



Aphasia of The Main Character in Documentary Movie *My Beautiful Broken Brain*

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Abstract

The symptoms of aphasia will vary depending on the type of aphasia. This study examined symptoms to determine the type of aphasia. Qualitative data collection involved observation and documentation. This investigation found that the main character's Broca's aphasia is the most dominant. There are 5 of the 7 symptoms that happened in Lotje's case. The most common symptom is non-fluent (55 data), followed by naming (15 data), agrammatism (10 data), and phonological literal paraphasia and verbal paraphasias (3 data). This study suggests that reading about aphasia can help readers communicate with persons who have it.

Keywords

Aphasia, symptom, Broca's aphasia, treatment

Abstrak

Gejala afasia akan bervariasi tergantung pada jenis afasia. Penelitian ini mengkaji gejala untuk menentukan jenis afasia. Pengumpulan data kualitatif meliputi observasi dan dokumentasi. Investigasi ini menemukan bahwa afasia Broca pada karakter utama adalah yang paling dominan. Ada 5 dari 7 gejala yang terjadi pada kasus Lotje. Gejala yang paling umum adalah non-fluent (55 data), diikuti oleh naming (15 data), agrammatism (10 data), dan phonological literal paraphasia dan verbal paraphasias (3 data). Penelitian ini juga menunjukkan bahwa pembaca dapat belajar bagaimana berkomunikasi dengan penderita afasia.

Kata Kunci

Afasia, gejala, afasia Broca, pengobatan

Introduction

Every aspect of human life involves language. It plays a vital role in communicating to allow people to share ideas or feelings with others. Therefore, understanding and knowledge of the language are needed to create effective communication between humans. Pahlefi (2019) said that language activity takes place mechanically and mentally. Language is concerned with the human brain's mental processes, so linguistic studies are complemented by studies that connect the brain and language, commonly called psycholinguistics.

Psycholinguistics is a combination of psychology and linguistics. It discusses the relationship between the human brain and language. Rakhmanita (2020) suggested that psycholinguistics is a field of macro linguistics that studies human psychology that affects a person in language. This opinion is supported by Chomsky (2006) who explained that language, cognitive behavior, and the human mind are interrelated. Language can reflect human mentality and can shape or change human thought patterns. In addition, when producing or receiving language, humans experience a mind process that occurs in the brain. Furthermore, Mind process and language are two different but related things. When humans produce a language, it is the process by which the thoughts and feelings that appear in the brain are converted into words or sentences. A healthy brain and speech function will make it easier to speak well. However, those with impaired brain function and speech will experience language difficulty, both receptive (understanding) and expressive (production). This case is what is known as a language disorder. In psycholinguistic studies, language disorders are one of the focuses of discussion.

Language disorder causes a person to have difficulty understanding and using spoken and written language. People who experience language disorders will have difficulty expressing themselves and understanding what others say language disorders, previously known as receptive-expressive language disorders, often occur in children. Minchew (2018) classifies language disorders into dysarthria, dyslalia, diglossia, dysphemia, aphasia, and dyslexia. Several language disorders occur because of impairment in the speech or hearing organs. Conversely, aphasia is of language disorder that can occur even though a person's speech or hearing organs are normal.

