

## Psychosocial Adaptation Model on Tuberculosis Clients Using Uncertainty in Illness Theory Approach in Jember

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Submitted : 11-05-2022 ; Accepted : 26-10-2022

Doi : 10.36858/jkds.v10i2.376

### ABSTRACT

**Introduction:** Pulmonary tuberculosis is an infectious disease that has a psychosocial impact on the sufferer. The government program, is still applicable to the treatment and transmission of disease. **Objective:** This study was to structural models of psychosocial adaptation in patients with tuberculosis (TB) who underwent treatment using the theory of uncertainty in the disease at Jember Health Centre. **Methods:** The research is included in the explanative survey method using a cross sectional approach. Samples were taken according to the inclusion criteria of 100 respondents. Sampling using simple random sampling technique. The independent variables in this study, among other: sex, age, marital status, duration of treatment, knowledge, expectations, ethnicity, stigma, occupation, family support, communication, education, uncertainty, coping and psychosocial adaptation. Data were collected using structured questionnaires and analyzed using Partial Least Square (PLS). **Results:** The result of the research showed that: cognitive factor gave significant effect to uncertainty (t statistic 2,686 >1,6), psychological factor did not give significant effect to uncertainty (t statistic 0, 418 <1,6), social factor gave significant influence to uncertainty (t statistic 7, 496 >1,6), factor uncertainty has a significant effect on coping (t statistic 5,572 >1,6), Coping factors have an effect on psychosocial adaptation (t statistic 7, 911 >1,6). This study cognitive knowledge has a direct influence on uncertainty. uncertainty decreases because the knowledge of TB clients increases. TB clients understanding of the information provided by health workers can reduce the worries and confusion. **Conclusion:** This psychosocial adaptation nursing model has good predictive relevance.

**Keyword:** Psychosocial Adaptation, Coping, Tuberculosis, Uncertainty In Illness Theory.

### ABSTRAK

**Latar belakang:** Tuberkulosis paru merupakan penyakit menular yang berdampak pada psikososial bagi penderitanya. Program penanggulangan pemerintah saat ini, berfokus pada pengobatan dan penularan penyakit. **Tujuan:** Penelitian ini menggunakan model struktural adaptasi psikososial pada pasien tuberkulosis (TB) yang menjalani pengobatan dengan menggunakan teori ketidakpastian penyakit di Puskesmas Jember. **Metode:** Penelitian termasuk kedalam metode survey explanative dengan menggunakan pendekatan cross sectional. Sampel diambil sesuai dengan kriteria inklusi sebanyak 100 responden. Pengambilan sampel menggunakan teknik simple random sampling. Variabel bebas dalam dalam penelitian ini antara lain: jenis kelamin, usia, status perkawinan, lama pengobatan, tingkat pengetahuan, harapan, etnis, stigma, pekerjaan, komunikasi dukungan keluarga, pendidikan, ketidakpastian, koping dan adaptasi psikososial. Pengumpulan data menggunakan kuesioner terstruktur dan dianalisis menggunakan Partial Least Square (PLS). **Hasil:** Hasil penelitian menunjukkan bahwa: faktor kognitif berpengaruh signifikan terhadap ketidakpastian (t statistik 2,686 >1,6), faktor psikologis tidak berpengaruh signifikan terhadap ketidakpastian (t statistik 0, 418 <1,6), faktor sosial berpengaruh signifikan terhadap ketidakpastian (statistik t 7, 496 >1,6), ketidakpastian faktor berpengaruh signifikan terhadap koping (statistik t 5,572 >1,6), faktor koping berpengaruh terhadap adaptasi psikososial (statistik t 7, 911 > 1,6). Pengetahuan kognitif penelitian ini memiliki pengaruh langsung terhadap ketidakpastian. ketidakpastian berkurang karena pengetahuan klien TB meningkat. Pemahaman klien TB terhadap informasi yang diberikan petugas kesehatan dapat mengurangi kekhawatiran dan kebingungan. **Kesimpulan:** Model keperawatan adaptasi psikososial ini memiliki relevansi prediktif yang baik

**Kata Kunci:** Adaptasi Psikososial, Koping, Tuberkulosis, Teori Ketidakpastian.

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How to Cite : Anita Fatarona, Soedarsono, S., & Hidayati, L. (2022). Psychosocial Adaptation Model on Tuberculosis Clients Using Uncertainty in Illness Theory Approach in Jember. *Jurnal Kesehatan Dr. Soebandi*, 10(2), 159-169. <https://doi.org/10.36858/jkds.v10i2.376>

