



Analysis Of the Concept of Self-Care In Multidrug Resistance Tuberculosis (MDR-TB) Patients

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Abstract. Multidrug-resistant tuberculosis (MDR-TB) represents a strain of TB bacteria that exhibits resistance to a minimum of two primary anti-TB medications: Isoniazid and Rifampicin, both of which are regarded as the most potent drugs for combating TB. The management of drug-resistant TB is slated to be included in the national TB control program. MDR-TB cases continue to rise. Clinical management of MDR-TB is more complicated than sensitive TB because it uses line I and line II anti-TB drugs, causing tolerance problems and side effects. Tuberculosis Multidrug Resistance (MDR TB) is a tuberculosis (TB) disease that has experienced resistance to isoniazid (INH) and rifampicin as well as one or more anti-tuberculosis drugs (OAT). One of the things that affect the decline in body power is the influence of self-care patterns where it is influenced by internal and external factors. The purpose of this article is to identify internal and external factors that influence self-care patterns in MDR-TB clients. A concept analysis approach is used to analyze the concept of self-care. The four definitions of self-care are diet, regular physical exercise, regular medication monitoring, and self-care to prevent complications from poor self-care. The antecedent of self-care of MDR-TB patients has two factors, namely internal and external. Internal factors include; age, gender, knowledge, and attitude. External factors include; education, economic level, family support, and the role of health workers. The consequences of self-care can increase the success of recovery and improve quality of life. The conclusion of this concept is to increase nurses' knowledge about self-care in MDR-TB patients who carry out treatment so that it is expected to develop evidence-based nursing.

Keywords: Self-Care, Multidrug Resistance, Tuberculosis.

1. Introduction

Data from the World Health Organization shows that there are several infectious diseases that cause death, one of which is Tuberculosis. The number of deaths recorded due to tuberculosis was 1.5 million people in 2020 and is a common infectious disease today alongside COVID-19 [1]. Around 10 million people were diagnosed with Tuberculosis worldwide in 2020, with detailed prevalence by sex consisting of 5.6 million men, and 3.3 million women[2]. There are eight countries with the highest prevalence of tuberculosis

sufferers in the world, namely India, China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh, and South Africa [1]. Tuberculosis (TB) cases in Indonesia are suspected to be 824 thousand people [3]. The TB problem is exacerbated by the emergence of MDR-TB (Multi Drugs Resistant [4].

Multi Drug Resistant Tuberculosis (MDR-TB) is a term used to describe a strain of micro bacterium tuberculosis resistant to at least isoniazid (INH) or rifampicin (Rif) simultaneously using or without another first-line anti-tuberculosis drug (OAT). these two drugs are the main drugs that were previously very effective in killing micro bacterium tuberculosis germs [5]. MDR or RR TB cases in 2021 were 28,000 or 10 per 100,000; When compared to 2020, there was an increase of 17% from 24,000 and the rate per 100,000 population was 15%; 8,296 RO TB case innovations using 33. five percent coverage [6]. The occurrence of Multi Drug Resistance TB is caused by influencing factors such as low knowledge of Tuberculosis patients about MDR Tuberculosis, resulting in non-compliance in treatment [7].

The organism that causes tuberculosis is an opportunistic pathogen. People infected with Tuberculosis bacteria and have a history of HIV disease have enormous potential for the development of Tuberculosis bacteria in their bodies into active diseases [8] One of the important things that support the success of treatment in tuberculosis patients is good self-care practices [9] Self-care practices are a form of independence carried out by tuberculosis patients during their treatment period [10]. Self-care of TB patients such as adherence to taking prescribed medications, implementing healthy behaviors, consuming healthy nutritional intake, and coping management [11] Self-care practices carried out by patients undergoing TB treatment to achieve successful self-care. Low self-care practices can affect the degree of quality of life [12].

