
3.1 Introduction.

In chapter six, a comprehensive rehabilitation programme will be described, based on the theoretical and practical starting points mentioned in chapter one and the results of a pilot study described in chapter four. Effects of this programme are evaluated in a controlled prospective study, using variables selected in chapter five.

The programme was applied in the general psychiatric hospital 'Licht en Kracht' (Assen, The Netherlands), at a 'traditional' resocialisation ward. To integrate the programme into the daily routine of this ward, a period of re-organization, and re-education of all professionals involved, was necessary. Nurses, occupational-, educational- and other trainers and therapists were not used to regarding patients as students who have to learn to live with schizophrenia and its consequences. Various behaviours, especially those overlapping with negative symptoms were considered to be resistance and lack of motivation instead of coping. Based on the new theoretical frame of reference it was suggested that due the lack of knowledge of the professionals involved, some patients unnecessarily suffered from psychosis. For example, during a meeting in which a frequently relapsing patient was discussed, an occupational therapist complained that she could not be motivated to continue working; 'Despite many efforts to get her back to work, she keeps trying to avoid her job by asking for coffee all the time. It doesn't matter how kind or hard I try'. After allowing this patient a 'coffee-and-smoking-break' every ten or fifteen minutes, the recurrence of psychotic symptoms diminished significantly, supporting the hypothesis that this was related to unintentional overstimulation.

Another reason to assume that decompensations or continuing psychotic behaviour was related to a lack of knowledge, was the fact that the professionals were used to give attention to patients the moment they didn't act 'normal'. So, also unintentionally, much psychopathological behaviour was positively reinforced with attention from professionals. Basic behavioural therapeutic principles were in most cases not included in the tools of the professionals, and they had never been taught these principles during their education!

So, besides teaching all the appointed trainers how to deal with cognitive disturbances, general behaviour therapeutic tactics had to be learned and practised as well by all professionals involved in the rehabilitation programme.

3.2 Behaviour therapeutic tactics in rehabilitation.

Behaviour therapeutic tactics focused on increasing desired and decreasing undesired behaviour, have repeatedly proven to be successful in the treatment of schizophrenic patients. Structural application of positive reinforcement (with or without material tokens) of 'normal' behaviour and speech, in combination with ignorance of 'abnormal' behaviour and delusional talk will produce an increase in normal behaviour and speech (e.g. Peniston, 1988; Gotestam, 1990). This effect is even greater if social skills training is added to the general strategy of reinforcement (Matson et al., 1980). Prompting, the verbal or nonverbal guidance of actions (Foxx et al., 1988), can help to enhance the
effect of skills-training. Mace et al. (1988) stress the importance of using these strategies by proving that some patients may more or less consciously use 'sick talk' to avoid responsibilities and to claim attention from professionals.

Other tactics have proven to be effective in the development of self-control in psychotic patients. Meichenbaum and Cameron (1973) successfully taught patients to talk to themselves in order to increase self-control during task-performance. The self-talk includes goaldirected W-questions (e.g. what, why, when), rehearsal, instructions and planning, corrective feedback in case of errors and positive reinforcement in case of success.

Until now, in cognitive and skills training of schizophrenic patients some of these and other principles have been applied with success to guide the learning process. In this section a summary will follow of valuable strategies. These strategies can be comprehended as tactics for training schizophrenic patients, since they compensate as much as possible for disturbances that impede the learning process. Again, Anderson's model will be used to classify the various strategies.

The elementary behavioural therapeutic tactics described in the next sub-sections were taught to all nurses and appointed trainers during a period of one year preceding the start of the rehabilitation programme. After a three day seminar, a one-hour workshop was held twice a week, supervised by a clinical psychologist.

