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# THE LOGOPEDIC EXAMINATION OF PATIENTS WITH ALZHEIMER'S DEMENTIA

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## SUMMARY

### Background:

A valuable source of information on a patient's mental condition in dementia cases is an assessment of their narrative skills. In the course of a logopedic examination special attention should be focused on the problem of the conditioning of narrative utterances. The goal of examinations was to assess the functioning of the patient during interaction with the speech therapist in order to identify behaviors that disrupt the course of activities included in the adopted diagnostic procedure oriented towards identifying narrative skills.

### Material/ Methods:

The empirical material was obtained from a group of 60 patients with Alzheimer's dementia (30 women (the mean age = 79.6) and 30 men /73.11/). The study used the author's own "Scale of Narrative Skills" – one of its constituents is the "Observation Card", which specifies the following categories of undesirable behavior: 1) deviations from instructions; 2) additional activities while performing a task; 3) initiating other activities while performing subsequent tasks; 4) loss of interest, desistance; 5) deviations at the final stage of examination, after task completion.

### Results:

In 85% of subjects, reported were disturbances concerning different aspects of the examination course (usually: additional activities while performing a task; initiating other activities while performing subsequent tasks; deviations from instructions). Problems occurring in every fourth patient were diagnosed as fundamental because of their intensity.

### Conclusions:

It is largely difficult for the speech therapist to reach an agreement with the patient in a diagnostic situation and guide their behavior.

**Key words:** logopedics; diagnosis; narrative skills; linguistic behaviors; interaction

## INTRODUCTION

The loss of communication skills in dementia cases is a new and specific problem within speech therapy: in theoretical findings a separate procedure for speech-therapy management is determined indicating that the therapist's strategy should be to stabilize the patient's interaction abilities (Grabias 2008, 2010/2011). Due to the high diversity of linguistic behaviors in persons with Alzheimer's dementia, the basis for therapeutic measures in this group of patients has to be a multifaceted identification of the patient's communication abilities. In basic terms, these abilities are determined based on utterances elicited in different communication situations, and this is the right procedure inasmuch as these situational determinants, the factors determining the forms of the utterances constructed by the patient, are taken into account.

In the course of a speech-therapy examination, utterances are elicited in accordance with the assumed examination procedure in a specific communication situation – in interaction with the patient, understood as the basic unit of social communication. It should be emphasized that the patient's behavior in an examination situation may be determined by various cognitive or non-cognitive deficits according to the progression pattern of pathological symptoms in Alzheimer's dementia (Lovestone, Gauthier, 2001). As regards the cognitive sphere, at the mild stage of dementia there occurs an intensification of linguistic disorders, but also memory disorders, allo- and autopsychic orientation disorders, and disorders of attention and visual-spatial functions (Pačhalska et al., 2004; Herzyk, Jodzio, 2008; Olszewski, 2008; Grossberg, Kamat, 2011, et al.). Generally speaking, the results obtained in the examination of cognitive functions in persons at this stage of the disease are similar to the level of the abilities and general knowledge of a child aged 4 to 7 (Pačhalska et al. 2004). As regards the non-cognitive sphere, the principal dementia symptoms include mental disorders and behavior disorders (Sobów 2010; Grossberg, Kamat 2011) characterized by a high variability and unpredictability: there are no criteria that would define symptoms attributed to Alzheimer's disease (Schneider, Dagerman 2004). Consequently, during a speech-therapy diagnosis difficulties can be expected that are related to the execution of the examination procedure, regardless of the linguistic difficulties that manifest themselves within the patient's utterances (a survey of studies on speech disorders – Marczevska 1994, Domagała 2003, 2007).

A valuable source of information on the patient's mental condition is a thorough assessment of his/her narrative skills: it makes it possible to define the kinds of linguistic activities available to the patient at a particular stage of the disease (despite poor prognosis concerning the disease itself). Narrative skills are generally assessed as significantly disordered already at the mild stage of dementia (Tsantali et al. 2013), while deficits identified at the level of discourse are regarded as well documented (Taler, Phillips 2008). In this context special attention should focus on the problem of the conditioning of narrative utterances produced by patients – the problem of carrying out the examination procedure.

## MATERIAL AND METHOD

### Method

The study was conducted on the basis of empirical material gathered under the research project "Narrative and Its Disorders in Alzheimer's Dementia. *The Scale of Narrative Skills* in Alzheimer's Dementia" (project manager: Dr Aneta Domagała; 39<sup>th</sup> Ministry of Science and Higher Education competition of research projects).