## Introduction:

Tuberculosis (TB) is synonymous with a deadly infectious disease, dirty, confusion, anxiety and death felt by patients and family members. Clients who have just been diagnosed with TB can affect their daily lives. TB diagnosis is a traumatic event or crisis, both physical and psychosocial (eg, worry, sadness and social exclusion). Life-threatening conditions, uncertainty about the extent of disease, and ultimately prognosis, have been described by individuals as major psychological stressors (WHO, 2016). Cases of chronic disease will experience the uncertainty of the disease suffered so that it affects psychologically which can have a detrimental effect on individuals. The diagnosis of pulmonary TB is mostly made after the individual is in the chronic stage of the disease. This is because most people are not sure what actually causes a person to develop TB. There is a lot of speculation and uncertainty about what actually causes TB (Nyasulu et al., 2016)

Based on a preliminary study conducted by researchers from interviews with 8 pulmonary tuberculosis clients undergoing treatment. The results of the interview showed as many as 7 clients of pulmonary tuberculosis (87.5%) after the diagnosis of pulmonary tuberculosis was established the client came with a number of questions and considerations.

Individuals ask questions (eg, how much damage has been done to my lung, is there a cure, will I die quickly). TB clients who experienced emotional disorders were 7 clients (87.5%), such as feeling sad, anxious because they couldn't recover, and afraid of being abandoned by their friends. As many as 4 clients (50%) experienced social interaction disorders because their disease conditions were afraid of transmitting the disease and the negative stigma of the community related to pulmonary TB disease.

Continued global efforts for TB elimination will require bridging the knowledge and action gap, including following infection control policies in health institutions and integrating a holistic approach in clinical care for patients with comorbidities or risk factors

associated with TB disease (Chapman et al., 2017). Improved communication between health care providers and sufferers, individual empowerment, and knowledge and understanding of patients about treatment programs, can increase the confidence of TB sufferers in care and treatment.

Stigma in TB clients may arise due to the serious consequences of TB disease, such as the transmission of the disease. Negative stigma is very influential on the pulmonary tuberculosis treatment program. In the journal entitled *The stigma of tuberculosis*. The main problem in the treatment of pulmonary tuberculosis, namely delays in treatment and drug withdrawal, one of the causes of this problem is the avoidance of pulmonary tuberculosis patients for treatment because of the negative stigma of depressive conditions. due to the process of tuberculosis and its treatment, as well as the negative stigma against tuberculosis will further improve the patient's condition both physically and psychologically (Endria, V., & yona, 2019). Providing information by health workers to clients by focusing on psychological aspects as an effort to increase patient acceptance of the disease.

Mishel's concept of uncertainty in illness developed a theory of uncertainty in chronic diseases (one of which is pulmonary TB). According to this theory, mismatches between a person's expectations and experiences, unfamiliar events and complicated or inconsistent symptom patterns contribute to uncertainty in disease. This will refer to the individual's ability to process information and provide structured structures that are defined as resources that can assist with the interpretation of incoming stimuli so that they can cope constructively (M. Mishel, 1988).

One of the interventions to increase the success of treatment is to overcome psychological problems using the uncertainty in illness theory approach. Previous research has been carried out using the uncertainty in illness approach, which has been carried out on Diabetes Mellitus patients, which can improve self-care practice and psychosocial adjustment. From

previous research, researchers want to develop a model of psychosocial adaptation in TB patients undergoing treatment using the Uncertainty in Illness Theory Approach with a combination of Stuart's adaptation theory to improve psychosocial adaptation of TB clients.

The general objective of this study is to develop a psychosocial adaptation model for pulmonary TB clients who are undergoing treatment with the Uncertainty in illness theory approach at the Jember Work Area Health Center. The specific purpose of this study is to analyze the concept of a psychosocial adaptation model in TB clients.

**Methods:**

this study were pulmonary TB clients in the outpatient unit of the Public Health Center in the Jember work area, which consisted of the two Health Center Jember Regency with a total of 300 respondents. Research sampling using the Taro Yamane formula minimum sample size in this study was 71 respondents. In this study, the researchers set a sample size of 100 respondents. The data collection process in this study was carried out in 2018.

This study has inclusion criteria and exclusion criteria to get the eligible population or those who meet the criteria. Inclusion criteria this research, TB clients who seek treatment at the Jember Public Health Center, TB clients who have undergone tuberculosis treatment < 1 month (< 28 doses); TB clients who have undergone treatment for tuberculosis in the early stages of at least 1 month (28 doses), TB clients in the age range (21-60 years), TB client without other disease complications. Exclusion criteria, Immigrant clients seeking treatment at the Jember Health Center Clients pregnant women.