In addition, Yu et al. (2017) suggested that a person can suffer from aphasia which does not affect speech and hearing organs. It occurs due to damage to the part of the brain that functions in language processing. Ardila (2014) add the explanation above that aphasia is a language loss or disability caused by damage to the areas of the brain that control language, impacting speech production and comprehension as well as the ability to read and write. In the human brain, there are also parts called the right hemisphere and the left hemisphere. According to Anisah (2019), she explained that the most dominant human language skills are in the left hemisphere. The left hemisphere is solely responsible for language processing. If the left hemisphere is deactivated, speech abnormalities will cease or significantly lessen. However, the influence of the right hemisphere on a person's language is not as powerful as that of the left. If one of these components is disrupted, a person will experience trouble with language. Moreover, Kadir (2020) explained that the shrinkage of the frontal and temporal lobes, especially those on the left side of the brain, is the cause of aphasia. This condition affects the language processing center and causes damage to these areas. Therefore, the problem makes the aphasia sufferer unable to deliver the message or information to other people; also, they cannot receive the symbol from other people. However, aphasia is most commonly caused by stroke (close to 80 percent of cases of aphasia), according to data from the National Institutes of Neurological Disorders and Stroke (NINDS), which was published in Ardila's book in 2014. In about one-third of stroke cases, language difficulties are observed. It results in approximately one in 272 or 0.37% or one million people presenting aphasia in the USA.

There are a few different types of aphasia that experts have put forward. One of them is the type of aphasia by Ardila (2014). He classified aphasia into two major types; Broca's aphasia and Wernicke's aphasia. The differences between the two types are summarized in the table below.

Table 1
The Differences between Broca's and Wernicke's Aphasia

Broca's Aphasia	Wernicke's Aphasia
Expressive	Receptive
Motor	Sensory
Anterior	Posterior
Non-fluent	Fluent
Syntagmatic Disorder	Paradigmatic Disorder
Coding Disorder	Decoding Disorder

The case of aphasia, which impacts language usage, was found in the Netflix documentary movie entitled *My Beautiful Broken Brain*, directed by Sophie Robinson & Lotje Sodderland. This movie tells a personal story of a 34-year-old woman Lotje Sodderland who also directed this movie. She documented her 1-year journey of recovery from a hemorrhagic stroke, which resulted in aphasia. One of these language disorders makes it difficult for Lotje to communicate with other people. When communicating, she can speak and understand others, but she is often unable to find the right words. In this movie, the researcher could find the symptoms of aphasia by looking through the main character's utterances

This research is not the first in the psycholinguistics field dealing with language disorders issues, especially aphasia. Several previous researchers have done psychoanalysis related to aphasia and language disorders, such as Suherman's research in 2016 entitled *Language Disorders of Main Character in The Movie My Name is Khan*. This research tried to determine what types of language disorders suffered by the main character with autism in the movie by looking at his utterances. Another research about aphasia in psycholinguistics study entitled *Aphasia in Theory of Everything's Movie* was conducted by Tampubolon, et al in 2019. They analyzed the utterances of the main character and classified them into several types of aphasia,



according to Vasic, and how aphasia impacts the daily life of the main character with autism. Sartika conducted other related research in 2020 entitled *An Analysis of Language Disorders Suffered by The Main Character in IT (2017) Movie*. In this research, language disorders experienced by the main character from the results of Sartika's research, because the speech disorder of the main character is stuttering so he tends to be stuttering when he feels relaxed, nervous, or when he tried to cover up lies, while for his associated behavior seen from the way he panicked, irritated, and nervous. Moreover, in 2022, another research entitled *Language Disorder of the Main Character in Dancing in the Rain Movie* was conducted by Ekawati and Arofat. Their study investigated about the main character can understand the speech of the interlocutor while in this study the main character shown in receptive language disorder are not appearing to listen, has difficulty following verbal directions, limited vocabulary, difficulty understanding complex sentences, difficulty interpreting words or phrases, and demonstrating lack of interest. Meanwhile, the symptoms of expressive language disorder are word-finding difficulties, limited vocabulary, over-reliance on stock phrases, and difficulty coming to the point of what they are trying to say.

Method

In conducting this research, the qualitative method was employed to analyze the types of aphasia in *My Beautiful Broken Brain* movie. Considering this, Trudgill (2000) clarifies that language is viewed as one of the social phenomena. Therefore, this study considers that qualitative methods have enormous potential to be a suitable research method. Moreover, Bryant (as quoted in Esiri, et.al 2017, p.84), qualitative observation is a data collection method in which researchers observe phenomena in a particular field of research. Therefore, the qualitative method involves observation and documentation that emphasizes the information on the symptoms of the types of aphasia experienced by the main character in *My Beautiful Broken Brain* movie as a social phenomenon.