The results of the studies presented in this paper are, of necessity, only partial: they relate to the functioning of patients in the situation of speech-therapy examination with respect to the carrying out of the examination procedure.

In the course of the examination, narrative utterances were principally elicited using thematically designed auxiliary materials (photographs, illustrations), having in mind the basic forms of utterances that they generated. These utterances were then analyzed in many respects. At the same time, a significant element of the overall assessment of the subject's linguistic behaviors, carried out using the author's own "Scale of Narrative Skills", was the functioning of the patient during interaction with the speech therapist.

The "Scale of Narrative Skills" consists of three principal parts:

- I. Assessment of narrative skills, which is carried out based on empirical material obtained during the examination, on statements elicited by the examiner while in individual contact with the subject, recorded and transcribed.
- II. Self-assessment of the specific linguistic behavior displayed by the subject.
- III. Assessment of the subject's behavior in an examination situation.

In Part III, the assessment of the subject's behavior is based on an observation carried out during the examination and oriented, in accordance with the prepared "Observation Card", towards:

- 1) the functioning of the patient in the subject-examiner relationship, in order to identify possible problems with the maintenance of an interpersonal relationship appropriate within an examination situation;
- 2) the carrying out of the examination procedure, in order to identify possible behaviors that disrupt the course of activities included in the adopted diagnostic procedure.

With regard to the conducting of the examination procedure, the "Observation card" specifies the following subcategories of the patient's undesirable behavior: (1a) deviations from instructions; (1b) additional activities while performing a task; (1c) initiating other activities while performing subsequent tasks; (1d) loss of interest, desistance; (1e) deviations at the final stage of examination, after the completion of tasks. When the subject's behavior is correct (i.e. s/he followed instructions, tasks performance was not disturbed, and the course of the examination was not disrupted), the following grade is awarded: "0 – generally without reservations" (which means that inappropriate behaviors were not found). If there are undesirable behaviors concerning the carrying out of examination procedure, grade "1 – with reservations" is given (additionally pointing out behaviors speci-

fied in subcategories 1a-1e). Each time, the undesirable behaviors found in a particular person are qualitatively analyzed with a view to determining the fundamental problems in contact with the patient.

The foregoing range of the phenomena in examination procedure conduction is the subject of the present study.

### **The studied population**

A total of 60 patients with a moderate stage of Alzheimer's dementia were studied – 30 women (group code: UK) and 30 men (group code: UM – these codes are used in the article to describe the exemplificative material, adding the serial number of the patient investigated). The mean age of the studied population was 76 years and 8 months (women: 79 years and 6 months, men: 73 years and 11 months).

Studies covered patients resident in specialist institutions providing help to persons with Alzheimer's disease. The patients were mostly residents of daycare centers (37 persons), less often temporary residents in an institution (up to three months) (20 patients) or permanent residents (3 inmates). In the investigated group there were 15 patients with elementary education, 31 with secondary education, and 14 with higher education.

The criteria that excluded patients from examination (regardless of the factors excluding the diagnosis of Alzheimer's dementia, controlled in medical diagnosis) were the defects of the auditory, sight or motor organs (hearing loss, when a hearing aid was not used or it did not perform its function; not corrected sight defect, diseases such as glaucoma, cataract; or severe motor organ conditions) that made it impossible to carry out the examination procedure in accordance with the findings concerning its course.

Those investigated were patients staying in specialist institutions providing help to persons with Alzheimer's disease. Field studies were carried out at the following centers: Wrocław Medical University's Research and Teaching Center for Dementia Diseases located in Ścinawa – Department of Psychogeriatrics; the Prof. M. Kaczyński Neuropsychiatric Hospital in Lublin – Psychogeriatrics Department; The Father Jerzy Popiełuszko Nursing Home in Toruń – Daycare Department; The Residential Medical Care Facility for Alzheimer Patients in Koźmin; The Nursing Home for Alzheimer Patients in Górnó (The John Paul II Independent Public Complex of Healthcare Facilities); The Alzheimer Center in Warsaw – Daycare Department and Nursing Home; The Community Home of Mutual Aid for the Wola District in Warsaw – Community Center for Patients with Alzheimer's Dementia Syndrome; The Community Home of Mutual Aid for patients with Alzheimer's Dementia Syndrome in Krakow (Małopolska Foundation for Assistance to Alzheimer's Disease Patients); The Daycare and Therapy Center for Alzheimer's Disease Patients in Płock; The Community Home of Mutual Aid for Alzheimer's Disease Patients in Łódź (Łódź Alzheimer Society); The Support Center for Persons with Alzheimer's Disease in Kielce; The Type-C Community Home of Mutual Aid (in Krzemionkowska St.) in kielce Alzheimer