This research carried out inferential analysis. Inferential analysis is used to test the hypothesis proposed in this study. The test used

is Partial Least Square (PLS), which is a Structural Equation Modeling (SEM) technique that is able to analyze latent variables, indicator variables and measurement errors directly. This study received a letter of ethical conduct with a number with No. 464-KEPK issued by the Health Research Ethics Committee Faculty of Nursing Universitas Airlangga.

Table 1. Variables of the Adaptation Psychosocial Model to the Uncertainty of Tuberculosis at the Jember Regional Public Health Center

Variable independen X	X1:Cognitive X2: Biofisik	X1.1 Knowledge X2.1 Age X2.2 Gender X2.3 Marrital Status X2.4 Duration of Treatment
	X3: Psikologis X4: Social	X3.1 Harapan X4.1 Ethnic X4.2 Stigma X4.3 Work
	X5: Penyedia struktur	X5.1 Communication X5.2 Family Support X5.3 Education
	X6. <i>Uncertainty</i>	X6.1 Ambiguitas
	Y1. Coping	X6.2 Kompleksitas Y1.1 <i>Problem Focus</i> Y1.2 Cognitive focus Y1.3 Emotion focus
	Y2. Adaptasi Psychosocial	Y2.1 <i>Sosial and leisure ativities</i> Y2.2 Job and household duties Y2.3 Pshychological distress Y2.4 relationship with family Y2.5 Health care orientation
Variable dependen Y		



## Results:

### 1. Inferential Analysis Research Results

The indicator is said to meet convergent validity if it has an outer loading  $> 0.5$ . In

this study, the convergent validity value can be seen in the following figures and tables:

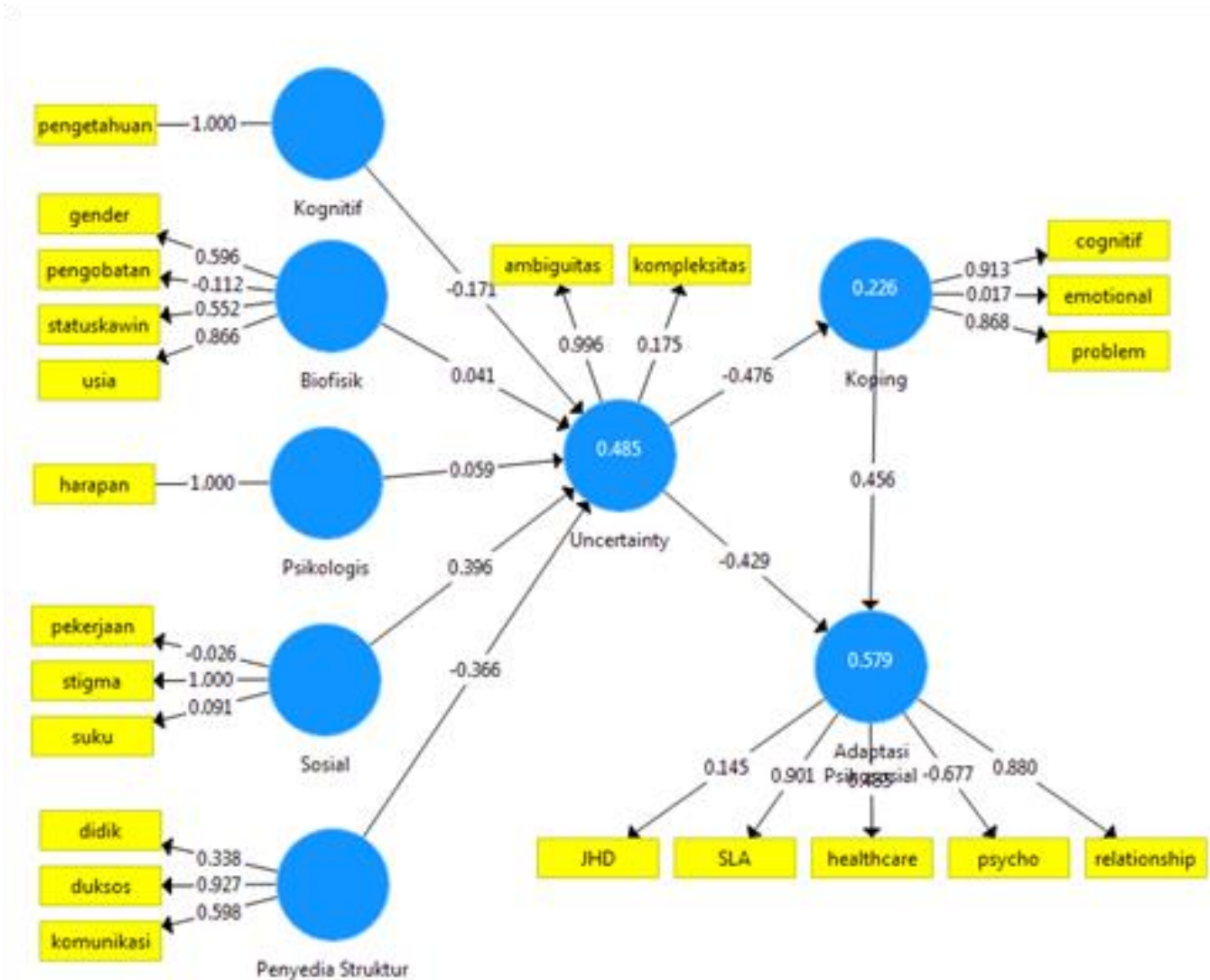


Figure 1. Path model and value of outer loading on psychosocial adaptation model

The outer loading value for most indicators is good from indicators for latent variables such as cognitive and psychological

factors. There are several indicators that are not valid, there are several indicators that are not valid, this can be seen in the following table.

Table 2 Convergent Validity Results of Psychosocial Adaptation Model

Variable	Sub variable	Outer Loading	Keterangan
Cognitive (X1)	X1.1 : Knowledge	1,000	Valid
Biophyisic (X2)	X2.1 : Age	0,866	Valid
	X2.2 : Gender	0,596	Valid
	X2.3: Marital Status	0,552	Valid
	X2.4: Duration of Treatment	-0,112	Invalid
Psychological (X3)	X3.1 : Hope	1,000	Valid
Social (X4)	X4.1 : Ethnic	0,091	Invalid Valid
	X4.2 : Felt stigma	1,000	Invalid
	X4.4 : Job Status	-0,026	
Structure Provider (X5)	X5.1 : Communicatin	0,598	Valid
	X5.2 : Family Support	0,927	Valid InValid
	X5.3 : Education	0,338	
Uncertainty (X6)	X6.1 : Ambiguity	0,966	Valid Invalid
	X6.2 :Complexity	0,175	

Based on table can be seen that are several invalid

on 2, it seen there several

indicators, namely length of treatment, education, ethnicity, occupation, and complexity. The invalid indicator can be reduced because the outer loading value is  $< 0.5$ . An indicator with an outer loading value of  $> 0.5$  indicates that the indicator in the structure has met the validity test.

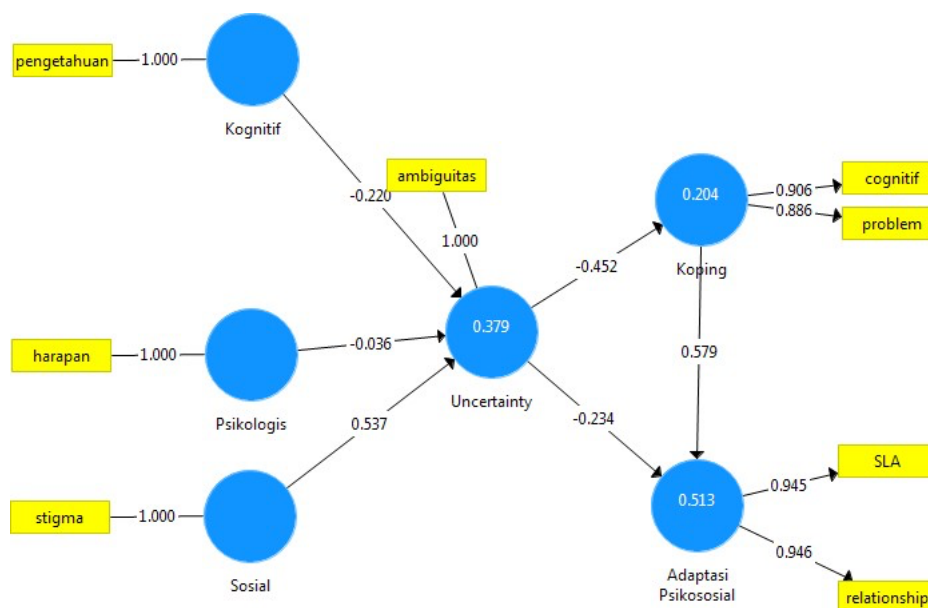


Figure 2. Final Model and the value of outer loading on the psychosocial adaptation model Structural model test (inner) model