Result and Discussion

The data findings were collected from the main character's (Lotje Sodderland) speech and conversations with other people in the Netflix documentary *My Beautiful Broken Brain* by Ardila's theory. He explained that aphasia is divided into two main types: *Wernicke's and Broca's aphasia*. Then found several other types of aphasia whose damage is related to the Wernicke and Broca area, cause symptoms similar to one or both of the main types. The types are called *conduction aphasia* and *global aphasia*.

This research found that Lotje Sodderland had Broca's type of aphasia, judging by the symptoms that occurred in the documentary. The main characteristic of people with Broca's aphasia is that they have difficulty producing language. However, her understanding tends to be normal. When communicating with other people, people with aphasia can understand the meaning of the conversation but will find it difficult to respond. Other symptoms may appear depending on the severity. In the case of Lotje Sodderland, about 5 out of 7 symptoms occurred. There are *non-fluent, naming, agrammatism, phonological literal paraphasia, and verbal paraphasia*.

Result

In this type of Broca's aphasia, the sufferer has difficulty producing language and conveying meaning verbally. According to Mulia & Indah (2021), they stated that a person with Broca's aphasia tends to be not fluent in communication and had poor articulation, but language comprehension is relatively normal. The main symptoms are slowness in pronouncing sentences or words, repeating most words, and short phrases. Study research showed that Broca's aphasia symptoms that affect the language skills of Lotje Sodderland in six symptoms, namely:

Non-Fluent

Symptom of non-fluency is the dominant feature in patients with Broca's type of aphasia. There is a difficulty when trying to produce language; it can be seen when the patient is speaking, there is a long pause, and the patient makes an effort to continue the sentence he wants to say. This symptom is characterized by the limited number of words possessed, breaking form, long pauses, and hums. Lotje Sodderland has a symptom of this disfluency in his utterances. This symptom appeared when Lotje was communicating with other people or telling stories. The following are Lotje Sodderland's utterances identified as symptoms of non-fluency. The example;

After ten days, Lotje was hospitalized and diagnosed by a neurologist that there was damage to his brain due to a stroke, then she was directed to therapy.

The therapist asked her to mention a few words that started with an 'S.' However, Lotje found it challenging to mention the words, as we can see in her utterance, "S... Summer. Or did I already? S... Okay. S... Seed. S... I get-- I get-- I get too...". Seen Lotje has Broca's aphasia symptom, which is non-fluent due to difficulty producing language characterized by long pauses when saying the words "S...Summer", "S... Okay", "S... Seed", "S...", "I get too...". Lotje also has a limited number of words which makes him only able to name two words that start with 'S'.

Naming

In linguistic processing, naming is one of the essential skills because it makes it easier for someone to name the object he sees verbally. The naming process consists of 3 stages. First, identify the object, then access the semantic representation. After that, lexicalization or activation of its phonological representation allows the name of the image or object to be taken and spoken.

Difficulty naming is the most common symptom in people with Broca's aphasia. The sufferer will have difficulty finding the right word to name an object. They have difficulty naming things that they know. There are several difficulties faced by people with Broca's aphasia in naming, namely: confrontation (line drawings & photos), objects & actions (nouns and verbs), and spoken & written. In the case of Lotje Sodderland, there are symptoms of difficulty in naming, like, Lotje showed a graph of her progress in therapy to Jan. Lotje and Jan both looked at the graph of Lotje's progress, but Jan did not understand what was written on the graph. He asked Lotje to explain it to him. Lotje tried to explain by looking at the graph, but she had difficulty reading the graph. It can be seen in her utterance, "Do you see... Do you see... I mean, I- I- to be honest, I have no fucking idea," "There's a-- [stammering] 40% increase in the first week, and then it flat-flat lines out." She just remembered what her therapist had told her earlier and told it to Jan.