2. Method

The approach to concept analysis, as elucidated by Avant & Walker methods [13] encompasses seven distinct steps. These steps include: 1) choosing the concept for analysis, 2) establishing the objective of the analysis, 3) recognizing all instances where the concept is applied, 4) formulating attribute definitions, 5) pinpointing case models, 6) identifying border, related, contradictory, artificial, and invalid cases, and 7) uncovering antecedents and consequences [13].

3. Results and Discussion

3.1. Concept Analysis

This theory explains the relationship that must occur in order for self-care to be applied. Three systems are implemented to meet patient survival, namely: 1) Wholly compensatory

system, this category is a condition where patients cannot do self-care and must rely entirely on nurses to carry out their care. 2) Partially compensatory system, this category is a condition where patients can do self-care but only partially and are still assisted by nurses. 3) Supportive-educative system, this category is a condition where patients can do self-care completely without the help of nurses, and nurses only help in making decisions and education about the care that patients need to do [14].

The eight propositions of the self-care deficit of nursing theory are: 1) Every individual has the ability to meet his general self-care as his developmental needs. 2) The ability to do self-care is influenced by the age, developmental conditions, experience, and socio-cultural background of the individual. 3) The application of self-care must be balanced between the necessity for self-care and its ability. 4) Self-care depends on the individual's age, developmental stage, life experience, socio-cultural orientation, health, and resources. 5) Self-care that is therapeutic in nature includes the actions of nurses, patients, and others who play a role in regulating and meeting self-care needs. 6) The role of nurses in the application of self-care to patients is to assess the patient's ability to do self-care 7) Nurses provide decisions, choices, and education in fulfilling the patient's self-care. 8) The components of self-care are wholly compensatory, partly compensatory, and supportive-educative [15].

3.2. Analysis Objectives

The objective of the analysis is to gain a comprehensive understanding of the concept of self-care, particularly within the context of multi-drug resistant TB patients. This entails delving deeply into the attributes associated with self-care as manifested in case models, as well as exploring borderline, related, and contradictory cases. Furthermore, it involves elucidating the antecedents and consequences of self-care practices in this specific patient population. To achieve this, it is imperative to integrate empirical references and theoretical insights, constructing both theoretical and operational definitions that offer a nuanced perspective on self-care among multi-drug resistant TB patients.

3.3. Self-Care Concept

Literature searches from various fields of science, including language dictionaries, are carried out to determine the characteristics of the use of concepts [13]. By knowing the characteristics, the understanding of the concept will be more complex when viewed from various scientific points of view. Based on the results of literature search, the concept of resilience is used in the fields of health sciences, nursing and psychology. Understanding self-care in the field of health, self-care is an effort to maintain physical and mental health. Self-Care is to maintain oneself so that the body is awake from physical health problems [16]. Understanding self-care in the field of care, self-care theory says that self-care depends on the behavior that has been learned, individuals take the initiative and form themselves to maintain life, health and well-being [17] Understanding self-care in the field of

psychology, self-care is an activity carried out by individuals to maintain and improve physical, emotional, and social well-being, and help individuals develop in a healthy way [18]

3.4. Attribute Definition

An attribute involves the exploration of numerous applications for concepts by utilizing dictionaries, thesauruses, input from colleagues, and existing literature [13]. The characteristics of self-care in patients with multi-drug resistant TB encompass firm personal convictions regarding self-care, perceptions of one's own capability to participate in self-care tasks, and endeavors to manage and control risk factors [19]. Perceived self-ability to engage in self-care activities. demonstrate perceived ability 1) identify changes in key function complications, 2) appropriateness of strategy or activity scores to manage change 3) perform recommended regimen treatment 4) select relevant activities and perform selected activities [20]. Self-care ability is characterized by cognitive, psychomotor, and emotional endeavors aimed at managing both physical and psychological well-being through self-sufficiency [21]

3.5. Case model

The case model in this phase is to use the concept of self-care in multi-drug TB Resistance patients by showing all the defining attributes of the concept [13]. The case below is a case model using all attributes obtained from the concept of self-care in multi-drug Resistance TB patients.

