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Enhancing the quality of nursing care in methadone substitute clinics using action research: a process evaluation

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Abstract

Title. Enhancing the quality of nursing care in methadone substitute clinics using action research: a process evaluation

Aim. This paper is a report of a study to answer the research question: can participative action research help to halt the deterioration in methadone substitution treatment and develop new care strategies which are better geared toward the patients' needs?

Background. In the Netherlands, methadone substitute treatment has been the main medical treatment for heroin addiction since the early 1980s. Although effective at first, this methadone provision has deteriorated during the last 15 years. Over time, nursing staff have had to restrict their activities to simply dispensing methadone and have not been able to develop any other interventions, such as outreach care.

Method. A participative action research process was used in two outpatient methadone substitute treatment clinics. Using the four stages of the cooperative inquiry design of Heron and the knowledge development model of Johns, a diagnosis of all the bottlenecks was made and innovative care strategies were implemented. Reflection meetings were held to offer nursing staff maximum benefit in improving the quality of nursing care.

Findings. Action research partially succeeded in enhancing care strategies. Of the two clinics involved in the study, one improved both its care organization and patient-centred outcome. The other managed to improve the organization of the care.

Conclusion. Participative strategies can be, but are not always, a helpful method for enhancing professional care in addictions nursing. By setting out attainable goals in daily practice, some nurses were able to become active change agents. The development of knowledge is inextricably connected with the growth of new care strategies. Chronic opiate users can benefit from the expansion of professional nursing knowledge.

Keywords: action research, critical reflection, methadone substitute treatment, nursing, participation, quality of care

Introduction

Methadone substitute treatment (MST) has been the main medical treatment for heroin addiction since the early 1980s. In the Netherlands (16·1 million population), about 32,000 people have severe problems due to their use of illicit drugs, such as heroin and cocaine. Currently, about 13,000 people take methadone on a daily basis, prescribed by one of the 85 methadone clinics in the Netherlands (Hendriks *et al.* 2003).

In the past decade, besides detoxification, harm reduction and palliation, the aims of MST have also focused on reducing crime and nuisance to society (Loth *et al.* 2003). Owing to a lack of interest and funding, the MST clinics have been marginalized within the larger substance abuse treatment institutions of which they form a part.

Deterioration in methadone provision is demonstrated by a range of phenomena: the large number of patients to be served per hour, high staff turnover, many incidents of aggression at the counters, and limited facilities. Nursing staff have had to restrict themselves to distributing methadone. In this field, process aspects, such as interactions between patients and healthcare workers, patients' perspectives embedded in care strategies, and the effects of rules and regulations on patients and workers, are seldom researched although these aspects are understood to be critical (Chenitz 1989, Bell 2000, Lilly *et al.* 2000, Curtis & Harrison 2001).

Background

Our work focused on two clinics in the Netherlands. The situation in the clinics was quite complex. Bottom-up procedures with the help of participative action research (PAR) and, in particular, the cooperative inquiry design (CID) were considered the best way to support quality improvement, and to gain knowledge of the processes that could be grounded in institutional procedures. In the care processes, during daily contacts between nurses and patients, nurses as active change agents were needed to enhance the quality of care. PAR is derived from the participative knowledge paradigm or constructivism (Heron 1998, Reason & Bradbury 2001). The aim is to empower workers and facilitate identified modifications in practice. Heron (1998) characterizes PAR as research done in daily practice for and by workers. An articulated form of PAR is CID (Reason & Bradbury 2001). CID specifies dialogues, processes, and levels of cooperation between the researcher and health professionals, subsequently establishing procedures for reflection and action.

Six months into the project we adopted this cooperative design strategy because more structure was needed to show us the way forward: especially, more structure in the dialogues between nurses and between nurses and the researcher, in the development of professional knowledge, and in planning innovations and accompanying evaluations. PAR and CID are transferable (Heron 1998). Within CID, Heron distinguishes four stages (see Table 1). His research model became very helpful in distinguishing the stages in our research (see Table 2).

