

Effective communication related to psychotic disorganised behaviour in adults with intellectual disability and autism

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ABSTRACT

Background: Adults with intellectual disability, autism, and psychotic symptoms display severe disorganisation, which affects their ability to communicate and to perform well-known tasks. They display an aggravated loss of ability to initiate interaction with their staff.

Aims: The aim was to examine whether a set of chosen staff communication skills was effective related to psychotic disorganised behaviour and initiatives in the patients.

Materials and methods: Three hundred and seventy sequences of dyadic staff and patient interactions were analysed. Thirty-four staff and four patients with intellectual disability, autism, and psychoses were included.

Staff and patient interaction was observed by video camera in the natural settings. Two independent observers scored each category. Data were analysed using contingency tables and the significance level was computed using Chi-square analysis.

Results: The probability of disorganised behaviour in the patients **decreases** significantly and the amount of initiatives **increases** significantly when the staff communicates effectively. The four main categories of staff communication have different effects upon the disorganised behaviour and initiatives from patients. Task sustenance was most effective on disorganised behaviour, whereas emotional support encouraged most patients' initiatives.

KEYWORDS: communication skills, autism, intellectual disability, schizophrenia, disorganised behaviour.

Introduction

Staff communication in disability nursing may affect disorganised behaviour in psychotic adults with intellectual disability (ID) and autism.

The communication skills of disability staff is fundamentally important because the patients are impaired. Intellectual disability causes cognitive dysfunction and maladaptive skills. Persons with autism have little communication and interpersonal skills. This impaired ability to communicate and interpret surroundings is severely aggravated in ID persons with additional autistic and psychotic features. Persons with psychotic symptoms, ID, and autism display severely disorganised behaviour. The patient's disorganisation is manifested by derailment, gross confusion, and impoverished speech (1,2,3). Persons with autism are characterised by limited social skills and idiosyncratic social behaviour including relatively few initiatives (4).

The patients will display grossly disorganised behaviour during social interaction. Tasks that the patient normally performs well are no longer performed, or performed inaccurately. Behaviours that normally are linked together into purposeful chains are splintered into fragments and appear meaningless. The patient has difficulty coordinating motor, sensory, or cognitive processes. The patient will seem confused, uneasy, and restless. The amount of initiatives from the patient might be absent or prominently decreased.

The patient's lack of understanding causes frustration. Idiosyncratic speech and behaviour makes interacting even more complicated to understand and difficult to respond adequately to the patients' initiatives or behaviour. When combined together, advanced and complex communication skills will be vitally important when staff interact with these patients.

There is a fundamental assumption underlying psychiatric clinical work that a skilled and experienced therapist has positive impact on emotional disturbances in persons with mental disorders (5,6). The need for effective communication is acknowledged in disciplines such as psychology, psychiatry, education, and nursing (7). Communication is the basis for all social and professional interaction. Communication is herein defined as communicative acts between persons within a dyadic framework. The quality of social interaction is closely linked with the communication skills of the participants (8).

Effective communication has been proven to be efficacious when healthcare providers communicate well. It has also been reported that training increases the ability of effective communication in healthcare providers (9,10,11,12).

Communication training of disability staff is necessary due to the patient's complex condition. Training is mandatory because disability staff spend the majority of the day interacting with their clients (13). Effective communication has the potential to have a positive influence on behaviour throughout the day.

The present paper is part two of a study on effective staff communication related to severely disturbed patients. The first paper describes the process of defining suitable scoring categories to represent effective communication (14). These skills were tested empirically. The first paper addresses reliability. The observation categories were found to be reliable according to observer agreement and presence of preferred skills.

Aim

The aim of this study is to examine the effects of staff communication when responding to disorganisation in adults with ID, autism, and psychotic symptoms.

Variables

There are two variables that affect this study: disorganised behaviour and initiatives by the patient.

Hypothesis

1. The chosen categories of communication will decrease disorganised behaviour in the patients.
2. The four categories of communication skills – *response*, *attention sustenance*, *task sustenance*, and *emotional support* – will independently decrease disorganised behaviour in the patients and increase their initiatives.
3. Non-effective communication will increase disorganised behaviour in the patient and decrease initiatives.
4. The staff's behaviour is less influenced by the patient's behaviour;

however, the patient's behaviour is greatly influenced by the staff's behaviour.

5. More experienced staff will communicate effectively more often than staff with less experience.

Methods

Materials

This study investigates the interaction between staff and patients. Three hundred and seventy interaction sequences were analysed.

