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## Early Onset Alzheimer’s disease from the Perspective of Psychiatrist and Speech Therapist – Based on the Portrayal of A Patient, Created in the Book “Still Alice” by L. Genova and Its Film Adaptation

### SUMMARY

The article discusses the problems of early-onset Alzheimer’s disease with reference to the portrayal of a 50-year-old woman affected by this form of disease, presented in the book “Still Alice” (by Lisa Genova, 2011) and its film adaptation “Butterfly, Still Alice” (directed by R. Glatzer, W. Westmoreland, 2014). Individual domains of Alzheimer’s disease, i.e. of speech and language disorders (most room having been devoted to them), learning and memory disorders, social cognition, perception and motor function disorders, as well as executive function disorders were presented in the format of successive scenes from the book and the film. We believe that the two sources, the book and the film, help enter the world of Alzheimer’s disease with orientation to the patient’s problems and can be useful in early diagnosis and intervention regarding patients with the disease in question.

**Key words:** early-onset Alzheimer’s disease; literary portrait; familial Alzheimer’s disease; communication disorders

### INTRODUCTION

The first case of Alzheimer’s disease (AD), described in the early 20th century, does not define the typical course of the disease in accordance with the con-

temporary standards. Alois Alzheimer's patient, Augusta D., landed in his care at the age of 51, and aroused the psychiatrist's interest because of the so early development of her dementia; the rare ailment attracted the scholar's attention<sup>1</sup>. However, the next decades of the 20th century shaped a different face of the disease diagnosed in the increasingly large mass of patients: it was called the disease of the century due to its widespread occurrence in the elderly, named as one of the so-called great geriatric problems (DeFelice, Nirenberg, 2001).

Its picture is determined nowadays by the following facts:

1) Distinguished as the *early-onset Alzheimer's disease* (EOAD) phenotype, this condition seldom occurs. It is conventionally diagnosed before the age of 65 years (the peak of incidence falling on the fifth decade of life); it usually involves the quick progression of disease symptoms and results in the patient's death after several years; the course of the disease is shortened (Swerdlow, 2007, Grossberg, Kamat, 2011). The overwhelming majority of AD cases is *late-onset Alzheimer's disease* (LOAD), with symptoms of dementia occurring essentially after the age of 65, usually with slow progression and longer survival time, even up to ca. 20 years after its first symptoms emerged. The profile of cognitive disorders in the case of LOAD is a typical clinical presentation of Alzheimer's disease (shown compared with the atypical presentation – Dubois et al., 2014)<sup>2</sup>; the most often observed symptoms in patients are generalized cognitive disorders or an amnesic variant of the disease, with the prevalence of episodic memory disorders in the context of less intense problems in executive, visual-spatial and language functions as well as in praxia.<sup>3</sup>

2) A very rare occurrence is *familial Alzheimer's disease* (FAD), determined by the presence of causative mutation in the genes that code proteins vital in the pathogenesis of the disease (Golańska, 2013). Since its genetic origin has been well diagnosed, this variant is contrasted with *sporadic Alzheimer's disease* (SAD), which occurs in the vast majority of cases. The familial variant of Alzheimer's disease is characterized by the hundred-percent certainty of becoming ill associated with being a carrier of mutation, most often in the presenilin gene1 (PSEN1), with the onset of clinical symptoms typically occurring between the age of 35 and 55, less often in the presenilin gene 2 (PSEN2), with the onset occurring between the age of 40 and 70, or in the mutations of the APP gene,

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<sup>1</sup> The case description by A. Alzheimer appeared in 1907 (in the original version, i.e. German: *Über eine eigenartige Erkrankung der Hirnrinde*, "Allgemeine Zeitschrift für Psychiatrie und Psychisch-Gerichtlich Medicin", no. 64, 146-148); the English version with the description of disorders in that patient is available in the study by R. H. Wilkins, I. A. Brody (1969).

