

THE RELATIONSHIP OF STRESS WITH THE LEVELS OF CORTISOL TB SUFFERERS

Chilayatiz Zahroh, Difran Nobel Bistara
Nursing and Midwifery Faculty
Nahdaltul Ulama University Surabaya
Email: chilyatiz@unusa.ac.id

Abstract

Stress is a natural thing, but in people with TB should be minimized in order to the sufferer does not decrease the immunity. This research aims to know the relationship of stress with the levels of cortisol in TB sufferers in Puskesmas Tambelangan Sampang Madura. This research method was analytic. The taking of the sample with the total sampling techniques, obtained 13 respondents. Variable of this research were levels of stress and cortisol levels of TB sufferers. The level of stress was measured by the questionnaire and cortisol levels measured by examination of a blood sample. The data were analyzed using the Wilcoxon signed rank test. Majority of respondents experience medium stress, and cortisol levels was in the normal range. The Wilcoxon sign rank test showed the value of ρ count $>$ ρ table; indicates that there was relationship of stress with the levels of cortisol TB sufferers. Stress will increase hormone cortisol and suppress the immune system. Therefore sufferers TB should be able to manage stress so that the immune system of the body getting stronger in the fight against TB germs.

Key words: stress, cortisol, Tuberculosis

INTRODUCTION

TB treatment takes a long time, at least six months. It would be stress to sufferers of TB. It also results in the possibility of breaking up the drugs so that treatment failure. The impact of physical stress can affect the healing process, because sufferers who experience stress can suppress immune system (Amin, 2007).

The number of Tb is increasing every year. In 2010 reached 14 million or equal to 200 cases per 100,000 inhabitants. In 2011 as much as 8.7 million people fell sick with tuberculosis and 1.4 million died (WHO, in Syam, 2013). The number of new cases discovery of East Java in 2012 was 67.09% of which consists of the number of new cases of BTA-negative as much as 41.472 cases, and BTA positive as much 25.618 cases. These conditions are still far from the target of Governments that mentioned the discovery of new cases each year (CDR/Case Detection Rate) must achieve 70% (Dinkes, 2013). TB cases at Puskesmas Tambelangan last 4 years experience fluctuating. In 2012 there are 56 cases, there were 54 cases of 2013, 2014 there were 86 cases and 2015 there were 56 cases.

Efforts to manage stress of TB sufferers done by health workers by giving guidance and counselling, its function is to increase knowledge and provide motivation in people with TB. So that sufferers are not stressed by disease, want to consume drugs regularly during 6-8 months, and want to control to the Puskesmas regularly. Based on the phenomenon then it needs to be researched more about the relationship of stress levels and cortisol level in Puskesmas Tambelangan Sampang.

METHOD

This research method is analytic. The taking of the sample with the total sampling techniques, obtained 13 respondents. This research is variable levels of stress and cortisol levels of TB sufferers. The level of stress is measured by the questionnaire and cortisol levels measured by examination of a blood sample. The data were analyzed using the Wilcoxon signed rank test test.

RESULT

Stress level of TB sufferers

Table 1.1 Stress level of TB sufferers in Puskesmas Tambelangan Sampang Madura, July, 2016

Stress level	F	%
Mild	0	0%
Moderate	12	92%
Heavy	1	8%
Total	13	100%

Cortisol level of TB sufferers in Puskesmas Tambelangan Sampang Madura, July, 2016

Table 1.2 Cortisol level of TB sufferers in Puskesmas Tambelangan Sampang Madura, July, 2016

Kortisol level	
Highest	18,22
Lower	0,25
Mean	11,61

Analysis of stress level and cortisol level

Table 1.3 Analysis of stress level and cortisol level

Respondent	ρ count	ρ table
13	0,571	0,553

ρ count > ρ table, mean there is a relationship of the level of stress with the levels of cortisol.

Discuss

Majority of respondent get moderate stress. It found because respondents are currently undergoing treatment 2-3 of the month and are adapting to the disease. Chrousos, 1992, said that the condition of the body due to adaptation are known as biological perceptions. If the body is faced with a stressor in persistent and body fail to maintain a balance so that appears is the State of pathological or pain (Putra, 2011). The refinement of the concept of stress by Dabbar-McEwen stated that stress consists of stress perception and stress response. Stress perception is the result of a learning process to select, organize, and interpret the mengintepretasi stressor correctly. Stress perception in addition to engaging the intellect, emotions also experience. The concept of this stress in accordance with the concept of the psychology of the moment, stress pesepsi can be considered to reflect the change of cognition and stress response reflects the biological and physiological changes.

Physical or mental stress stress within a few minutes can increase the secretion of ACTH,

cortisol secretion thus also increased twenty times (Guyton 2012). The condition of stress experienced by a person, both physically and emisional will be responded by the brain in the hypothalamus. The relationship of the brain with the immune system through the pituitary – adrenal hipothalamo – (HPA) axis. Physical or psychological stress are processed by the hypothalamus secretes CRH so. The signal is sent to the hipofisis so that menstimulus secretion of ACTH. ACTH is captured by the cell in the cortex of the adrenal glands for secreting cortisol (Guyton, 2012). Researchers about stress, cortisol imbalance report that is very closely related to health problems (pain) (Chrousos, 2009). Cortisol (glukocortikoid) plays a role in controlling the production of cytokine and this mechanism is able to stop the inflammatory process to protect damage to organs in the immune activity that extends (Ebrecht, 2003).

The respondents should be patient in trying to accept and live the exams given by God, IE in the form of care for sufferers of TUBERCULOSIS. Respondents who are more patient and sincere exams (TB sufferer) and difficulties will be able to think much megatasi looking for solutions to problems or difficulties encountered. Ikhlas is a condition for the admissibility of a charity by God, either physical and spiritual (Sa'adu, 2011).

CONCLUTION

There is a relationship of stress with the levels of cortisol in TB sufferers at Puskesmas Tambelangan Sampang.

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