Phonological Literal Paraphasia

Phonological literal paraphasia is a symptom that mostly occurs in Broca Aphasia. The term means a reflection of the existing confusion between sounds and letters. Phonological literal paraphasia indicated that some linguistic form substituted for another, but where two forms bore some resemblance. Based on the phonological perspective, they are incorrect words from the point of view of the phonological composition. There are four language deficits concerning phonological issues; Phoneme omissions, Phoneme additions, Phoneme displacements, and Phoneme substitutions.

There is only 1 data that relates to the phonological literal paraphasia issue within Lotje Sodderlands' utterance in the movie. Lotje woke up at night and told about her strange dream. In Lotje's utterance, she told about her strange dream, where in the story she also dreamed of seeing scary mice. However, in her utterance, when she wanted to say "creepy mice," but became "screepy mice." Adding the phoneme /s/ to the word "creepy" makes the word a different meaning. The case of adding this phoneme is one of the indications of phonological literal paraphasia.

Verbal Paraphasia

Verbal paraphasia refers to the replacement of meaningful units in language, including formal paraphasia, morphemic paraphasia, semantic paraphasia, and unrelated paraphasia. Formal paraphasia deals with substituted words similar in phonological composition but not in meaning. Morpheme paraphasia is a problem and error in using morphemes, especially for bound morphemes. Semantic paraphasias have meaning problems, but the replaced and replaced words are semantically related. Meanwhile, unrelated paraphasia raises words that seem to have nothing to do with the current linguistic context.

One example of Lotje experiencing these symptoms is this utterance that appeared when Lotje woke up from her critical period. While still in the hospital, she recorded herself using her handphone and explained her current condition. She was very excited that found herself still alive. In her utterance, it is seen that there are pronunciation problems that lead to verbal paraphasia. While Lotje explained her condition after regaining consciousness, she had a mispronunciation. When she wanted to say the word "place", instead, she said "plate." Both have different meanings but are quite similar. This case can be categorized as formal paraphasia.



Agrammatism

Agrammatism is the most common symptom of Broca's aphasia/non-fluent aphasia. It is a condition in which the deficit occurs as a pathological inability to use words in grammatical order. The characteristics of agrammatism are often found in removing word functions and affixes. In simple terms, this type of symptom is a disorder that causes difficulty in producing well-formed words and making grammatical sentences. Speech may consist of single words (mostly nouns) separated by pauses in their severe form. This symptom such as Lotje and Sophie are still doing interviews and talking. she wanted Sophie to know that she could say the word.

Lotje did the interview, and she told Sophie that she could say the word "record." However, there is a grammatical problem that arises in this speech as she says, "I can only say it if I don't actually... If I go like that... then I can say the word "record". (voice echoes) record. But not... (voice echoing)." Lotje Sodderland replaced some of the words that should have been placed at the beginning of the sentence. The structure of *S+P+O* is disturbed in this utterance. She replaced some words that don't match each other as "I can only say if I don't really ... If I go like that ...," this clause is not well structured based on context and/or grammatical structure. This weakening leads to a case of agrammatism.

Discussion

This research was conducted to determine the specific form of aphasia that Lotje Sodderland suffered by analyzing the detailed symptoms in the Netflix documentary *My Beautiful Broken Brain*. The findings indicate the classification and explanation of the types of aphasia based on their symptoms. This part will explain the results presented in the findings.

