet their preferences and wishes (a main aim of EBP), it was decided to implement EBP based on those care needs that clients felt were relevant (*2.6). It was decided to seek evidence for effective interventions for those needs that clients felt were the most important for them and, despite the care currently offered, remained unfulfilled.

In order to gain insight into the discrepancy between care needs and care provision, each client (supported by the researcher) completed the Need Care Questionnaire (NCQ) developed by Kroon et al. (24).

Analysis of the questionnaires resulted in a overview of care need-provision matching, as experienced by clients within the research setting. Shortly after completing the Care Need Questionnaire, each client was interviewed by the researcher. The opening question posed was: "Which areas of care on the scale are the most important for you?" These interviews were recorded and a verbatim transcribed. Citations were labelled using the questionnaire care needs list, which provided an overview of which subjects the majority of clients in the research group felt were important. Each analysis was discussed with each client to verify that the most important subjects had been correctly identified. Concurrent to this, a number of interviews and labels were reviewed by two co-authors.

Clients were then invited to a meeting in which the results of the Care Need Questionnaire and interviews were presented (*1.4). The Group was posed the question: "Which three subjects are the most important?" More than one need was requested as analysis failed to reveal one need identified by all of the clients who participated. During this meeting, 8 clients and one nurse (with consent from the participating clients) were present. Consensus was achieved on the following 3 needs for intervention:

- Coping with voices.
- Social contact and loneliness.
- Work and how to spend one's day.

Although all those present agreed with the 3 needs identified above, some did remark that not every need would be relevant for 'all' clients.

5.2.6 Inventory of the nursing interventions

Nursing staff were invited to a group meeting in order to establish which nursing interventions were currently used for the 3 needs identified by the client group (*2.4). It appeared that many different interventions were used for all three subject areas. It also became apparent that, even though an average of one hour per shift was spent writing evaluations in care plans, nurses still failed to know exactly which interventions the other was using. For instance, one nurse had had good experiences using cognitive behavioural therapy with clients suffering from auditory hallucinations, whilst her colleagues were unaware that she possessed these skills and knowledge.

5.2.7. Planning multiple actions

The previous steps identified a number of areas for improvement in care which could consequently be used to develop a collaborative action plan (*2.4; 3.1/3.10**).** The areas for improvement, each of which formed their own small action cycle, were:

F1 Searching assessment instruments and nursing interventions
F2 Implementation of assessment instruments
F3 Implementation of nursing interventions
F4 Improving familiarity with nursing literature
F5 Clinical leadership
F6 Open communication

The action plan for each area of improvement is described below.

F1: Searching assessment instruments and nursing interventions

Nursing staff were not accustomed to systematically evaluating the effect of their care. Measurement tools that demonstrate the effect of those interventions used to treat the needs identified by clients could influence which nursing interventions staff continue to use. Clients had also indicated that, despite nursing interventions, a number of their care needs were still not being fully met, indicating a need for more specific evidence based interventions. These interventions and measurement tools were collectively sought and implemented.

The activities for searching and implementing tools and interventions were planned, in advance, by the 'steering group' so that any staff who wanted to participate could be relieved of direct client care. It was decided to plan four whole days, spread across a period of four

months, to search for measurement tools and interventions. All nursing staff from both units were invited to participate. Five nurses wished to participate, none of whom had any experience in searching, critiquing or using scientific literature. Two of these participants were mentors to participating clients.
To help the participating nurses become accustomed to the available possibilities, the researcher and organisation librarian organised an introductory workshop in which the nurses were helped to devise a search strategy, search the databases and then critique the information found (*2.4/2.3). This took place in the organisation library so that the nurses where physically distanced from primary care processes on the unit and could concentrate on becoming familiar with the available resources.

During the first two days a search was carried out for suitable measurement tools, and the remaining two days were reserved for finding nursing interventions aimed at the needs identified by the client group.
Finding suitable measurement tools proved difficult. Although information about tools was often available, the tools themselves were seldom readily (or with difficulty) available. Eventually, two measurement instruments were found that met the criteria formulated by the nurses: 1) the Auditory Hallucinations Rating Scale (AHRS) which is part of the PSYRATS (25) measuring the severity and influence of auditory hallucinations; 2) the Maastrichtse Sociaal Netwerk Analyse (MSNA) tool (26) which measures the quantity and quality of a clients social network.
Some instruments were not very specific, for example, the frequently used HoNOS. Others were deemed by the nurses as being less relevant for nursing care.
An instrument for determining work and daily activity planning was not found. Staff decided to develop their own, simple VAS scale, supplemented with a few open questions, so that clients could express satisfaction and desires with regards to work and every day activities.
The instruments chosen for implementation were presented to the client group by one of the participating nurses, together with the researcher. Clients were asked whether or not each tool was easy to understand, and, whether or not they would be prepared to complete the tool together with their nurse mentor (*1.4). Those clients present (N=9) all agreed that the tools were client friendly, and they were prepared to complete them with their nurse mentor. Clients not present at the meeting were approached individually by their nurse mentor.

During the second half of the 4 month period, the participating nurses searched, facilitated by the researcher, for relevant nursing interventions (*2.3/2.4). At this stage one nurse had dropped out, but had asked a colleague to replace her. The search strategy for nursing interventions resulted in more information than the search for measurement tools.

Participating clients were once again consulted by one nurse and the researcher, being asked whether or not they viewed the interventions as suitable for their care needs, and whether or not they would make use of these interventions, if offered (*2.4).

F2: Implementing assessment instruments

After being presented to the client group, the measurement tools were introduced to the nursing staff and, after consensus was obtained, implemented (*2.4; 3.1/3.10).

Supported by the researcher (*2.3) those nurses who had searched and reviewed the literature presented the instruments to other members of the research group, giving them the opportunity to become role models and clinical leaders in this area (*2.9). During the consensus meeting the feasibility of the instruments was discussed, instructions given on how to use them, as well as when and how they could be used by nurse mentors with their clients (*2.4; 3.1/3.10).

F3: Implementation of the nursing interventions: The Future Group; Unravelling Thoughts; The Liberman Module 'Handling Free Time'.

After the client group had confirmed that the interventions found in the literature were compatible with their preferences, and that they were willing for these to be offered in practice, the interventions were presented to the remaining nurses and agreement reached as to who would champion the implementation of these interventions (*2.4;3.1/3.5/3.10).

The interventions were presented to the nursing staff several months after they had been found. High workload had prevented a collective meeting at an earlier date. Once again, those nurses who had sought and reviewed the interventions acted as role models when presenting the interventions (*2.4;3.1/3.5/3.10).

The interventions considered feasible by the research group included:

- The Future Group. This is a rehabilitation method aimed at supporting clients with a psychiatric problem during recovery. It involves exploring possibilities with regards to housing, work, leisure and social contact.
- 'Unravelling Thoughts' involves the use of cognitive behavioural therapy techniques to assist people in learning to cope and live with their auditory hallucinations.
- The Liberman Module 'Handling Free Time' involves enabling clients learning how to fill their days in (for them) 'meaningful' ways.

The Future Group

Two experienced nurses (one of whom was a senior staff nurse) from the research group volunteered for the implementation of the 'The Future Group' in both units. Each was supported, as much as possible, by the researcher. This involved support in clarifying expectations as well as determining and organising resources such as: a budget agreed by

management; training of staff in facilitating the 'Future Groups'; compiling an activity list, and invitations for clients (*2.3). Due to the irregular presence of the researcher in the research setting, the two nurses working differing shifts and/or working part-time, communication usually occurred via e-mail or the researcher made appointments to meet with one of the two champion nurses leading the implementation locally. Support involved encouraging the nurses to undertake action and remain focused on the implementation process. The researcher recorded any agreements made, as well as process evaluations (*2.7/2.9). By doing so, he assisted the continuity of implementation.

Unravelling Thoughts

Two other senior staff nurses from the research group volunteered to implement this intervention within their own unit. Neither felt confident in training colleagues in this method, so it was decided to seek expert help. In view of the fact that there was no budget to bring in an external expert, plus the fact that this subject lay within the domain of the disciplines within the multidisciplinary team, a student psychologist (the unit psychologist was unfortunately absent due to sickness during this period) was asked, and agreed, to introduce nursing staff to the basics of 'Thought Unravelling'.

The researcher had supported the nurses in identifying which help they needed as well monitoring and stimulating progress during the implementation period (*2.3/2.9). This was necessary as there were very few moments where the nurses could meet during shift changeover and a lot of time was lost. The researcher also facilitated the student psychologist, giving advice on effective ways to structure a workshop and providing suitable materials (*2.2/2.3).

The first workshop took place 6 months after the research group had found the intervention, and was attended by 14 nurses, all of whom evaluated it positively. Unfortunately, the planned continuation of workshops by the student psychologist was ended by her preceptor. The preceptor felt that this activity did not fall within their job description, and would have negative consequences for their own 'productivity'. A strategic review was needed, and the 'steering group' decided that the next course of action would be for the researcher to liaise with the other disciplines and management team to prevent this intervention from being discontinued before it had even started. Also, more collaboration between nursing staff and other disciplines was needed with regards to this subject. Choosing the researcher to undertake this role was made by the other members of the 'steering group' who felt that they would have less influence on the multidisciplinary team than the researcher (*2.9; 3.1/3.6).

During a multidisciplinary team meeting, the researcher presented an argument for a stronger focus on cognitive behavioural therapy, supported by the Multidisciplinary Guideline for Schizophrenia (27). Consequently, the multidisciplinary team drew up a letter, addressed to the management team, in which the importance of the intervention was

explicated and the need for a budget to train staff. The requested budget was agreed to train a senior staff nurse and one member of another discipline.
The researcher also approached the psychologist regarding the possibility of facilitating several nurses to become competent in 'unravelling thoughts' (*2.3; 3.5). It was agreed that she would coach 3 nurses who were mentoring clients suffering auditory hallucinations. Coaching started nearly a year after the choice for this intervention had been made by the research group.

Liberman Module 'Handling Free Time'

Two nurses (neither of whom were senior staff nurses) from the research group volunteered to implement this module, together with the researcher. Both had completed training in a different Liberman Module, but neither were familiar with the content of this module, which meant that training was necessary before they could offer the intervention to clients.
Facilitation by the researcher became problematic as it proved very difficult to find days when they could meet during the changeover period between day and evening shifts. Consequently, communication was almost entirely via e-mail and months passed without any activity on the implementation of this intervention. When the nurses an researcher did meet, agreements were made about the following steps to be undertaken. The researcher inquired into the support that the nurses felt they needed, and they were able to familiarise themselves with the course content the research had bought with him (*2.3).
One of the nurses made a prognosis budget for the training of staff that was then presented to management. The cost of training was more than originally estimated and so management argued for this to be shared with the 'activity department'. Furthermore, the cost of offering this module had not been included in the unit 'continuing education budget', and so permission was needed from higher management. As with the nursing staff, the researcher gave management regular reminders in order to ensure progress in this issue, and clarity could be obtained as to when and how training could begin (*2.6).

It became apparent that in the periods when the researcher wasn't present in the research setting, very little progress was being made with regards to implementing the chosen interventions. This was attributed to nurses giving priority to direct care provision and the fact that the duo's responsible for implementation could seldom meet during the overlap period between a day and evening shifts. Focus on implementation consequently subsided, and so it was advised that the duo's planned their shifts to increase contact moments and the researcher would be present on the unit for 1 day a week. The aim of this strategy was to help maintain momentum in the implementation process. The physical presence of the researcher within the local setting would make contact easier, and the study would receive more attention within the units (*2.3).

F4: Improving familiarity with nursing literature

During the diagnostic phase it became apparent that nursing staff read a very limited scope of nursing literature and were not familiar with the on-line facilities within the organization. To improve this situation it was decided to offer two workshops on the work floor. The workshops were facilitated by the researcher and librarian as those nurses who had participated in the earlier workshops for tools and interventions did not feel competent enough to facilitate these workshops themselves. The workshops were open to all members of staff, not only those nurses in the research group (*2.4).

Sixteen members of staff attended the workshops, and evaluations revealed that they were surprised by the amount of information available on-line and intended to make more use of this resource. Expressed concerns included: limited amount of time available to read literature; the availability of computers on the units; and the lack of printed articles which nurses felt were easier to read.

As a follow-up action to these concerns, the researcher listed those journals the nursing staff felt were relevant for their needs and approached the library commission regarding the possibility of making these journals available on the units. The request was not honoured as the organisation had made a strategic decision to give preference to on-line facilities, and no journals were made available to locations outside the main building. It was agreed that older annuals of the journals would be made available to the units, in a designated cupboard, that was accessible to all nursing staff. The cupboard was filled with information that the researcher and nurses felt were relevant and up-to-date (*2.8).

F5: Clinical leadership

The diagnostic phase revealed a lack of clinical leadership within the research setting, with unclear differentiation between senior staff nurses and other staff nurses, as well as practice development playing a background role in unit life.

It was therefore decided, in discussions with management, to create a work group consisting of 2 senior nurses, the manager and the researcher to review the senior staff nurse role (*2.4; 3.5/3.10).

The role description of the senior staff nurse and nurse mentor were compared in order to identify where the senior staff nurse role could be developed, and to determine what was necessary for this to manifest in itself more explicitly in practice. Once again, workload pressures and the impossibility to plan shifts so that the group members could meet, the workgroup only met twice and progress only reached a stage of comparing the two roles. No further actions were defined that would enable senior staff nurses to develop their role as clinical leaders.

The researcher also presented the issue of clinical leadership to the 'steering group' to discover if there were possibilities for nurses to become more active in the research study

and care (*2.4/2.6). Nursing staff recognised the importance of becoming more active, but, at the same time, continued to refer to the workload pressures they felt made any activities outside basic care provision (referred to as "bed, bath, bread and medicine") an impossibility. When supporting the nurses involved in implementing the interventions, the researcher appealed to, and tried to develop leadership qualities, utilising a facilitation style that was more 'enabling' than 'doing for others' (22) (*2.3; 3.5).

F6: Open communication

Communication between management and nursing staff scored low during the diagnostic phase. Communication tended to be 'about' each other rather than 'with' each other, placing the researcher in a position where he had to listen to complaints of one party about the other. He reflected this back to both parties, stating that they were critical of each other and were forgetting to consider their own contribution to the situation (*2.3/2.6).

Open communication is described as an essential characteristic of effective workplace cultures (28) and effective cultures positively influence the chance of successfully implementing change. Attending to this issue was therefore necessary. In order to cultivate direct communication between both parties, the 'steering group' organised a meeting with the managers in which the issue at hand was acknowledged by all, the desire for open communication was agreed, and each individual declared an intention to be as open as possible in their communication with others (*2.4; 3.10). It was also agreed that the notes of the 'steering group' would be sent to management and that the managers could participate in group meetings. Unfortunately, management failed to take advantage of this opportunity. The researcher consciously tried to role model effective communication by being honest and clearly stating what he observed to nurses, management and other treating clinicians. (*2.6/2.9; 3.10).

5.3 Evaluating the overall results: Evidence, Context and Facilitation

The following methods were used to collect and analyse the data about the overall results (Evidence, Context and Facilitation) of the AR study.

The Need for Care Questionnaire (NCQ) was one of the tools used to collect data about the patient experience. The NCQ is developed by Kroon et al. (24). It includes 42 items (care needs), all formulated in the same format. The NCQ is internally consistent, supported by the Cronbachs alpha of 0.89 (24). The answers of the clients show the association between the perceived care needs and the frequency these needs are met. The NCQ was used by the researcher with clients individually at the beginning and at the end of the study.

After the NCQ was filled out, the researcher interviewed each client about his or her

experiences participating in the research study. The opening question was: how do you look back on participating in the research study and participating in the activities that have been introduced? The conversation was recorded, transcribed and fed back for member check. The data was analysed in categorising positive and negative patient experiences.

Multiple nursing focus groups were held at the end of the study. Because the nurse participants work shifts, it was not possible to interview all (N=11) in one group, so smaller subgroups were organised. The opening question was: how do you look back on participating in the research study and did the study offer something to you or to your clients? The conversation was recorded and transcribed. The data was fed back for member check. The data was themed by categorising nursing statements with the aid of the (sub) elements of the PARIHS framework.

This information was supplemented by the Evidence Based Care Benchmark (EBCB), developed by Feasy and Fox (29) that was filled out collectively by the nurses during the same focus group. This benchmark is face valid and has been developed to identify gaps in the organisational infrastructure for implementing EBP (29). The EBCB focuses mainly on contextual elements, but some factors also cover 'facilitation' or 'evidence' aspects. During the focus group the participating nurses reached consensus on the score of the different factors of the EBCB and justified that score by means of a written explanation. These written explanations have been placed under the (sub)elements of the PARIHS framework.

During the study many conversations, evaluations and observations took place. These conversations and evaluations of activities were recorded and transcribed after participants' consent was obtained, or in other cases the researcher took notes during or immediately after each conversation. The results were fed back for member check and adjusted if necessary. Researcher observations were also discussed with participants and, as with the conversations, recorded in a log book. The results of these conversations, evaluations and observations were themed under the (sub)elements of the PARIHS framework.

The results of this action research study are presented below using the 3 elements of the PARIHS framework: Evidence, Context en Facilitation.

Evidence: *Patient experiences*

During the evaluation, the participating clients expressed several positive outcomes from this study, although these may not necessarily have been experienced by all clients. The pleasant atmosphere of the meetings was referred to, as well as new activities that were a direct result of participating in the study. The fact that clients were able to share their experiences of the care received was also viewed as a positive outcome.

> "*I didn't always understand everything, but it was always nice to be able to participate. There was always coffee and something nice to eat, and I now belong to a card club.*" (Client 3) "*I*

enjoyed it, it was something different." (Client 7) "*I've started playing chess again.*" (Client 4) "*The study was very positive, for once a client can now talk about his experiences, how he experiences the moment.*" (Client 5)

The increase in activities undertaken by clients was also noted by nursing staff.