Mr. A, 40, learned he had MDR-TB three months ago and was given a dose regimen from the hospital. According to Mr. A, he has strong personal beliefs to take care of himself daily such as self-care in diet, self-care in physical exercise, self-care in taking medicine regularly and self-care in doing self-care regularly. Personal beliefs are implemented by engaging in physical activity (regular exercise), taking care of food, controlling emotions, quitting smoking, and taking regular medication. This activity is carried out vigorously. His wife and family support Mr. A to get better. Mr. A when visited said that he went to the hospital to participate in a program of taking medicine simultaneously and consulting about the progress of his health, so that he could recover soon.

3.6. Borderline cases

Case Example: The one used uses a large subset of attributes that define the concept being examined, but not all [13]. Mr. G, aged 35, had a previous bout of TB but failed to adhere to medication consistently. Following weeks of illness marked by symptoms such as coughing up blood and breathlessness, he sought medical attention and was diagnosed with Multi Drug Resistance TB. Feeling remorseful for not adhering to medical advice earlier, Mr. G began taking medication regularly as prescribed and noticed significant

improvements in his health. He attributes this improvement to his commitment to self-care, including maintaining a nutritious diet, adhering to medication schedules, and engaging in regular exercise, although he struggles to quit smoking. His motivation stems from his desire to be present for his wife, who he finds beautiful, and his young son who needs his attention. Despite his confidence in his ability to recover and his dedication to self-care at home, Mr. G acknowledges his failure to control the risk factor of smoking, indicating a case where not all aspects of self-care are fully utilized.

3.7. Related cases

Related cases are instances that exhibit ideas closely resembling the main concept but reveal nuanced differences upon closer examination.

Mr. R, 55 years old is a fruit trader at a well-known market in S city and has a history of multi-drug Resistance TB about two months ago. Mr. R has active self-care diet, self-care, and exercise. Any form of self-care Mr. R can be executed well, but Mr. R admits to having difficulty taking medication regularly. Mr. R said he was bored and always felt nauseous after taking the medicine. Mr. R then consulted the nurse. Nurses teach her to do stress management, and this she does strictly and regularly. Mr. R admits that his stress management makes him calmer. Mr. R admitted that he was able to take medication regularly, even though during stress management he felt forced. Mr. R tried his best and tried continuously without despair, as the nurse suggested. After all the efforts were made, it finally succeeded and felt that the nausea was not as great as before. Mr. R felt healthier and he began to gain weight. Mr. R now has a good self-care pattern, namely taking medicine regularly, eating nutritious food, and exercising diligently.

The case related above shows the use of all attribute, but the use of the attribute of the ability to perform self-care activities by taking medication regularly is done extra in stress management.

3.8. Contrary case

The opposite case is the opposite case to the previous case (Walker & Avant, 2019). No vital attributes are indicated in self-care.

Mrs. Z, had a history of multi-drug Resistance TB about two months ago. Mrs. Z when met said that since taking the drug she has no appetite. According to him, if he stops taking medicine, his appetite increases. Mrs. Z thinks that if your appetite increases it means you are healthy. He does not believe that regular taking of medication can cause his pain to be worse. Mrs. Z decided to take medication only when she felt short of breath or her body was not feeling well. Mrs. Z admitted that she rarely exercised and did not control to go to the hospital or health center to take medicine, check her respiratory status, and weigh her weight. When she wanted to be taken by her family to the hospital or health center, Mrs. Z

always refused. When questioned by officers, Mrs. Z admitted that sometimes red phlegm comes out when coughing, but she ignores it. This case explains that all four attributes of self-care are not used.

3.9. Antecedents and Consequences

As per Avant & Walker [13] an antecedent refers to an event or circumstance that takes place or has occurred prior to the emergence of the concept. Conversely, a consequence denotes an event or outcome that arises as a result of the concept, in other words, it is the effect of the concept.