3.2.1 Tactics at the declarative stage.

At the declarative stage, the working memory can often be loaded only to a very limited extent. Therefore, in general, the training tempo must be low. The following tactics, taken from Roder et al. (1988), may be used to facilitate the functioning of the working memory in the declarative stage of skills acquisition:

-Use of W-questions (what, why):
  To prevent distraction and to focus attention on a particular skill, it is extremely important to establish the purpose of the skill at the beginning. Discussing why a certain skill should be practised creates a meaningful context in which the individual is motivated to carry out an activity requiring use of working memory. For example, cleaning the ward is more significant to a patient in the context of his own wish to live independently outside the clinic, than in the context of the staff's wish to have a clean ward. Without specific and directed effort, the patient may not establish such a context.

-Starting with simple tasks:
  Training that begins with a complex task may end in failure. This may so overload the working memory that a subsequent attempt, even at a less complex task, may seem meaningless to the patient. The load of a simple task is smaller, and leaves the working memory available for a subsequent task.

-Adapting the tempo and allowing for breaks:
  The demand to work fast puts a further load on the working memory. This will cause increased risk of overload and task failure, and frustration on the part of the therapist as well as the patient. Demands for faster performance can be introduced later, when skill automatization has reduced the load on the working memory.

-Verbal instruction and repetition:
  This procedure is used to explain, step by step, how a particular skill must be used in order to reach a defined goal. The instructions should be given clearly, briefly and repeatedly so that the individual
understands what is required and is not left to respond to his own, possibly confused, interpretation of the assignment, or to activate an ineffective production system. The instruction itself loads on the working memory and may overstimulate the patient. It is then important to switch to modelling and imitation.

-Visual or auditory instruction:
  
  It is helpful for patients with a poor memory function to write down the instructions or steps to be followed. Thus the patient does not have to perform a skill and think of the next step at the same time. However, using written instructions introduces another problem; the need to switch from one information source to another while exercising a skill. This produces an extra load on the working memory. Therefore, this method may be inappropriate when there are problems with information source switching. In that case, it would be better for the therapist, while standing beside the patient, to prompt him, with verbal or nonverbal encouragement or accompaniment, as he is carrying out the instructions.

-Modelling and imitation:
  
  When it appears that following instruction, a certain skill cannot be performed, a 'model' demonstrates what is to be done, so that instruction takes place through vicarious learning. The skill is then imitated by the patient, who during the imitation names out loud which steps he is carrying out.

3.2.2 Tactics for knowledge compilation.

Because of disturbances in cognitive functioning, proceduralization and composition are expected to occur more slowly in schizophrenic patients, requiring more repetitions for a given level of knowledge compilation. This fact forms the basis for methodological tactics to compensate for these difficulties:

-Prompting and the use of W-questions (what, which):
  
  Posing W-questions is extremely important to proceduralization, specifically directing an action with questions such as, 'What are you going to do now?' and, 'Which step comes next?' Furthermore, patients must be taught to ask themselves these questions before and during the execution of a task. This posing of W-questions may also be thought of as a form of prompting. The prompt to the patient is to access information in the working memory, which facilitates sequential performance of the skill components. More sequential repetition leads to more knowledge compilation and more available working memory capacity.

-Use of self-talk:
  
  Using self-talk, the individual can, with the aid of W-questions, verbalize the steps to be followed to attain a goal. According to Meichenbaum and Cameron's (1973) method, self-talk must first be expressed out loud, and later whispered, to be integrated in thinking about and remembering an adequate strategy. This strategy is also very important in the third phase of the learning process when internal feedback can be used as a guide. It is then essential that each step be followed by a pronouncement such as, 'I did that well, now I'll go on'. By doing this, internal feedback can eventually help to stimulate the execution of a skill. To avoid possible discrimination problems which may arise with self-talk, features of the context should be noted. Self-talk then takes the form of: IF... (situation-feature) ...THEN... (skill and procedure) ...IF... (first step and response from environment) ...THEN... (next step, based on the result of the first step) ... etcetera.

-Shaping:
  
  Shaping is the stepwise approach to a goal in which successive steps are reinforced. It is the central training strategy because it fits exactly the stage bound model of skills acquisition. Therefore, all other tactics can be comprehended as means to facilitate the shaping-process. However, should too much emphasis be placed on the steps required in such a task, the chance of loss of meaning will grow. In general, clear motivation for learning a new skill is a pre-condition for step-by-step training. When cognitive disturbances prevent the step-by-step programme from being followed, and consequently no programming of the skill occurs, it is necessary to switch over to modelling, but now in steps. Here the steps are reduced to 'see-and-do, see-and-do', and the role of the trainer becomes that of programme...
3.2.3 Tactics for production tuning.