"*It's a shame that the study has stopped because I found what was happening to be really enlightening. For instance, patients are now playing chess and my client talks about his 'chess friends' who are very important to him.*" (Nurse 2)

"*During the Future Group it came about that my client wanted to lend and read more books, so we both went to the library in town and he now travels there alone to borrow books. This has meant that he makes better use of his free time. He has been to a bridge club a couple of times, but picking that up again is too much, however, playing 'gin-rummy' or chess is not a problem. He plays regularly now. He has subscribed to a good newspaper and enjoys reading it. He now wants to start taking photos and join a photography club.*" (Nurse 3)

"*As a result of the course, one of the clients has now joined a normal judo club in the village. He's entitled to feel very proud of that.*" (Nurse 1)

There were clients who were less positive, stating that their situation had not changed by participating in the study.

"*It was about the care that was offered, but that care is a load of crap. There is very little care offered.*" (Client 6)

"*It's a bridge with no end, there has been no end to these voices, I just have to learn to live with them.*" (Client 13)

" I participated in the Future Group, but I will have no future outside this hospital ground." (Client 4).

These citations are partially supported by the results of the Care Needs Questionnaire that was repeated at the end of the study. Clients indicated that they received care for nearly all their needs (111/121 = 92%). This is a small increase (4%) compared to the beginning of the study.

The care offered also produced the results that clients had hoped for, as seen by the fact that the percentage of unmet need for care (the percentage of care needs experienced as not being fully met by no, unsuitable, insufficient or too many care activities) fell to 46%. Although substantial, this percentage is appreciably lower than the start of the study, when unmet care needs scored 68%.

Table 5.2 Care need/care received at the beginning (T0) and end (T1) of the study

	T0 (N=12)	T1 (N=8)
Average Need for Care per person	17	15
Total number of Care Needs	208	121
Total Care Received	182/208 (88%)	111/121 (92%)
Total Unmet Need for Care	142/208 (68%)	56/121 (46%)

Evidence: *Clinical experience*

Nurses talked of how there is more attention being paid to the needs named by clients, and that they collaborate more with clients in looking for ways to meet these needs.

"*I'm more aware, and there's more attention being paid to these areas of care. Not only with those clients participating in the study, but other clients too. Together we look at: "What would you like?" and "How could we achieve that?"*." (Nurse 1)

"*For my clients, how to spend the day and social network are now part of my daily agenda.*" (Nurse 4)

"*They* (the subjects named by clients[1]) *are part of my thinking. The research study has brought client needs more to our attention.*" (Nurse 5) *"We are now more attuned to client needs."* (Nurse 3)

Nurses also stated that their perceptions of clients have changed, enabling them to come up with new ideas.

"*Because of the activities, my take on clients has increased and changed even though I have known them for a very long time.*" (Nurse 5)

"*The healthy side of clients has emerged now too. You can appeal to that more now.*" (Nurse 6) "*Suddenly very healthy sides to clients pop up.*" (Nurse 2)

"*They are not major things, but, if you pick up on them, you come a lot further with clients.*" (Nurse 5)

"*Things have emerged that I would never have seen before, because I wouldn't think of them, and yet they are important for the client. That is the benefit of the Future Group, and so, the research itself.*" (Nurse 3)

"*For one thing, I've been more involved in completing the care needs list with different clients, also clients who didn't participate in the study. It's good to see that people apparently think about other things which they would like help with than what you would have wanted or thought about. People also enjoy doing it. I have also completed that auditory hallucination questionnaire with my client, and was shocked by the amount and number of voices he has. That wasn't something we talked about much with each other.*" (Nurse 2)

[1] Note added by author GM.

The scope of interventions used by nurses increased because of the three new interventions (the Future Group; the Liberman Module 'Handling Free Time'; Unravelling Thoughts) implemented during the study. The Future Group and Liberman Module are group activities facilitated by a small number of nurses.

After 4 months, the Future Group started with support from the researcher. During that time management became amenable to releasing a budget, buying the materials and allowing the nurses to be trained. The first Future Group was facilitated by both nurses, together with an expert. Five clients from the research group participated. Both nurses felt committed enough to return from their day off to facilitate the groups. They had, unfortunately, not been planned to work at the times the meetings were planned.

A report was made for each client after the first meeting. This report was then discussed with the nurse mentor so that relevant information could be utilised in care planning. After completion of the study, the Future Group activity was organised several times for several clients who had not participated in the study.

Management also released the necessary budget for the Liberman Module, and three members of the nursing staff and three members of the 'activity' staff attended an in-company training. They were then able to offer the module to clients. After the initial training, the nurses invited clients and colleagues to an informational meeting about the module, and approximately 1 year after the intervention had been chosen, the module was offered to 9 clients, 6 of whom completed the course.

> *"I was surprised by the regular attendance of clients and really enjoyed facilitating the course. I would love to give a follow-up course, but whether or not that is possible, in light of the work load, remains the question."* (Nurse 9)

In contrast to the other two activities, the ' Unravelling Thoughts' activity takes place on a 1-to-1 basis, and was used by 3 nurses with their clients who were suffering from auditory hallucinations. They were supervised by the psychologist, enabling collaboration between these two disciplines.

> *"I notice that my colleagues are now sooner inclined to use the thought scheme. I found it such a shame at the time. A good start was made, but it all came to a dead end. Without this study, the Liberman group would never have started, and we wouldn't have had a Future Group, and we wouldn't have started on a small scale with Thought Unravelling. Nor would you have been able to measure the effect on clients with whom I have used thought unravelling, such as X and Y, who did not participate in the study group, but still benefited from the intervention. If we met people, they often greeted us by nodding their head or something like that, and he found that strange, became suspicious and asked: "Does he know you?" You can now calmly explain how it works and make use of the thought scheme again."* (Nurse 2)

Evidence: *Research*

The nurses who had participated in the literature search stated afterwards that, among other things, they had become more competent in searching for relevant literature and that by reading the literature found they felt that their professional knowledge had increased. Furthermore, they experienced that reading literature written in English was easier than they had expected and that they could use this new insight in their preceptor ship of students. One nurse experienced searching for literature as very time consuming and a strong divergence from the rhythm of nursing practice. This resulted in her retracting from the study half way through and finding a colleague to replace her.

Those nurses who did not participate in the literature search benefited from their colleagues work as the literature found and the available on-line resources were taken back the unit, making it easier for others to consult these.

Various members of the nursing staff also stated that they had become more aware of their actions and sought alternatives by reviewing literature more frequently than before. The researcher observed this too, reinforced by the fact that he received fewer requests for literature on subject matter relevant to their nursing practice.

"*I also asked you about literature on Borderline Personality Disorder, which I have in my caseload too. I haven't found much new information, but, I am now increasingly looking for alternatives*." (Nurse 2)

"*It's a question of continuously looking, adjusting and reviewing. Its lead me to search still further, and if that doesn't work, to ask: "What can I try instead?" For instance, I'm now using motivational interviewing. I'm more inclined to ask myself: "Why doesn't it work?" Then I search further for other sources whereby I can help that client to progress. I'm starting to search more, but I'm not good at reading literature written in English, it costs me a lot of time to 'separate the wheat from the chaff'. In the Dutch literature there is so very little to be found on nursing interventions.*" (Nurse 4) "*I search a lot further now.*" (Nurse 1)

"*EBP is, for me, mainly searching for information and possibilities, finding, rejecting and then finally finding something that is applicable to our client group. At the start of the research I never thought that we would use Thought Unravelling, the Liberman Modules or the Future Group. Finding the right needle in a haystack for our client group, that's rewarding!*" (Nurse 3)

"*Finding answers to my questions, seeking support for my actions. Of course, your most valuable instrument is yourself, but you can use tools to expand your possibilities. Gain new knowledge for instance, GM gave me a research article on the effect of showing humorous films to people who have schizophrenia. It appeared that people really improved by watching these. Things like this are real pearls. It costs next to nothing and can be easily applied. I'm going to take this up with the activity support worker. Searching for these type of things, and trying them out, is much nicer than just ticking the action boxes, which is what we usually do.*

The whole EBP project has made me more aware of the fact that there are other possibilities out there which you wouldn't think of yourself." (Nurse 4)

Context

In the research setting there is now more information available than at the start of the study. This information is available in a cupboard that is accessible to all, and is regularly added to by nursing staff.

Context: Culture

At the start of the study it was established that there were few characteristics of a learning organisation. During the study, a number of practices underwent a positive change, as described above. Nurses now ask themselves more often whether there are any alternatives to their current practice, and search more often for these. However, there are also a number of barriers identified during the diagnostic phase that have remained unchanged.

The nurses in the research group named several barriers that prevented a deeper change in the culture. The most frequently named inhibitory factors were: lack of time and insufficient collectivist because activities in the research were split among different people. Also, due to the work load, few meetings were planned in which knowledge could be shared. It was also felt that, even though budget was released for implementing the interventions, managerial support was lacking.

"*What I/we failed to realise was to make it (*the study on implementing EBP[2]*) something collective. It was different pieces done by different people. This one is busy with that, and that one with something else, but we shared very little. I had hoped that it would arise from the Critical Conversations (meetings in which knowledge is shared[3]) but unfortunately these didn't materialise due to a lack of time. I'd like to take this up in the future, it's a shame that everyone's busy with his own thing*". (Nurse 4)

"*There's so little opportunity to enter a critical dialogue with each other. Because of the work load, everyone is so isolated with their own tasks, and nothing ever comes of it. As a mentor you care for your clients. The care is limited to the mentor. I'm just pleased at the end of the day that I have done everything that I have to do, and go home shattered. Once in every 6 weeks there's a consultant (note GM: member of the multidisciplinary team) who thinks with you and asks if there have been any problems, but, that's about it. We don't have the room to try out new things, or implement them and learn from them.*" (Nurse 7)

"I've become more aware of how important it is, but you need time and space for it, and there's not much of that." (Nurse 5)

"It cost me a lot of my own time as I simply don't have the time available here at work." (Nurse 4)

[2] Note added by author GM.

[3] Note added by author GM.

"*Your manager just doesn't give you the time to work according to the real principles of EBP.*" (Nurse 3)

"*I was really interested to know what is was and wanted to learn. It isn't valued and is not known by most people. If management were more active then it could gain more acceptance on our unit.*" (Nurse 1)

"The negative side of things always gets the upper hand here, and I think that there's a negative aspect. It's difficult to turn that around and you need to have the management with you. I expect more clarity and transparency.

I said it in that task group too: "No hidden agendas! Just so you know, this is what we're working towards." There needs to be clarity, and a manager that stands behind us, and not for those above him. I miss that really. Someone who stands behind us and makes a contribution. Thinks and feels with us." (Nurse 2)

"Management doesn't stimulate you to do it, nor free up any time or resources." (Nurse 3)

"I ran up against this. I spent a lot of my own free time on this because I was continuously planned to work on different days, and I had to write reports etc. I'm not doing that anymore because I suffer too much, personally." (Nurse 6)

The inhibitors that nurses experienced were mainly perceived as external factors on which they have little influence. This is different, in terms of cultural change, to the expectation that professional nurses use personal time to keep up with developments within their field.

"It's a norm in other industries that you are responsible for keeping yourself up-to-date with developments. You can forget any hope of doing that in the boss' time here. It's not talked about, but you wouldn't be able to realise it. It simply means investing your own time. Nurses of our generation are not used to that." (Nurse 4)

Nurses are satisfied with the results of the study, but, along with management, they question the extent to which the ways of working can be sustained and further integrated into practice.

"*It has been searching and developing, with a good result that we can be proud of. A large obstacle is the team, a lot happens here but there's never any results. The question now is: "How do we keep this going, and how can we potentially expand this in the future?" We'll need to continue developing, but how?*" (Nurse 5)

"*For instance, I have questions such as: "How can we better integrate this into practice?" and "How can we keep using it? How can I become better in sharing my knowledge with students and colleagues?" That hasn't happened yet. I'm older now, and that wasn't part of my training.*" (Nurse2)

"What I am more concerned about, and question, is whether it will survive, or will it become something that preceptors just say: "It's a substantial part of our work", that evidence based

work. I'm more concerned about that. I think that in the hectic of everyday work, it will possibly take a back seat. I think that in the same period there have been some sacrifices on the personnel front. I see these things too, of course. If you look at the number of hours we have and the requests that clients make, we can only answer them to a certain degree. So, there's quite a lot asked of the nurses, and then some things will have to be axed". (Manager)

Participating in the study has made nurses more critical with regards to (action) research, and what it requires.

"If we were asked again to participate in EBP, then I would need to seriously think twice about it. What resources are available? So that we don't get the same answer: "You'll get the time back", which in fact turns out to be taking money out of your own pocket. Yeah, I think we really let ourselves be taken for a ride on that one. That's just the way I felt, and still feel. There has to be the resources, to sit and work, I sometimes sit at home doing stuff and I'm not being paid for it." (Nurse 2)

"*No new research under these conditions, absolutely not.*" (Nurse 3, 5, 6)

"I'm not saying no, but I would need to have the resources clarified in a meeting. That won't happen to me again, I've learnt that from this study. Nobody knew beforehand what it entailed and what it would mean. The next time I'll ask: "Tell me what it's going to mean exactly." (Nurse 4)

"*Together with the researcher and manager, and then I would still want an agreement about the resources.*" (Nurse 3)

Context: *leadership*

As previously stated, the 'steering group' that had reviewed the differentiation between staff nurses and senior staff nurses, had failed to find clear clinical leadership by one or more senior staff nurses. The 'enabling' style of facilitation offered by the researcher had contributed to some nurses utilising new interventions with clients independently.

The expressed concern about the sustaining of evidence based practice indicates that there was a failure to enable one or more nurses from the research group to feel responsible and take on a leadership role after the researcher had left the setting at the end of the study. As the nurses, management, multidisciplinary team and the researcher shared this concern, a broad EBP work group was initiated to further embed EBP within the setting. The group met on several occasions, however, due to the prevalence of 'urgent issues', no agreements or action plans were made with regards to the further implementation of EBP. The researcher therefore decided to withdraw, and the collaboration ended.

Context*: evaluation*

In contrast to the beginning of the study, nurses now use measurement tools that enable the evaluation and adjustment of care. Five months after the introduction of tools, 24

(80%) were being used by clients and the nurse mentor. During the second cycle, 6 months after the agreed date, 18 (75%) of the measurement tools were being utilised. This lower percentage can be explained by two patients dropping out of the study, as well as the high workload experienced by nursing staff which lead them to decide to limit their time to the provision of 'basic care'. Talking clients through the instruments was not considered part of 'basic care' provision, so the researcher tried to retrieve as many completed instruments as possible using the good will he had built up with participants during the study.
It appeared that some nurses had also used the same instruments with clients who did not participate in the study, and so, after consultation with these clients, their data was included. However, for other nurses, although they completed the instruments with their clients as agreed, the results were not used to influence care planning.

Facilitation

At the start of the study nurses expressed that there was never much support offered for the implementation of change, and that there was a lack of structure and strategic planning. After completion of the study, nurses held a more positive view and named several characteristics that they felt lead to effective facilitation: perseverance and patience; open communication; creativity and problem-solving; inspiration; support and confrontation.

> "*I want to thank you for your patience and perseverance because without that it would all have ended much sooner. What has been achieved is largely achieved by your perseverance. I often admired you for that. That, despite everything, you still tried to carry on and to take us along with you, and the fact that you didn't protect anyone from the way you viewed things. On the one hand you acted as mediator, whilst on the other hand you were outspoken, which has brought things out into the open and that way things can now be said. You didn't protect anyone, naming things as they were. You described the shortcomings and possibilities, from high to low. I can appreciate that, you put things down, black on white, without discriminating. That had an effect within the organisation. We had often invited clinicians, but they didn't respond, until you politely worded what you thought of the matter. Both to us and to them. And then they came round.*" (Nurse 4)
>
> "*I experienced your role as both supportive and confrontational. Confrontational because of the fact that I thought I was doing well and yet from the conversations you had with the seniors, or nurses, I heard that I was on the wrong path so to speak, whilst for me, that was not the case. It's at moments like that, that you realise you're in a lonely position, where you run the risk of becoming narrow minded at times. That was one of the reasons that I started with that inspiration group last year, whereby, by taking a step back and talking about things, I heard from others how things were seen. Supportive because you looked with fresh eyes at the work here, and you told us what you thought about it. Also because it contributed to the developments we are now undergoing.*" (Manager)

"You're someone who pushes on despite resistance, just solving things. Connected to people, keep on listening to people and take into account the (im)possibilities of those people. I learnt a lot from you, especially how to structure such a project. There were considerable barriers to cross, and you often tackled them with patience and creativity. I'll miss you when you're gone, as a touchstone and a source of inspiration". (Nurse 3)

5.4 Conclusion

Looking back at the research journey it became clear that, despite the increase in workload, progress was made in a number of areas during the course of the study. Some clients had become more active and, in comparison to the start of the study, there were substantially less unfulfilled client needs, indicating that care was better matched to client needs.
Evidence Based Practice is now a more familiar term among nursing staff, and there is more use of the available evidence. Clients who did not participate in the study are also benefiting from this development.
Nurses have become more aware of their actions, and towards the end of the study had started to search for alternative interventions. The study has increased awareness of the availability of professional literature, which is also now more accessible to all.

The action research study was not equally successful on all elements of the PARIHS framework. Examples of this include concerns about continuing to base practice on evidence, after completion of the study, related to: a lack of clinical leadership; limited knowledge exchange due to high workloads; and a continued lack of communication between nurses and management.
The study was originally planned for a 15 month period, but failure to meet with the research group regularly so that consensus could be reached on which steps were to be undertaken in each phase of the study, and to learn from these, meant that the study needed to be extended by a further 12 months. The positive side of this extension meant that the action cycles could be completed, but, on the down side, a sense of 'flow' and 'continuity' was lacking. The periods between the various steps were too long, and the majority of steps were undertaken by individuals or nursing duos, which limited shared learning within the research group. Despite the extension in study time, it could also be concluded that the existing culture, as was hoped for at the start of the study, did not undergo a fundamental change. It soon became apparent that long term planning was needed so that the shifts of those nurses participating in the study could be planned to coincide with research activities. Even then, nurses regularly failed to turn up. The main reasons offered for this lack of attendance was the prioritisation of direct client care activities, and the work load that increased during the course of the study. Direct client care was given priority and the research study made subordinate. We failed to integrate evidence based practice into the

primary care process, nurses continued to see them as two separate activities.
The work load prevented the creation of spaces to share knowledge and experiences, and the high percentage of part-timers made it very difficult to bring the whole of the research group together. This contributed to nurses failing to develop a sense of ownership towards the study, noticeable in the way in which they talked about the study i.e. they did not talk of 'our research', but of Guus' study'.