<sup>2</sup> The specification of current scientific criteria for diagnosing a typical and atypical form of Alzheimer's disease (IWG-2) compared with the criteria applied in clinical practice (NIA-AA – G. M. McKhann et al., 2011) has been presented in the study by A. Domagała and E. Sitek (2018).

<sup>3</sup> See the comparison of the early and late form of the disease prepared by E. Sitek 2018.

with the onset occurring between the age of 40 and 65 – generally, FAD therefore begins early, and then the disease duration is short (for in the case of the PSEN1 mutation, the most frequent one, it ranges from 4;6-6;8 years, which is the shortest time of the foregoing three mutation types) (Ryan and Rossor, 2010). The clinical picture in FAD is highly diversified but in most persons it initially resembles the picture of disorders in SAD, with early, gradually increasing, disorders of episodic memory and subsequent deficits in other cognitive functions (Ryan and Rossor, 2010). In individual cases, early clinical symptoms may also be manifested in disorders of executive, visual and language functions or behavior disorders (Ryan and Rossor, 2010, Sitek et al., 2013).

The foregoing regularities concerning epidemiology cause Alzheimer's disease, which affects relatively young people, to be little known both in clinical practice and in public.

The first portrayal of the patient suffering from this form of disease, presented to the wide audience in the world in the film "Still Alice" (direction and screenplay by Richard Glatzer and Wash Westmoreland, 2014), a film adaptation of Lisa Genova's novel "Still Alice"<sup>4</sup>, is the portrait of a 50-year-old woman, Alice Howland, with the familial variant of Alzheimer's disease, determined by the mutation in the PSEN1 gene. The woman character is not a real person<sup>5</sup>, but she is endowed with attributes that interestingly show a person who, having reached the height of mental development and high social status, is beginning to experience gradual mental disintegration and desocialization. Alice Howland, an eminent psychology lecturer at Harvard University, expert in linguistics, is a highly committed, internationally recognized academic. Her husband John is also an eminent scientist – a biologist devoted to his research work. They lead a happy family life, with their three already independent adult children pursuing their own professional interests and passions. Alzheimer's disease, because of its inevitable progression and incurability, will ruin Alice's whole world (and will also threaten her children on account of its hereditary nature).

This picture of the disease cannot be softened by the vision of a long, fulfilled life that can be evoked in the case of persons affected by dementia at an advanced age.

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<sup>4</sup> The original title "Still Alice" (Boston, 2007; in Poland the book was published in 2011, translated by Łukasz Dunajski, 1st ed., Słupsk: Papierowy Książyc Editions). In the USA, in addition to the screen adaptation, the novel was also adapted for stage ("Still Alice", directed by Ch. M. Dunford, 2013, Lookingglass Theatre Company in Chicago).

<sup>5</sup> The author of the novel drew on her private experience of relationships with her grandmother (who suffered from LOAD) and on her thorough specialist knowledge (she is a neuroscientist with a PhD in neurobiology). Julianne Moore (Oscar winner for the role of Alice) used the experiences of the American patient, Sanda Oltz, diagnosed with EOAD at the age of 47 ("Finding Alice", 2015 /additional material for the film "Still Alice"/).

The film (which, we believe, should be complemented with reading the book) is recommended in the West to students and specialists taking care of persons with dementia. An unquestionable virtue of the book is the presentation of events – in selected parts – from the point of view of the main character. We learn how Alice perceives reality, and we learn her thoughts and emotions. Although it is only a literary creation (it is difficult to assess to what extent it is consistent with what is actually experienced by a person losing his/her mental ability), this perspective enables entering the world of disease with a greater sensitivity to the problems of the patient treated subjectively in accordance with the interpretation of dementia as a biopsychosocial phenomenon (Woods, 2001; Hulko, 2009; Domagała, 2015).