Association); The Community Home of Mutual Aid for Alzheimer's Disease Patients and Nursing Home "Kalina" in Lublin; The Type-C Community Home of Mutual Aid for Alzheimer's Disease Patients (in Lwowska St.) in Lublin; The Community Home of Mutual Aid for Alzheimer's Disease Patients "Mefazja" and "Memory" (Lublin Alzheimer Association) in Lublin.

I would like to express my cordial gratitude to the directors and all specialists at those centers for their kind help and the approach I observed while conducting these studies. I would also like to cordially thank the patients, their caregivers and families for taking part in the studies.

The institutions in which investigations were conducted can boast the best knowledge of the problems of patients with dementia. From the standpoint of my studies this was of significant importance: in such institutions the patient is provided with proper care conforming to the standards set for dementia cases, s/he has access to specialist diagnosis and different forms of therapy/rehabilitation. Such centers ensure proper living conditions for dementia patients, and they employ specialists qualified to work with such patients. Consequently, it can be expected that the diagnostic situation designed in my investigations is not burdensome to the patient as a new situation, thereby eliminating undesirable behaviors that may occur in persons with dementia when faced with activities they find entirely incomprehensible.

Empirical studies were conducted by me in person, each time in an individual contact with the patient studied. They were always conducted in the institution which provided care to the patient, always in a separate room – usually in the psychologist's office – without any third parties.

The empirical material for behavior assessment consisted of 60 "Observation Cards", which were completed each time after an individual examination, and additionally, of recordings of this part of examination together with transcriptions of the subject's utterances.

## RESULTS

Regarding the realization of the examination procedure, 15% of the subjects were given grade "0 – generally without reservations", while the others (85%) – grade: "1 – with reservations", while in respect of the category system the following was reported (starting from the most frequent behaviors):

- 1) additional activities while performing a task (1b – 53.33% of the studied population)
- 2) initiating other activities while performing next tasks (1c – 41.67%)
- 3) deviations from instructions (1a – 33.33%),
- 4) deviations at the final stage of examination, after completion of tasks (1e – 30%)
- 5) loss of interest, desistance (1d – 6.67%)

The results of the studies are shown in Chart 1 (where: 0 – generally without reservations; 1 – with reservations /with 1a – deviations from instructions; 1b – additional activities while performing a task; 1c – initiating other activities while

performing subsequent tasks; 1d – loss of interest, desistance; 1e – deviations at the final stage of examination, after tasks completion – with the subcategories in accordance with the description in the text).

With regard to grade “0 – generally without reservations”, cases were reported when patients additionally made sure how they should execute a task, and wanted instructions clarified: such cases of behavior were treated as normative and perceived as readiness to execute a task in accordance with the examiner’s expectations. This kind of behavior in some persons was presumably motivated by a desire to make the best impression possible during the examination.

With regard to grade “1 – with reservations”, undesirable behaviors were as follows in the studied population:

### *1a. Deviations from instructions*

At the instruction giving stage the subject was expected to listen to an instruction, look at a photograph/illustration, and start building an utterance.

Among the deviations from instructions were those in which the subject explicitly referred to tasks that were given to him/her in other situations (to activities previously undertaken as part of diagnosis or treatment) or s/he worked out what the instruction would be on the basis of his/her earlier experience, e.g.:

U. K.: Przed tym też byłam z jakąś rozmową, ale nie pamiętam...(Previously I also had some conversation but I don’t remember [...] Na pewno całe o o tych osób roz/ opowiadać (Surely, talk about, all about, about these persons [UK5]

Examiner: Yes, yes

U. K.: Tak wyczuwam (That’s what I feel) [UK5]

U. K. (next task): “To teraz też zapamiętać, co tu jest? [Shall I now remember what this is here? Czy tylko powiedzieć? (Or only say?)” [UK2]

(here: the patient participated in memory training).