Table 1 The stages of Heron's model

1. First reflection: a launching statement is formulated and the first action plan including innovations, and data collection methods
2. First action: innovations are explored and tested. Data are gathered and analysed
3. Experiential immersion: the first innovations are evaluated and, if necessary, amendments are made
4. Second reflection: the acting space of the workers is expanded, and innovations are implemented into daily practice

Empowerment is enhanced by the growth of knowledge (Johns 2001). Johns' model focuses on knowledge development in four stages; the model can be helpful in detecting knowledge deficits and in selecting knowledge enhancement techniques (see Table 3). The four action stages of Heron's approach, with its emphasis on acting, complement the Johns' model (see Table 4).

The study

Aim

The overall aim of this study was to answer the research question: can PAR help to halt the deterioration in MST and develop new care strategies which are better geared toward the patients' needs?

Design

A bottom-up guided change strategy was expected to best facilitate the improvement processes using the models of both Heron and Johns (Heron 1998, Johns 2001). This method gives nurses a major role in enhancing the quality of their services by playing an active part in analysing the bottlenecks, developing applicable innovations, and evaluating the effects of these innovations. Participative action research enhances professional awareness and is also a strategy to overcome opposition to changes on the shop floor.

Participants

Approximately 800 heroin users live in the eastern province of the Netherlands (about 300 of them are in reach of

Table 2 Study process linked to Heron's four stages of cooperative research

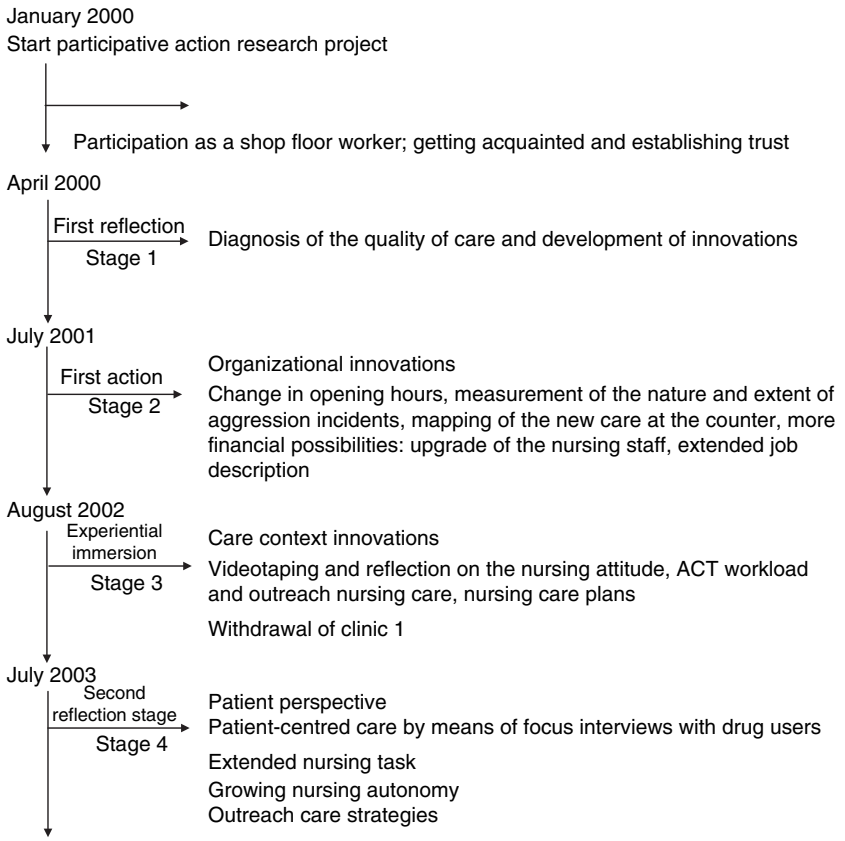

Table 3 The stages of Johns' model

1. Workers have little knowledge and few ideas; the voices of more powerful groups are dominant
2. 'Received voice': workers repeat the ideas and opinions of others, they are not yet capable of expressing their own ideas and opinions
3. 'Subjective voice': workers are now capable of voicing their own opinions, but these opinions are not clearly thought through, without reflection
4. 'Procedural voice': critical reflection is possible