## 1. BEFORE DIAGNOSIS

The initial parts of the book (and likewise of the film) reveal Alice's first pathological symptoms typical of Alzheimer's disease, although, before a diagnosis is made, their causes are not conclusively determined (perhaps it is only tiredness? too many responsibilities? haste? perhaps they are ordinary symptoms of ageing too early? menopause?) The range of probable causes appears to be broad, and for some time it also seems possible to solve the problems. Not being fully aware of the cause of her father's death, Alice has no grounds to expect a rare hereditary disease. This is a situation entirely different from when those related to the sick person, and being carriers of a genetic mutation, expect symptoms of the pathological process<sup>6</sup>. Alice is a person unaware of her situation, but with the successive morbid symptoms she begins to live in the shadow of the (not yet made) diagnosis. She senses that something wrong is happening to her, something she cannot control („She was fifty years old, and she felt like she might be losing her mind” – Genova, 2015, p. 40)<sup>7</sup>.

At this stage we meet Alice who, for example, cannot find her smartphone charger at home (she finds it in its obvious place, in the socket near her bed, but after she has already bought a new one); before going to another town she forgets to pack her sports shoes (she is a regular jogger); on the day of flight to the planned conference, she forgets to go there; she gets lost in the well-known surroundings where she lives; she cannot make a holiday pudding although she has never had

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<sup>6</sup> This is a situation in which one of Alice's daughters will find herself when, informed about her mother's illness, she decides to take genetic tests and obtains a positive result, which means that clinical FAD symptoms will occur inevitably within a dozen –odd or several dozen years (the other daughter will not take the test: she refuses to know whether Alzheimer's disease is also a sentence passed on her, whereas Alice's son will get a negative result).

<sup>7</sup> English quotations after: L. Genova, *Still Alice*, Simon & Schuster UK Ltd, 2015.

any problems with that before (these and other events, presented somewhat differently in the book and in the film, are received by Alice in different ways Alice<sup>8</sup>).

Focusing on the picture of speech disorders, attention should be paid to the prodromal symptoms typical of AD – difficulties with actualization of words in the course of speaking. To the patients, especially those with high language skills, it is a surprising deficit: unpredictable and severe. For example, this happens to Alice while she is delivering an important lecture at a partner university:

She talked without needing to look down at her notes, relaxed and animated, the words effortless. Then, about forty minutes into the fifty-minute presentation, she became suddenly stuck.

„The data reveal that irregular verbs require access to the mental...”

She simply couldn't find the word. She had a loose sense for what she wanted to say, but the word itself eluded her. Gone. She didn't know the first letter or what the word sounded like or how many syllables it had. It wasn't on the tip of her tongue. [...]

She replaced the still blocked word with a vague and inappropriate “thing”, abandoned whatever point she'd been in the middle of making, and continued on to the next slide. The pause had seemed like an obvious and awkward eternity to her, but as she checked the faces in the audience to see if anyone had noticed her mental hiccup, no one appeared alarmed, embarrassed, or ruffled in any way.

[...]

She was on the plane, descending into LAX, when it finally came to her.

*Lexicon.* (ibidem, p. 12)

A missing word interrupts the natural flow of utterance, and forces adaptive-compensatory behaviors<sup>9</sup>, if the patient is concerned about conveying the message and retaining a good opinion of him/herself. The erudite woman (Alice) is worried by the lexical barrier she encounters in the perfectly mastered specialist language (determining her excellent language competence and knowledge before she falls ill, but being the language that she loses after falling ill according to the rule of losing that which is less stable in the lexicon because it was acquired comparatively late in an individual's development).

A significant issue in the picture of linguistic behavior in AD is that patients can be aware of some disorder symptoms (e.g. difficulties with finding words, as

<sup>8</sup> It is worth studying patients' different accounts of the problems they experience (without regarding the patients too early as unreliable persons). These accounts can be very helpful in understanding the patient's situation (see genuine comments of Polish patients – Domagała 2012, 2015; Domagała et al. 2003).