Staff

A random sample of 34 professional caretakers was recruited from a special unit at the Ullevål University Hospital. The amount of work experience among the caretakers varied and their different professional backgrounds comprised nurses (10%), nurse's aides (73%), and nonqualified staff (17%). Their work experience had a mean of 5.6 years (range: 10 months – 16 years). The staff had no knowledge of the observation categories prior to the observation period.

Patients

A selected sample of 4 patients was recruited. Inclusion criteria were verified diagnoses of intellectual disability, autism and schizophrenia. The patients were mildly- severely intellectually disabled, between 31 and 52 years.

They showed social withdrawal and severely impaired global functioning. The patients' psychotic symptoms were measured previous to the video recording (14).

They were behaviourally disorganised and showed derailment, disorientation, aimlessness and problems of task sequencing. Three patients showed disorganised language. The four patients were not in the most acute phase during the video-recording period. They had been admitted to psychiatric hospitalisation for between one and twelve years.

Measures and Procedure

Observation categories were designed according to available theory and research. Staff and patient measurements are presented and discussed in part one of this paper (14).

Staff and patients were observed via videotapes over a 9-month period and then scored by two independent observers.

Statistical analyses were computed by contingency tables. Statistical significance in contingency tables was computed by Chi-square.

The study was conducted in a special unit in a psychiatric hospital located in Oslo, Norway. This unit is concerned about the ward atmosphere, which is an important psychosocial factor for treating in-patients (15,16). The ward atmosphere, suitable for psychotic patients, ought to encompass these factors: few patients within each unit; a high degree of order, organisation, and program clarity; and a low degree of hostility, anger, and aggression (17). The special unit uses an evolved milieu therapy founded on user-involvement and patient autonomy principles over a 10-year period since 1990. During this period 95% the long-term patients had marked improved global functioning (13).

Unit of Observation

Data are based on observation of behaviour sequences; i.e., turn-taking interactions between patients and caretakers (19,20). Observation of turn-taking is based on a coding system where all behaviours of interest for the actual study are systemically defined prior to the observation and scoring. A turn is defined by an act, verbal or non-verbal, or both in one act, exclusively performed by caretaker or patient. Examples of turns are asking a question, gaze initiative from the patient, pouring milk from the bottle, etc.

Statistical analysis of behavioural sequences is based on observational data, which are systematically scored and made into objects for lag-analysis, i.e. the observations are time-coded and therefore possible to be analysed when succeeded by specific behaviours closely in time and occurrence. Conditional associations can reflect probabilities of concurrence; e.g. what is the probability of organised behaviour in

Table 1. Probability of disorganised and organised behaviour in patients responding to the effective and non-effective staff communication

Patient	Staff	
	NEC	EC
Disorganised behaviour	44.8%	26.5%
Organised behaviour	55.2%	73.5%

NEC = non-effective communication; EC = effective communication. N = 2546 turns

*Percentage of all staff/patient turns

the patient given effective communication *before* the patient displayed this behaviour?

Data are organised on two levels, episodes and turns. *Episodes* are defined by –«Start = interaction initiated either by patient or staff» and –«end = a natural end of an interaction sequence or a pause of interaction of a certain length» (different for each patient according to their average response time). The response time for the patients ranged from 3 to 6 seconds in length.

The total number of turns scored in episodes varied from 1 to 32 with a mean of 6.9 turns per episode. Suitable situations, in which probability of interaction was high, were chosen for this purpose; meals, dressing, school lessons, and social settings like coffee breaks. A total of 370 episodes were scored; 1169 caretaker turns and 1377 patient turns (2546).

Independent variables are staff communication. Effect variables are disorganised behaviour in patients. Initiatives from the patient are scored when present.

Statistical analysis

The relationship between staff communication and patient behaviour were analysed by contingency table analyses for episodes and turns. Statistical significance in contingency tables was computed by Chi-square.

Ethical considerations

Permission to conduct the present study has been given by the following instances: the director of the hospital and the four families/guardians have been informed, and they approved. All staff gave their informed consent. One patient gave informed consent. The three others are not capable of giving consent. They were informed prior to all video-recordings about the recording. The Eastern Regional Ethical Board of Norway has given permission to record patients and caretakers using a video camera. All original data (videotapes) will be destroyed when the study is closed, as required by Norwegian law.