Table 4 Summary of Johns' (reflection stages) and Heron's (action stages) models

Reflection stages: Johns (1999) and Johns (2001)	Action stages: Heron (1998)
Silence (no voice)	First reflection
Received voice	First action
Subjective voice	Experiential immersion
Procedural voice	Second reflection

methadone treatment from one of three outpatient clinics). In this region, all substance abuse treatment is delivered by one institute. Two of the three regional MST clinics participated in the study. The third clinic (35 patients and one part-time nurse) could not be included because it only opened halfway through the study. Clinic 1 is situated in a town with 152,000 inhabitants in an industrial area. About 150 heroin users obtain their daily methadone in this clinic, staffed by five nurses working part-time. Clinic 2 is situated in a town with 72,000 inhabitants, in the rural part of the region. About 100 heroin users get their methadone in this clinic, where three nurses work part-time. The methadone is administered in oral doses and service differs only on 'home methadone' days. Both clinics

Table 5 Example of team differences and the need for institutional conditions (policies)

Problem statement
Extension of the opening hours had an inspirational effect on the nurses in team 2. They filled the extra time with new nursing care. In contrast, this resulted in boredom in team 1
Analysis and diagnosis
The workers of team 2 felt free to develop their nursing professional care strategies. Their manager encouraged them to do so (external condition). A growing feeling of freedom and pride started at this point in time (internal condition)
The healthcare workers in team 1 hesitated to develop new care strategies. They simply did not know what to do first and what last. They did not have enough knowledge, enthusiasm and sometimes the courage to change their own practice (internal conditions). They stopped changing and landed in the threshold oscillation phase. Their manager did not take action, but sat back (external condition) and no institutional policy was developed for new care strategies (external condition)

deal with chronic heroin users, most with severe comorbidity problems such as psychiatric disorders and somatic illnesses (Loth *et al.* 2003).

Action research process

The study started when the chairman of the regional substance abuse treatment institute asked the first author for advice on how to improve MST clinics, to address the high absence rates and sickness leave, low job satisfaction, poor patient satisfaction, and lack of cooperation among the staff. Following approval to undertake this study from the scientific board of the institute, a series of orientation meetings started to gather more information about the situation, and the management invited the first author to become actively involved in a quality improvement process. She started with participative observations during a 3-month period, working as a nurse in one of the clinics. The management succeeded in gaining funding. It became apparent during the observation period that the negative situation generated by the attitudes of the nursing staff was a direct result of the organizational and practical working conditions. She found that the professional autonomy of the nurses was low, and that staff and management were willing to improve the situation.

Data collection

The information needed in this study was obtained from several sources. Individual short interviews (25), based on eight topic questions concerning the daily organization of the clinic, were conducted with patients at the counter during dispensing time. The researcher invited the patients to give information while the nurse was preparing the methadone. Further onwards in the study, two focus group interviews with patients were used to gather information about patients' perspectives. These interviews were carefully planned and scheduled under the supervision of the researcher and a meeting leader and were based on two topic questions: cooperation with the nurses and patients' wishes. The invited patients (exclusion criteria were severe psychiatric and physical problems) came to the clinic twice and gave their informed consent.

In-depth interviews (10) with nurses and other healthcare workers were held for information on perceived bottlenecks. Focus group interviews (2) with nurses were used to put the first outcome into a broader perspective. Participative observations (3 months) during methadone dispensing were done to gather in-depth information about present workload and nursing tasks. Video recordings (four dispensing moments) were used to get more insight into the interactions at the counter between nurses and patients. During the whole study, reflection meetings (35) with the nurses were held to gather in-depth information about needed innovations and their effects.

All interviews were tape recorded and transcribed verbatim, observation notes were taken and the researcher kept a personal diary for her coloured view on daily practice during the study.

Rigour

Role of the researcher in action research: change moderator
In this action research, the researcher departed from the tradition of objectivity and took part in the study and in the research outcome (Koch & Harrington 1998). She chose to position beside the nurses, give them a voice by mediating between them and the managers and between them and the patients, and so facilitated change processes in the two clinics.

After an observation period in which she acted as a fellow-worker, she initiated reflection processes with the workers. As a 'facilitator', she helped to link the outcome to the present nursing work and she was able to start reflective thinking by bringing in her own experiences (Titchen 2000). She also became a translator from the healthcare workers to several management levels and back again.