<sup>9</sup> Their record, based on the example of behaviors of Polish patients, was presented inter alia in the studies: Domagała, 2015; Domagała et al. 2003. Many people, having a feeling of a total blank instead of the needed word, regard this state as different from the “tip of the tongue” (TOT) phenomenon, as is demonstrated by the cited excerpt from L. Genova's book.

shown above<sup>10</sup>), whereas they may not realize the presence of other pathological symptoms at all and not control them. The other category of behaviors includes the patient's repeated utterances (questions in particular) – a typical early symptom of AD, emphasized in the book and the film. For example, during a meeting in a restaurant, Alice asks her daughter, Lydia, a question:

„So how did you meet Doug and Malcolm?” (ibidem, p. 16). She receives an explanation from her daughter, and then a waiter appears to take the order (which acts as a distractor), and after he leaves, Alice “continues” the conversation:

„So how did you meet Doug and Malcolm?” (ibidem, p. 16).

Lydia's reaction, who is unaware of the actual reasons for her mother's behavior, is not surprising: „I just told you. Why don't you ever listen to anything I say? (ibidem, p. 17). Persistent, uncontrolled repetitions of the same utterances (described long ago in literature: the patient does not remember what s/he asked about, does not remember that s/he received an answer, then – that s/he had already asked about this /e.g. Łuczywek, 1996/) are difficult to accept by the healthy interlocutor, who may in return signal that the patient has significant shortcomings as an interlocutor and, as a result, may cause or intensify the patient's negative feelings. Repetition of utterances has sometimes the form of repeated speech acts (in the context of other accompanying behaviors). At a party, Alice meets the wife of her doctoral student, congratulates her on their wedding, but after a short time she forgets about it, comes up to the woman and, unawares, repeats the meeting phrases and congratulations (the situation becomes awkward to the outsiders, Alice senses this, although she does not understand what happened).

Initially, as far as possible, she tries to counter difficulties in cognitive functioning (e.g. she makes lists of tasks to perform, and short notes), with time, however, the situation becomes beyond her control. She goes to her doctor (who has provided medical care to her for twenty years) and informs him about the worrying changes. During the doctor's inquiries her anxiety grows – the diagnosis of the character of her ailments turns out to be problematic (additional tests will be needed). She finds it difficult to stand up to the situation: „Something was wrong with her, and she wasn't sure that she was ready to hear what it was. She fought the impulses growing louder inside her, begging her to either lie down or get the hell out of that examining room immediately.” (ibidem, p. 46)

After the appointment with the doctor (when the test results are not yet known) she observes next problems with her functioning, without being able to

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<sup>10</sup> Alice not only notices her lexical problems but after some time she also begins to talk about them frankly to her family and friends, and then to doctors as well.

find explanations for them. For example, when standing already in front of the students, she cannot figure out which planned lecture she should deliver:

Alice read the titles again. She could't remember which lecture she was supposed to give today. She'd just spend the last hour looking over one of these subjects but couldn't remember which one. Was it "Syntax"? They looked familiar to her, but none more salient than the others.

Ever since her visit with Dr. Moyer, each time Alice forgot something, her foreboding intensified. This wasn't like forgetting where she left her Black Berry charger or where Jofn left his glasses. This wasn't normal. (ibidem, p. 52)

As a result, during the next appointment with her doctor, she decides, despite the good results of the previous tests, that she will go to a specialist (neurologist). She does not inform anyone about her fears that make her consult doctors. Her family and friends do not suspect that something special should be happening to her, they are entirely unprepared for Alice's problems (her husband cannot devote his attention to her): „You need to talk now, you need to be home, you're awfully needly all of sudden. Is something else going on?" – ibidem, p. 27).

During the period before Alice is diagnosed with AD, the film shows the initial stage of Alzheimer's disease, arising from mild cognitive disorders but at the same time definitely going beyond them. The disorders are observable in several domains described in DSM-5 – the domains are distinguished below; after the description of each of them, a brief description of the film scene is presented that illustrates problems regarding the phenomena in question.

DSM-5 (2013): Neurocognitive disorders (dementia: ICD-10; 29 wg DSM-5, F.0 wg ICD-10):

### **1. Language**

Mild:

“Has noticeable word-finding difficulty. May substitute general for specific terms. May avoid use of specific names og acquaintances. Grammatical errors involve subtle omission or incorrect use of articles, prepositions, auxiliary verbs, etc” (p. 594).