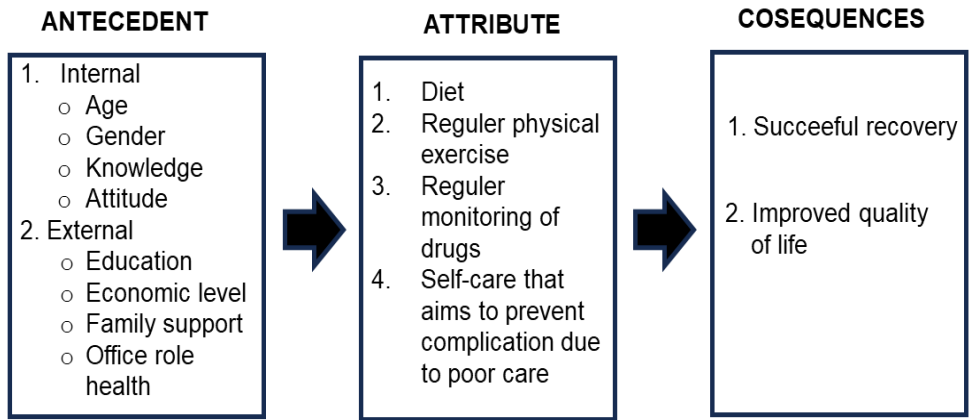


Fig 1. The antecedents and their consequences

Antecedent

The antecedents of Self-care in Multidrug Resistance Tuberculosis (MDR-TB) patients are internal factors: 1) age 2) gender 3) knowledge 4) attitude, while external factors: 1) education 2) economic level 3) family support 4) role of officer [22].

One of the factors that influence the incidence of MDR TB is age and sex. At the productive age of <45 years, the risk of MDR TB is at risk because the productive age does more outdoor activities, interacting with others and high mobility. As for gender, women are at higher risk of MDR TB because women have shame about the disease so they come to the hospital in a more severe state [23].

The behavior of MDR TB patients is very influential on the transmission of MDR TB disease, if the patient coughs and sneezes can transmit to people around him through the air

from sputum splashes containing germs. The transmission process of MDR TB patients is not only sick with ordinary TB but is directly exposed to MDR TB disease as well [24].

The behavior of taking regular medication is also very important for MDR TB patients. However, many patients feel bored with MDR TB treatment due to the side effects of MDR TB drugs so they decide to stop treatment. This causes patients to be resistant to anti-tuberculosis drugs so that the disease worsens into MDR TB. Not only that, TB patients who do not complete treatment can also be because they feel they have recovered in the middle of the treatment process and decide to stop treatment which should be completed by them. It can also result in drug resistance and become MDR TB [25].

Factors that influence the occurrence of MDR TB are age, sex, body mass index, education level, family history of MDR TB, ease of access to health information, history of suffering from TB, history of diabetes, psychological health, smoking, motivation, irregularity in treatment, medication adherence, history of undergoing TB treatment, occupancy factors, family income, community stigma, sedative use, history of chronic obstructive pulmonary disease, and living in a household with only one room [22]. Socioeconomics is a direct factor that affects a person's ability to seek treatment independently, patients who have high income will have high self-care compared to patients who have low income. This case is related to the difficulty of accessing health facilities and lifestyle modification [26].

Patients with inadequate self-care often exhibit a lack of health education regarding their illness. Conversely, those with a strong understanding of MDR-TB are typically knowledgeable about the associated risk factors. This awareness empowers them to effectively manage symptoms and sustain functional activity levels [26]. Positive social support from healthcare providers significantly contributes to enhancing self-care among patients with MDR-TB. Additionally, family support plays a crucial role in improving self-care among these patients by aiding in symptom management and maintaining physical function. This is attributed to the influence of family decisions, suggestions, and recommendations, which impact the patient's level of independence [26].

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