As an addictions specialist nurse, the researcher was part of the change process. Researcher bias as personal motivation, previous experiences, and malicious intent can have a detrimental effect on research. This bias can influence the study outcome in a negative way. Corrective actions were taken during the data collection and data analysis stages; the personal reflection took place at four levels. The *first* level of reflection was with colleague healthcare workers and was characterized by strong personal commitment. To avoid 'going native' during this thought sharing stage (Morse 1994), memos were taken and a diary was kept and these were reviewed by peers. On the *second* level reflection there was less personal commitment. It took place in focus group meetings with nurses from other MST clinics and in discussion meetings with managers and other healthcare workers. The proceedings of these meetings were recorded. The *third* level was an important learning process for the researcher. She needed to reflect at a distance in order to ground the developed theory and consider her doubts and questions critically. A second researcher became her critical companion in monthly meetings outside the clinic (Titchen & McDinley 2003). Reflection on the total research process and outcome (*fourth* level) was established in meetings with two university professors. The first supervisor was an addiction expert and the second supervisor was an expert in research methodology.

Fittingness

The outcome of qualitative research has to be explained in the context of usefulness in daily practice (Koch & Harrington 1998). In this action research, this was done in the following ways: a two-step and structured analysis and member check. All interview outcomes, after analysis, were given back to the actors for a member check. After both focus group interviews with the patients, the patients and the first researcher discussed the outcome (Morse 1994, Heron 1998).

To prevent bias, we applied data triangulation and peer review and a second researcher became a critical companion. Two focus group interviews were held for validation with external nurses from five MST clinics which were not involved in the study. Both the researcher and the nurses of clinics one and two wanted to explore the present outcome in a broader perspective. The preliminary outcomes of the study were presented, discussed and acknowledged in these groups.

Ethical considerations

The study was approved by the appropriate institutional ethics committee. All data collected were only used for the research purposes described earlier and were saved anonymously.

Chenitz (1989) called the nursing process in MST 'managing vulnerability' and that is exactly what it is. Chronic heroin addicts are vulnerable patients and nurses must gain their trust step by step. When doing research with these patients, care must be taken when obtaining informed consent. Each patient received written information about the study and a nurse explained to the patient what it involved while dispensing the methadone. Then written permission was requested for videotaping the interactions at the dispensing window. Only a few patients (6%) gave no permission and were not filmed. Because of this vulnerability, the nursing teams decided to tape only their own interventions, and the patient could not be seen. They also decided not to be present during the focus interviews with patients because we concluded this might influence the patients' answers. Patients with severe co-morbidity problems such as HIV/AIDS and psychiatric disorders were not asked to take part in the study. Each patient who participated in the focus interviews received a personal present.

The most important part of the study was the open discussions with patients at the counter when we explained all about the study. Interactions between nurses and patients started here.

Ethical issues concerning the healthcare workers focused on the reflection meetings; we decided that data could only be disseminated after discussions had taken place and consent had been received during the reflection meetings with both teams. The new care strategies were carefully researched on two issues. Legal status (nurses must be competent and qualified to perform certain care strategies), and, of course, ethical considerations for individual patients.

Participative action research can cause disruption on the 'shop floor', which is usually the beginning of new ideas and try outs. But this can harm individuals and, as an action researcher, one must always be aware of how to use these outcomes and how to present the contents, such as what to leave out. In every meeting, time was reserved for personal remarks by the members or for team processes which needed attention. The central theme during all meetings was the effect of the changes on the ongoing professionalization process of the nurses and the effects on patients.

It is quite common in action research to write at least two reports. One for the 'community' and another for research purposes (Gibbon 2002). The addictions nursing theory, the new practical knowledge, was therefore written in plain language in a discussion paper for other MST clinics. Lectures at various conferences and a published literature review (Loth *et al.* 2003) disseminated the results. A thesis will complete this spread.

Data analysis

A two-step analysis was used. First, qualitative data such as the recorded and typed out interviews were analysed on themes and peer reviewed with the help of a second researcher (Morse 1994). Second, all nursing staff or patients involved in the study critically reflected on the first analysis, and drew conclusions in consultation with the researcher who performed the initial analysis (CL).

Results and discussion

After adopting the CID, four research stages were marked by an increase in knowledge. By identifying breaking points that marked the transition from one stage to the next, we labelled the stages by the theme that characterized the process, especially the increase in knowledge brought about energy and enthusiasm in both teams.