Failures in generalization and discrimination have traditionally been explained in non-cognitive terms. Therefore, conventional tactics for overcoming generalization and discrimination problems have focused on additional training, 'booster sessions', repetition of the learned skills, training in varied settings, involving significant others in the training, homework assignments, learning some basic cognitive restructuring techniques, and the determination by participants which problem situations should be addressed in training (Wallace et al., 1980; Liberman et al., 1985; 1986b).

The learning model used here generates tactics for coping with generalization and discrimination problems not previously identified in conventional approaches:

-Use of W-questions (when, what, where, who):
  Selection of the correct cues for performing a skill is a condition for discrimination and generalization. Posing W-questions directed at specific cues is essential for this.

-Restructuring learned helplessness:
  Negative thought cycles often create a routine of irrational thinking in patients, causing unnecessary suffering and interference with rehabilitation. Low self esteem and negative prospects for the future, can be dealt with by means of cognitive therapy (Beck et al., 1979; Ellis, 1992) whereby thinking is restructured on rational bases. This requires actively focusing on possible negative thoughts during skills training and individual counselling, as patients are often led to experience them but seldom verbalize them.

-Working towards emotionally loaded skills:
  A positive self-image with regard to one's ability to learn skills, is necessary for learning emotionally loaded skills. An emotionally loaded problem can call up associations with past experiences that have a negative emotional significance. This can have a negative influence on selftalk which, in turn, inhibits the learning process. Training should therefore be started with neutral skills and situations.

-Asking W-questions instead of interpreting:
  In order to avoid punishment, trainers often try to give the impression that they understand individuals who speak incomprehensible and psychotic sentences. In the first place, this reinforces incompetent behaviour, making it unclear to the individual that his behaviour is undesirable; in the second place by doing so, it becomes impossible to determine whether the individual is following the right procedure. Posing W-questions directed toward clear communication is indicated here.

-Corrective feedback:
  When the individual makes mistakes, it means that the trainer has not sufficiently divided the skill into meaningful steps. It is superfluous to point out errors. The trainer gives himself, as well as the individual, corrective feedback when errors are made.

-Positive reinforcement:
  A positive response from the environment to the effectiveness or suitability of a step carried out is an essential element in acquiring new skills and maintaining learned ones. Positive reinforcement is not simple, certainly not when there are all kinds of learning problems and negative emotions playing a role which can frustrate not only the patient, but the trainer as well. The question of what line the reinforcement should take is often difficult to answer. It is generally true that a skill must be acquired in steps, in such a way that each separate step can be carried out effectively. A context in which reinforcement can be given can be created only in this manner, even if the step is a very small one. The line used for reinforcement is also difficult to establish when emotions which at first appear undesirable,
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3.2.4 General tactics for professionals.

Professionals have to learn how to deal with their patients' problems by training behavioural therapeutic strategies and prosthetics for training. Also, theoretical starting points for rehabilitation, as summarized in paragraph 1.2., should be studied thoroughly. However, professionals also have to manage themselves. Once they are motivated and instructed how to participate in rehabilitation efforts, they should also be trained to always take their patient's frame of reference for granted. There are two pitfalls related to this issue.

Firstly, not only is the frame of reference of the patients participating in the rehabilitation programme coloured by the fact that they are vulnerable individuals who often suffered significant loss during the chronic course of schizophrenia. Also former 'mental health professionals' have told them they will probably have to stay in hospital for the rest of their lives. Therefore, choosing to participate voluntarily in a rehabilitation programme, should be regarded as 'the least worse' possible thing to do for patients, instead of 'the best'. This can be hard for professionals who are taught that old caregiving attitudes should be replaced by a more effective training- and supporting style of guiding patients. In other words; if one very much wants to rehabilitate a patient, it may easily be overlooked that some patients are not ready for it, although they have chosen to participate in the programme.