Despite claims that action research differentiates itself from other methodologies by the fact that the researcher collaborates with the participants, it was concluded here that the researcher had to retain a directive and determinate style of facilitation. This did lead to results, as indicated by the citations of those nurses involved, but had as a negative consequence that the nurses remained in a position of 'dependancy', relying on others to do the work for them or, even if there was support, relying on a facilitator to maintain continuity. Although the researcher's original intention was use an 'enabling' style of facilitation towards the development of EBP, instead of a 'doing for', the facilitation needed to achieve results was more 'doing for' the nurses involved. The main reason offered for this was the continuous pressure of the primary care process which limited time for reflection and knowledge exchange. This factor was acknowledged as a hindrance, but no action was undertaken to resolve or influence the situation, and the researcher resolved himself to leading the initiation and continuation of research activities. The positive result of this stance was that progress was made, although the problem continued and nurses continued to feel powerless in escaping the 'the hamster-wheel of busyness' (28).

There is little evidence in the facilitation literature as to which characteristics of a facilitator determine their effectiveness (22, 30). It is said that facilitators develop their skills in action, and that the skills necessary are dependent on the goals and context of the implementation project (22). The primary researcher in this study, although having knowledge and experience of mental health nursing, had no previous experience of facilitating a group on his own and simultaneously researching a complex implementation process. The facilitation skills needed were consequently developed and reflected on 'in-action'. One of these reflections resulted in the intensity of facilitation being increased during the study. The original episodic contact became weekly, moving the researcher from a more external to internal facilitator position. This enabled the development of more intensive collaboration with nurses within the research setting which, reading the citations made by the nurses and manager, could be characterised as a 'high challenge/high support' approach to facilitation (31). The same citations affirm those skills described by other authors as being important to effective facilitation. These included, among others: flexibility; ability to build collaborations with the help of good communication (30, 32); patience and commitment (33) as well as content

awareness (34). In conclusion, the results of this study support the findings of other studies that state that a dedicated facilitator and/or opinion leader who works with individuals in the practice context may be enabling (35).

5.5 Discussion

This study shows that the implementation of EBP is exceptionally complex and that the often cited 5 step implementation model (36-37) whose simplicity appears so attractive, does no justice to the complexity of the process. Implementing EBP in mental health nursing is not a simple case of an individual professional posing a clinical question, searching for evidence, assessing the evidence and, dependent upon the assessment, deciding to implement and evaluate the change. On the contrary, the implementation of EBP is more a way of working that fits an environment where professionals are given, and take, the time to learn and thereby improve their practice as they research it. When the conditions such as clinical leadership, evaluation and sufficient time are not available, the results only confirm the gap between the worlds of research and practice. A conclusion that has often been made, but remains a unchanged reality.

Another conclusion that is of particular relevance to managers, in light of their responsibility for creating the conditions for effective care, is that open communication with those providing and receiving care is of utmost importance. Pfeffer and Sutton (38 p. 32) state that '*building a culture of truth telling and acting on the facts*' is one of the most important principles of evidence based management. The signals given off by nursing staff (that work load was too high), as well as the signals from the client group (that nearly half their needs were not being fully met), were clear. The latter signal could be explained by the limited number of clients who participated in this study, however, the number of unfulfilled care needs is not dissimilar to those found by Goossens et al. (39) who, using the Need for Care Questionnaire, found that approximately 40% of client care needs remained unmet in a larger population (N=157).

EBP places demands on nurses as professionals. They need to be assertive with regards to resource availability, prepared to keep themselves up-to-date, and share knowledge with their colleagues in order to continue their professional development. This was not self-evident for those nurses participating in the research group. The question remains, in light of the experienced high work load, what may be expected of nursing staff? One nurse from the research group expressed the following:

> "*I really feel that EBP and the sharing of knowledge is important, but, if I have to choose between a client that needs new clothes and who cannot buy them himself, or participating in research on the implementation of EBP, then my decision is easy.*" (Nurse 5)

Nurses often felt that the research activities were even more tasks being piled onto their plates, plates that were already full and overflowing. To prevent over taxation of nurses and yet still integrate EBP in the primary care process, it may have been preferable to start action learning sets at the start of the study, using case studies to explicitly zoom-in on how evidence from different sources could be used in practice. The researcher could have facilitated such meetings.

5.6 Limitations and strengths

Learning through reflection is an important aspect of action research. Such reflection took place primarily within the 'steering group' and less within the nurse research group, as it proved too difficult to meet frequently. This resulted in limited shared learning, and improvement of care becoming the main focus.

Although the importance of setting the action research study high on the research setting's agenda is recognised (11), we were unable to achieve this. This resulted in a top-down approach to the implementation of EBP by the researcher and higher management, which ended in nursing staff and local management feeling less involved from the very beginning. During the study, work load was continuously seen as an inhibitor, and yet no action was undertaken to deal with the barrier. Those involved tried to work to achieve the most they could within the restrictions. The study could be, although started with another intention, classified more as an organizational or professionalizing action research study, rather than an emancipatory study. Along with other factors, the lack of researcher experience in facilitating action research was a contributing factor.

Despite these limitations, positive results were achieved in increasing the professional competence of nurses, as well as improving the meeting of client needs. This alone highlights the value of action research, as well as the flexibility and potential of the nurses involved.

As is demonstrated by the coding of the facilitation activities of the researcher during the AR with the implementation strategies of Plas' reference framework, each facilitating activity can be included in this framework. If this is the case, one can ask how the AR study presented here, differs from other sorts of implementation research and whether the results can really be ascribed to the action research carried out in the research setting. These questions are not easy to answer. The most important difference between AR with an empowering intention and other implementation research studies not based on AR, is that the researcher/facilitator in an empowering study continually strives for the optimal participation of those involved. This way of facilitating is not based on

the 'pragmatic' consideration that is found in 'other sorts of implementation research' because it will increase the adoption of an innovation. AR with an empowering intention is based on the idea that through this process the participants gain a better insight into their way of working and the context in which this takes place.

This knowledge is needed to undertake well-considered actions to change the way of working and the context if necessary. This emancipatory process, which takes place on the basis of equality, ensures that all those involved develop knowledge and insight so that their room for action and their possibilities will increase.

In addition, the AR research carried out sheds light on the role and the necessary qualities of the researcher/facilitator/change agent who, in contrast to other kinds of implementation research (in which, generally speaking, only the strategies and not the researcher him or herself are discussed) is far more relevant. The reflections of the researcher on his own role are discussed in the concluding chapter of this thesis. Moreover the extensive description of the context in which the research took place (chapters 4 and 5) offers the possibility to gain insights into the mechanisms of success and failure in implementing EBP, instead of answering the question 'does programme X work' (e.g. reminders) (40) as is the case in much implementation research. That is why Greenhalgh et al. (40) consider AR and the realistic evaluation developed by Pawson & Tilly (41) in which the mechanisms of success and failure in implementing innovations are critically examined, by answering the question ' what works for whom under what circumstances', as potentially useful approaches. This realistic evaluation and its outcomes will also be described in the last chapter of this thesis.

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Chapter 9

Implementing Evidence Based Practice in mental health nursing. An effect study

Based on: Munten G, Cox K, Bongers I, Garretsen H. Implementing Evidence Based Practice in mental health nursing. An effect study. [Submitted].

Abstract

After a diagnostic analysis in the intervention and the comparison setting, an AR study in the intervention setting was conducted. The diagnostic analysis showed many similarities for evidence implementation being present in both settings. Both setting showed few success factors for implementation of EBP. This implies that both settings are low in receptiveness to change. The AR study lasted 27 months.

During this time the nurses from the intervention setting were facilitated by the researcher (during one day a week) while the nurses of the comparison setting lacked this facilitation.

By the end of the study the care needs of the clients from the intervention setting were met more often than in the comparison setting and clients from the intervention setting are reporting an increase in their activities as a result of the action plans in the AR study.

In both settings the nurses are mentioning a high workload. In spite of that factor three new interventions, based on the client's needs and/orscientific evidence were implemented in the intervention setting.

In the comparison setting the nursing interventions did not change. Nurses of the intervention setting has become more accustomed to professional literature and are more often looking for alternative interventions then they did at the start of the study. EBP is because of the study now a concept with a meaning among nursing staff of the intervention setting, while it is only a concept for the nurses in the comparison setting. The workload in both settings remained high because staffing had to be reduced to cut the costs. This was also the most frequently named inhibitory factor that prevented a deeper cultural change and a more intensive participation in the intervention setting.

6.1 Introduction

Evidence Based Practice is now a well-established concept in nursing literature. In this chapter Sackett's definition of EBP is used. Sackett (1) defines EBP as an integration of best research evidence with clinical expertise and patient values in clinical decision making. Although Sackett (1) presents EBP as an activity of an individual health care professional, there is a growing body of evidence (2-4) that shows the importance of the context in which the health care professional is working for the use of evidence in their practice.

Practising Evidence Based is easier said than done, as witnessed by the gap between research and practice cited by various authors (5-8). Because of this gap, that also exists in the medical profession (9-10), our patients do not receive the best possible care. This situation can be improved by implementing EBP, resulting in nursing care where research, clinical nursing expertise and patient values are integrated in clinical decision making.

Implementing EBP is not easy because no implementation strategy is effective in every situation. As is already documented (11-12), context is an important influencing factor for the implementation of EBP. Not all contexts are receptive and/or conducive to changes that working according to the principles of EBP may bring and/or require. It is therefore important to remember that investment in the health care context is necessary for the successful implementation of EBP.

Furthermore several authors (7, 13-14) advise that as well as the characteristics of the context, the new knowledge, the actors involved and their possible interactions should be taken into account when implementing change.

Action Research is a research methodology and a way of structuring implementation, which takes these points into consideration where the worlds of research and practice become linked and participation by those involved in the context is viewed as important. In a recent review, Munten et al. (15) concluded with an element of caution, that action research is a promising methodology for the implementation of EBP in nursing.

The Action Research study described in this chapter had a twofold purpose:

- Enhancing nursing expertise through the use of more knowledge derived from research, personal clinical experiences as well as the preferences and experiences of patients.
- Collaboratively, with the nursing staff, developing a context in which nursing care matches more the needs of the clients.

The research question this article tries to answer is: What is the effect of the implementation of EBP in mental health nursing, using AR with an empowering intent, on the care experienced by clients, nursing interventions and the context in this setting compared to a comparative setting?

6.2 Methods and measurement

6.2.1 Design

The Action Research (AR) study, embedded in a comparative design, was conducted in two Mental Health care organizations in the Netherlands, after approval by the Medical Ethics Committee.

During the study nurses from the intervention setting (the setting where the AR study took place) were facilitated by the researcher in the implementation of EBP, while the nurses from the comparison setting lacked this facilitation. The role of the researcher in the comparison setting was limited to the collection and feedback of data from and to the nurses and clients of this setting. The cyclic implementation of EBP in the intervention setting has been described in the fifth chapter of this thesis. The allocation of each setting was decided by management of both organizations, and so not randomized. Implications of the design are discussed below (limitations and strengths). The research design was longitudinal as data were collected before, during and after the implementation of EBP in the intervention setting and at the beginning and ending of the study in the comparison setting.

6.2.2 Research settings

The intervention setting had two units offering care to a total of 89 long-term patients with severe mental illness. Patients varied in age from 25yrs to 65yrs. The majority lived within the hospital grounds or in houses in the neighbouring village, still close to the hospital. Each unit had its own manager and a team of nurses (16 FTE and 18.3 FTE respectively). Each nurse in the team was a primary nurse for several clients, responsible for planning, evaluating and coordinating nursing care.

The nursing teams consisted of a number of senior staff nurses (5.3 FTE and 4 FTE), 2 social pedagogical workers (0.7 FTE and 1 FTE) and 1 care assistant (0.8 FTE) as part of the care team.

To further enable the coordination and continuity of care, nurses collaborated with the multi-disciplinary team, consisting of a psychiatrist, psychologist and a social psychiatric nurse, all of whom were stationed on site.

The comparison setting was a supported living service for long-term patients with severe mental illnesses who cannot live independently due to their illness, or inadequate social/family support. A safe home environment was provided to 31 patients who were supported in their further personal development. As in the intervention setting, care was based on a vision of rehabilitation, in which patients are helped to utilize their own abilities as much as possible, enabling them to function as optimally as possible. There was 24 hour support for all clients, provided by 10 employees (8.7 FTE) with a nursing or social pedagogical background. Similar to nurses from the intervention group, each employee had their own

case load of clients and collaborated with a psychiatrist and social psychiatric nurse. Unlike the intervention setting the other disciplines were not stationed on site. The setting was managed by one care coordinator.

An extensive diagnostic analysis using the PARIHS framework was carried out as the first phase of this Action Research study. This analysis has been described in the fourth chapter of this thesis, so only the most important conclusions will be reported here. The analysis showed many similarities between the settings, i.e. few success factors for the implementation of evidence being present. Evidence Based Practice was a concept unfamiliar to the nurses in both settings and as well as the lack of knowledge and expertise on EBP, the context and facilitation in both settings did not stimulate the use of evidence.

6.2.3 Patient and staff selection

Patients and staff from both organizations were informed, in writing, by the researcher and invited to a meeting in which they were offered more information on the research project. It was emphasized that participants in the AR setting could have an active role during the research process, if they wished, being offered the opportunity to directly influence care as an action research methodology was being used. Patients were also informed by their primary nurse so they could pose questions to someone familiar.

After patients had agreed to participate and given informed consent, their primary nurses were also invited to participate and give informed consent. This gave both patients and nurses a 'voice' in the study. Other nurses than the primary nurses were also invited to take part.

Twelve patients from the intervention group and all of their primary nurses (N=11) participated in the research. The number of (non-primary) nurses participating fluctuated with each cycle of the study as participants joined those cycles that were of interest to them. In the comparison group ten patients were recruited, including all of their six primary nurses. No non-primary nurses participated in the comparison group.

6.2.4 Data collection and analysis

The following methods were used to collect and analyse data about the central topics in this research: the care experienced by the client, nursing interventions and the context in which nurses work.

Care experienced by the client

The 'care experienced by the client' was measured by the Need for Care Questionnaire (NCQ). This questionnaire was developed in the Netherlands by Kroon et al. (16) and includes 42 items (care needs), all of which are formulated in the same format.

The 42 items of the NCQ are located on 6 scales. The Cronbachs alpha of all these scales

varies between 0.6 till 0.83, with the exception of the addiction scale, which has a Cronbachs alpha of 0.51. The Cronbachs alpha of the whole questionnaire is 0.89, indicating internal consistency (16) .

The NCQ was used by the researcher (first author of this article) with clients individually. Depending on the preference and abilities of the client, the NCQ was either completed by the client in the presence of the researcher, or the researcher read each question aloud and noted the answer given by the client.

Three scores are calculated per item;

- perceived need for care (question: *do you think you need help or guidance with .. and if so, would you like: more, the same amount or less help or guidance?*).
- Care received (question: *do you receive help or guidance with …?*).
- Unmet care need. A care need is unmet when the client reports a need, but relevant care is: not given, insufficient or perceived as unsuitable.

The questionnaire was used at the beginning and at the end of the study, enabling comparisons.

In order to value patient experiences as 'evidence', and judge patient experiences as 'relevant', the implementation of EBP focused on those care items that patients felt were the most significant for their well-being and nursing care perceived as suboptimal.

Clients at the intervention site chose three care needs:

- Coping with voices.
- Social contact and loneliness.
- Work and how to spend one's day.

To discover interventions used by nurses, the researcher carried out focus group interviews with the participating nurses from both settings, separately, at the beginning and end of the study. During these interviews an inventory was made of nursing interventions that were currently used for the three needs identified by clients, and change monitored during the study.

During the first focus group interview the central questions were: *Which interventions do you use to help clients cope with voices, loneliness and finding work or how to spend their day? Why do you use these interventions?*

The researcher wrote answers on a flip-chart, visible to all participants so that they had every opportunity to add and adjust statements. The interview was tape-recorded and transcribed, by the researcher, so that any missed answers could be later added to the flip-chart. The resultant work was fed back to the nurses for member checking.

During the second focus group the nurses were asked whether *nursing interventions did change during the study and how they look back participating in the study?*

The interview was also recorded and transcribed by the researcher and again fed back to

the nurses for member checking. Because the nurse participants work shifts, it was not possible to interview all in one group, so a number of smaller subgroups in both settings were organized.

The nursing context

The *nursing context* was assessed using the Values Clarification Exercise (VCE), the Evidence Based Care Benchmark (EBCB), a nursing focus group, as well as observations of, and conversations with, nursing and management staff in the intervention setting.

The Values Clarification Exercise is a tool frequently used for developing a common/shared vision and purpose (17). The VCE enables the explication of stakeholder values and beliefs, forming the first step of putting these into practice. In this exercise participating nursing staff were invited, in small groups, to clarify their values and beliefs about Evidence Based Practice by answering several questions, then jotting their answers down on 'post-its'.

The information arising from the subgroups was initially presented to the other groups, and then common themes across all groups were identified by nurses together with the researcher. This presentation was recorded on audiotape. Resultant themes were structured under the concepts of the PARIHS framework and then used to guide the nurses of the AR setting during the following phase. The themes of the AR group were used by the researcher for comparison with those of the other context. In both settings the VCE was used in the beginning and at the end of the study.

The Evidence Based Cared Benchmark is based on a literature review carried out by Feasy and Fox (18). The aim of the instrument is to gain insight into the participant perspective for the lack of congruence between practice and research, as well as identify gaps in the organizational infrastructure for implementing evidence-based practice (18). The benchmark has undergone several tests in the past and findings were used to modify the benchmark. The benchmark has face validity but has not been tested psychometrically.