Stage 1

Implementation of the action plan

The launching theme became 'Lack of professional autonomy means dissatisfaction and diminishing professional responsibility'. Data were gathered on interaction issues at the counter by means of interviews and participant observations. A literature study helped the teams to put the outcome into context, leading to a full diagnosis of the problems in the clinics.

Knowledge development

As co-researchers, the nurses provided feedback on the data analysis. Both teams worked at formulating and developing statements about care, care for addicts, and the organization of this care. The professional knowledge of the nurses was still based on assumptions and lacked a theory base. For the nurses, there was a huge discrepancy between the ideal situation and the reality concerning their professionalism. They had no fixed opinions.

In retrospect

Chaotic scenes were the norm in the earlier days of the study and these scenes were very inspiring. Setting limits to the work environment is of utmost importance in this stage, otherwise chaos will take over from the planned actions. In this first step of action research, if limits are not set or the following steps forward are not planned very carefully, change will create chaos because too few actions are grounded in institutional policies and in theory-based interventions. This takes time.

Stage 2

Implementation of the action plan

The emerging theme was 'Growing professionalism means struggling and then reaping the first fruits'. Changes in organizing the daily work were needed to create more space or time for patient care. The opening hours of the clinic were extended.

Knowledge development

In the meetings, the nurses reflected on changing their focus to a more structured and critical way of thinking. After analysing the recorded interviews, it became clear that they listened to each other and frequently entered into debates.

In this second stage, the increase in practical knowledge became noticeable. The team members changed their vocabulary and started to give their opinions using terms they had read or heard elsewhere.

In retrospect

The growing empowerment at this stage had its limits. Changes often create instability. For instance, the extension of the opening hours initially created more chaos than was foreseen. Most nurses in clinic one started showing signs of boredom because they had extra time but, instead of providing care, they discussed non-work-related issues. Table 5 shows an example of the team differences and the necessity for institutional conditions (policies).

The liberalization of patient-directed rules and regulations was a second example of chaos. This led to more freedom in decision-making so the nurses had to find a new equilibrium in their general attitude towards patient-centred exceptions. This led to discussions, conflicts and to failures at the counter. It was a period full of new activities without knowing where it would end and what the effects would be. The growing knowledge was not yet grounded enough in practice-based experiences; the professional knowledge needed to grow but it did contain a wealth of data about, for instance, addictions nursing theory. The learning point emerging was that, in future research, this chaos must be discussed more so that actors will be better prepared and more time can be spent on analysis of these data in order for theory to emerge and be better grounded and used.

Stage 3

Implementation of the action plan

According to Heron, the third stage is crucial, as the touchstone and bedrock. The nurses had to cope with two major

processes: 'the bright spots with the continuing growth' and the 'step back'.

After the organizational changes the nurses were ready to discuss innovations in their interactions with patients. Analysis of the group dynamics revealed that the two teams had grown apart. The first signals of withdrawal in clinic one were a reduction in data collection and increasing absence rates in group meetings. Nurses in clinic one stopped being co-researchers. On the other hand, the nurses in clinic two made huge steps forward in their professional ideas and were held back by their colleagues. Because of a lack of funding, which was certainly a pressure point at this moment in the study, we decided to stop the action research in clinic one and start it up at a later stage when the team was ready for it. The manager appointed a supervisor/trainer for this team to support a healthy group process and the development of individual nurses.

Knowledge development

In both clinics videotaped recordings were made at the dispensing counter to determine the attitudes of the nurses towards the patients. The review only took place with the nurses in clinic two. These tapes were used as discussion material (verbal and non-verbal communication were analysed). It became possible to analyse the disruptions in the patient–nurse interactions at the counter. The first impression of most participants was a feeling of shame about their attitudes towards patients. For example, the short contacts were filled with computer activities and not with patient-directed conversations. On the other hand, they discovered a lot of humour in their daily contact with patients.