The researcher used Ardila's (2014) theory as a guide to classify the results found. He divided the types of aphasia into two main types: Wernicke's and Broca's aphasia, and also two types related to the main types: conduction and global aphasia. Each of these types has a different part of the damage and its symptoms. Wernicke's aphasia occurs due to damage to Wernicke's area, which is located posterior to the superior temporal gyrus. This damage causes the sufferer to experience problems in understanding language. In contrast, Broca's aphasia occurs due to damage to Broca's area located in the posterior frontal gyrus, which causes the sufferer to experience problems in producing language. Then there is the type of conduction aphasia in which the damage is in the arcuate fasciculus, a network that connects Wernicke's and Broca's areas. This damage results in a decrease in the ability to repeat language. And the last is global aphasia, which occurs due to damage in Wernicke and Broca's areas. This damage is the most severe of the other types of aphasia because it causes sufferers to experience disturbances in understanding and language production. The main indication of these types of aphasia can be a differentiator in identifying the type of aphasia of the sufferer.

However, the type of aphasia in a person can not only be seen from these symptoms. Because there are types of aphasia, some of the symptoms are the same as other types of aphasia, namely conduction aphasia and global aphasia. The two types of aphasia are related to the two main types of aphasia. Therefore, their symptoms are almost the same as the main types of aphasia (Broca's and Wernicke's aphasia). Conduction aphasia has symptoms of naming and repetition, as in Broca's aphasia, which makes it different because there is syntagmatic paraphasia, whereas the symptom is in Wernicke's aphasia. Meanwhile, global aphasia has Broca's and Wernicke's symptoms simultaneously. Therefore, it is necessary to analyze the other symptoms of each type to see the difference.

The researcher analyzed all the symptoms that exist in each type of aphasia that has been classified by Ardila (2014) and found that Lotje suffered from Broca's aphasia seen from the symptoms she experienced. There are 7 symptoms of Broca's aphasia that Ardila has mentioned in his book entitled *Aphasia Handbook*, namely non-fluent, repetition, naming, phonetic deviation, phonological literal paraphasia, verbal paraphasia, and agrammatism. However, in Lotje's case, only 5 symptoms appeared in the documentary, described in the following table.

Table 2
 The Symptoms that Occurred and Not Occurred in the Movie

No.	Name of Symptoms	Occured	Not Occured
1	Non-fluent	√	
2	Repetition		×
3	Naming	√	
4	Phonetic Deviation		×
5	Phonological Literal Paraphasia	√	
6	Verbal Paraphasia	√	
7	Agrammatism	√	

Based on the table above that was just presented, Lotje Sodderland displays 5 out of the 7 symptoms that are associated with Broca's aphasia. The symptoms are fluency, naming, phonological literal paraphasia, verbal paraphasia, and agrammatism. The most common of the five symptoms are not being able to speak fluently (non-fluent), with as many as 55 data points. Lotje also often had trouble naming; 15 data are found, and agrammatism has 10 data. The last two symptoms that rarely appeared were phonological literal paraphasias and verbal paraphasia, which only found 3 data.

A symptom, there are several indications to classify it. The author has detailed the indications of each symptom of each type of aphasia based on Ardila's theory (2014). Broca's type of aphasia also has the indications described, first, non-fluent indications of this symptom are limited words, breaking forms, long pauses, and humming. In Lotje's utterances, all these indications almost always appear. The second symptom is naming. It difficulty in naming an object is the main indication of naming symptoms. Some of the difficulties experienced by the sufferer in naming are confrontation (line drawings & photos), objects (nouns), actions (verb), also spoken and written. Lotje had difficulty naming confrontation, objects (nouns), actions (verbs), and writing. However, written data were not included because the researcher only focused on Lotje's speech and response when communicating. Third, phonological literal paraphasia, there are four indications in phonological literal paraphasia: phoneme omissions, phoneme additions, phoneme placements, and phoneme substitutions. In Lotje's case, not all indications occurred. Only phoneme additions and phoneme substitutions occurred in some of her utterances. Fourth, verbal paraphasias. Indications of verbal paraphasia are divided into 4, there are formal paraphasia, morpheme paraphasia, semantic paraphasia, and unrelated paraphasia. Lotje only experienced two of the four indications; formal paraphasia and semantic paraphasia. Finally, agrammatism has indication the irregularity of a sentence that is expressed. Some of Lotje's utterances are indicated by agrammatism, seen from the irregular sentence structure.