The instrument consists of 11 factors that can be scored on a continuum from worst (E) to best practice (A). For each question there is space for the nurse to justify the score given and so offer insight into the 11 factors in the setting. In both settings the EBCB was completed twice individually and then collectively at the end of the research in the AR setting during a focus group. The results of the individual EBCB scores, including the written explanation, were analysed by the researcher and presented as a member check to the participants. The written explanations have been placed by the researcher under the Contextual sub elements (Culture, Leadership and Evaluation) of the PARIHS framework.

During the already mentioned focus group, the nurses were asked *how they look back participating in the study?* The focus group was recorded and transcribed and fed back for membercheck. The data were themed by categorizing statements with the aid of the contextual sub-elements of the PARIHS framework (Culture, Leadership and Evaluation).

Observations and conservations only took place in the AR setting where the first author was present, on average, one day a week. During this day conversations took place with clients, nurses and/or management, and observations made, for instance, when attending staff meetings. The conversations were recorded after participant consent was obtained and transcribed, or researcher notes recorded immediately after each conversation. The results were fed back for member check and adjusted if necessary. Researcher observations were also discussed with participants and, as with the conversations, notes recorded in a log book. The results of these observations and conversations are presented under the contextual results.
In the comparison setting no observations or conversations, other than the planned meetings to collect or feedback data, took place.

6.3 Results

6.3.1 The care experienced by clients

As mentioned before, the care experienced by clients was assessed using the NCQ.

Table 6.1 Need for Care and Unmet need at the beginning and at the end of the research in both settings

	AR setting T0 (N=12)	AR setting T1 (N=8)	Comparison T0 (N=10)	Comparison T1 (N=8)
Average Need for Care per person	17	15	23	21
Total Need for Care	208	121	234	168
Total Care Received	182/208 (88%)	111/121 (92%)	193/234 (82%)	120/168 (71%)
Total Unmet Need for Care	142/208 (68%)	56/121 (46%)	173/234 (74%)	117/168 (69%)

Four scores were calculated (see table 6.1):

1. Average need for care per person *(the average number of needs for care per person, from a maximum of 42 items)*.
2. Total need for care *(the total number of needs for care for all clients in the setting*).
3. Total care received *(the percentage of care received by all clients in the setting where a need for care was reported)*.
4. Total unmet need for care *(the percentage of a need for care that remained unmet, was insufficiently met or was perceived as unsuitable by the clients in the setting).*

In the eighteen month duration of the study, some clients dropped out of both settings. This was sometimes due to transfer to another organization or because the study proved to be too stressful for them. At the start of the study, clients in the comparison setting reported more care needs compared to clients in the AR setting (23 v 17) (see table 6.1). As the

questionnaire contained 42 care needs, they reported having just over half of the possible care needs. In both settings a small decline in care needs was reported during the study. Clients in both settings also reported usually receiving care if they experienced a care need, although this percentage was higher in the AR group (88% v 82%). By the end of the study the difference between settings became larger (92% v 71%) with clients in the AR setting reporting care needs being met more often than at the beginning of the study (92% v 88%), while this percentage worsened in the comparison setting (82% v 71%).
In spite of the fact that clients usually received care if they experienced a care need, the percentage of unmet needs was high. At the beginning of the study the percentage of unmet needs for care in the comparison group was higher than in the AR context (74% v 68%). By the end of the study the difference between settings in unmet need for care had increased (69% v 46%) in favour of the intervention setting. In light of the small number of clients in the study, there are indications care provision in the AR group better matched care needs. Although results also improved in the comparison group, these were much smaller.

6.3.2 Nursing Interventions: coping with voices, social relationships and daily routines

Both nurses in the intervention setting (N=8) and the comparison setting (N=5) indicated that the three care needs (coping with voices, loneliness and work/how to spend one's day) identified by clients were relevant to nursing care and that they used several interventions to help clients cope. When accounting for the interventions used, no nurse mentioned scientific evidence to underpin the intervention. For the care need 'coping with voices', nurses from the AR setting indicated that they usually used the intervention 'providing structure' as this distracted clients by focussing their attention on other activities and thereby reducing the hindrance experienced by the voices.
In the comparison setting, where fewer clients suffered hallucinations, nurses tended to look for causes and effects of these voices, as it was felt that this would help prevent hallucinations in the future. Another intervention that was used in both settings was to offer '*pro re nata*' (as required) medication to help reduce the impact of the voices.
During the study the nursing intervention 'Unravelling Thoughts' was implemented in the AR setting. This intervention involves the use of cognitive behavioral therapy techniques to assist people in learning to cope and live with their auditory hallucinations or delusions. This intervention is also recommended in the Dutch Guidelines for Schizophrenia (19) which concludes that cognitive behavioral therapy is indicated for clients with persistent positive symptoms.

In order to implement this intervention, two nurses from the research group collaborated with the researcher and student psychologist on the unit, to develop a training program.

The first phase comprised of a workshop for 14 nurses. During this workshop, information on the theoretical underpinnings of the intervention was introduced and the nurses helped to experience what it is like to deal with voices. Unfortunately, due to organisational problems, the whole training program could not be continued, and it was decided to work on a smaller scale. Therefore, only three nurses were coached by the unit psychologist in unravelling thoughts with their clients, and continued to use this techniques with their clients.

> (Nurse 3 int.) "Initially it was always*: "Voices? More medication. Now we can talk about the voices, question them, so that his delusions become less intense. I ask more questions now, which offers me more insight in how he sees them. That is a new way of going about it now for me. By doing it in a structured manner, every few weeks, you see that he can tell his story and at the same time question it*."
>
> (Nurse 6, int.) *"I think that I do it my way, adapted to X, otherwise I'd loose X. In the beginning X received a manual, which just confused him. Then we decided to throw the book away and use the content in our own way".*

The nurses also started to see that the basics of 'unraveling thoughts' could be applied in other situations.

> (Nurse 6, int.) *"I think you can use it in all sorts of areas whenever someone gets stuck: "What happened? What were your thoughts about it? Could it be something else?" etcetera*."

In the comparison group nursing interventions for hallucinations did not change.

> (Nurse 1, comp.) *"If I may say something about it, I think nothing has changed about the way we react to hallucinations. If clients feel the need to talk about them with us, I think that's still possible".*

With regards to the topic 'social contact and loneliness', nurses from both settings indicated that they work from a rehabilitation vision of care, where the most commonly used intervention was assessing social needs of clients and the barriers to meeting these needs. This was done individually, and neither group used any tools or instruments. During the study, in order to pay particular attention to this topic, it was decided with both nurses and clients from the intervention setting, to implement a Future Group, facilitated by the researcher. This is a rehabilitation method consisting of 12 group meetings aimed at supporting clients with a psychiatric problem during recovery. It involves exploring possibilities with regards to housing, work, leisure and social contact. The Future Group was facilitated by an expert for the first session after which 2 nurses, who had been trained in this method, took over the facilitation. 16 Clients joined the Future Group. Five of them clients were not participating in the study, but, had been motivated to join the group by their primary nurse. Some clients participated in the group several times due to the warm atmosphere and agreeable methodology, and participation often led to clients undertaking new activities and making new contacts.

(Nurse 6, int.*) "We probably touched on some parts of his past and so he started to tell more about what he have done and what he wants to do. Now he's joined a dance class".* (Client 4. int.) *"I started to attend a bridge group here in the village, but had to stop as I was making elementary mistakes. Playing chess, which I now play here with a few others, is working."*

(Client 8, int.) *"It was always nice to sit around the table with other people, play games, be able to talk about yourself and what you want".* (Client 6, int.) *"It was always a relaxing and nice activity because I don't have anything to do here. The days are so long otherwise".*

The two nurses who facilitated the Future Groups handed relevant information over to the client's primary nurse so that he/she could continue to work with them. The two facilitating nurses also felt that this activity helped them see participating clients in a new, positive light.

(Nurse 6, int.) "*You see some clients flourish. Yes, in just a few meetings you see more than in other care activities".*

In the comparison setting no new interventions were implemented. Nurses indicated that due to low staffing they had less time than before to give personal attention.

(Nurse 1. comp.*) "If you have, as we have had recently, only 1 evening shift, all you can do is try to keep this place ticking over*".

This limitation of time for care led to a greater appeal being made on family ties and involvement in care.

(Nurse 3, comp.) *"There are new colleagues, such as A. who pay more attention to relations with the family. That triggers you, but the high workload necessitates you looking to a brother or sister to contribute something. No, besides involving family members, we haven't done anything different"*.

With regards to the care need 'work and how to spend one's day', nurses in both settings indicated, as with the other topics, assessing the needs of the clients and their possibilities was the most common intervention. Unlike nurses in the AR setting, care givers in the comparison setting collaborate with a case-manager who supports clients in looking for a job or how to spend their day.

To support the clients in planning their day in a (for them) meaningful way, nurses in the intervention setting, supported by the researcher, implemented the Liberman Module 'designing free time'. This module was implemented after the researcher had facilitated nurses and clients in shared decision-making. Three nurses from the AR setting and three employees from the activity department received 'in company' training and thereby became competent in offering the module to interested clients. Approximately one year after the decision had been taken, two nurses had run the module for nine clients, six of whom completed the module.

(Nurse 9, int.) *"I was surprised by the high attendance and it was fun to do. I would like to offer an extra module, but I don't know if we could manage one in light of the current workload".*

As with the Future Group, clients were reported to benefit from the module.

(Nurse 9, int.) *"Their view on possibilities has been widened by several trips made to the village and the explanations about where to find information on things to do in the neighbourhood. One participant started to regularly attend a judo club in the village half way through the module. He was rightly, very proud of himself".*

In the comparison setting nursing interventions on this topic did not change, although, due to high workloads, other disciplines were sooner consulted.

(Nurse 1, comp.) *"Work and how to spend one's day is a topic that is being more and more taken care of by others. Most of the time a case manager organises it, calling in a support worker. I notice that I find it difficult, we have so little time, and I think: "If someone else has got the time to do it, then it is fine with me".*

6.3.3 Context

In the AR setting the research group tried to gain more access to nursing journals from within their setting. This attempt was not successful because the organization had a policy of stimulating online reading and made journals only available in the main building.

In spite of this policy, some nurses in the intervention setting did arrange for more up-to-date material to be accessible on the unit than at the beginning of the study. This information was accessible to all, and regularly added to by nursing staff. In the comparison setting nothing changed with regards to the availability of relevant information.

During the implementation of EBP in the intervention setting, nurses became more acquainted with professional literature, and were more prone to searching for alternative nursing interventions (in collaboration with the researcher) then they were at the start of the study.

(Nurse 7, int.) "*The library appears to have a lot to offer online, which we can then use on the unit".* (Nurse 4, int.) *"It's always a case of searching and adjusting. It did result in me searching more often and if that doesn't work, I ask myself: "What can I try now?"".* (Nurse 1, int.) "*I search further now".*

In the comparison setting nothing changed in nurses' behaviour towards looking for professional literature or alternative interventions.

(Nurse 2, comp.) *"I never hear colleagues talking about new interventions or research".*

At the start of the study it was established that there were few characteristics of a learning organisation, with a high workload in both settings. The high workload experienced by nurses did not change during the study because both settings were faced with staffing level reductions due to cost-cutting.

(Man. Int.) "*During this period we have lost quite a lot of personnel. If you look at the hours we have now and the questions clients are asking, we can only offer limited solutions.*" (Nurse 3, int.) "*You are forced to make choices you're not really willing to make. You can't do much more than offer a bed, a bath or bread. There's no room for anything else*".

(Nurse 1, comp.) "*Last year in June or July we heard from management that we are facing a large deficit so costs had to be reduced. This meant that if someone left their job the post would not be filled. Both clients and us have to get used to it, but that's the new reality".*

In reaction to the limited time resources, nurses in the intervention setting decided that all non-client centred activities (including meetings for the action research study or any other meetings where knowledge was shared) were to be cancelled. Besides other things, this meant that knowledge exchange and learning (with and from each other) was limited.
During the study, a number of practices did undergo a positive change, as described above. Nurses now ask themselves more often whether there are any alternatives to their current practice, and search more often for these. However, there are also a number of barriers identified during the diagnostic phase that have remained unchanged.
The nurses in the research group of the AR setting named several barriers that prevented a deeper change in the culture. The most frequently named inhibitory factors were the already mentioned lack of time' and 'insufficient collectivity' because activities in the research were not carried out by all in the research group. It was also felt that, even though budget was released for implementing the interventions, managerial support was lacking.

> "*What I/we failed to realise was to make it (*the study on implementing EBP[1]*) something collective. It was different pieces done by different people. This one is busy with that, and that one with something else, but we shared very little. I had hoped that it would arise from the Critical Conversations (meetings in which knowledge is shared[2]) but unfortunately these didn't materialise due to a lack of time. I'd like to take this up in the future; it's a shame that everyone's busy with his own thing*". (Nurse 4, int.).
>
> "*There's so little opportunity to enter a critical dialogue with each other. Because of the work load, everyone is so isolated with their own tasks, and nothing ever comes of it. As a mentor you care for your clients. The care is limited to the mentor. I'm just pleased at the end of the day that I have done everything that I have to do, and go home shattered. Once in every 6 weeks there's a psychiatrist or psychologist who thinks with you and asks if there have been any problems, but, that's about it. We don't have the room to try out new things, or implement them and learn from them.*" (Nurse 7, int.)
>
> "*Our manager just doesn't give you the time to work according to the real principles of EBP.*" (Nurse 3, int.). "*I was really interested to know what is was and wanted to learn. It isn't valued and is not known by most people. If management were more active then it could gain more acceptance on our unit.*" (Nurse 1, int.).
>
> *"I expect more clarity and transparency from the management. I said it in that task group too: "No hidden agendas! Just so you know, this is what we're working towards." There needs*

1 Note added by author GM.
2 Note added by author GM.

to be clarity, and a manager that stands behind us, and not for those above him. I miss that really. Someone who stands behind us and makes a contribution. Thinks and feels with us." (Nurse 2, int.). *"Management doesn't stimulate you to do it, nor free up any time or resources."* (Nurse 3, int.). *"I ran up against this. I spent a lot of my own free time on this because I was continuously planned to work on different days, and I had to write reports etc. I'm not doing that anymore because I suffer too much, personally."* (Nurse 6, int.)

Looking at the statements, it suggests that creating a more open communication between nurses and management within the AR setting failed to materialise during this action research study.

The actions that have been chosen (meeting between the steering group and management about the communication, agreements about the way communication should be, open up the notes for the management, invitation to the management to join meetings and role modelling effective communication by being honest and clearly stating what was observed) did not lead to better more open communication and change the 'espoused culture into the culture in practice' (20).

Nurses of the intervention setting are satisfied with the results of the study, but, along with management, they question the extent to which the ways of working can be sustained and further integrated into practice.

"*It has been searching and developing, with a good result that we can be proud of. A large obstacle is the team, a lot happens here but there's never any results. The question now is: "How do we keep this going, and how can we potentially expand this in the future?" We'll need to continue developing, but how?*" (Nurse 5, int.)

"*For instance, I have questions such as: "How can we better integrate this into practice?" and "How can we keep using it? How can I become better in sharing my knowledge with students and colleagues?" That hasn't happened yet. I'm older now, and that wasn't part of my training.*" (Nurse 2, int.)

"What I am more concerned about, and question, is whether it will survive, and will it become something that nurses say: "It's a substantial part of our work", that evidence based work. I'm more concerned about that. (Manager, int.)

As management, nurses, multidisciplinary team and researcher shared the concern of the sustainability of EBP, a broad work group was initiated to further embed EBP within the AR setting. The group met on several occasions, however, due to the prevalence of 'urgent issues', no agreements or action plans were made with regards to the further implementation of EBP. Because the agreed research time ended and no further funding was available, the researcher withdrew and the collaboration stopped.

Although Action Research is based on collaborative research and change, the outcomes achieved in the AR setting were mainly attributed to the researcher facilitation.

(Nurse 4 int.) "*What has been achieved is largely down to your perseverance. I often admired you for that. That, despite everything, you still tried to carry on and to take us along with you, and the fact that you didn't protect anyone from the way you viewed things.*" (Nurse 3. int.) "*I learnt a lot from you, especially how to structure such a project. There were considerable barriers to cross, and you often tackled them with patience and creativity.*" (Manager) "*You were supportive because you looked with fresh eyes at the work here, and you told us what you thought about it. It also contributed to the developments we are now undergoing*".

Except for the increase in workload, the context in the comparison setting did not change. Unlike the nurses from the AR setting, employees in the comparison setting mentioned less contextual tensions during the study. These tensions and awareness of them, were partially enhanced by the action research itself, leading to an increase in experienced workload. This supports the often cited citation of Lewin: '*If you want truly to understand something try to change it'.*

6.4 Conclusion and Discussion

The results of this action research study show that, despite limited number of success factors being present at the beginning of the study, and an increase in workload during the study, progress was made in a number of areas in the AR setting, while in the comparison setting nothing changed in the use of evidence. In both settings care needs, per person, declined slightly. A possible explanation for this is that those clients who dropped out of the study had more needs than those who participated through to the end of the study. Another explanation is that because needs were better met, they really did decline.

The AR setting showed a substantial fall in the number of unfulfilled client care needs, indicating that care was better matched to meet needs than it was before the implementation of EBP. However almost 50% of the client needs remained unfulfilled, although in the comparison setting this was almost 70%. If we really want to place clients at the centre of care, as most present day organisational visions state, then these figures must be alarming high and warrant attention.

Evidence Based Practice became a concept with a meaning among nursing staff in the AR setting, whilst it remained an abstract entity for the nurses in the comparison setting. Nurses in the intervention setting are now more inclined to search for alternative interventions and became more aware of nursing literature available to them. This supports the conclusion that facilitation (21) or support (2) is necessary in the implementation of EBP.