Feelings of pride grew when they started to work as case managers and allocated some nursing actions as outreach care. They registered these care strategies in case records. Discussions arose about all the ethical considerations and uncertain policy regulations because of the new interventions; the nurses spoke emotionally and with no distance. Uncertain feelings arose about these applied new care strategies because of insufficient existing practical experience, but their knowledge grew from theory with no practical experience towards practical experience embedded in used/applied theory. The nurses expressed this new professional knowledge in a more subtle approach towards patients. The following interview fragments are examples:

Nurse: So the signals are telling us that he [the male patient] is a victim of the scene and that he is regularly abused by other drug users. That is extra difficult for him to cope with on top of his other problems [addiction and psychiatric problems].

Nurse: It is important to keep a low threshold in all contacts with her [a young gipsy woman with a new heroin addiction], trying to be as accessible as possible. That is the way to do this. But here are my questions. She has to give some urine samples because she is a new patient. And her father wants us to do the tests. He wants to see the results. Technically I can explain all this to him. I can tell him that only the patient is authorised to see the test results. But I wonder how I will be able to maintain contact with this woman without her father. It is a very grey area.

In retrospect

The process of retreating is called 'falling asleep' and is followed by a relapse into ignorance or 'exhaustion' (Heron 1998). Team 1 was able to cope with the organizational innovations but failed to develop more patient-centred care and their attitude showed a single loop pattern, quick reflections on fast eroded problems (Heron 1998, Johns 2001). Those nurses needed more time. On the other hand, nurses in clinic two managed to develop new care strategies and established double loop learning.

What made the difference between the two clinics? It became clear that dysfunctional relationships were one of the causes of the exhaustion phase. In clinic one, we observed 'bullying' and 'mobbing' as dysfunctional forms of a professional relationship (Taylor 2001). The workers in clinic one spoke about a sense of powerlessness. These feelings turned into oppressive personal behaviour towards colleagues and patients. Communication in clinic two was open; in clinic one the communication was too closed. Housing conditions in clinic two were far better than in clinic one, and the nurses in clinic one lacked a strong manager who was able to coach them. Epidemiological differences between patient groups could also have had an effect. Clinic one had to cope with more patients than clinic two and most patients had more comorbidity problems. And finally, clinic one was the primary change agent, and clinic two followed. Being the primary change agent may have been too demanding.

The researcher's role could have been of influence too, although her input was critically analysed in the form of peer-review meetings and her actions were carefully planned at this stage of the research. A critical statement about her role is that she probably gave the team members too much space; earlier carefully planned critique of their behaviours possibly could have prevented or reduced the mobbing.

According to Heron (1998), the actors become fully engaged at this stage and have to cope with threshold oscillation. The model explains and forecasts the fall back but is quite vague about foreseeing this at an early stage. It is very

What is already known about this topic

- Methadone can be used as a substitute treatment dispensed by nurses from outpatient clinics to long-term opiate users.
- Owing to a lack of interest and funding in the Netherlands, methadone substitute clinics have been marginalized within the larger substance abuse treatment institutions of which they form a part.
- This has resulted in a large number of patients needing medication per hour, high staff turnover, many incidents of aggression at the counters where methadone is dispensed, and limited facilities.

What this paper adds

- It is possible to improve deteriorated methadone substitute treatment care by making addictions nurses active change agents and supporting them in developing new nursing roles in addiction care.
- New strategies (besides handing out medication) in reaching long-term opiate users outside the clinic can be developed from the bottom up on a local basis which, at a later stage, can be an example for national change projects.
- Patient participation in methadone substitute treatment can be developed with cooperative research and more patient perspective is needed in this care field.

important for an action researcher to watch for early signs and deal with them.

Stage 4

Implementation of the action plan

The theme became 'Satisfaction and becoming critically reflective practitioners'. Two focus group interviews with patients from clinic two speeded up the process. At the start of the first interview most patients were negative about the nurses:

Patient: They [the nurses] don't have any clue about our lives.

But by the end this attitude changed into understanding:

Patient: I care for the nurses so I don't tell them everything, that is impossible because some information is too dangerous also for them.

The stocktaking of these patient perspectives and the confrontation with these perspectives gave the nurses a shake-up. In the last reflection meetings, critical reflection improved with the help of these patients' perspectives.

Nurse: The patients told you [the researcher] that for them handing out methadone was like feeding pigs. They experienced our work at the counter as working on an assembly line. I do not like their opinion about my work but in fact they are right. I do not know how other nursing colleagues feel about this, but I cannot find any good professional argument any more for forcing most patients to come every day for their methadone doses.