Table 2. Probability of disorganised and organised behaviour and initiatives in patients given main categories of effective and non-effective communication

Staff communication	Patient Behaviour		
	Initiatives	Organised Behaviour	Disorganised Behaviour
Meaningful response	19.5%	30.1%	50.4%
Joint attention	9.0%	55.8%	35.2%
Task sustenance	1.3%	66.7%	32.0%
Emotional support	22.2%	55.6%	22.2%
Meaningless response	14.0%	18.6%	67.4%
No joint attention (Other focus)	5.7%	44.3%	50.0%

N = 2546 turns

Table 3. Influence of patient behaviour on staff communication

	Meaningful response	Attention sustenance	Task sustenance	Emotional support	Meaningless response	No joint attention
Organised behaviour	33.9%	33.0%	15.4%	0.9%	3.5%	13.2%
Disorganised behaviour	37.9%	28.2%	9.6%	2.5%	10.4%	11.4%
Initiatives	65.0%	16.9%	5.1%	0.6%	11.3%	1.1%

Results

Table 1 shows the relationship between staff and patient turns. The conditional probability of organised behaviour demonstrated by the patient, which is contingent on effective communication by the staff, is 0,74. In comparison, a conditional probability of 0,55 was found when staff provided non-effective communication. The correlation between staff behaviour and patient behaviour was clearly statistically significant ($\chi^2=18.2$, $df=1$, $p<.0001$).

Table 2 shows, for each main category of staff communication, the conditional probability of organised behaviour, disorganised behaviour, and initiatives in the patient when the staff performs effective communication and non-effective communication.

When the presence or non-presence of effective communication are conditions, effective communication seem related to both organised behaviour and initiatives in the patients. The conditional probability of organised behaviour considerably increases and the probability of initiatives from the patient also increases when the communication between caretaker and patient become meaningful. The conditional probability of organised behaviour and initiatives in the patient when the staff provide a *meaningful response* is high. The conditional probability of organised behaviour is especially high when the staff master *attention sustenance*, *task sustenance*, or *emotional support*. It is most likely that the patient demonstrates initiative when the staff provide *emotional support*.

A reverse pattern with fewer initiatives and a higher probability of disorganised behaviour is displayed when the staff's communication is meaningless. *Meaningless response* encourages fewer patient initiatives and more disorganised behaviour. *No joint attention* encourages fewer initiatives and much more disorganised behaviour.

Table 3 presents the conditional probability of *meaningful response*, *attention sustenance*, *task sustenance*, *emotional support*, *meaningless response*, and *no joint attention*, given organised behaviour, disorganised behaviour, and initiatives in the patient. Note that the probability of *meaningful response* is 65% given an initiative from a patient.

Table 4 demonstrates whether the correlation in staff communication is contingent upon the

patient's organised or disorganised behaviour and initiatives. Skills on episode level are not correlated with patient behaviour, although patient behaviour is not scored on episode level.

The most significant categories in Table 4 are *meaningful answer*, *meaningless answer*, *directive given inside patient's attention area*, *initiatives outside attention area*, *task support*, and *physical soothing*. The rest of the categories are either scored as infrequent or do not correlate with patient behaviour. Categories scored on episode level cannot be examined by statistical methods because all patient behaviours are scored on turn-level.

Work Experience

The sample of 34 staff members' work experience was divided into three groups: less than 1 year experience on the Special Unit for adults with Intellectual Disability and Psychiatric Disorders; from 1 to 5 years experience; and more than 5 years experience. The model for categorising work experience is based on Benner's clinical practice theory: *From Novice to Expert, Acquiring Skills* (21).

The results indicate that the most experienced staff, with more than 5 years experience with this group of patients, most often performed effective communication. The staff with less than 1 year most often provide non-effective communication, especially *do not give response* and *reject choice*. These categories are used infrequently in the total sample, but were used more by the less experienced staff.

Discussion

The impact of effective communication in the present sample is considerable. The effects that relate to behaviour and initiatives seem to be connected and positively influenced by meaningful communica-

Table 4. Effects of the separate skills related to disorganised behaviour and initiatives

Main categories		Subcategories	Organised behaviour	Disorganised behaviour	Initiatives
Response	Meaningful response	Meaningful answer	0.18 **	0.10 **	0.29 **
		Confirm choice	–	–	–
	Meaningless response	No response	0.03	0.00	0.02
		Meaningless answer	– 0.16 **	0.13 **	0.11 **
		Reject choice	– 0.04	0.04	0.02
Attention	Joint attention	Attention-directed initiative	0.08 *	– 0.06 *	– 0.09 *
		Attention-directed directive	0.16 **	– 0.11 **	– 0.15 **
	Other focus	Outside att. area-initiatives	– 0.02	0.05	– 0.10**
		Outside att. area-directive	0.04	– 0.03	– 0.06
		Lost attention	– 0.07	0.08 *	– 0.04
Task sustenance	Task sustenance	Physical limitation	0.04	0.01	– 0.07
		Task support	0.14 **	– 0.11 **	– 0.11 **
Emotional support	Emotional support	Confirms feeling	0.01	– 0.04	0.00
		Physical soothing	0.07 *	0.11 **	0.07 *
		Mirroring	–	–	–

*Significance level, $p<0.05$; **significance level, $p<0.01$; – = not frequent enough for correlations.