Despite claims that Action Research differentiates itself from other methodologies by the fact that the researcher collaborates with the participants, it was concluded here that the researcher had to retain a directive and determinate style of facilitation. This did lead to results, as indicated by the citations of those nurses involved, but, had as a negative consequence that the nurses remained in a position of 'dependancy', relying on others to do the work for them or, even if there were supported, relied on a facilitator to maintain continuity. Although the researcher's original empowering intention was to act from an 'enabling' style of facilitation when implementing EBP, it became more 'doing for' the nurses involved. To function effectively in the context and to achieve agreed outcomes, the facilitator adapted his style to the needs and possibilities of the nurses within the specific context. The main reason offered for the limited participation and acting by the participating nurses was the continuous pressure of the primary care process, which made them having to continuously choose between provided hard needed hands-on care or reflecting and sharing knowledge. This factor was acknowledged as a hindrance, but no (managerial) action was undertaken to resolve or influence the situation. The researcher felt compelled to use a more 'doing for' style of facilitation in order to safeguard positive progress, which was made, despite nurses' continued feelings of powerlessness in escaping the 'the hamster-wheel of busyness' (21).

6.4.1 Limitations and strengths

Several authors suggests that healthcare organisations are complex adaptive systems (CAS) and that every system is unique, which means that interventions cannot easily be moved from one organisation to the next with predictable result (23). This point of view questions the design of this study, because two mental health settings are compared to answer the research question whether AR does make a difference in the implementation of EBP. Facilitating in the AR context made the first author (GM) aware that organisations are very complex and dynamic indeed and cannot be treated as objects that can be 'controlled' in a traditional logic positivistic way. Still we believe that the chosen comparative design of the AR context and comparison context, with local sensitivity to the introduction of EBP, supports the conclusion that an AR approach with facilitation by the researcher contributes to the successful implementation of change. In the comparison context no changes in the use of evidence took place. As mentioned before, the allocation of intervention or comparison status was not randomized, so the study design should be characterized as a comparative design. Diagnostic analysis of both settings before the start of the action cycle in chapter four of this thesis, concluded that they were comparable. EBP was unfamiliar to the nurses, there was no facilitation (except the researcher) in place and both had few attributes contributing to the use of evidence. These similarities between the settings, before the start of implementation, enhance the internal validity of the study.

The numbers of clients and nurses involved in the study was small, which limits the generalizability of the outcomes. The study was, however, located in the critical research paradigm which implies that trustworthiness should be sought above generalizability or reproducibility, and the results will be context and time specific. The trustworthiness and credibility of the outcomes were obtained by participation of the stakeholders and by member checking all analyzed data. Analyzing data together with the nurses would have been preferable; however, high workloads were once again a strong inhibiting factor.

Learning through reflection is an important aspect of Action Research. Such reflection did take place, primarily within the 'steering group', and less within the nurse research group, as it proved too difficult to meet frequently. This resulted in limited shared learning, mostly single loop (24) and improvement of care became the main focus of discussion.

During the study, work load was continuously seen as an inhibitor, and yet no action was undertaken to deal with the barrier. The nurses involved tried to work to achieve the most they could within the restrictions. It could be concluded that collaboration between management and nursing staff received insufficient attention. This topic was not systematically picked up because attention (un)intentionally shifted towards those influencing factors that were easier to deal with.

Along with other factors, the lack of researcher experience in facilitating action research was a contributing factor to certain outcomes. Nevertheless, positive results in increasing professional competences among nurses, as well as improving the meeting of client needs, were achieved. These outcomes, achieved under high workload, are, at least, encouraging.

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Chapter 7

General Conclusion and Discussion

7.1 Introduction

This thesis describes an Action Research project aimed at the implementation of Evidence Based Practice in a mental health nursing setting in the Netherlands. The main research question addressed in this thesis is:

In what way is Action Research with an empowering appropriate to implement Evidence Based Practice in a mental health nursing setting in the Netherlands and what is the effect of this implementation on the care experienced by the client, the nursing interventions and the context in this setting compared to a comparative setting?

To answer this main research question, the following questions derived from it were addressed:

- What is Evidence Based Practice?
- What is known about implementing evidence-based practice in nursing through Action Research?
- Which factors have to be dealt with in a mental health nursing setting, so the implementation of EBP with AR with an empowering intent will be more successful?
- Which factors have to be dealt with in a mental health nursing setting, so the implementation of EBP with AR with an empowering intent will be successful?
- How is EBP implemented through AR with an empowering intent and what are the outcomes for the use of evidence, the context and the facilitation in the setting?
- What is the effect of the implementation of EBP in mental health nursing using AR with an empowering intent on the care experienced by the client, the nursing interventions and the context compared to a comparison setting?

The first two questions were answered by a search of the literature while the remaining questions were answered during the AR study conducted in two mental health organisations in the Netherlands. Before the results are presented, the setting in which the research was conducted is considered.

7.2 The AR and comparison research setting

The AR study was embedded in a comparative design in which the allocation of the setting where the AR took place, and the comparison setting was based on pragmatic motives. Both settings deliver care for patients with severe mental illness. During the study the nurses of the AR setting were facilitated by the researcher in the implementation of EBP, while the nurses of the comparison setting lacked this aid. The role of the researcher in this setting was limited to collecting data and feeding this data back to the nurses and clients of this setting. The AR setting had two units offering care to a total of 89 long-term patients. Patients varied

in age from 25 to 65 years old. The majority lived within the hospital grounds or in houses in the neighbouring village, still close to the hospital. Each unit has a manager and a team of nurses. Each nurse in the team is the primary nurse for several clients, responsible for planning, evaluating and coordinating nursing care. Nurses collaborate with the multi-disciplinary team, consisting of a psychiatrist, psychologist and a social psychiatric nurse, all of whom are stationed on site.

Compared to the AR setting, the comparison setting is a smaller, supported living service for long-term patients with severe mental illnesses who cannot live independently due to their illness or inadequate social/family support. A safe home environment is provided for 31 patients where they are supported in their further personal development. As in the AR setting, care is based on a vision of rehabilitation in which patients are helped to utilise their own abilities as much as possible, enabling them to function as optimally as possible. There is 24 hours support for all clients, provided by ten employees with a nursing or social pedagogical background. As with nurses from the AR setting, each employee has her own case load of clients and collaborates with a psychiatrist and social psychiatric nurse. Unlike the AR setting the other disciplines are not stationed on site.

After patients had agreed to participate and had given informed consent, their primary nurses were also invited to participate and give informed consent. This gave both patients and nurses a 'voice' in the study. Other nurses than the primary nurses were also invited to take part.

Twelve patients from the AR setting and all of their primary nurses (N=11) participated in the research. In the comparison group ten patients were recruited, and all of their six primary nurses were included. No non-primary nurses participated in this setting.

The next section of this final chapter summarises the research findings and discusses the methodological quality of the study. After that recommendations are made for the implementation of EBP in mental health nursing. At last I reflect on the lessons I have learned during this research.

7.3 Results

7.3.1 What is Evidence Based Practice?

In chapter 2 of the thesis it was shown that the definition of Sackett et al. (1) is often used and it forms the heart of other definitions of EBP. In this definition Evidence Based Practice is regarded as the integration of best evidence with clinical expertise and patient values (1). This means that a nurse (or other professional), faced with a clinical problem, should transform this problem into an answerable question that will be answered by the best evidence that is critically appraised and integrated with nursing expertise and patient values, and finally evaluated on its effectiveness.

Although EBP, according this definition, is based on the integration of these three elements, most attention in the EBP literature is paid to the use of scientific evidence compared to the other two elements of the definition. This means that if an author concludes that a nurse (or other healthcare professional) does not work evidence based, this conclusion is motivated by the finding that the clinical decision a nurse makes is not based on scientific evidence. To what extent the nurse uses her clinical expertise and integrates the patient values into her decision seems to matter less.

As a consequence, this explains why the solution for the implementation of EBP is often sought by supporting the nurse in finding the scientific evidence and the appraisal of that evidence. Instead of this way, the nurse could also be facilitated to assess the needs and values of the patient more rigorously or helped to make the tacit knowledge explicit (e.g. by reflection) so it can be tested.

Supporting the nurse in finding the evidence and assessing it, is relevant but not sufficient as such, because professionals use research evidence in a selective and strategic way (2) and other factors (such as contextual) play an important role in the nursing decision-making process (3). This implies that it is important to pay attention to these influential factors during the implementation of EBP in a nursing setting, and to offer an opportunity for sharing professional knowledge and to supplement this with patient's values or patient's experiences and propositional knowledge. In this way knowledge will not be seen as something that can be discovered but as something that emerges through a critical debate so nurses will be regarded as 'knowledgeable rejectors' rather than 'ignorant receivers' (2). Working in this way can increase the ownership of the knowledge and of the implementation and, as we know, participation is one of the contributory factors of any implementation process. This will also be the case in the implementation of Evidence Based Practice.

7.3.2 What is known about implementing EBP in nursing through AR?

In the third chapter of this thesis a systematic review was conducted in order to answer the question of what is known about implementing EBP in nursing through Action Research.

21 Action Research studies that met the criteria were included in the review.

To prevent possible confusion over terminology, we used a conceptual framework (4) that distinguishes various influencing factors in terms of four target groups (patients, caregivers, organisation and society as a whole) at whom the strategy is aimed, and various strategies related to the same four target groups.

In most of the studies the action research group consisted only of professionals, followed by three studies in which the research group was comprised of a combination of professionals and patients. Often the implementation strategies were not named, so they had to be deduced from the text. In most of the research projects in the review the implementation strategy was directed at a combination of the target groups in the conceptual framework. In

only four research projects was the strategy limited to a single target group.
The implementation strategies directed at the practising professional that were used most were educational meetings in groups and personal contact. In the research projects where the strategy was directed at the *organisation*, in every case the intervention consisted of changing internal communication.
The most reported outcomes in the research projects were an increase of knowledge and performance of the nurses. Outcomes affecting the patient were reported in only seven of the research projects in the review.
Most of the research projects reported several contextual and cultural changes. Apart from these positive results in the context, only two authors reported that the hoped for results in the context were not achieved. On the basis of these results, this review concludes, with a degree of caution, that the implementation of EBP using action research is a promising approach. Caution is needed because of the lack of detailed descriptions of implementation strategies, and their intensity and frequency prevents us from drawing firm conclusions.

7.3.3 Which influencing factors emerged in the diagnostic analysis?

In the fourth chapter of this thesis, a diagnostic analysis has been carried out in the two mental health settings; the AR and comparison setting. The Promoting Action on Research Implementation in Health Services (PARIHS) framework (3) is used for this analysis.
Data was collected using both quantitative and qualitative approaches.
The two settings analysed showed many similarities i.e. few success factors for evidence implementation being present. Although EBP is a popular subject in health care literature, both settings scored low in all three factors of the PARIHS framework i.e. evidence, context, and facilitation. This implies that these settings are low in receptiveness to change (such as the implementation of EBP), and so the chance of successful implementation is low.
Although the outcome of the analysis was not promising for the successful implementation of EBP in the AR setting, it certainly showed some challenges that should be dealt with during the AR study. First of all, it showed that the researcher has to concentrate primarily on building stronger relationships with the nursing staff. A considerable number of the needs of the clients were unmet. In order to realise the value of patient experiences as evidence and judging patient experiences as relevant, the implementation would focus on those care items that clients feel are the most significant for their well-being.
As the analysis shows that nurses are not familiar with professional literature and not experienced in searching or appraising research articles, the researcher would facilitate them in searching for evidence based interventions on these significant care items.
Due to a high workload and our need to endorse the value of collaboration, all activities would be planned with those nurses of the steering committee as well as management. They know when sufficient nursing staff is available to participate in research activities

without affecting client care negatively.

Nurses were not familiar with facilitation during implementation processes - change was usually implemented on an 'ad hoc' basis - so it was decided that facilitation would be structured. For the implementation of EBP this means that evaluation, as an important factor in successful implementation process, would take place on a regular basis, and the notes of all the research activities would be digitally available to the nurses and management in the intervention setting. To meet the expectations of the nurses, the facilitation would be more technical (task oriented) in nature, in the hope it can later evolve into a more holistic and emancipatory approach.

To stimulate the evaluation of care in the setting, tools for assessing and evaluating care would be sought and implemented. Furthermore, the facilitation would pay particular attention to the role of the senior nurses, in order to clarify their role and enhance their leadership potential. These collaborative actions would be undertaken with the aim of improving evidence use and creating a context that scores 'higher' on the PARIHS framework.

7.3.4 How is EBP implemented through AR with an empowering intent and what are the outcomes?

In the fifth chapter of this thesis the AR study within the AR setting is presented. This was the next phase following the diagnostic analysis described in the fourth chapter. This analysis identified a number of areas for improvement in care that could be used subsequently to develop a collaborative action plan. Each area for improvement formed its own small action cycle.

Twelve clients from the AR group and all eleven of their primary nurses participated in the research. The number of (non-primary) nurses participating fluctuated as they only joined those cycles of the study that interested them.

In order to give clients a voice in the study, it was decided to implement EBP based on those care needs that clients felt were relevant and, despite the care currently offered, remained unfulfilled. The clients achieved consensus on the following three needs: coping with voices, social contact/loneliness, and work and how to spend one's day.

All activities were planned, in advance, by the 'steering group' (three nurses and the researcher) so that any nurse who wanted to participate could be relieved of direct client care. The activities were planned as much as possible in a 'user friendly' time slot to prevent hindrance of patient care. Decisions were made after consensus was obtained and the researcher adapted the facilitation of the nurses as much as possible to the needs of the nurses involved. All the researcher's facilitating activities fit in Plas' (4) conceptual framework described in chapter 3.

The overall results of this action research show that, despite the increase in workload, progress was made in a number of areas during the course of the study. At the end of the

study the percentage unmet care needs had fallen to 46%, the scope of nursing interventions had increased and some clients reported an increase in their activities. Various members of the nursing staff stated that they had become more aware of their actions and searched for alternatives by reviewing literature more frequently than before.
The action research study was not equally successful in all elements of the PARIHS framework. Examples of this include concerns about continuing to base practice on evidence after the completion of the study: these related to a lack of clinical leadership, limited knowledge exchange due to high workloads, and a continued lack of communication between nurses and management.
The study was originally planned for a 15 month period, but due to the difficulties of the research group meeting regularly so that consensus could be reached on which steps were to be undertaken in each phase of the study, and to learn from these, meant that the period needed to be extended by a further twelve months. Despite the extension in study time, it could also be concluded that the existing culture did not undergo a fundamental change.
The work load prevented the creation of opportunities to share knowledge and experiences, and the high percentage of part-timers made it very difficult to bring the whole of the research group together. This contributed to nurses failing to develop a sense of ownership towards the study, noticeable in the way in which they talked about the study i.e. they did not talk of 'our research', but of Guus' study'.
After completion of the study, nurses had a positive view of the facilitation and mentioned several characteristics that they felt lead to effective facilitation. These support the findings of other studies that state that a dedicated facilitator and/or opinion leader who works with individuals in the practice context could be enabling (5).
This facilitation style did lead to results, but had the negative consequence that the nurses remained in a position of 'dependency', relying on others to do the work for them or, even if there was support, relying on a facilitator to maintain continuity.

7.3.5 What is the effect of the implementation of EBP using AR compared to a comparison setting?

In the sixth chapter of this thesis the AR setting is compared to the comparison setting in the implementation of EBP. As mentioned before, the nurses of the AR setting were facilitated by the researcher in the implementation of EBP, while the role of the researcher in the comparison setting was limited to collecting data and feeding this data back to the nurses and clients of this setting.
In the 27 month duration of the study, some clients dropped out of both settings. Sometimes this was due to being transferred to another organization or because the study proved to be too stressful for them. In both settings clients received care in respectively 88% (AR setting) and 82% (comparison) of the cases when needed. By the end of the study the difference

between settings had increased (92% v 71%), with clients in the AR setting reporting care needs being met more often than at the beginning of the study (54% v 32%). This percentage also improved in the comparison setting (26% at the beginning, versus 31% at the end of the study). In light of the small number of clients in the study, there are indications that care provision in the AR group better matched care needs. Although results in the comparison group also improved, the improvement was much less.

At the end of the study clients of the intervention setting reported an increase in their activities due to the new interventions.

In both settings the nurses mentioned a heavy workload. In spite of this, in the intervention setting three new interventions based on the client's needs were implemented: The Future Group, Unravelling Thoughts and the Liberman Module 'Handling Free Time.'

Nursing interventions dealing with these topics did not change in the comparison setting, although, due to heavy workloads, other disciplines were consulted sooner.

Nurses of the intervention group have become more accustomed to professional literature and look for alternative interventions more often than they did at the start of the study. Because of the study EBP is now a concept with meaning among nursing staff of the AR setting, while it is still only a concept for the nurses in the comparison setting. Except for the increase in the workload, the context in the comparison setting did not change. The workload in both settings remained high because staffing had to be reduced to cut costs. This was also named most frequently as the inhibitory factor that prevented a deeper cultural change and more intensive participation in the intervention setting.

7.4 Reflections on the study

As stated in the introductory chapter of this thesis, Cassel and Johnson (6) conclude that it is pointless to articulate a set of quality criteria to apply to all AR and that is why each AR project should be evaluated by means of standards derived from its particular philosophical stance. For action researchers this means that it is necessary to articulate their ontological and epistemological stance as a basis for an evaluation of that research. How should this AR study be classified and what are the implications for the limitations and strengths of the study?

As a researcher I intended to conduct an AR study with an empowering intent, located in critical theory because implementation of EBP in nursing should not be individualised and isolated from the nursing context. It requires system change implicating both the individual and the organisation (7). As stated in the first chapter of this thesis, such a study should also not be experimental (8-9) or technical (10), but empowering or participatory research practice.

These studies are underpinned by epistemological assumptions from critical theory where human actors make sense of reality subjectively through their negotiation of inter-

subjective meanings (8). This means that stakeholders must be mobilised and those whose perspectives are ordinarily silenced must be given a voice through the participatory action research study, so the stakeholders are enabled to understand and change their situation. This prevents participants being reduced to the objects of change separated from the subject of change (8).
In this stance there is no epistemic authority, which means for an action researcher that he facilitates critical consciousness and democratic agreement amongst participants so that they become aware and may intervene in their setting. These interventions can be judged from the axiological perspective, whether the study was valuable by improving the (professional) lives of people in the setting (11), while the entire study can be judged by to *what extent participation* of the stakeholders is promoted (11).
In the following section the participation of the stakeholders of the study and the axiological perspective will be discussed.