Table 3. Hypothesis Test Results of Psychosocial Adaptation Model

Variabel	Original Sample (0)	T Statistic	Description
The influence of cognitive factors (X1) against uncertainty (X6)	-0,220	2,686	There is a significant cognitive effect on uncertainty
Effect of coping factors (Y1) to psychosocial adaptation (Y2)	0,579	7,911	There is a significant effect of coping on psychosocial adaptation
The influence of psychological factors (expectations) (X4.2) on uncertainty (X6)	-0,036	0,418	There is no significant influence of psychological factors on uncertainty
The influence of social factors (stigma) (X4.2) on uncertainty (X6)	0,537	7,496	There is a significant influence of social factors on uncertainty
Effect of uncertainty (X6) on psychosocial adaptation (Y2)	-0,234	2,616	There is a significant effect of uncertainty on psychosocial adaptation
Effect of uncertainty (X6) on coping (Y1)	-0,452	5,572	There is a significant effect of uncertainty on coping

Based on table 3 the value of composite reliability and cronbachs alpha of latent variables (biophysical factors and structural providers) did not meet the reliability test because the value of composite reliability and cronbach's alpha showed <0.7

Uncertainty and coping factors on psychosocial adaptation value of the path coefficient, coping factors have a significant positive influence on psychosocial adaptation (0.579) so that coping factors are the most strongly influencing factors on psychosocial. Next is to look at the value of R square (R2) for contracts or latent variables of coping abilities and psychosocial adaptation in TB patients.

Variable	AVE	Composite Reliability	Cronbachs alpha	R <sup>2</sup>
Adaptasi Psychososi al(Y2)	0,894	0,944	0,881	0,513
Coping (Y1)	0,802	0,890	0,754	0,204

Based on table 4 it shows that cognitive, psychological, and social factors are able to explain the variability of constructs or latent variables of psychosocial adaptation ability by 51.3% (R2 value) the remaining 48.7% is explained by other constructs that are not hypothesized in the model, and coping abilities are equal to 20.4% and the remaining 79.6% were explained by other constructs that were not hypothesized in the model. According to

Table 4 Results of R2 Psychosocial Adaptation

Chin (1998, in Sofyan Yamin & Heri, 2011) this value is included in the high category. To validate the model as a whole, it can be seen that GOF (Goodness of Fit) can calculate Q-Square predictive relevance by looking at the value (R<sup>2</sup>). Q-square predictive relevance of 0.795 which means that the psychosocial adaptation model has good predictive relevance because it is close to the value of 1

### 3. Final Model of Psychosocial Adaptation

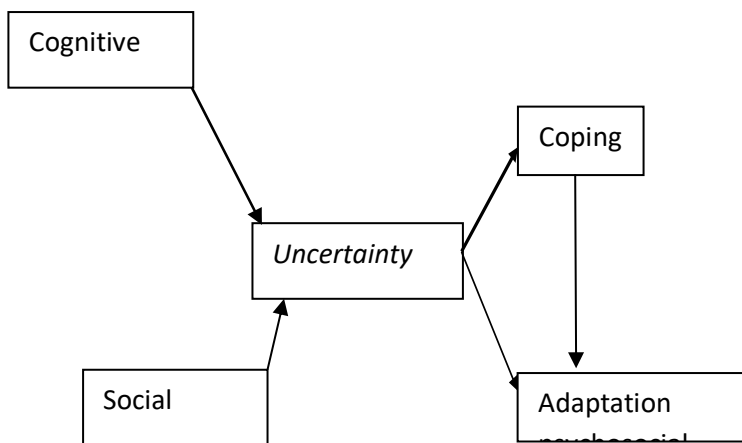


Figure 3 Psychosocial Adaptation Model for TB Clients at the Jember Health Center

Based on chart 4, it shows that the final model of psychosocial adaptation of TB clients at the Puskesmas working area of Jember is the result of Partial Least Square analysis including the components of cognitive factors (knowledge) that affect uncertainty, where components of social factors (stigma) which have a strong influence, namely, social factors on uncertainty. Uncertainty on coping has a stronger effect than uncertainty on psychosocial adaptation and coping with psychosocial adaptation.

#### Discussion :

Cognitive factor analysis has a significant effect on uncertainty. Cognitive factors consisting of knowledge level affect uncertainty. This is Amoako et al., (2010) research that positive uncertainty can be carried out in a

person's way by increasing cognitive abilities so that it will reduce related diseases and problems in a good way to help help their problems. A person may be provided with problem-solving strategies, information, and resources aimed at increasing diabetes knowledge and self-care skills, as well as strategies for improving patient communication. The cognitive component can be assessed from how TB clients convey responses related to disease and focus attention on treatment so that the treatment process can be controlled.