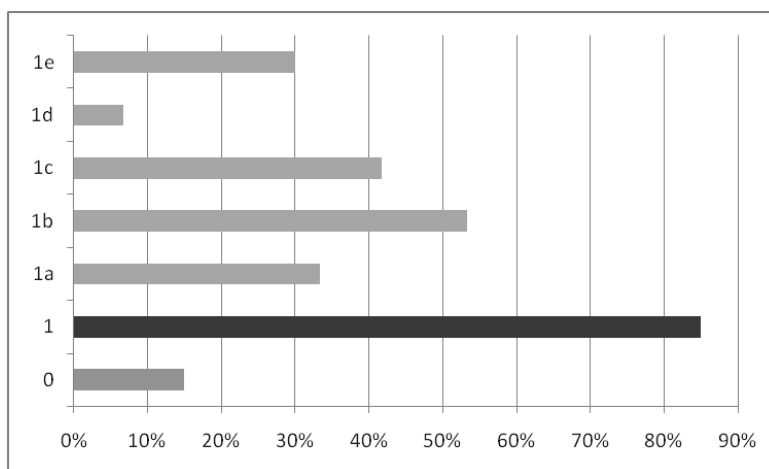


Chart 1. Realization of the examination procedure. Assessment of the subject’s behavior in an examination situation

Such persons appear to be trained to carry out various exercises; they are not strangers to the examination situation here (they had been trained in a similar way before) yet the flexibility of behaviors is insufficient and interference occurs (here: with the next task the patient asks if she also has “to remember”, but she was not asked to do so during the examination – UK2).

Some subjects, despite the absence of an explicit reference to the tasks carried out under different circumstances, may be oriented towards a specific course of an activity such as reading, or naming objects on consecutive illustrations, e.g.:

U. M. (in the first task, after instructions, he turns over the photo: at the back, on the photographic paper, there are company logos in bright yellow): “Przeczytać, nie przeczytam (Read, I will not read)” [UM8]

Sometimes the subjects began to execute a task with a delay (e.g. with the first task, the patient, after being instructed, looks at the photograph carefully at the other side – UK3).

Distortions at the stage of giving instructions may determine the way of carrying out a task, or the structure of utterances, which the examiner cannot always notice. We should take into account that instructions may be forgotten, as shown by the example below:

U. M. (in the first task he begins by expressing his fear that he may not cope with making utterances, and when he wants to start executing the task, he is disoriented and it is necessary to remind him of the instructions): “Pytanie jessst... jakie? [The question issss ... what?” [UM21]

### *1b. Additional activities while performing a task*

Under this heading, activities accompanying utterance-building were listed which impede the execution of a task, first of all those related to the use of graphic materials (photographs, illustrations) such as: lifting photographs/illustrations and putting them sideways so that the examiner could also see them, passing photographs/illustrations to him/her; shaking them, pulling, turning them backwards (e.g. “A ja to już stara babka. (I am an old woman) No jeszcze dalej zobaczymy (Well, we’ll see what’s next” /she moistens the finger with saliva, turns over the picture like a page in a book/ – UK23), taking off spectacles or sliding them up on the forehead.

Some persons, while carrying out a task, also revealed temporary clear symptoms of psychomotor agitation: tapping with fingers, rapping them against the table (or the photograph/illustration); turning in a swivel chair, rocking, shuffling their feet.

Additional activities observable during task execution were usually short-lasting.

### *1c. Initiating other activities (possibly conversations on other topics) while executing subsequent tasks*

In this case the subjects initiated activities (or conversations on the topics) other than those assumed in the adopted procedure, which determined a somewhat different course of examination each time, and resulted in going beyond

the planned activities (e.g. the examiner puts one more photograph in front of the patient whereas she begins presenting her own things – she reaches for her handbag to proudly show her crocheting).

While performing tasks, some subjects referred generally to the same examination, commenting on its selected aspects, e.g.:

U. K. (while executing a task the subject admires the photographs used during the examination): “Oj Boże, bardzo ładne te kartki. (Good God, they are very nice, these cards.) My mamy w domu i w ogóle tam ludzie mają, to proszę pani, aż radość popatrzeć (We have them at home and people there have them and stuff, just look – it’s a real pleasure to look at them); “Ale że chciało im się tak ładnych papierów zrobić (Fancy them wanting to make such nice pieces of paper like those)” [UK23]

Sometimes the subjects could not refrain from talking about matters important for them, especially in a difficult situation (e.g. “Pani doktor, bo chciałam pani powiedzieć, ja szukam dwóch synów...(Well, Doctor, I wanted to tell you I am looking for two sons...)” – here: the patient cannot understand why her family do not visit her very often: she believes that something wrong has happened to them, she also fails to remember basic information about her children [UK26]).