The best way to prevent improper enthusiasm and therefore to deal with this pitfall, is to use shaping, the stepwise approach to a goal in which successive steps are positively reinforced, not only as a specific training strategy, but also as a general tool of rehabilitation.

Regarding the multidimensional definition, rehabilitation is, among others, a process aimed at optimal resettlement of a disabled person. Optimal resettlement includes having social relations, and functioning in several social roles. Together, with these relations and roles the person occupies a social position. The starting point of rehabilitation is therefore to let the patient define a specific goal in terms of relations and roles, necessary to occupy a desired and meaningful social position. This implies that subjective goals may be defined too high, due to 'lack of insight' or denial of vulnerability. The goals may, on the other hand, also be defined too low, for instance when the patient takes into account many previous abortive efforts to achieve social reintegration. At this point one shouldn't bother if this is the case, but simply reinforce the fact that the patient is thinking about and formulating his goals. The goals will be redefined later, due to insight and acceptance of vulnerability or due to unexpected success. Besides, arguing with the patient about 'wrong' goals, will lead to conflicts due to the fact that professionals use their own frame of reference, often characterized by the disease model's inclination to reinforce dependency.

Shaping implies that individual wishes are positively reinforced, and recognized as subjectives goals for rehabilitation. However, it also implies that it should be translated into small successive steps. Information about vulnerability and various skills deficits is
necessary for this translation. Taking the patient's wish as a starting point, all necessary
steps and skills to attain the final goal, should be checked in a top-down manner.

The second pitfall is related to the first. Taking for granted the patient's frame of
reference might lead to symptoms in professionals because they lose touch with their own
frame of reference. Once taught to slow down, to implement a low level of expressed
demotion, to take into account vulnerability and cognitive disturbances, to respect grief, to
only reinforce desired behaviours, and to use shaping 'all day long', professionals will still
be confronted with undesired behaviours. For example, it is often very difficult to decide
whether aggressive behaviour is motivated by grief, personality or should be regarded as
emotion-oriented coping based on the notion of not having control.

The best way to solve the dilemma of 'not knowing what to do in case of undesired
behaviour', is not only to teach social skills to the patients, but also to the professionals.
Central in this skills training is 'assertiveness', defined as 'standing up for one's opinion and
taking into account the other one's feelings'. In this sense assertiveness is contrasted with
sub-assertive behaviour and aggression, respectively defined as only taking into account
the other one's feelings and opinion without standing for one's own, and a verbal or
nonverbal response which offends the other and obstructs meaningful continuation of
communication.

In summary, shaping and assertiveness should be used as general tactics for
professionals to deal with their own inappropriate enthusiasm and undesired behaviours of
patients. Assertiveness enables professionals to utter frustrations, personal dilemmas,
criticism and involvement, because the locus of the reaction is the professional and not the
patient, who will always keep the opportunity to respond. If the patient does not know how
to respond to assertive communication, shaping (again) can be used to teach the patient how
to do it.

3.3 Towards a pilot-study.

The behavioural therapeutic tactics, described above, were taught during a period
in which the traditional ward was transformed into a rehabilitation ward.

Besides strategical changes, also the organization of the ward, and in a lesser
degree the hospital, had to be adjusted to the intended programme and study. For example,
patients completing the programme should have a place to go at the end of the programme,
even if the goals in terms of resettlement in society cannot be achieved. Consequently, apart
from the beds in the rehabilitation ward, beds had to be reserved for drop-outs and patients
not ready for discharge.

During this period of re-education and re-organization a pilot study was executed
in which nine patients with schizophrenia according to DSM-III-R (1987) criteria,
participated. While the tactics described in the present chapter take cognitive disturbances
as an accomplished fact, in this pilot-study the focus shifts to the question whether
cognitive disturbances can be positively influenced by training and if so, whether this
change has positive implications for symptoms and general functioning. The pilot-study,
including an individual cognitive training and a groupwise social skills training, will be
presented in the next chapter.