A film scene: *During the lecture on neurolinguistics in Los Angeles. Alice cannot find the right word, which she tries to make light of, saying she should not have drunk champagne before.*

### **2. Complex attention**

Mild:

“Normal tasks take longer than previously. Begins to find errors in routine tasks; finds work needs more double-checking than previously. Thinking is easier

when not competing with other things (radio, TV, other conversations, cell phone, driving)” (p. 593).

A film scene: *Alice checks her memory abilities by writing three words on the blackboard and checking every several minutes whether she remembers them.*

### **3. Executive function**

Mild:

“Increased effort required to complete multistage projects. Has increased difficulty multitasking or difficulty resuming a task interrupted by a visitor or phone call. May complain of increased fatigue from the extra effort required to organize, plan, and make decisions. May report that large social gathering are more taxing or less enjoyable because of increased effort required to follow shifting conversations” (p. 593).

A film scene: *Alice, getting ready to bake a challah pudding, has to use her cell phone, in which there is the recipe for it (although she did not need to do so before).*

### **4. Learning and memory**

Mild:

“Has difficulty recalling recent events, and relies increasingly on list making or calendar. Needs occasional reminders or re-reading to track of characters in a movie or novel. Occasionally may repeat self over a few weeks to the same person. Loses track of whether bills have been already paid” (p. 594).

A film scene: *During the Christmas Eve supper, Alice greets her son’s girlfriend two times, having forgotten about the first greeting.*

### **5. Social cognition**

Mild:

“Has subtle changes in behavior or attitude, often described as a change in personality, such as less ability to recognize social cues or read facial expressions, decreased empathy, increased extraversion, decreased inhibition, or subtle or episodic apathy or restlessness” (p. 595).

A film scene: *Alice shows verbal aggression towards her youngest daughter when she visits her on the university campus.*

## 6. Perceptual-motor function

Mild:

“May need to rely more on maps or others for directions. Uses notes and follows others to get to a new place. May find self lost or turned around when not concentrating on task. Is less precise in parking. Needs to expend greater effort for special tasks such as carpentry, assembly, sewing, or knitting” (p. 595).

*A film scene: Alice loses her way during daily jogging in the well-known surroundings.*

## 2. DIAGNOSIS

A specialist assessment of cognitive functioning often painfully confronts the patient with his/her deficits and is generally a great emotional challenge<sup>11</sup>. Alice performs most tasks correctly and easily; however, short-term memory disorders are observable in her during diagnosis. She realizes that she has given the neurologist sufficient grounds to diagnose a serious illness (and the further prescribed tests will be merely a formality):

She would get prodded and scanned and tested, but she guesses that he didn't need to investigate anything further. She'd told him her story, and she couldn't remember John Black's address. He already knew exactly what was wrong with her. (ibidem, p. 65)

After the completion of necessary tests, Alice learns from the neurologist that she has been diagnosed with early onset Alzheimer's disease (the diagnosis can be extended with genetic tests). She loses the status of a fully mentally capable person. From then on she will need an accompanying person/carer as a reliable informant to the doctor (she will have to tell her family and friends that she is suffering from AD).

Confined to speech and linguistic communication, the diagnosis of AD means to the patient that:

- 1) she will lose the capacity of speech within several years; his/her language will break down completely, and communication with the environment will be impossible.

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<sup>11</sup> Because of the nature of tests/diagnostic assays the patient often feels that a mentally alert person should cope with them without problems. The situation of the subject is extraordinary – comments D. Draaisma (2009) – s/he cannot pass the simplest possible examination.