The assumption of the study was to extinguish behaviors that went beyond the planned activities (rather than follow the patient and the activities s/he initiated because this might thwart the execution of the examination procedure) – however, to a certain extent, such behaviors had to occur so that the examiner’s responses would not be too severe to the patient.

In such cases the execution of subsequent tasks – constructing utterances – took place under different conditions (although this impact would be difficult to study) than in persons who closely followed the examiner’s instructions.

#### *1d. Loss of interest, desistance*

Cases of this kind occurred sporadically: a clear loss of interest and distraction resulted in a temporary lack of cooperation (or possibly in a ceasing to carry out the tasks in accordance with the earlier assumptions), e.g.:

U. K. (with the second sentence she begins looking around the office, then she is distracted, she does not appear to realize what the role of the examiner is and where the photograph came from) “No bo ta pani powiedziała, że zrobiłam już te, teraz drugi jakiś mi podrzuciła któraś z pań. No nie wiem (Well, 'cause this lady said that I had already done these, now one of the ladies has placed a second one for me. Well, I don’t know really)” [UK28]

#### *1e. Deviations at the final stage of examination, after tasks completion*

Behaviors under this category may not have directly impacted the form of utterances elicited from the patients during the examination, nevertheless it is an important part of the profile of the patient’s behavior as an examination participant, which shows whether it was possible to complete the examination procedure according to the adopted organizational assumptions. The principal problem



here was the impossibility of terminating contact with the patient: at the final stage of examination, while conducting self-assessments and afterwards, some subject were unable to fully respect the rules of the session, e.g.:

U. M. (after saying goodbye he will not leave the office): “Na na zewnątrz to nie (Out outside, well, no)”; he has a different way of construing events /here: one of the permanent topics mentioned by the patient are court cases/: “No niech pani usiądzie jeszcze (Do sit down again [...]) Ale sprawy to pani może prowadzić (But you can handle the [court]cases)”, etc. [UM8]

From the patient's point of view the examination situation becomes a meeting, which does not have any definite framework: the patient can take the initiative, and impose the role of the listener on the examiner (for some subjects this is an opportunity to have a longer individual conversation, to share their problems, to interest the examiner in themselves).

Taking into account the behavior subcategories characterized above, it was determined whether the difficulties experienced by the subjects were of the same kind or multiple (complex) ones.

Difficulties of the same kind (classified into one of the foregoing subcategories) occurred in the minority of cases – in most subjects multiple difficulties were found that were most often classified in three subcategories, less often under two and the least often under four (never in five). The data are presented in Table 1 (where: 1 – difficulties of the same kind; 2, 3, 4 – multiple difficulties, i.e. classified under two, three, and four subcategories respectively).

Regarding difficulties of the same kind: they were reported under the subcategories (starting from those occurring most often):

- 1) additional activities while performing a task (1b – 18.33% of the studied population)
- 2) deviations from instructions (1a – 11.67%)
- 3) initiating other activities while performing subsequent tasks (1c – 6.67%)
- 4) deviations at the final stage of examination, after task completion (1e – 1.67%)

The difficulties subsumable under subcategory 1d were found each time in the subjects together with other difficulties.

In terms of carrying out the examination procedure, problems occurring in every fourth patient were diagnosed as fundamental because of the intensity and character of the phenomena observed which were subsumed under such subcategories as:

- Initiation of other activities in the course of performing subsequent tasks (if the subject definitely goes beyond expected activities, his/her activities become significantly independent of the tasks proposed during the examination);

Table 1. Examination procedure conduction. Occurrence of difficulties of the same kind and multiple (complex) ones

Occurrence of difficulties of the same kind and multiple ones	1	2	3	4
in the studied population (%)	38.33%	18.33%	23.33%	5%

- Loss of interest, desistance (if the patient's behavior made it necessary to give up on performing tasks in the predetermined manner or even a ceasing of the examination);
- Deviations at the final stage of examination after task completion (if it is impossible to carry out the examination procedure in full; the patient is unable to respect the rules of the session, takes the initiative, imposes the role of listener upon the examiner, and it is difficult to terminate contact).