Knowledge development

Team 2 found out that at first they spoke with two separate 'voices' and perceptions about nurse–patient communication. In the reflection meetings, the team members succeeded in listening to each other and, after discussion, they decided as a team to reflect more on the performance of professional attitudes towards drug users.

One voice represented a more moral condemnation of heroin users:

Nurse: But in fact for most patients it is a big problem to be responsible for their own lives. Most of them are not capable of being responsible and they blame us for that. I want to control and dominate them.

The second voice represented the conviction that addiction is a psychiatric disease:

Nurse: My aim is to put patients on a par with myself. On the one hand I have to set limits to their addictive behaviours. They have severe problems in daily life. Maybe I can help them a little. They are people like me.

In retrospect

In the last stage, the nurses in clinic two managed to make a movement towards the patients. An example of this is that nurses and patients discussed an arrangement concerning home methadone days.

Study limitations

Action research focuses on change. In our study, the scientific evaluation had its weak points, especially in the analysis of the transcripts from the reflection meetings. These transcripts contained rich data. Further qualitative analysis most certainly would help to develop a microlevel theory about addictions nursing: about phases in the interactive process of nurses with vulnerable patients, and about different steps in the nursing care process, including information about handling care aspects to do with drug misuse. The role of the action researcher in the withdrawal process of Team 1 could be researched in more depth in future research, especially about restarting a study after a forced stop.

The outcome of our study must be seen from a local point of view, although during the study much attention was given to national and international research outcomes. Further research needs to be done on this outcome before validation is proved.

A problem statement was made concerning the deterioration in the nursing care in MST. By choosing participative designs, we presumed that bottom-up initiatives by the nurses would be helpful. In this study, we applied two models. The cooperative inquiry method was partly successful. Only one of the two clinics managed to complete the four stages and enhance their professional autonomy. The four reflection stages of Johns were helpful in defining the development of both teams, for the researcher in analysing different ways of acting in practice and for the nurses in recognizing their progression and growing feelings of pride.

Conclusion

This method is not applicable to all participants: teams are not alike and action researchers should take that into account. Action research is by nature aimed at bringing about change; in this study new nursing interventions were implemented which were embedded in institutional policies and also in a growing professional awareness in nursing team members. The development of knowledge is inextricably connected with the growth of new care strategies. By systematic data collection concerning reflection on action, roles in a multidisciplinary environment, and the newly developed care strategies, knowledge emerged. The actors in this study were the active players. It is best to start with innovations aimed at the care organisation before patient-centred innovations are begun.

Information from local change projects should be better disseminated by published articles and lectures, because a wealth of data can be gathered which can be used for more quality assurance. The outcome of the action research described here provided important input for the development of a Dutch national MST guideline. Nursing interventions, besides handing out medication (such as methadone), are described in this multidisciplinary guideline (Loth *et al.* 2005).

Further research is also needed in addictions nursing, especially into the nursing contribution in this special field in relation to the growing physical, social and psychiatric health problems of patients with long-lasting addictions (Happell & Taylor 1999, Mutasa 2001). We might build on earlier work of, for instance, Chenitz & Swanson (1986) and so make a methodological contribution to knowledge development. These outcomes certainly contribute to ongoing discussions about drug users and the perceived inconvenience caused by their behaviours, and about the care facilities needed for these patients.

Evidence-based interventions are needed to improve the quality of care. Also, worldwide methadone maintenance treatment needs to be evaluated in terms of its process and patient outcomes (Fisher *et al.* 2005). Patient perspectives on addiction treatment have been neglected but will be important in future (nursing) research developing new care strategies. Local studies, where front-line workers play an important role in quality improvement in psychiatric health care and where critical reflective thinking is used as a strategy for knowledge development, are recommended.

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Author contributions

CL, GS, HH and GvdW were responsible for the study conception and design of the manuscript and CL, GS and HH were responsible for the drafting of the manuscript. CL performed the data collection and CL and HH performed the data analysis. CL obtained funding and provided administrative support. HH provided statistical expertise. CL, GS and HH made critical revisions to the paper. GS and HH supervised the study.

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