7.4.1 To what extent is participation of the stakeholders promoted?

The nurses of the AR setting were considered as the most important stakeholders, because the focus of the study was on the nursing profession. This made the participation of the nurses crucial.
The level of nursing participation I had in my mind was as interactive as possible because a high participation level seemed to increase the chance that at the end of the study the nurses could continue without facilitation from someone. My original intention was to act from an enabling facilitation style to maximise the participation level of the nurses.

The clients were another important stakeholder because implementing EBP cannot be done without knowing the unique preferences and expectations of the one at the centre of the care, the client.
The importance of both these stakeholders was shown in the design of the study in which an AR group was formed composed of nurses with the intention to improve nursing care based on the preferences of their clients.

The management and multidisciplinary team were also considered as important stakeholders. Management because they lead the nursing team and determine the priorities and how care is organised, together with their team. In the PARIHS framework (12) leadership is considered as one of the influential contextual elements that make the setting more or less conducive to change. In a setting in which management feels EBP and its implementation is not important, the context will be less receptive to change. For this reason I had meetings before the study startedwith management on several wards to introduce the AR study and to explore whether implementation of EBP, using AR, would be welcomed.
The multi-disciplinary team was also considered important for several reasons. They

cooperate with the nurses in the delivery of care, they are able to influence the way evidence is to be understood and they are indicated as a potential barrier in the implementation of EBP by Funk et al. Barrier Scale (13).
The inclusion of the management and members of the multidisciplinary team in the AR group was not planned from the start. I thought they could join the group during the research if the members of the AR group decided that this was preferable. From the start of the study the management and multidisciplinary team were informed by the researcher or the nurses about the study and the opportunity was offered to join the planned meetings, which they did occasionally.

Participation can be seen as a continuum that can be present to a greater or lesser extent and that can vary during the course of a study. Hart and Bond (9) used the level of participation as one of the distinguishing criteria to classify their four types of AR presented in the first chapter of this thesis.
Several instruments, such as the ladders of Arnstein (14) or Pretty (15) have been developed to assess the level of participation. These ladders demonstrate that participation of the stakeholder can vary from no participation at all to the highest level of participation in which researchers take the back seat and participants set the agenda. The ladder of Pretty (15) will be used to describe the stakeholders participation level (figure 6.1). This ladder is chosen because it is more relevant than Arnstein's ladder and it acknowledges to a greater degree that various forms of participation might be valid during different times in a research process and in different contexts (16).

Table 7.1.The ladder of Pretty

7. Self-mobilisation	Participants set their own agenda and organise for action. Researchers have a role in the background and are facilitative and supportive if asked.
6. Interactive participation	Researcher and participants work as equal partners in defining problems or needs and strategies for change. Knowledge is shared and of 'local' knowledge valued. The researcher facilitates and supports the process.
5. Functional participation	Participants are involved in decision-making and development and execution of programmes or activities.
4. Participation by consultation	Participants are consulted and an external researcher listens to their views. This external researcher defines both problems and solutions, and might modify these in the light of people's responses.
3. Participation by information	Participants are informed at an early stage about the research plan and are given the opportunity to ask questions. They do not have the opportunity to influence proceedings, as the findings of the research or project design are neither shared nor checked for accuracy
2. Passive participation	Researchers are in control of the study; participants are informed about the study and participate by being told what is going to happen or what has already happened
1. No participation	Participants are not informed about the study, only about activities for which they have been recruited. The information shared belongs only to the researcher

The level of participation of the nurses during the research process (development research proposal, diagnostic phase and action/evaluation phase) varied.

Development research proposal

During the development of the research proposal the nurses did not participate at all (level 1), because at that period of time the research setting was still unknown. I, as the researcher, chose the research topic (implementing EBP) and the methods and instruments to collect data during the research, and eased my mind by the possibility of offering the participating nurses the opportunity to influence and decide about choices during the research. Implementing EBP was the topic, but the subject of that implementation was open, as well as the strategies to implement it, because they are related to the diagnostic analysis.

The research proposal became even more structured after my meeting with the Ethical Board, which had to approve the research proposal. In their view the first proposal was too open and not structured enough so they asked for a clearer proposal with a deliberate time frame, data collection instruments etc.

Diagnostic phase

In the diagnostic analysis phase of the research study, the participation of the nurses could be diagnosed as 'participation by information/participation by consultation' the third/fourth level of the ladder of Pretty. Nurses were informed about the research, had the opportunity to ask questions and were asked to give their opinion on the research plan. The collection and analysis of the data in this phase was done by the researcher who presented the analysis to the nurses, management and clients for member checking.

The participation of the steering group in the diagnostic phase could be labelled as functional participation (fifth level) because they were involved in decision-making about the composition of the AR group, the time schedule and the planning of activities. As a researcher I had responsibility for the process.

Action and evaluation phase

The participation level at the beginning of the action phase can be best labelled as functional (fifth level) and sometimes as interactive (sixth level), because nurses and researcher worked as equal partners in defining needs and strategies for change and local knowledge was valued. Although the needs were discussed between nurses and researcher, as the researcher I was in control and took responsibility for the process. The documentation of the meetings and research activities was in my hands and my efforts to share this responsibility with the nurses of the steering group was not successful. Because the meetings of the steering group were planned every two weeks for one hour, they had more control over the research process than the nurses of the AR group who met less frequently.

In this phase of the study I collaborated with several duos of nurses. The participation level of

these duos varied from functional participation (fifth level) to interactive participation (sixth level). At the start of these activities (e.g. the implementation of a new intervention) we agreed about the cooperation, made an action plan and discussed the support the nurses needed from me as researcher or facilitator. Unfortunately most of the action plans we made did not come to fruition, and some of the nursing duos did not feel the responsibility to react to that. This resulted in new agreements and revision of the action plans, mostly resulting in the situation in which I took more control and more responsibility for the implementation of interventions than we had agreed earlier.

At the end of the study the nursing workload increased even more, so the nurses decided to cease participation in the study and focus only on patient care (referred to as "bed, bath, bread and medicine). At that moment my primary concern was the research study as I needed the nurses for the final evaluation of the action cycle, so I tried to convince the nurses to carry on and looked for ways to collect data in a 'nurse friendly' way. Research 'with people' changed by using my credits and power more or less into research 'on people.'

Conclusion participation

Evaluating the research study it can be concluded that participation of the nurses was promoted during the study and their level of participation during the study could be labelled as 'functional' (fifth level) on the Ladder of Pretty. This means that nurses did participate in the AR study but did not become equal partners or 'self-mobilised' as was originally intended and is meant in an empowering study or participatory research practices. According to the degree of collaboration in the typology of Hart and Bond (9), the AR study could be classified as 'organisational or professionalising' instead of 'empowering'.

This contributed to nurses' failure to develop a sense of ownership towards the study, noticeable in the way in which they talked about it i.e. they did not talk of 'our research', but of 'Guus' study'.

As I mentioned earlier, my intention from the start was to maximise the participation of the nurses, which clashes with Greenwood et al. (17) who have argued that participation is a process that must be generated instead of it being mandated in advance that the AR process will become fully participatory, since that is the 'joint result of the character of the environmental conditions, the aims and capacities of the research team, and the skills of the professional researcher.' I will reflect on this and explore possibilities that could have increased the participation level of the nurses.

During the research I did not see other opportunities to increase the level of participation due to contextual circumstances, such as the heavy workload, the expectations of the nurses and other factors that came up during the diagnostic phase described in the fourth chapter of this thesis.

Now I have finished the study I think the participation level might have been increased by

starting the study with a more open research proposal, so nurses, if interested, could have become real research partners from the early stages of the study. The research proposal that was approved by the Ethical Board became an involuntary hold for me as inexperienced (outsider) action researcher and the nurses in the setting, and limited the interactive participation of the nurses.

In this research plan there was focus on the use of scientific research because, according to the literature (18-22), I suspected that most mental health nurses lacked the skills and knowledge to do so. This turned out to be the case, but that choice limited the exploration and implementation of non-scientific evidence, such as a systematic reflection on clinical nursing expertise, or the use of patient stories or narratives to focus on the client's needs and prevent the client, as a person, being overlooked.

The nurses in the intervention setting were impressed by the stories their clients told me and became motivated to look for alternative interventions to address the needs that emerged from these stories. Introduction of this narrative approach in the setting might have become stimulating for the dialogue and collaboration between clients and nurses, and might have increased the use of client preferences and participation level and ownership of the nurses. Manley et al. (23) concluded already that involving and enabling practitioners interrelating with clients to lead change, will more likely achieve internalized and embedded change that is self-sustaining.

Another way of increasing the participation could have been reached by acting and reflecting on an important inhibiting factor during the study, the nursing workload. During the study we focussed on some contextual elements (e.g. leadership, familiarity with nursing literature and communication) but ignored the heavy workload. As a result we missed the possibility to examine and research the status quo (e.g. by assessing the workload) and to emancipate the nurses thereby shifting the balance of power. Participating in the research resulted, besides positive outcomes, now in a heavier nursing workload instead of the discursive democratisation of social practices (24).

Instead of focussing on the inhibiting factors as mentioned above, an Appreciative Inquiry (AI) approach could have been used to increase the participation and motivation of the nurses and realise a more thorough-going change. This AI approach differs from other AR methods, which are mostly problem based, because the AI approach focus on the successes or moments of excellence and discusses the factors that made them possible (25). The AI approach, according to Ludema et al. (25) can be captured by a cycle of 4 D's;

- Discovery: appreciating 'the best of what is'.
- Dream: envisioning 'what could be'.
- Design: Co-constructing 'what should be'
- Destiny: sustaining 'what will be'.

This more positive approach to realise a change jointly was not used during the AR. There

are a number of reasons for this. In the first place the method does not suit my nursing background (in which solving nursing diagnoses forms an important part) nor with my personal inclination to see often a glass as half empty rather than half full.
In addition, is AI a young relatively unknown approach. How such an approach would work in the setting is unknown, but as it is the case with AR, it is also necessary with AI to have the time and space to discover, dream and develop together – a condition that was only present to a very limited extent in the current AR setting.

Evaluating the level of participation also clarifies the level of experience of me as a novice action researcher, and can be seen as a defensive routine or as an revealing incongruity between my espoused theory and the theory in-use (26). My espoused theory was based on the empowerment working model that assumes that the process is more important than the output; goals and methods are determined collaboratively and a high participation level is necessary at all stages (27). My theory in use (working model) in contrast was based on a pragmatic viewpoint (28) that participation is a way to improve the effectiveness and usefulness of the technical implementation of EBP by laying the path for the planned activities. Although I reflected during the study, this reflection was based too much on checking whether the study was still on track instead of questioning my interpretations of an event (such as the feedback of the Ethical Board or the heavy workload), including their underlying assumptions. This resulted in me staying in control and acting as rationally as possible, but these reflections did not lead to transformative learning (29) that could have opened up my reflexivity and openness for other perspectives to justify different actions. Whether this approach would have resulted in a higher nursing participation level is open to question, but it would have made me more aware of my assumptions and the (in)congruity of my actions based on these assumptions.
This topic is also related to the personal component I described in the first chapter of the thesis. By acting in a 'rational way' I suppressed the uneasy feeling and doubt that occurred when I considered the research. This unease emerged not so much during my actual activities in the research setting, but came to the surface when I reflected on the research and its justification, or when I heard other researchers discussing their action research and the philosophical stance on which their research was based.
Statements of Manley and McCormack (30) such as: '*practice developers should knowingly be aware of the worldview they are working from, or where their organization is positioned – it is naïve ignorance that needs to be challenged. Knowing one's worldview as a practice developer will therefore influence the methods used, as methodology precedes methods*' confirmed these thoughts and feelings.
On the basis of this statement I noted that both before and during the research I had not consciously considered the underlying assumptions of an AR aiming at empowerment and what this meant for the activities and participation in the research.

7.4.2 Did the research contribute to the improvement of the (professional) lives of stakeholders in the setting?

Nurses

The AR study expanded the nursing 'toolbox', because participating nurses became accustomed to new interventions and instruments (e.g. Care Need Questionnaire and the Auditory Hallucinations Rating Scale), which made it possible to focus on their clients' needs and respond to these in a new way. At the end of the study nurses were collaborating with their clients more than before in looking for ways to meet clients' needs. By doing so their perception of clients changed in a positive way.

The AR study made the nurses more reflective and aware of their actions and made them more familiar with relevant literature appraisal by looking for alternatives to current practice. Nurses also became more aware of their context, although this consciousness and the actions undertaken to change some elements of that context were not always successful. On the other hand, the nurses experienced participating in the AR study as an extra burden because more tasks were piled onto their already full plates.

Clients

The clients expressed several positive outcomes from participating in this study. They referred to the pleasant atmosphere of the meetings, the possibility of sharing their experience, as well as new activities that were a direct result of participating in the study. These new interventions (e.g. Future Group, Liberman module 'Handling Free Time') were also offered to clients who did not participate in the study.

At the end of the study the Need for Care Questionnaire showed that the percentage of unmet need for care fell to 49%. Although still substantial, this percentage is appreciably lower than at the start of the study, when unmet care needs scored 68%.

Management

As well as the nurses, the management also became more reflective and enlightened because the AR study facilitated the dialogue between nurses and management. Although this dialogue was sometimes confrontational for management, a platform was created to share the different perspectives of the stakeholders.

The Researcher

Facilitating the AR study was also an enlightening experience for me. At the start of the study I was an inexperienced action researcher who knew the most important underpinnings of AR, but had never facilitated such a process and never experienced the problems an action researcher has to face. During the study I asked myself quite often why I have chosen this kind of research because 'regular' research seemed a lot easier to me, and moreover most

of the published AR studies seemed so smooth while this study seemed so messy. Cook (31) explored this last topic and concluded that there is a gap between AR literature and practice in a way that the confusion and mess of an AR study is often tidied away because we describe it in a clear linear manner. During the study I was not aware of this point, so I was uncertain whether this research that I called action research, was a 'real' AR study, let alone an empowering AR study. In the publications of the AR study (chapter 4 and 5 of this thesis) I also cleaned up some mess and choose to describe it in a more linear way, with the result that the disorder did not come fully into the open so it could be examined and discussed for what it has to offer.

By facilitating the research process, I became more aware of my capacities and my personal characteristics that can be developed further. Although the research was tough and messy, I discovered a way in which collaborating with mental health nurses and their clients is very satisfying and meaningful in improving nursing practice and collaboratively learning from it. In addition I have learned that as an AR researcher you have to be constantly aware of the type of AR that you want to carry out, the points of departure on which that type is based and the consequences that involves. Reflective skills and the willingness, ability and courage are needed to discuss one's role and choices. This can be encouraged by a network in which the researcher is challenged, so that he or she is helped to justify the choices made, 'not only for the methodology but also for the philosophical intent of the study even before the 'doing phase' of the research (32)'.

Conclusion axiological perspective

It can be concluded, reflecting on the contribution the AR study had for the several stakeholders, that the study was worthwhile. Nursing practice in the AR setting became more evidence based, the consciousness of all the stakeholders has been raised and actions have been carried out to improve the lives of the clients and the situation in the nursing context.

In spite of this axiological conclusion of the AR study conducted in this thesis, one cannot conclude that AR with an empowering intent is an appropriate nor an inappropriate method to implement EBP in (mental health) nursing. What *can* be concluded is that the facilitation of nursing staff in the implementation of EBP in a context in which there are few favourable factors for a successful implementation shows constructive changes that are not noticeable in a comparable unit. These positive changes are also visible in the systematic review conducted in the third chapter of this thesis.

This review demonstrated, with an element of caution, that the implementation of EBP using action research is a promising approach. Many studies in this review reported an increase of knowledge and performance of the nurses, and several contextual and cultural changes. Apart from these positive results from the studies in the review, only two authors

reported that the hoped for results in the context were not achieved. Publication bias can be an explanation for this.
This conducted AR study in this thesis confirms the conclusion of the systematic review and adds that, in spite of an increasing workload and a gloomy diagnostic analysis that indicated a reduced chance of a successful implementation of EBP (chapter 4), the collaboration between the researcher and the participants in this specific AR context did lead to results that were not observed in the comparison setting. The limited results in the comparison setting at the end of the study (chapter 5) support the conclusion that an AR approach with a local sensitive facilitation by a researcher, contributes in the progress of the implementation of EBP, and that this progression is not likely to happen without facilitation and the participation of nurses. An analysis of the nursing setting based on the PARIHS framework, which was fed back to the nurses and clients of the comparison setting, did not turn out to be enough stimulation to make identifiable progress in the implementation of EBP.

7.4.3 What lessons have been learned during this AR research?

The knowledge that is gathered during the research is derived from a specific context. It is contextualised knowledge that cannot be separated from the practical context in which it is embedded (33). The question of what this knowledge can contribute to the discipline is dependent on how you define the discipline and its objectives. If one regards the task of science to be the production of knowledge that can be generalised and is applicable in other general situations, and if one believes the application of the knowledge should be carried out by others than the researchers, then the conclusion will be that the action research carried out contributes but little. After all it is sufficiently well known that there is a gap between research and practice and that implementation of EBP (but this also is true of most innovations) in health care is complex, given the multiplicity of factors that influence the success of this implementation. The AR research conducted here makes this clear yet again. Moreover, the research conducted in this thesis also makes clear that if one wants to gain real insight into the interplay of the various factors that are of influence and thereby into the black box of implementation, then an AR design is more suitable than a traditional experimental set-up which investigates, for instance, the effectivity of reminders or feedback. This latter set-up usually ignores the dynamics of the various contextual factors and the influence of the change agent or facilitator on the context and thereby the ultimate result.
However if one, like Greenwood and Levin (34, p. 250) defines science as: "*an investigative activity capable of discovering the world is not organized as our preconceptions lead us to expect and able to suggest alternative and justifiable ways of understanding and acting on it. Scientific research documents both the investigative processes and conclusions arising from them in sufficient detail for other interested parties to be able to evaluate the information and*

interpretation offered", then AR is a scientific method to solve problems that participants in a specific context consider important and to generate knowledge from this process. This context specific knowledge can be valuable in other contexts by judging the similarity of the context in which the knowledge is considered to be applicable with the context in which the research took place (34). A researcher can support this judgement by a detailed thick description of the context and the participants in that specific context.