N = 1169 staff turns and 1377 patient turns

tion; more patient initiatives can be explained by more organised behaviour.

An unexpected finding is that effective communication (EC) affects a patient's activity level, i.e., how often the patient performs organised behaviour or initiatives. This is surprisingly because these patients are known to be passive due to autism and psychotic cognitive disorganisation. EC has a particular affect on instigating initiatives, which is regarded as especially impaired in these patients.

Effective communication counteracts disorganised behaviour – a high level of disorganised behaviour in this sample of intellectual disabled adults with severe psychotic cognitive disorganisation would be expected to be frequently occurring. However, when the staff performs non-effective communication (NEC), the amount of disorganised behaviour increases. This is shown by the negative correlations between NEC subcategories and disorganised behaviour (Table 4).

To be able to continue with and remain concentrated within the limitations of a certain activity, or to perform a certain task, is particularly influenced by effective communication. The result of this relationship is probably the combination of effective communication and a highly structured interaction situation, such as activities that are structured and proceedings that are known by the patient. When the patient appears to be continuously active, this is in fact a testament to well-planned and highly structured tasks that make the patient focus on certain objects and the communication partner, who attends to the patient's autism and psychotic disorganisation.

Effective communication seems to be an integrated way to interact with the patient and the effects differ between the four main categories. *Responding meaningfully* seems to encourage initiatives in the patients, but has the least impact on disorganised behaviour. *Attention sustenance* has a positive effect on disorganisation. The results confirm the importance of adjusting to the patient as the communication partner seeks the patient's attention area to achieve contact so the patient focuses on objects or persons.

Task sustentation has the most prominent effect on disorganised behaviour in this sample. When task sustentation is used to help a strongly confused patient who cannot perform the ongoing task, he may become less frustrated and will experience the staff as both an emotional and practical support. *Task sustentation* helps the patient to master the ongoing task, which leads to fewer initiatives.

Emotional support also seems to have strong effects on disorganised behaviour. When the staff provides emotional support, the chance of organised behaviour in the patient is approximately 3:1.

Effective communication is demonstrated by short-term positive impact, yet, no long-term effects can be achieved without a short-term effects (22). The strong relation between staff communication and subsequent patient behaviour might indicate a causal connection between staff and patient behaviour in this sample; however, causality cannot be explained with the results from only one study. Yet, the four categories of effective communication are respectively known by previous reports to have positive impact on the mental state of persons with emotional problems, which supports the hypothesis of a causal connection.

Staff behaviour is less influenced by patient behaviour than vice versa. It is conceivable that the staff members are not too influenced by psychotic patient behaviour. Research in acute psychiatric wards indicates that a mature staff milieu contain psychotic behaviour better than an immature milieu (23).

The field in which the empirical data were collected is influenced by psychodynamic psychiatry (14). Some of the findings were some unexpected and might draw attention to topics particularly interesting for educational purposes. The staff do not often confirm choices acted by patients. Making choices for the single patient ought to be a highly attended topic for disability staff working in a field where giving directives and planning the day for the patients traditionally have been leading principles (24). *Physical soothing* is used occasionally, but not often. This might be a result of the actual group of staff members' knowledge of difficulties that autistic persons may experience with physical touch (25).

Staff with more work experience in the present sample seem to

communicate effectively more often. This is an expected result. The fact that 5 years of experience is needed to communicate predominantly effectively supports the idea that communication skills should be an essential part of education programmes, especially for 'novices'. Research on communication skills in specialised fields of oncology and geriatric nursing indicate that communication skills are improved through training and counselling.

Conclusion

Communication skills of intellectual disability staff can be monitored and evaluated.

Communication strategies that are considered effective seem to decrease disorganised symptoms in intellectual disabled adults, and increase the amounts of initiatives from the patients.

More experienced professional staff communicate effectively more often.

The present study has a potential for improvement of counselling of intellectual disability nurses

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