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## Management of case with aphasia by three track reasoning

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### Abstract

Clinical reasoning is the thinking and decision-making processes associated with cognitive process and clinical practice of the health professionals. The main purpose of the study is management of case with aphasia by the three-track reasoning. Clinical reasoning is central to effective, efficient clinical practice and professional autonomy. Health professionals are accountable for their decisions and service provision to various stakeholders, including patients, caregivers, health sector managers, policy-makers and colleagues. An important aspect of this responsibility is the ability to clearly articulate and justify management decisions in a manner appropriate to the audience. However, clinical reasoning is not a skill that can be simply explained, understood and recalled because of its rapid, complex and often subconscious nature. For providing diagnosis and providing intervention as well as socially rehabilitate to the patient three reasoning is very important.

**Keywords:** Aphasia; Speech & Language Therapy; Three Track Reasoning

### 1. Introduction

Stroke is the third leading cause of death and leading cause of adult disability in the worldwide. (Katan & Luft, 2018). Severe narrowing (stenosis) of the carotid artery is an important cause of stroke (Rerkasem, et al 2020). After initial hospitalization and rehabilitation, 80% of strokesurvivors return to the community and rely on family caregiversto assist with activities of daily living and manage cognitive, emotional, and personality changes commonly associated witha stroke (Greer, 2011). The American Heart Association, in conjunction with the National Institutes of Health, annually reports on the most up-to-date statistics related to heart disease, stroke, and cardiovascular risk factors, including core health behaviors (smoking, physical activity, diet, and weight) and health factors (cholesterol, blood pressure, and glucose control) that contribute to cardiovascular health (Virani, 2020). After stroke the patient suffer different type of condition and aphasia is one of them. Aphasia is a disorder of communication that damages a person's ability to express and receive language. Human communication is a social interaction process. It is an essential part of our daily life. It is a process of creating, exchanging, sharing ideas, information, opinions, facts, feelings, and experiences between a sender and a receiver (Prigge, 2015). Communication is fundamental to the existence and survival of individuals, groups, societies, and nations. Language is the most common tool of communication. Speech and language deficit occur in 40% individuals with stroke, which affect the quality of life ranging from unemployment, feeling of isolation and depression (Gillen & Burkhardt, 2004). Clinical reasoning is the thinking and decision-making process which occurs in clinical practices. The clinical reasoning is the cognitive process that is necessary to evaluate and manage a patient's medical or rehabilitation problem (Mattingly, 1991). The aim of clinical reasoning is to make the best judgment in a specific context (Boshuizen & Schmidt, 2008).Clinical reasoning is focus on more to the context of the patient care situation as well as the unfolding nature of patient problems (Ginsberg, Friberg & Visconti, 2016). Cognition, meta-cognition and knowledge are the element of clinical reasoning (Jones, 1995). Cognition is the mental process of

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knowing, including aspects such as awareness, perception, reasoning and judgment, attention, memory, producing and understanding language, problem solving, hypothesis testing and decision making (Chapey, 1983). Meta-cognition is defined as the scientific study of an individual's thinking about his or her own thinking (Jones, 1995). It refers to the processes used to plan, monitor and assess one's understanding and performance (Kitchner, 1983). Knowledge is a familiarity, awareness or understanding of someone or something, such as facts, descriptions or skills, which is acquired through experience or education by perceiving, discovering or learning (Kodratoff, 1999). Knowledge is indispensable for reasoning and decision making which are central to professional practice (Drucker, 1999). As a rehabilitation expert everyone should be good knowledgeable about clinical reasoning. Clinical therapists are always try to use their cognition, meta-cognition and knowledge for the patient. The process of clinical reasoning occurs throughout the therapists' interaction with the patient, carers and health team members where treatment plans and management strategies are developed, based on clinical data, knowledge, experience, patient choice and professional judgment (ALTC, 2009). Every health professionals are prepared to take on a comprehensive assessment of patients, formulate a therapy diagnosis, plan and implement a therapeutic program where appropriate, and evaluate the outcome of any intervention (Ajjawi & Higgs, 2008). Clinical reasoning is very important for proper diagnosis and plan intervention goal. Clinical reasoning seems as a basic quality a personal aspect reflecting the ability to solve problems in the clinical domain (Van der & Newble, 1995). Clinical reasoning demonstrates the inter-professional practice and it's providing a safe-guard beside the risk of having the adopted and alternative theories or practice (Jones, 1995). Clinical reasoning is the decision-making process that is being increasingly recognized as important for health care professionals working within a complex health care environment and caring for the increasingly multifaceted care needs of their patients. This is the ability to problem solve has been found to become more complicated with increasing clinical experience. If we want to provide effective solution and proper integration in his community or society to the patient then we have to use three track reasoning.