Due to these reasons Greenhalgh et al. (35) advocate making greater use of

the realistic evaluation developed by Pawson and Tilly (36), in which the mechanisms of success and failure in implementing innovations are examined critically by answering the question ' what works for whom under what circumstances', instead of answering questions such as ' does programme X work' . The question proposed by Pawson and Tilly (36) makes it possible to focus on both the mechanisms (M) that have been used during the implementation in a well-defined context (C) and the outcome (O) patterns produced during the implementation process; the so called Mechanisms, Context, Outcomes configurations.

Such a thick description of the context in which the research took place with a clear account of the mechanisms and the results obtained contributes to theory forming because thereby it gives answers to such questions as:

'implementation programmes based on mechanism A are particular useful in contexts such as B or C, but are less likely to succeed if factor D is present, or factor E is absent (35)'.

Which theories can be formulated and lessons can be learned on behalf of this AR study?

The facilitation of psychiatric nursing staff by an external researcher for a period of 27 months, on average 1 day per week, and on the basis of equality (through giving information, offering personal support, organising educational group meetings, giving feedback, joint evaluation and joint decisions on actions, considering the wishes of the clients) and working in a context that is characterised by ever increasing pressure of work, combined with limited use of evidence from various sources and limited nursing leadership,

- made the nurses more inclined to reflection and more aware of the clients' needs, the person behind the client, the nursing context in which they work and extended the nursing toolbox.
- led to a fall of care needs that remained unfulfilled.
- led to the implementation of 3 new interventions based on the needs of the clients in the study.
- made up-to-date literature more accessible to the nurses.

The structuring and supporting of an implementation by an external facilitator who, despite the obstacles, perseveres and communicates freely with those involved in a context in which innovations are usually limited in structure and support, leads to insight among those involved into how changes can be effectively supported.

A 'doing for' facilitation style (as the opposite of an ' enabling style) in a mental health

nursing context with heavy workload, limited use of evidence of all sources and lacking nursing leadership resulted in a position of dependency for the nurses.
A limited way of open communication between management and nursing staff was one of the concerns in the AR context. The lesson we learned on this topic was that role modelling open communication in a context in which communication between nurses and management is not open, does not result in a more open communication between those groups.

Clients played an important role in the AR study, because interventions were implemented according to their needs. In the AR study we learned that Interviewing clients with severe mental health problems and organising meetings in which these clients are consulted so that their outcomes are used in the implementation of new nursing interventions are seen as pleasant and valuable by the majority of clients.
Work pressure (as is often reported in other implementation studies) was a major hindrance during the AR study. The lesson learned on this topic is that extending the action research due to this pressure and by planning more time between the various research steps, lead to the completion of the research cycle and implementation. However this extension resulted also in a lack of continuity and collectivity experienced by the nursing staff. Mentioning the nursing work pressure during the research on a regular base, without taking any further systematic action on it, did not lead to the reduction of the pressure.

In the AR study the focus was mainly on the mental health nurses while other health care professionals were invited also during the study. This focus on a single professional group in a context in which the communication between management and nursing staff and between nurses themselves and other disciplines is limited, does not lead to more intensive collaboration or better communication.
In addition, on the basis of the results of the comparative setting it can be concluded that the analysis of the nursing setting and the feedback of these results to staff and clients in a context in which work pressure combined with a limited use of evidence from various sources and a limited nursing leadership, does not lead to sustainable changes in the integration of best evidence with clinical expertise and patient values.

7.5 Recommendations for further research in implementing EBP in mental health nursing

If we look at the skills described (37), EBP is part of the knowledge that a professional nurse with higher professional education qualifications should have. This knowledge should then be part of the standard curriculum of nursing training.

However, the question is whether we can expect nurses to work evidence based. De Vos (38) distinguishes three levels of mastering EBP skills – followers, users and experts. In this tripartite schema the followers keep to the appropriate guidelines and recommendations made by experts, while the users are those who themselves search for guidelines, apply and evaluate them in practice. According to de Vos (38), experts are those who in complex situations work through the EBP five step model described in chapter two, and support the nurses of the other two levels in evidence based working. Here too the emphasis lies on the development of knowledge outside practice, and the clarification and testing of the tacit knowledge of nurses is left to one side, as is the systematic enquiry into the preferences of the client, by which knowledge is developed in practice.

In regard to the findings of this research it can be concluded that in both settings in which the research took place none of the nurses had the active skills of a 'user' or 'expert' and that EBP cannot be regarded as an obvious method of work.

Naturally this research does not give a representative picture of the state of affairs in the area of EBP in mental health nursing in the Netherlands. It may be assumed that in organisations in which Advanced Practice Nurse (APN) work, these function at the expert level and give a more optimistic picture. These nurses are not yet usual in mental health nursing and there is still discussion about the role and position of these members of staff (39).

Bearing in mind the various factors that influence the use of evidence in practice, this knowledge that puts (student)nurses in the position to ask clinical questions and to answer these by means of scientific literature, is really insufficient. If this knowledge cannot be put to use in organisations in which this is recognised as a relevant skill, it is probable that it will remain unused and that it will be lost in the dominant culture. This then demands care organisations in which a culture of learning is present or is developed, in which there is exchange of knowledge and in which role models such as Lecturer Practitioners or Science Practitioners, facilitate the nurses to connect practice and research.

The Care Innovation Centres (40) or the Applied Academic Centres (41) that have been established in recent years are examples of this. Research done in these settings demonstrating the added value of the implementation of EBP is to be recommended. Action research is a suitable way of doing this because with this method practice and research are brought together and nurses, as co-researchers, consider their own practice and attempt to improve this. It is also recommended that these nurses should be involved as early as possible in the research plan so that they are put in the position of being able to act as a real co-researcher. For the researcher in such a project it is recommended that he/she is supported in his/her reflections so that he/she is aware of the choices made in the research and the consequences of these choices. Publications dealing with such considerations could contribute to greater visibility of the 'messiness' of action research and knowledge of the 'the swampy lowlands of implementation' (42). Since care is becoming

increasingly interdisciplinary and professionals have influence on how evidence is valued, it is appropriate that such research be approached in an interdisciplinary manner so that the various professionals are involved as stakeholders in the implementation of EBP in their practice. Findings of Rycroft Malone et al. (5) are supportive for such an approach.

From the research carried out here it appeared that there are relatively few interventions based on research results that can support mental health nurses in their choice of intervention. This, then, requires further research into the efficacy of the interventions carried out, but at the same time offers the possibility of explicating the implicit knowledge of the professional so that this can be shared and examined. In addition to this professional knowledge systematic inquiry into client preferences can be carried out so that health professionals can gain insight into these and to evaluate whether the chosen interventions contribute to those that the client experiences as beneficial. The chance of a successful implementation of such a method appears to be greatest if the client is also regarded as a stakeholder in the implementation of EBP.

In this thesis the PARIHS framework is used as a diagnostic framework and prospective tool to guide the implementation of EBP. Although the framework proved to be helpful in assessing several factors influencing the implementation of EBP (third chapter), some comments about the framework can also be made.

In these comments the critical synthesis of peer reviewed PARIHS literature conducted by Helfrich et al. (43) and the systematic literature review of Greenhalgh et al. (35) will be integrated. Helfrich et al. (43) conclude that the main issue related to the framework is the need for greater conceptual clarity about the definition of sub-elements. Some concepts (e.g. physical, social, structural, system boundaries) in the framework are very abstract or lack a clear explanation.

In a later version the 'evidence' element of the framework has been supplemented by an additional source of knowledge, the local knowledge (3), and it is unclear what this new source adds, as local knowledge proceeds from the other sources already identified.

In addition, the framework shows some overlap: 'Lack of appropriateness and transparency are part of 'context ', but at least are closely related to how decisions are made, which is part of 'leadership'. Another example of overlap is that 'lack of information and feedback' are part of the context, while feedback also is part of 'evaluation'. Although elements of the PARIHS framework such as facilitation and context are supported by research findings (44), the framework does not seem entirely consistent, since the sub-element 'context' is a part of the main concept 'context', and it is not clear what distinguishes a receptive context from culture and leadership (43).

Helfrich et al. (43) propose to add implementation strategies (e.g. reminders and feedback etc.) and processes to the concept of facilitation.

The AR study in this thesis showed that motivation and capability of the nurses (e.g. awareness of relevant literature and how to find and assess it) were factors of influence during the implementation process. These factors are not extraordinary but missing in the PARIHS framework and could be added to the Context element of the framework, with a new subheading 'users'. In Greenhalgh's et al. (35) conceptual model of influencing factors considering the diffusion of an innovation in health care organisations, these factors are included. In this model extra attention is paid to the adoption process by individuals and the antecedents influencing this process. Motivation and capability of the users are examples of these antecedents that improve the adoption.

These users of an innovation go through several stages before the innovation is implemented and there are certain key elements to facilitate this process. Users should be aware of the innovation and have sufficient information about what it does and how it affect them personally (35). In this study these points, among others, were addressed by formulating a shared vision on EBP in the Values Clarification Exercise that guided the nurses during the following phases of the research.

A facilitator using the PARIHS framework could be helped further by adding certain key aspects of Greenhalgh's et al. (35) model to influence the implementation in a positive manner or in the terminology of the PARIHS team 'to make the implementation of evidence into practice easier for others' (45). Examples of these aspects and facilitation strategies are:

- The identification and use of opinion leaders, champions and users with significant ties within and outside the organisation (boundary spanners).
- Full assessment of the implications of the innovation.

The implementation could also be facilitated by paying attention to the characteristics of the innovation (e.g. implementing EBP) itself. In the PARIHS framework attention to the innovation is restricted to matching it with the professionals' and patients' experience and propositional knowledge.

In Greenhalgh et al. (35) conceptual model an extra set of key attributes of the innovation itself is offered that explains a high proportion of the adoption rates of the innovation. Examples of these attributes that could be added as facilitation strategies to the PARIHS framework are:

- Complexity; diminish the complexity of the innovation as it is perceived by intended users or break it down in manageable parts.
- Trialibility and reinvention; offer the possibility to experiment with the innovation or refine its soft periphery' to own needs.
- Risk; lower the degree of risk or uncertainty through involving opinion leaders.

Another issue related to the use of the PARIHS framework is related to the availability of

instruments to assess the elements of the framework. Instruments e.g. Alberta Context Tool (46) and the Context Assessment Index (47-48) based on the framework have only recently been developed and tested. These instruments still have to prove their value.
In addition, as Rycroft-Malone (49) states, different questions in the framework are unanswered. An example of this is the weight of each (sub)component and the relationships between the different concepts. Further prospective implementation studies using the PARIHS framework could answer these questions.
One of the possibilities that is worth examining is the integration of the PARIHS framework in the implementation model of Grol and Wensing, often used in the Netherlands (50). The framework could serve as what the authors call the 'problem analysis of target group and setting'. The PARIHS framework seems to add value to the implementation model because attention is given to influencing factors in the problem analysis that are missed in the original model. This problem analysis is the foundation for the implementation strategies to improve the care.

It is hoped for that these and other studies will lead to healthcare that is based more on evidence of several sources (client preference, clinical expertise and systematic research). This is a challenge for the nursing and other health care professionals: our clients deserve it.

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Dankwoord

Dankwoord

Sommige reizen duren langer dan voorzien. De reis van mijn promotie was er zo een. Veel mensen hebben tijdens die leerzame tocht deel uitgemaakt van mijn reisgezelschap en daarmee bijgedragen aan het slagen er van, zodat ik ze in dit dankwoord wil bedanken. Jullie rollen varieerden van: gids tot drager, inspirator, fotograaf, metgezel, (enthousiaste) volger, richtingaanwijzer of een integratie van al deze rollen.

Dat laatste geldt zeker voor de leden van mijn promotieteam, een warme groep mensen, die me tijdens de promotiereis vergezeld heeft. Karen Cox bood me als lector van de Kenniskring 'Implementeren en evalueren van Evidence Based Practice in de verpleegkunde' van Fontys Hogeschool Verpleegkunde, de mogelijkheid aan van huis te gaan. Karen, je vervulde dus naast bovenstaande rollen ook nog de sponsorrol van mijn reis. Als copromotor gaf je me door je deskundigheid en je rust, regelmatig een beeld hoe te vervolgen als ik niet goed wist welke richting ik uit moest. Hierdoor sloeg ik nieuwe paden in die ik zelf nog niet gezien had, of leerde ik beter terugkijken naar wegen die al bewandeld waren. Het was heerlijk dat je vertrouwen bleef houden en je ondanks je drukke agenda, ruimte vond om mijn teksten te lezen en die van commentaar te voorzien. Ik voelde me heel bevoorrecht met jou in mijn team. Aangezien ik veelal leer door goed te kijken naar anderen, hoop ik de komende jaren voor 'mijn studenten' net zo'n rolmodel te zijn zoals jij voor mij bent geweest.

Joop van den Bogaard, mijn andere copromotor, heeft door zijn plotse overlijden de promotiereis helaas niet kunnen afmaken. Joop wat had ik graag met jou teruggekeken op de reis, waarin jij me in het eerste deel zo goed begeleid hebt. Je was kritisch, nauwgezet en betrokken en een bondgenoot in het verbeteren van de praktijk, samen met die praktijk. Bedankt Joop.

Inge Bongers, mijn copromotor, had de moed om halverwege mijn tocht deel uit te gaan maken van het reisgezelschap en Joop te vervangen. Inge, bedankt daarvoor. Je sloot heel snel aan zowel bij het onderzoek zelf als bij de rest van het promotieteam en kon me dan ook vaak voorzien van duidelijke, concrete adviezen. Je maakte ruimte en tijd voor me, straalde vertrouwen uit en toonde begrip voor mijn geworstel, zodat ik gesterkt uit onze gesprekken kwam. Voor mij was het heel belangrijk dat ik elke keer een duidelijk beeld kreeg van het vervolg van de tocht.

Henk Garretsen, mijn promotor, die gedurende de hele reis het overzicht behield, de route en grote lijnen bewaakte en die me voortdurend liet zien dat half lege glazen ook half vol zijn. Door je humor, je toegankelijke manier van praten en samenwerken ben je een grote

steun voor me geweest. Ik verheug me er op om samen met jou de glazen niet half maar helemaal leeg te maken.

Naast mijn promotieteam ben ik veel dank verschuldigd aan de medewerkers en cliënten. Zonder jullie deelname en gastvrijheid was deze trip immers niet mogelijk geweest. Gerard, Coby, Marcel, George en alle anderen, dank voor het feit dat ik een tijd lang met jullie heb mogen reizen, jullie/onze reisverhalen heb mogen optekenen en met jullie samen heb mogen leren. Na een moeizame start, voelde ik me onder andere door jullie een welkome gast. Ik hoop de komende tijd nog meer van dit soort reizen te gaan maken, waarbij ik gebruik kan maken van datgene wat ik tijdens deze reis met jullie heb geleerd.

Daarnaast ben ik dank verschuldigd aan het team waar ik de afgelopen jaren deel van uitgemaakt heb en trots op ben: de Kenniskring 'Implementeren en evalueren van Evidence Based Practice in de verpleegkunde'. Een kleurrijke verzameling mensen en tegelijkertijd een soort dreamteam. Jullie gaven me de mogelijkheid mijn verhalen te delen, te twijfelen, mezelf te zijn, gezamenlijk kennis en expertise te ontwikkelen en veel te lachen. Voor mij zijn jullie het bewijs dat lotgenotencontact helpt. Mieke, Shaun, Karen, Donna, Marja, Famke, Theo, Miranda heel erg bedankt! Naast deze leden van de Kenniskring, ben ik veel dank verschuldigd aan Angie Titchen, die samen met Karen Cox lector van ons team was. Angie bedankt voor je oprechte belangstelling die je toonde voor mijn reis en de kennis die je inbracht over Practice Development, handelingsonderzoek en het gebruik van creativiteit om kennis te ontwikkelen. Je uitspraak 'Trust the process' zit inmiddels niet alleen maar in mijn hoofd.

Roland, vriend, jij mag in dit rijtje ook niet ontbreken. Dank voor het vertrouwen dat je me zo lang geleden gaf. Ik ben je er nog steeds heel dankbaar voor.

Tot slot wil ik mijn gezin bedanken voor de gegeven steun en het geduld dat jullie de afgelopen jaren gehad hebben, toen ik op mijn zolderkamer of ergens anders aan het reizen was. Jullie hebben me vaak horen zuchten en twijfelen, hebben me moed ingesproken en nieuwe visa gegeven zodat ik mijn reis kon afmaken. Lieve Merle en Levi, wat ben ik trots op jullie en wat vind ik het fijn dat ik jullie vader ben. Jullie hebben gedurende mijn tocht zelf ook een hele ontwikkeling doorgemaakt. Merle je bent nu bijna klaar om uit te vliegen, zodat ik je nu, zoals destijds op je geboortekaartje stond, moet proberen los te laten. Ik heb alle vertrouwen in de reizen die jij de komende tijd gaat maken.
Lieve Levi, wat ben je toch heerlijk eigenwijs en wat houd je me af en toe een spiegel voor. Gelukkig mag ik jou nog een paar jaartjes vasthouden.
Lieve Christa. Jaren geleden besprak ik met jou de mogelijkheid om te gaan promoveren.

Hoewel we beiden niet goed wisten waar we 'ja' tegen zeiden, ben ik je heel erg dankbaar voor je onvoorwaardelijke steun in het traject. Je hebt geen letter van mijn proefschrift gelezen, maar bent van onschatbare waarde geweest. Daar is evidence genoeg voor. Je was er altijd, zorgde dat alles doordraaide, gaf me ruimte om te mopperen, te zuchten en door te gaan, troostte én stimuleerde me. Wat wil je nog meer? Dank je wel lieve schat.