## CONCLUSIONS

1. The obtained results show a high diversity of phenomena associated with the execution of the examination procedure. In the vast majority of the patients (85%) disturbances concerning different aspects of the examination course were reported: these determine the patient's linguistic behavior and the execution of tasks although in some cases they were difficult for the speech therapist to observe. The "Observation Card" as part of the "Scale of Narrative Skills" made it possible to characterize the patient's behaviors and assess their skills in constructing narrative utterances in the context of interaction. The Card directs the speech-therapist's attention towards the specific functioning of a person with dementia in an examination situation because the subject can undertake the kinds of linguistic activities suggested to him/her, the conventionally expected actions (and separately, however: the possibility of performing social linguistic roles, and maintaining an interpersonal relationship appropriate in an examination situation – Domagała 2013). Assessment of narrative skills should take account of the fact that utterances (here: narrative ones) are elicited under special conditions (because of diverse cognitive and non-cognitive disturbances occurring in Alzheimer's dementia). From this perspective, comparative studies conducted with subjects with dementia (and, for example, with subjects with aphasia in cases of focal brain lesions) can be seen as burdened with a considerable error when the utterances and texts of the patients are assessed, the examination situation being regarded as invariable.
2. In the studied population, multiple difficulties occurred more frequently (here: they were classified even under four subcategories of the undesirable phenomena defined in the "Observation Card") than difficulties of the same kind (here mainly: additional activities during the execution of a task). Identification of the kind of difficulty in a patient is of crucial importance for planning therapeutic management: certain forms of linguistic stimulation may turn out impossible or ineffective (the binding rule will often be to closely follow the patient, and accept various activities initiated by the patient while executing their current tasks, as well as to provide feedback information, show approval and support: the patient sometimes tries hard to find communication with another person).

3. Patients with dementia take part in various diagnostic investigations controlling the course of disease. Regardless of the fact that they find these experiences difficult, the patient will not always be able to understand the expectations of diagnosticians during subsequent examinations (or what therapists expect during therapeutic exercises). This is evidenced, as reported during examinations, by the cases of patients guessing the instructions or explicitly referring to activities undertaken previously in different situations (patients may be confused about what their task exactly consists in, but may be also worried about what the examination is for, and the effects it will have on them). Of fundamental importance is how the patient perceives the current communication situation (as has been said above, an examination situation may appear to the patient as a meeting with an unspecified framework, an opportunity to have a longer individual conversation, to make the therapist interested in him/her: in that case difficulties in extinguishing the patient's linguistic behavior arise).
4. Fundamental problems reported in contact with the subject indicate that it is largely difficult to reach an understanding with the patient, and guide their behavior. In the vast majority of cases (75% of the studied population), however, problems of this type were not identified although the specificity of the studied population should be taken into consideration (in the centers dealing with Alzheimer's dementia patients are subject to special qualification – in order to be able to function in a group with other patients, they have to satisfy specific conditions: some mental or behavioral disorders might entirely disrupt work in the group, and negatively impact on other patients). Furthermore, as in the case of other speech disorders (e.g. in schizophrenic patients), the speech therapist will not begin diagnostic or therapeutic procedures during the exacerbation of disease symptoms that require medical intervention. The ascertainment of fundamental problems in this case during interaction (in 25% of subjects in the studied population) makes it necessary to consider, after also asking the opinions of other specialists, whether direct speech-therapy treatment would be advisable. It should be taken into account that the improvement of the patient's communication skills (also as a part of indirect treatment) could improve their functioning in society. This kind of approach, including cases where non-cognitive disorders occur, is justified in the subject literature (Ballard, Fossey 2007). Greater interest in the patient or increased stimulation constitute underestimated non-specific factors with positive effects on the patient; they are also usually underestimated when assessing the efficacy of the applied pharmacological treatment (Grzywa 2009). In the case of problems with patient relations it will be necessary however to consult a doctor or a psychologist in order to identify the determinants of the disorders observed and decide on the ways of responding in contact with the patient; nevertheless, the speech therapist may be also helpful in identifying the multiple aspects of the patient's difficulties in speech and the principal barriers in contact with the patient (Domagała 2011). Detailed findings enhance the value of the diagnostic and therapeutic process (Kaczmarek, Pačhalska 2014).

The assessment of the patient's behavior, making it possible to identify principal difficulties in the course of examination, is of crucial importance in planning therapeutic management. Of paramount importance will be to define the ways of communicating with the patient, according to their current abilities and needs (see programs FOCUSED, or: WSPIERAM – Domagała, Gustaw 2006; Domagała 2008; Ripich et al 2000; Small 2002).

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