Good knowledge of TB patients will be able to reduce uncertainty and improve the psychosocial coping and adaptation of TB clients. Researchers analyze the cognitive component to be part of the uncertainty that will affect psychosocial adaptation, where knowledge also plays an important role in increasing or decreasing uncertainty. Someone who has sufficient knowledge will easily reduce anxiety and confusion so as to reduce uncertainty so that it will increase their psychosocial adaptation. Someone who is alone or has less knowledge will increase uncertainty so that his psychosocial adaptation is low or lacking. This is in accordance with the statement of (Martin et al., 2010). Uncertainty management includes seeking or avoiding information. Seeking information can be used as a strategy to reduce uncertainty. However, an individual may also be involved in seeking information with the aim of finding conflicting information to increase uncertainty about unwanted results. Various ways individuals may prefer to avoid information to delay dealing with potentially distressing information that will affect uncertainty (Martin et al., 2010)

The researcher's assumption regarding the research findings of TB clients is that education can reduce uncertainty and can increase psychosocial adaptation with sufficient knowledge, meaning that the information obtained by clients both from health workers and other information media is very helpful for clients in increasing motivation for visits in treatment because clients are aware that the impact is very high. detrimental if not regularly in the treatment. Lack of knowledge will lead



clients to continuous anxiety and worry because the information obtained by the client is not understood. This is due to the use of language that is less simple and the use of language because some clients are accustomed to using the Madurese language in everyday life. The results of the analysis show that the biophysical factor is not reliable so it is eliminated from the model. Biophysical factors consisting of gender, age, and marital status do not affect uncertainty in TB clients. The biophysical component is eliminated from the psychosocial adaptation model. The researcher's assumption is that the biophysical components related to gender and age are closely related to the client's biological condition. This statement is in line with research conducted by Joanne (2014) that men tend to adapt easily because of the nature of men as adventurous than women who take a long time to adapt due to emotional factors so that men are more dominant in reducing uncertainty and increasing coping and psychosocial adaptation than women. Researchers analyze the biophysical component as part of the uncertainty that will affect psychosocial adaptation, where marital status also plays an important role in increasing or decreasing uncertainty. Someone who has a partner will be easy to reduce uncertainty thereby increasing their psychosocial adaptation.

Psychological factor analysis has no significant effect on uncertainty. Psychological factors consisting of expectations do not affect uncertainty. This is not in line with the research of M. H. Mishel et al.,(2009), uncertainty is related to stress and anxiety and can fluctuate across the disease trajectory, the most important being during the decision phase of the patient's treatment diagnosis.

Most TB patients have good expectations about their TB disease, which will reduce uncertainty and increase psychosocial adaptation. Researchers get additional data from interviews between researchers and respondents. The TB client stated that he felt confident that he would recover because I had undergone treatment at a professional health worker and I could activities. Good expectations for TB patients will be able to reduce uncertainty and improve the

psychosocial coping and adaptation of TB clients. The above description is in line with research by (Amoako et al., 2010) in this study, participants who experienced reduced uncertainty and experienced a significantly greater increase in psychosocial adjustment. Decreased uncertainty correlates with psychosocial adjustment, so that if uncertainty decreases, psychosocial adjustment and welfare increase. Researchers analyzed expectations basically determine the psychological condition of a TB client. TB clients will have good expectations which will reduce feelings of stress and reduce uncertainty so that clients can make psychosocial adaptation adjustments. The psychological condition of the TB client will be good when his/her acceptance in the family and community is good so that it will increase motivation and positive thoughts so that TB clients will increase TB care and treatment visits.

The researcher's assumption regarding the research findings is that most TB clients have been able to have good expectations because during the initial 2 weeks of treatment the client felt that he had recovered. it is characterized by a decrease in clinical symptoms from the client's statement. TB clients display positive behavior with the belief that they will recover by regularly visiting the stages of TB treatment. The role of family assistance in treatment visits increases the motivation and enthusiasm of TB clients in undergoing treatment. Relationships with family are closely related to good expectations for TB clients so that it will reduce conditions such as anxiety and worry and reduce uncertainty.