Deze reis zit er op, het wordt tijd voor een nieuwe.

Curriculum Vitae

Curriculum Vitae

Guus Munten was born in Venlo, the Netherlands, on the 8th of June 1961. After his graduation in 1980, he obtained his bachelor's degree in nursing at Fontys University of Applied Sciences in Eindhoven. During this study he became passionate about mental health nursing. Therefore he continued his nursing career at a mental health ward in a general hospital (PAAZ). In 1991 he obtained his Master's degree in Nursing Science at Maastricht University and worked for one year as a nurse with adolescents with mental health problems (Mutsaersstichting).

Since 1992 he is an educator at Fontys University of Applied Sciences who is teaching nursing in bachelor and master degree courses. In 2003 he became member of the Knowledge Centre for the implementation and evaluation of Evidence Based Practice in nursing. In that centre he got the opportunity to start his PhD trying to bridge the often mentioned theory-practice gap by generation knowledge in cooperation with mental health nurses and or their clients.

During his PhD, he combined the role as researcher and educator in Nursing Faculty. He is one of the editors of the Dutch journal of Evidence Based Practice (Nederlands Tijdschrift voor Evidence Based Practice) and is one of the authors of the first Dutch book about Practice Development.

In addition to his professional activities, he is married to Christa Hakkennes. They have two children named Merle en Levi.

Samenvatting

Samenvatting (Summary in Dutch)

In dit proefschrift wordt verslag gedaan over het implementeren van Evidence Based Practice in de psychiatrische verpleegkunde met behulp van actieonderzoek, in het Nederlands ook wel handelingsonderzoek genaamd. Het onderzoek vond plaats in twee organisaties voor de geestelijke gezondheid in het zuiden van het land, waar zorg wordt geboden aan cliënten met ernstige psychiatrische problematiek die al geruime tijd in zorg zijn.

Hoofdstuk 1 introduceert het onderwerp, waarbij wordt geschetst wat EBP is, wat er bekend is met betrekking tot het implementeren van veranderingen in de verpleegkunde en de rest van de gezondheidszorg, waarna overgestapt wordt op het type onderzoek dat tijdens dit proefschrift is gebruikt, het handelingsonderzoek. Verschillende typen van dit handelingsonderzoek worden geschetst met de daarbij behorende wetenschapsfilosofie. Vervolgens wordt de probleemstelling die in dit proefschrift centraal staat gepresenteerd met de daarbij behorende onderzoeksopzet en de contexten waar het onderzoek plaats heeft gevonden.

De onderzoeksvraag die centraal staat in dit proefschrift luidt:
In welke mate is handelingsonderzoek met een empowerende intentie geschikt om EBP te implementeren in de psychiatrische verpleegkunde en wat is het effect van het implementeren op de zorg zoals die wordt ervaren door de cliënt, de verpleegkundige interventies en de context in deze setting, vergeleken met een vergelijkbare setting?

Van deze centrale onderzoeksvraag zijn een aantal deelvragen afgeleid, die in de verschillende hoofdstukken van het proefschrift worden beantwoord. Deze deelvragen zijn:

- Wat is Evidence Based Practice?
- Wat is bekend over het implementeren van EBP in de verpleegkunde met behulp van handelingsonderzoek?
- Met welke factoren moet rekening worden gehouden zodat de implementatie van EBP met behulp van handelingsonderzoek met een empowerende intentie succesvol kan verlopen?
- Op welke wijze is EBP geïmplementeerd met behulp van handelingsonderzoek met een empowerende intentie en wat zijn de uitkomsten voor het gebruik van evidence, de context en de facilitering in deze context?
- Wat is het effect van het implementeren van EBP met behulp van handelingsonderzoek met een empowerende intentie op de wijze waarop de zorg door de cliënt wordt ervaren, de verpleegkundige interventies en de context vergeleken met een vergelijkbare setting?

Deelvraag 1 en 2 zijn beantwoord door een literatuurstudie en een systematisch review, die te vinden zijn in hoofdstuk 2 en 3 van dit proefschrift.
De overige deelvragen zijn beantwoord met behulp van het handelingsonderzoek, waarvan de resultaten terug te vinden zijn in hoofdstuk 4, 5 en 6 van dit proefschrift.

In hoofdstuk 2 wordt een literatuurstudie gepresenteerd waarin beschreven wordt dat Evidence Based Practice zich richt op het integreren van drie bronnen van kennis bij het nemen van beslissingen van een professional in de zorg voor een cliënt. In het geval van dit proefschrift is die professional een verpleegkundige. Deze kennisbronnen die door de verpleegkundige geïntegreerd dienen te worden zijn: professionele expertise opgebouwd door ervaring, resultaten van wetenschappelijk onderzoek en de voorkeuren en deskundigheid van de cliënt.
Hoewel in de literatuur wordt aangegeven dat de beslissingen gebaseerd dienen te zijn op een integratie van deze drie kennisbronnen, krijgt de kennisbron van het wetenschappelijk onderzoek de meeste nadruk, waardoor de andere kennisbronnen die bij EBP worden onderscheiden, onderbelicht blijven.
Dit brengt een aantal beperkingen met zich mee en heeft ook gevolgen voor de manier waarop EBP wordt geïmplementeerd. Voorbeelden hiervan zijn de beperkte aandacht voor: de kern van het verplegen, de interactie tussen de cliënt en de verpleegkundige, de context of de cultuur waarin de zorgverlening plaatsvindt, het benutten van de ervaringsdeskundigheid van de cliënt en de expertise van de verpleegkundige zelf. In het artikel worden suggesties gegeven om deze beperkingen te ondervangen, zodat EBP inderdaad de integratie wordt van de verschillende kennisbronnen die in de literatuur worden onderscheiden en EBP met mogelijk meer succes kan worden geïmplementeerd.

In het derde hoofdstuk wordt een systematisch review gepresenteerd dat uitgevoerd is om de vraag te beantwoorden wat er bekend is over het implementeren van EBP in de verpleegkunde met behulp van handelingsonderzoek. 21 artikelen voldeden aan de inclusiecriteria en werden in het review meegenomen. In het review is gebruik gemaakt van een conceptueel raamwerk van Plas et al. waarin een onderscheid gemaakt wordt in vier doelgroepen (cliënten, professional, organisatie en de maatschappij) waarop de implementatie gericht kan zijn en verschillende implementatiestrategieën om deze doelgroepen te beïnvloeden zodat de kans toeneemt dat implementatie succesvol verloopt. De implementatiestrategieën die de actieonderzoeksgroepen in het review gebruikten werden meestal niet geëxpliciteerd zodat deze afgeleid moest worden uit de tekst. Meestal waren deze strategieën gericht op een combinatie van doelgroepen uit het raamwerk. De strategie die het meest gebruikt werd bij de professional was educatieve groepsbijeenkomsten, terwijl 'verandering in de interne communicatie' de meest gebruikte strategie was gericht op de organisatie.

Het meest beschreven resultaat dat het implementeren van EBP in de artikelen uit het review opleverde, was een toename van kennis en handelen van de verpleegkundigen. Daarnaast werden er verschillende veranderingen in de context en cultuur gerapporteerd. In het review waren 2 artikelen te vinden waarin aangegeven werd dat de doelen die men bij de implementatie voor ogen had, niet waren gerealiseerd.
Op basis van de in het review gevonden resultaten, wordt dan ook met enige voorzichtigheid geconcludeerd dat het implementeren van EBP met behulp van handelingsonderzoek een hoopgevende benadering lijkt. Deze voorzichtigheid is nodig in verband met het veelal ontbreken van een implementatiestrategie en de intensiteit daarvan.

Aangezien de literatuur aangeeft dat een diagnostische analyse van de context van belang is, zodat er tijdens de implementatie rekening mee gehouden kan worden, wordt deze in het vierde hoofdstuk beschreven. Deze analyse is zowel uitgevoerd op de afdeling waarop de implementatie van EBP door de onderzoeker met behulp van handelingsonderzoek werd uitgevoerd en is, om een vergelijk mogelijk te maken, eveneens uitgevoerd op een vergelijkbare afdeling, waar geen verdere ondersteuning van de onderzoeker plaats vond.
In deze analyse is gebruik gemaakt van het PARIHS raamwerk, dat er van uitgaat dat een succesvolle implementatie van EBP afhankelijk is van de wijze waarop de implementatie wordt gefaciliteerd, de mate waarin de implementatie is gebaseerd op robuuste wetenschappelijke kennis en overeenkomt met professionele inzichten en voorkeuren van de cliënten en de mate waarin de context waarin de verandering plaatsvindt een cultuur heeft die open staat voor veranderingen en gekenmerkt wordt door sterk leiderschap en passende manieren om te evalueren.
Uit de analyse bleek dat beide afdelingen veel overeenkomsten vertoonden, aangezien er weinig factoren die volgens het gebruikte raamwerk het succes van het implementeren van EBP beïnvloeden, aanwezig waren.
Op beide afdelingen was sprake van een hoge werklast, bleken verpleegkundigen nog weinig bekend met EBP en bleven veel zorgbehoeften van de cliënten onvervuld. Verpleegkundigen waren niet bekend met wetenschappelijke literatuur, de zorg werd weinig systematisch geëvalueerd, kennisuitwisseling was beperkt en er waren geen inhoudelijke leiders die veranderingen faciliteerden.
Deze uitkomsten gaven aan dat de kans op een succesvolle implementatie van EBP in de handelingsonderzoeksetting beperkt was, te meer de verpleegkundigen van deze setting het onderzoek beschouwden als een keuze van het management, terwijl het onderzoek bedoeld was als een handelingsonderzoek waarin de onderzoeker samen met de verpleegkundigen de implementatie van EBP vorm zouden geven. Voor het handelingsonderzoek betekende dit dat er naast de hier boven beschreven factoren, aandacht moest worden geschonken aan het versterken van de relatie tussen de onderzoeker en de verpleegkundigen.

192/4In het vijfde hoofdstuk wordt het handelingsonderzoek beschreven dat na de diagnostische analyse uitgevoerd is. Twaalf cliënten en elf eerste verantwoordelijke verpleegkundigen van deze cliënten namen aan het onderzoek deel. De deelname van de verpleegkundigen varieerde tijdens het onderzoek, aangezien de mogelijkheid geboden werd, aan die activiteiten deel te nemen waar belangstelling voor was.
Uit de diagnostische analyse kwamen een aantal factoren die voor verbetering vatbaar waren, zodat er een gezamenlijke plannen werden opgesteld die hun eigen handelingsonderzoekscyclus vormden. Deze beslissingen werden in consensus genomen, waarna de onderzoeker de verpleegkundigen ondersteunde op basis van de behoeften van deze verpleegkundigen.
Alle activiteiten werden ingepland door een stuurgroep, die bestond uit drie verpleegkundigen en de onderzoeker. Om de cliënten een stem te geven in het onderzoek en het onderzoek naar het implementeren van EBP af te bakenen, werd besloten dat we ons zouden richten op drie zorgbehoeften die voor de cliënten relevant waren en onvervuld bleven. De cliënten kozen hierbij voor: het omgaan met stemmen, sociaal contact/ eenzaamheid en (vrijwilligers)werk/zinvolle dagbesteding.
Het handelingsonderzoek zou aanvankelijk vijftien maanden duren, maar is met een jaar verlengd omdat het in de oorspronkelijk geplande tijd niet lukte om regelmatig genoeg met de onderzoeksgroep bij elkaar te komen, beslissingen te nemen, veranderingen door te voeren en deze te evalueren. Tijdens deze periode was de onderzoeker twee jaar lang gemiddeld één dag aanwezig in de onderzoekssetting.
De evaluatie van het handelingsonderzoek laat zien dat, ondanks de toegenomen werkdruk, een aantal factoren zijn verbeterd tijdens de implementatie. Er zijn minder onvervulde behoeften bij de cliënten, verpleegkundigen zijn zich meer bewust van hun handelen en zoeken meer naar alternatieve interventies dan ze deden aan het begin van het onderzoek. Er zijn drie nieuwe verpleegkundige interventies (gedachten uitpluizen, de Toekomstgroep en de Libermanmodule 'omgaan met vrije tijd') ingevoerd op basis van de door de cliënten gekozen behoeften en sommige cliënten rapporteren een toename van hun activiteiten.
Andere zaken, zoals het ontwikkelen van inhoudelijk leiderschap, verbeteren van communicatie tussen verpleegkundigen en management zijn niet gelukt. Daarnaast lukte het, onder andere door de hoge werkdruk niet, de verpleegkundigen 'eigenaar te laten worden' van het onderzoek. Het bleef toch vooral Guus zijn onderzoek in plaats van 'ons' onderzoek, zodat er bij het beëindigen van de samenwerkingsrelatie zorgen waren over het continueren van de in gang gezette ontwikkeling.

In het zesde hoofdstuk wordt de setting, waar de rol van de onderzoeker zich beperkt heeft tot het verzamelen en terugkoppelen van data, vergeleken met de andere setting waarin EBP geïmplementeerd is met behulp van het handelingsonderzoek. Uit deze vergelijking

blijkt dat het aantal onvervulde zorgbehoeften in de setting waar het handelingsonderzoek plaatsvond veel sterker is verminderd dan in de andere setting. In beide settingen nam de werkdruk voor de verpleegkundigen toe. Ondanks de toegenomen werkdruk lukte het in de setting waar ondersteuning plaats vond, drie nieuwe interventies te implementeren op basis van de behoeften van de cliënten en waren verpleegkundigen meer bekend geraakt met wetenschappelijke literatuur en meer op zoek naar alternatieve interventies dan ze waren aan het begin van het onderzoek. Deze veranderingen zijn in de andere afdeling niet aangetroffen, zodat geconcludeerd wordt dat Evidence Based Practice in de setting waar het handelingsonderzoek plaatsvond betekenis heeft gekregen voor de verpleegkundigen, terwijl het in de setting waar dit niet plaatsvond nog steeds een abstract concept is. Als belangrijkste beperkende factor geven de verpleegkundigen van de setting waar het handelingsonderzoek werd uitgevoerd aan, dat de werkdruk er voor gezorgd heeft dat de samenwerking tussen de onderzoeker en de verpleegkundigen niet intensiever was waardoor een grotere verandering in de cultuur van werken niet gelukt is.

Het zevende hoofdstuk, de algemene conclusie en discussie, vat de resultaten van het onderzoek samen, reflecteert op het uitgevoerde onderzoek en sluit af met aanbevelingen voor vervolgonderzoek.
De belangrijkste conclusie is dat, ondanks de beschreven resultaten in de setting waar het handelingsonderzoek plaatsvond, en de resultaten van het in hoofdstuk 3 beschreven review, niet geconcludeerd kan worden dat handelingsonderzoek al dan niet geschikt is om EBP te implementeren in de (psychiatrische) verpleegkunde. Wél kan geconcludeerd worden dat het faciliteren van verpleegkundigen bij het implementeren van EBP, in een context die gekenmerkt wordt door een hoge werkdruk en een weinig hoopgevende diagnostische analyse, bijdraagt aan het evidence based werken. Deze ontwikkelingen werden op de andere afdeling niet waargenomen.
Aanwijzingen dat handelingsonderzoek een hoopvolle werkwijze bij het implementeren van EBP is, werden ook gevonden in het in hoofdstuk 3 beschreven review. Het in hoofdstuk 5 en 6 beschreven handelingsonderzoek voegt hier aan toe dat, ondanks een toenemende werkdruk en een weinig hoopgevende diagnostische analyse, de samenwerking tussen de onderzoeker en de verpleegkundigen van de setting waar het handelingsonderzoek plaatsvond, heeft geleid tot positieve resultaten die niet gevonden zijn in de andere setting. Deze laatste setting liet zien dat het analyseren van een setting en het terugkoppelen van deze resultaten niet voldoende ondersteuning biedt om voortgang te boeken ten aanzien van het evidence based werken.
Daarnaast poogt het onderzoek bij te dragen aan contextspecifieke theorievorming over implementatieonderzoek door gebruik te maken van de realistische evaluatie, waarin uitspraken worden gedaan over welke mechanismen (M) in welke specifieke context (C)

hebben geleid tot welke specifieke uitkomsten (O).

Reflectie op de studie vindt plaats door het uitgevoerde handelingsonderzoek te plaatsen in het paradigma van de kritische sociale wetenschappen (*critical social science)*. Hierbij wordt ingegaan op de participatie van de betrokkenen en de mate waarin het onderzoek waardevol was voor de betrokkenen (axiologisch perspectief). Geconcludeerd wordt dat de participatiegraad van de verpleegkundigen gerangschikt kan worden als 'functioneel' wat meer duidt op een organisatorisch/professionaliserend handelingsonderzoek dan op het 'empowerende' handelingsonderzoek dat was beoogd. Ten aanzien van het axiologisch perspectief wordt geconcludeerd dat het handelingsonderzoek waardevol is geweest voor de verschillende belanghebbenden (verpleegkundigen, cliënten, management en onderzoeker).

De volgende aanbevelingen worden gedaan voor het implementeren van EBP in de verpleegkunde. Bij het implementeren van EBP moet naast het vergroten van de kennis van de verpleegkundige, aandacht zijn voor ontwikkeling van de context en de cultuur waar de verpleegkundige werkzaam is. Handelingsonderzoek is daarbij geschikt en het PARIHS raamwerk (mits aangevuld met enkele factoren) een bruikbaar diagnostisch instrument, zeker nu er recentelijk gevalideerde meetinstrumenten beschikbaar zijn die de elementen uit dat raamwerk meten.

Aangezien de zorg steeds meer multidisciplinair wordt verleend is het zinvol om implementatieonderzoek multidisciplinair aan te pakken. De nog relatief beperkte beschikbare verpleegkundige relevante wetenschappelijke kennis, maakt verder effectonderzoek nodig, maar biedt ook mogelijkheden om de professionele kennis en de deskundigheid van de cliënt meer te benutten.