Alice faces this fact in an accidental situation after she leaves the neurologist's office; she looks into the documents she obtained from the doctor with a request that she hand them over to her husband:

This should be filled out by an informant, NOT the patient was typed in bold at the top of the first page. [...] The worst of it came under the heading „Communications”. Speech is almost unintelligible. Does not understand what people are saying. Has giving up reading. Never writes. *No more language*. Other than misdiagnosis, she couldn't formulate a hypothesis that would render her immune to this list of 3s. It could all apply to someone like her. Someone with Alzheimer's. (*ibidem*, p. 82)

This perspective is terrifying for Alice: „Everything she did and loved, everything she was, required language.” (*ibidem*, p. 82)

2) even at the stage of the still well retained language skills, the patient ceases to be a fully mentally alert participant in interaction/ ceases to be so perceived by healthy interlocutors

Alice notices changes in the linguistic behavior of other people that portend changes in her social relationships:

– Alice, does this all make sense to you? – Stephanie asked.

Although the context made the question legitimate, Alice resented it and glimpsed the subtext of conversations in her future. Was she competent enough to understand what was being said? Was she too brain-damaged and confused to consent to this? She'd always been addressed with great respect. If her mental prowess became increasingly replaced with mental illness, what would replace that great respect? Pity? Condescension? Embarrassment? (*ibidem*, p. 94)

The information about the positive result of the genetic test completes medical diagnosis: the prognosis is clear to Alice:

Well, there it was, absolute proof, served straight up, no sugar, no salt, no chaser. And it burned all the way down. She could go on a cocktail of estrogen replacement, Xanax, and Prozac and spend the next six months sleeping twelve hours a day at Canyon Ranch, and it wouldn't change a thing. She had Alzheimer's disease. (*ibidem*, p. 110)

The diagnosis for the main character in the film was made based on exclusion and inclusion criteria. With regard to exclusion criteria, we learn of the absence of stressogenic, depressive or somatic factors. In the group of inclusion criteria, the following should be listed:

- pathological results of the short-term memory test: for the iconic memory, Alice repeats five words to be remembered, whereas when trying to reproduce them, she can do so with only two words;
- hereditary predisposition – Alice's father became incoherent in old age;

- neuroimaging confirms neurodegenerative changes;
- genetic testing reveals presenilin mutation in Alice and in one of her daughters.

### 3. AFTER DIAGNOSIS

During the post-diagnostic period, with the focus on language communication disorders, it is necessary to highlight various increasing changes:

1) in Alice's dialogic behaviors in face to face contacts:

The words, the information, the meaning in the woman's questions and in Alice's own answers were like soap bubbles, the kind children blew up of those little plastic wands, on a windy day. They drifted away from her quickly and in dizzying directions, requiring enormous strain and concentration to track. And even if she managed to actually hold a number of them in her sight for some promising duration, it was invariably too soon that pop! They were gone, burst without obvious cause into oblivion, as if they'd never existed. (*ibidem*, p. 270)

2) in dialogic behaviors in indirect contact (telephone conversations):

Cued by the hanging rise in her inflection and the silence that followed, Alice knew it was her turn to speak but was still catching up to all that Lydia had just said. Without the aid of the visual cues of the person she talked to, conversations on the phone baffled her. Words sometimes ran together, abrupt changes in topic were difficult for her to anticipate and follow, and her comprehension suffered. Although writing presented its own set of problems, she could keep them hidden from discovery because she wasn't restricted to real-time responding. (*ibidem*, p. 106)

3) in written communication, in the role of sender:

She stared down the tauntingly ready, blinking cursor on her computer screen and tried to imagine the words she wanted to use in her reply. The conversation of her thoughts to voice, pen, or computer keys often required conscious effort and calm coaxing. And she held little confidence in the spelling of words she'd long ago been rewarded for her mastery of with gold stars and teachers' praise. (*ibidem*, p. 105)

4) in written communication, in the role of sender:

Reading was fast becoming a heartbreaking chore. She had to reread pages over and over to retain the continuity of the thesis or narrative, and if she put the book down for any length of time, she had to back sometimes a full chapter to find the thread again. (*ibidem*, p. 165–166)

5) in linguistic behaviors towards Alice deprived of her role of interaction participant:

They talked about her as if she weren't sitting in the wing chair, a few feet away. They talked about her, in front of her, as if she were deaf. They talked about her, in front of her, without including her, as if she had Alzheimer's disease. (ibidem, p. 250)

The dynamics of changes, both in speech and in other spheres, is unpredictable to Alice:

I know this is going to get a lot worse, but I don't know when, and I worry that I might go to sleep and wake up the next morning and not know where I am or who I am or what I do. (ibidem, p. 138)

In the characteristics of disorders at the severe level, DSM-5 describes dysfunctions in the abovementioned domains: these domains, as before, have been taken into account below, and after the description of each of them, a short description of the film scene is presented illustrating the problems concerning the phenomena defined.

DSM-5 (2013) – neurocognitive disorders:

### 1. Language

Major:

“Has significant difficulties with expressive and receptive language. Often uses general-use phrases such as “that thing” and “you know what I mean”, and prefers general pronouns rather than names. With severe impairment, may not even recall names of closer friends and family. Idiosyncratic word usage, grammatical errors, and spontaneity of output and economy of utterances occur. Stereotype of speech occurs; echolalia and automatic speech typically precede mutism” (p. 594).

A film scene: *Alice listens to a story read to her by her daughter; she is essentially mutistic, but when the daughter asks her what the story is about, she utters possibly the last words in her life: “About love”.*

### 2. Complex attention

Major:

„Has increased difficulty in environments with multiple stimuli (TV, radio, conversation); is easily distracted by competing events in the environment. Is unable to attend unless input is restricted and simplified. Has difficulty holding new information in mind, such as recalling phone numbers or addresses just given, or reporting what was just said. Is unable to perform mental calculations. All think-

ing takes longer than usual, and components to be processed must be simplified to one or a few” (p. 595).

A film scene: *Alice cannot identify her daughter, thinking she is her sister.*

### 3. Executive function

Major:

„Abandons complex projects. Needs to focus on one task at a time. Needs to rely on others to plan instrumental activities of daily living or make decisions” (p. 593).

A film scene: *Alice is not able to order her favorite ice cream, she repeats like in echolalia the name of the ice cream ordered by her husband.*

### 4. Learning and memory

Major:

“Repeats self in conversation, often within the same conversation. Cannot keep track of short list of items when shopping or of plans for the day. Requires frequent reminders to orient to task at hand. Powtarzanie się w swoich wypowiedziach, często podczas tej samej rozmowy. Trudności w zapamiętaniu krótkiej listy zakupów lub planu dnia. Konieczność częstego przypominania o zadaniu, które jest właśnie wykonywane” (p. 594).

A film scene: *At a meeting of the Alzheimer Society, Alice reads her report, marking the phrases in read with a marker pen.*

### 5. Social cognition

Major:

“Behavior clearly out of acceptable social range; shows insensitivity to social standards of modesty in dress or of political, religious, or sexual topics of conversation. Focuses excessively on a topic despite group's disinterests or direct feedback. Behavioral intension without regard to family or friends. Making decisions without regard to safety (e.g., inappropriate clothing for weather or social setting). Typically, has little insight into these changes” (p. 595).

A film scene: *Alice does not respond to the presence of her family and remarks about herself.*

## 6. Perceptual-motor function

Major:

“Has significant difficulties with previously familiar activities (using tool, driving motor vehicle), navigating in familiar environments: is often more confused at dusk, when shadows and lowering levels of light change perceptions” (p. 595).

A film scene: *Alice is not able to find the toilet at her own home.*

## CONCLUSION

Dementia in Alzheimer’s disease is the most frequent disorder. Our study presents “milestones” in the development of AD, based on the literary and film description of this disease. Individual domains of Alzheimer’s disease, i.e. of speech and language disorders (most room having been devoted to them), learning and memory disorders, social cognition, perception and motor function disorders, as well as executive function disorders were presented in the format of successive scenes from the book and the film. We believe that the two sources, the book and the film, help enter the world of Alzheimer’s disease with orientation to the patient’s problems and can be useful in early diagnosis and intervention regarding patients with the disease in question.

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