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## 2. Analysis and Discussion

In this study the researcher used clinical reasoning process in step by step. By using the flexibility of reasoning to decision-making and ensure patient care. As a health care professionals, the researcher provide safe, high quality health care, think and judge to the patient. Based on the patient's problem the researcher used her knowledge for the proper diagnosis and treatment and also provides community involvement. By using the three tracks reasoning process the therapist can easily reach the goal for functional performance of the patient. That's why the therapist chosen this case so that the patient can easily return his community and can join his work place. One month ago the patient had stroke. He admitted DMCH and 20 days later they discharged to CPR. During the admission assessment Mr. M was noticeably drowsy and appeared to have difficulty understanding some questions. Then researcher collected information from the patients caregiver she said that the patients use unclear speech, sometimes no response, unable to memories anything, difficulty in pointing, sometimes drooling, most of the time feel drowsy, problem in eating, unable to walk, unable to toilet own self, unable to dress own self. By using inductive reasoning process therapist gathered the information then searched evidence and making hypothesis. Inductive reasoning involves develop hypothesis about condition based on existing knowledge (Hayes, Heit & Swendsen, 2010). Then the researcher made a hypothesis the patient has global aphasia. Then next session same thing has repeated then the researcher talked with head of medical officer and he referred to neurologist. The neurologist had changed the medication because of the patient did not suit of that medicine so that patient was sleepy reported that the caregiver. To remove the drowsiness the doctor suggested to the patient take rest for one week. After one week later, the researcher took assessment to the patient. At first the researcher introduced with patient and that time patient was using social smiling and the patient unable to say any word. Actually that day researcher tried to make conversation and rapport build up with the patient. Then the researcher found that the patient can understand the command but unable to express. The researcher gathered the recognizing data and focuses on the relevant data for the selection. After cue acquisition about the patient, few hypotheses could be generated which are written as follows: The patient unable to evoke, retrieve, or recall a particular word, substitute another word, phrase, gesture or use circumlocutions, unable to read and write, sentences are difficult to produce due to the problems with grammar, difficulty in auditory comprehension, oral expression, word finding, problem in vision, difficulty in oral motor examination, muscle weakness and paralysis or muscle in-coordination, inability to cope with frustration, depressed, anxious over loss of independence and role functioning and financial uncertainties. In this time the therapist are ranked in a hierarchy of probability for multiple hypotheses. Then the researcher generates the hypothesis. Hypothesis generation is critical part of the systematic problem-solving process. In this stage individual makes some possible diagnosis on the basis of information collecting from initial stage (Taylor, McKeivitt, and Jones, 2015). It also depends on the level of knowledge and clinical experience of individual therapist. For confirming the diagnosis the researcher used cue interpretation then the researcher used his/her knowledge the patient may be not global aphasia because a global aphasia patient unable to follow the command. Then the researcher confirmed that the patient had Broca's Aphasia. Clinical reasoning and effective communication are fundamental skills for nurses working at an advanced level of practice. Clinical reasoning processes are designed to enable the nurse to establish the nature of a

patient's presenting condition before focusing on problem-solving techniques that can guide the appropriate course of treatment (Barratt, 2019). In this study the researcher didn't use pattern recognition reasoning because the pattern recognize reasoning process only can use expert clinician when faced with familiar problems (Langridge, Roberts and Pope 2016). After confirming the diagnosis the researcher hypothetic-deductive reasoning. When relating or making use of the process of proposing hypotheses and testing their acceptability by determining whether their logical consequences are consistent with observed data that is called hypothetico-deductive reasoning (Evans, & Kakas, 1992). Then researcher talked with the patient and also patient's caregiver to match the goals and intervention. Researcher set goals and intervention and understand the patients disability from the patients view. During their conversation the patient said that he wants to continue his job and that's why I need your help. That time the researcher switched her reasoning process and used three track reasoning. Because in the hypothetico-deductive reasoning process does not provide social inclusion to the patient. To engaged them during the intervention session and also discussed with them how to reintegrate to the patient in his working place. For reducing the patients and their caregiver tension the therapist communicate with empathetic, acceptance, reliance and optimism. Actually therapy success and failure depend on the patient's participation and the participation depend on the interactive and procedural reasoning (Bentham, 2018). In the three tracks reasoning the therapist already use procedural reasoning which is related to the hypothetico-deductive reasoning process. In the interaction reasoning the therapist used face to face interaction and engages the patient in the intervention session. Understand to the patient's disability as the patient point of view. The researcher also communicates to the patient with hope, acceptance and treat the patient as a In the conditional reasoning the therapist thought about the whole condition of patient and his communication and psychological problem as well as the family involvement for the patient, also community and social relevancy to the patient (Schechter, 2011). The patient had severe problem in speech production and his understanding level is quite good. The patient is a teacher and wants to again join his teaching profession due to his communication difficulties he can't return to his workplace. As a speech and language therapist I had set goal about communication and how to improve his reading, writing skills, memory and problem-solving activity. The patient was so much motivated about his therapy and also aware about of his quality of life that's why his communication is improved. The patient was stayed four months at CRP and then the researcher discharged him and provide home program. After discharged of the patient had joined his office. The patent was continuing the follow-up session every month.

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### 3. Conclusion

At the starting of session the patient was not active in the session that's why the researcher also faced many problems what to do. The researcher at first used hypothetico-deductive method for providing diagnosis and intervention. Then she switched her reasoning process when patient's caregiver reported the patient need to return his working place and the community because the patient still unmarried and he was a school teacher for his communication and reading, writing problem the patient cant join the office. So that the researcher used three track reasoning process.

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### Compliance with ethical standards

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#### *Conflict of Interest*

No conflict of interest. This was a self-funded research project.

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