Analysis of social factors has a significant effect on uncertainty. Social factors consisting of stigma affect uncertainty. define stigma related to health problems/diseases as a social process or personal experience characterized by exclusion, rejection, reproach, or devaluation due to adverse social assumptions about the individual or group related to certain health problems. Stigma associated with disease has a negative impact on prevention, service procedures, and policies



related to health in disease. Stigma is often attached to health problems, including tuberculosis. The reasons why TB stigma can appear include, its transmission, inaccurate knowledge of the causes, treatment or association with marginal groups such as poverty, racial minorities (Hidayati, 2015). Reaction stigma in posttransplant patients may feel uncertainty about the reactions of others to transplantation. Some participants reported receiving stigmatized comments. a client who described the negative impact of the stigma that drugs had on the ability to work and explained that he did not like the stigma of being classified as someone with a disability. He explained that there is a labeling of stigma associated with receiving a transplant (Martin et al., 2010).

This was reinforced by the client's statement with the researcher during data collection that TB clients felt excluded when the community knew about their current TB disease, and some clients revealed that since being diagnosed with TB the client felt ashamed because he had to wear a mask when interacting with the surrounding environment and finally the client decided to stay at home instead of being shunned by other people. The client reveals that he tends to hide his illness, especially in the community because the client feels ashamed of having a contagious disease and is afraid of losing his job.

The uncertainty factor has a significant effect on coping with a t statistic of 5.572. This research is supported by research conducted by (Hines, 2006) that this uncertainty is rooted in a lack of information, a health worker tends to provide more information. If patient uncertainty stems from information that is too complex to understand and thus leads to distrust in the clinician, the information may fail to facilitate efforts that lead to advance planning of the client's treatment. Open discussion encourages uncertainty. Patients and families being asked to choose one particular treatment over another can lead to confusion and uncertainty. Closed discussions will help minimize uncertainty by seeking social support and seeking information through the media and

other sources as a client's coping to reduce uncertainty.

Researchers analyze that uncertainty is closely related to coping where one of the search for coping is family support. Family social support reduces uncertainty. Uncertainty decreases will have an impact on coping and good psychosocial adaptation. Social interaction between TB clients and family members in overcoming problems in treatment. The client's motivation will increase when making treatment visits with family assistance in making decisions together with the family.

Where when there is family assistance in treatment visits, the client feels that there is still someone who provides emotional support so that the client feels comfortable and confident that he will recover with the treatment that has been chosen together with his family members in accordance with the information provided by health services so as to minimize uncertainty and improve TB client coping. Family can be a factor that very influential in determining individual health beliefs and values and can also determine about treatment program that can they accept. that support given by family members is an important factor in patient adherence to treatment patient's medical treatment and when will it be checked again (Irnawati et al., 2016)

The researcher's assumptions related to research findings, namely uncertainty and coping are mostly good enough, such as some clients accompanied by their families on treatment visits so that providing information on when TB clients return to take drugs and the impact if TB clients are late in taking treatment will be easily understood by families and clients so that they can provide motivation in the treatment process. Nurses should evaluate the client's illness and treatment with family assistance so as to reduce uncertainty and improve client coping. Health care providers can also monitor or evaluate the information that has been provided, whether the client can fully understand or require the provision of information needed by TB clients and increase client motivation with a spiritual approach strategy to improve TB client coping.

Factors of uncertainty regarding psychosocial adaptation. Uncertainty has a significant effect on psychosocial adaptation. Uncertainty has been associated with psychosocial stress, individuals may wish to maintain or increase their uncertainty rather than reduce or eliminate it (Martin et al., 2010). Overall psychosocial well-being, especially in TB services. Facts in the field, the basic needs, especially mental health of critically ill patients, are not being met. These findings highlight the need to integrate mental health and psychosocial adjustment into TB care.

This was reinforced by the client's statement with the researcher during data collection that TB clients felt isolated when the community knew about their current TB disease, and some clients revealed that since being diagnosed with TB, no family or community had visited because they thought disease I was suffering from was contagious and can't heal. Other findings, some clients revealed that they tend to hide their illness, especially in the community for fear of losing and being shunned by their friends. Only close family members know that they are currently suffering from TB because the client feels that only family can help provide support in the client's own treatment process.

The implications for providing psychosocial support extend beyond mental well-being. Psychosocial welfare will reduce uncertainty so that clients can adapt well. Research conducted Shin (2008), found that low social support was significantly associated with treatment success. Evidence-based interventions exist for all of these risk factors and can be applied to improve treatment success. We are encouraged by several reports of social support interventions from a minimal set of resources. In a qualitative study in South Africa, patients described sources of social support for treatment success. During the initial 3 months of treatment, the treatment counselor is essential in educating patients about disease management and motivating them to adhere to the treatment regimen.