On the other hand, two symptoms did not occur repetition and phonetic deviation. According to Ardila (2014), repetition is a symptom that could make the sufferer feel difficult to repeat the words or sentences of a person who had a conversation with them. Meanwhile, in Lotje's case, she could repeat when she heard a word or sentence. The repetition that occurred in Lotje was just in her utterances which she always repeats a word in a sentence that she said. For example; *I- I can keep thoughts and ideas and thought process... (stammering) ...that is partially finished and parts need to keep going, but- but they disappear. So, when I can start to be able to write, I thought, "Instead of having them disappear into thin air, which- which is horrible, I'll- I'll try to write them. In her utterance, she repeated the words I, but, which, and I'll. That case did not suit the indication of repetition based on theory.*

The symptom of phonetic deviation also does not occur at all. Where in this case, the sufferer will experience errors in articulation and sounds like using a foreign language. Meanwhile, when Lotje spoke, she only had difficulty producing and composing sentences. Articulation is not impaired. Additionally, symptoms and indications that appear in people with aphasia vary depending on the severity they experience (Dardjowidjojo, 2003; Drani, 2020). Lotje Sodderland experienced most of the symptoms of Broca's aphasia, but as she underwent several therapies, these symptoms became less frequent. In the middle of the movie, Lotje's condition greatly improved but suddenly worsened again, which resulted in her unconscious. She shared that she had frequent hallucinations and changed her vision after a stroke. She often heard voices that did not exist and saw colorful lights. Before falling unconscious, she heard a loud sound and saw the lights getting brighter.

Looking at the research that has been done before, this research is different. Although in the same scope, that is regarding language disorders. However, there are differences in the research focus. The research conducted by Suherman (2016), Ekawati and Arofat (2022), and Tampubolon, et.al (2019), researched the main character who suffers from autism which causes language disorders. Then in Sartika's research (2020), she examined a child who was the main character in IT movie who suffered from a language disorder called stuttering. While in this study, the researcher focused on one of the language disorders, that is aphasia experienced by the main character named Lotje in a documentary movie. Lotje is a person who does not have a mental disorder or disability. She just had a stroke which then left her with aphasia. As stated by Yu et al (2017), he explained that aphasia is a language disorder that occurs due to damage to the brain. A person can experience aphasia without any damage to the speech organs. That happened to Lotje. This study discusses the symptoms experienced by Lotje to find out the type of aphasia that she suffered.

Conclusion

This research defines the type of aphasia experienced by the main character (Lotje Sodderland) in her documentary movie entitled *My Beautiful Broken Brain*, which was released on Netflix in 2014. The researcher applies Ardila's theory in this study to analyze it. He divided aphasia into two main types: receptive (Wernicke's aphasia) and expressive (Broca's aphasia). The symptoms of those two types of aphasia are very different from each other. Wernicke's aphasia is a type of aphasia language disorder that causes individuals to have difficulty understanding the language but does not affect their verbal ability. In contrast, a person who has difficulty producing language but can understand it normally is categorized as having Broca's aphasia. In addition, there are conduction aphasia and global aphasia, which are associated with the two main types of aphasia. Conduction aphasia is caused by damage to the brain area that connects Broca's area and Wernicke, and global aphasia is a condition in which the patient has damage to Broca's and Wernicke's areas.

After researching the types of aphasia and its symptoms, it was found that Lotje Sodderland had Broca's aphasia. This is determined based on indications of the symptoms she experienced in her utterances and conversations with other people. Lotje experienced 5 of the 7 symptoms of Broca's aphasia. The symptoms found in Lotje in her documentary are non-fluent, naming, phonological literal paraphasia, verbal paraphasia, and agrammatism.

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