Mishel argues that uncertainty exists in various situations and is closely related to

disease (M. Mishel, 1988). When patients seek to reduce uncertainty, they try to understand their symptoms by structuring them in terms of their own context. Health care professionals can be supported in this process to improve psychosocial adaptation (Dudas et al., 2013). TB clients should be more open to family members who feel comfortable in accompanying treatment visits. Health workers should be able to provide counseling to both parties, namely clients and families because some clients still visit alone in the treatment process so that the information provided is not fully understood by the client. The impact of information that is not understood by the client will increase uncertainty and experience confusion when making decisions on medical visits. The role of the family is very important in reducing the client's uncertainty so that it will increase psychosocial adaptation.

The results of the research on coping factors showed that the factors that had a very significant effect on psychosocial adaptation were the statistical path coefficient value (0.579) so that the coping factor was the strongest in the psychosocial adaptation of TB patients. The results of interviews with researchers and respondents get additional data in the form of statements in overcoming a problem. TB clients seek family support to help the client's healing process, such as providing emotional support to clients such as attention and affection, and providing assistance during treatment visits. The client said that the family became a source of reinforcement in overcoming all the problems experienced by the client in undergoing treatment.

Based on the description above, the results of this study are in line with research conducted by Fuadiati (2019) Coping mechanisms have an opposite relationship with stress, the more adaptive a person's coping mechanisms are, the less stress they experience. Researchers argue that coping is an individual's effort to adapt to stressful and stressful situations, when individuals are able to adapt then stress will not occur. Stress also depends on how the individual views a problem. When someone views a problem as a disaster, then

what is felt is only sadness and it causes negative thoughts that cause stress. Coupled with continuous sadness it is difficult to think about what steps to take in dealing with problems. Discussions with families will help improve coping by seeking social support and seeking information through media and other sources so that it will increase psychosocial adaptation.

The assumption of the researcher to overcome the problem in dealing with his illness is that problem focused coping strategies can be used, namely by means of fellow TB clients who can exchange experiences facilitated by nurses so that they can become role models that have a very positive impact in the form of enthusiasm and motivation in struggling to recover, which can be emulated by patients. others and TB clients can do good stress management.

Cognitive factors (level of knowledge) have a significant effect on the uncertainty of TB clients. Social factors (stigma) have a significant effect on the uncertainty of TB clients. The uncertainty factor has a significant effect on the TB client's coping. The uncertainty factor has a significant effect on the psychosocial adaptation of TB clients. Coping has a significant effect on the psychosocial adaptation of TB clients. This psychosocial adaptation nursing model has good predictive relevance and can be applied in the nursing service setting of the Jember Health Center.

Another study by (Muhammad, 2019) Education is a learning process that can be obtained on an ongoing basis, through learning from the surrounding environment. Education can be adequate if a person or teacher conveys knowledge from one person to another, by guiding and having a goal so that knowledge itself can be distributed. have a high level of education, it will be easy to absorb various information and also affect one's understanding. This causes the level of education will also affect uncertainty so that a nurse must be able to convey information in easy language so as to increase knowledge of tuberculosis, prevention and treatment in practice, thereby ensuring uncertainty. The

provision of brief information sessions about tuberculosis (TB), in undergoing treatment and related issues in the field, the solution is by providing information by a nurse after a client is diagnosed with TB (Etkind et al., 2017).

Another finding by other researchers is the influence of uncertainty on psychosocial adaptation. Uncertainty has been associated with psychosocial stress, individuals may wish to maintain or increase their uncertainty rather than reduce or eliminate it (Martin et al., 2010). Overall psychosocial welfare, especially in TB services. Facts on the ground that basic needs, especially the psychosocial needs of TB clients, are not a top priority. These findings highlight the need to integrate mental health and psychosocial adjustment into TB care.

This is reinforced by the client's statement during data collection that TB clients feel isolated when the community knows their current TB disease so they tend to hide their disease, especially in the community for fear of losing and being shunned by their friends. If this condition continues, it will cause the client to prefer to be alone because he is worried that someone else is suffering from pulmonary TB. The above can increase uncertainty which can affect the decrease in psychosocial adaptation of TB clients. However, this study has limitations, namely, some data that may not be in-depth were dug up due to limitations in finding data because some respondents came from the Madurese and Javanese tribes so that the information conveyed had some possible inaccuracies in the data.

## Conclusions:

Cognitive factors (level of knowledge) have a significant effect on the uncertainty of TB clients. Social factors (stigma) have a significant effect on the uncertainty of TB clients. The uncertainty factor has a significant effect on the TB client's coping. The uncertainty factor has a significant effect on the psychosocial adaptation of TB clients. Coping has a significant effect on the psychosocial adaptation of TB clients. This



psychosocial adaptation nursing model has good predictive relevance and can be applied in the nursing service setting of the Jember Health Center

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