Adversity Intelligence (AI) and Level of Stress among Young Doctors (Co-Assistants) in Pirngadi General Hospital *Medan*

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Abstract: The role of AI as intelligence is related to coping, after turning out, not only appearance in business/ organization, but also in educational institutions (Stoltz, 2004, Alka, 2012). In education, AI plays significant role when individuals are faced with various challenges, such as learning process (Matore, 2015). The various studies have shown that medical students experienced stress higher than those of non-medical students. Furthermore, the previous research showed that stress level of co-assistants were higher than that of preclinical student. The stressful events were also related to individual responses to adversity encountered. Some individuals became discouraged, but others felt excited and assumed the event as a challenge. Stoltz (2004) states that each individual has a different response when faced with hardship. Basically, it was closely related to AI's concept. This study involved thirty co-assistants, conducted to find out the relationship between AI and stress level. The AI-scale adopted from Arisandi (2011) and Depression Anxiety Stress Scale 42 (DAS-42) were used to collect relevant data. Data were analyzed by using Pearson Product Moment correlation test. The results showed that there was significant negative correlation between AIand stress level with p value of 0.002 (p <0.05) and r value of -0.543.

1 INTRODUCTION

Medical education consists of two stages, namely academic stage (preclinic) and profession stage (co-assistant), meaning that at the first stage, medical students must lead a preclinical study in the university before becoming co-assistants in the hospital. Preclinical studies are relatively more stagnant in the hospitals asthey will be taken for approximately seven semesters. After that, the students will enter co-assistant stage. In this stage, the students will be directly faced with patients and have an opportunity to take medical action, to apply their knowledge during study as preclinical students. Co-assistant stage will be taken for four semesters and Pirngadi General Hospital Medan is one of the educational hospitals in North Sumatera, Medan (Anonymous, 2013).

Furthermore, medical education processes often cause students lost a lot of time. This makes them difficult to manage their time. Moreover, they are also required to have strong biomedical science, clinical science and ability to deal with patients directly. All of these cause medical students to

experience stress (Suhoyo, 2006; Putri, 2015). In Hochiminch City, Vietnam, the research on 315 medical students showed that 39.6 percent of students were depressed. The intrapersonal, academic and environmental problems were viewed as stressors (Putri, 2015).

Many researches about level of stress had also been done. Abdulghani (2008) studied medical students in Saudi Arabia and found that 21.5 percent of students had mild stress, 15.8 percent had moderate stress and 19.16 percent had high stress. Furthermore, Widosari (2010) also conducted research on preclinical students and co-assistants in faculty of medicine at SebelasMaret University. She found that level of stress among co-assistants was higher than that of preclinical students. Co-assistants experience more anxious and depressed situations than preclinical students.

The recent phenomenon also showed that many students had low fighting power, especially when they had academic difficulties. Many of them felt desperate instantly, and would not fight anymore and some of them felt great suffering and tended to compensate for feelings of depression with ending

up their living (Sukojo and Yuniati, 2016). Similarly, the previous studies conducted on medical students of the United States and Europe showed that one third of students had poor mental health and the prevalence increased in students of advanced stage, which was 25 to 52 percent.

Based on the previous data, wecould conclude that co-assistants' activities were viewed difficult, ultimately affecting the emergence of behaviors related to stress. Stressful events with varying degrees are also related to the individual's responses with hardship encountered. Some people become discouraged, but others feel excited by the challenges.

As said by Stoltz (2004) that basically, everyone has a different response when faced with hardship. Some of them seem to be able to get out of the adversity, while the others feel embarrassed, inferior until psychological trauma. Basically, this phenomenon cannot be separated from the concept of AI. The medical students must have AI to become intellectual candidates who can survive when faced with problems or pressure. Strength or power is needed to solve it (Laura and Sunjoyo, 2009). When individuals are able to survive and overcome difficulties, they will achieve success in life. Achieving success in life is determined by level of AI.

First, AI was developed by Paul G. Stoltz. Stoltz (2004) stating that AI is also an individual's ability to move life's goal in the future, and also as a measurement of how to respond to difficulties. He divided the dimensions of AI into four parts, namely CO_2RE. The CO_2RE dimensions will determine level of individual's AI usually expressed in the form of adversity quotient, that is a coefficient which explains individual's ability to respond difficulties.

The role of AI as intelligence is related to coping ability after turning out, not only appearance in the business or organization, but also in educational institutions (Stoltz, 2004, Alka, 2012). In education, the concept of AI plays a significant role when individual are faced with various challenges, such as learning process (Matore, 2015). In addition, research related to AI and stress levels, particularly among co-assistants has never been done. Therefore, the reseachers would like to see the correlation between AI and level of stress among co-assistants in Pirngadi General Hospital Medan.

The data obtained from this research, will also be used as basis for planning the right method to develop the psychological readiness of co-assistants. So, they can exhibit maximum performance and

make them have good preparation and confidence when undergoing the profession on the actual conditions later.

2 METHOD

2.1 Research Design

This study used quantitative research in which the correlation approach was selected to determine relationship between AI and level of stress among co-assistants in Pirngadi General Hospital Medan. The data were analyzed statistically by using computer program.

2.2 Variables

There are two variables, namely (1) AI, which is defined as the total score obtained from the sum of four dimensions (CO_2RE) score, measured by AI scale, adopted from Ariasandi (2011). AI is described as the ability of the individual to survive and overcome all the hardship, with tough and diligent manners to achieve goals and; (2) the level of stress is a feeling of tension experienced by the individual due to internal or external pressure, characterized by psychological reactions, as measured through Depression Anxiety Stress Scale 42 (DAS-42).

2.3 Sample

This research involved thirty co-assistants which were selected through purposive sampling technique. They were taking part in professional education at Pirngadi General Hospital Medan, starting from May 2016 until February 2017. The study was conducted at the hospital located at Jalan prof. H.M. Yamin, SH No. 47, Medan.

2.4 Instrument

The researcher used psychological scale to collect relevant data. First, the AI scale, adopted from Ariasandi (2011), consisting of sixteen statements and was arranged by the dimensions of CO_2RE-AI, including control, origin-ownership, reach and endurance. This scale had tested the reliability by using cronbach alpha and obtained reliability index of 0.902. Test validity with 5 percent significance level has also been done and obtained coefficients ranged from 0.398-0.798. Thus, it can be said that

the scale was valid and reliable to measure co-assistants' level of AI.

Second, DAS-42 was developed byLovibond and Lovibond, consisting of forty two items. The scale has also been internationally validated with validity and reliability value of 0.91, by using Cronbach's Alpha (Lovibond, 1995).

3 RESULTS AND DISCUSSION

This is to determine correlation between AI and level of stress among co-assistants in Pirngadi General Hospital Medan. The correlation test results can be seen in the table below:

Table 1: AI and Level of Stress among Young Doctors (Co-Assistants) in Pirngadi General Hospital, Medan.

	Mean	Std Dev	P value	r value
AI	30,77	5,35	0.002	-0.543
Stress Level	16,63	7,17		

Pearson Product Moment correlation Test(p<0,05)

This table showed that p value was 0.002 (p <0.05) and r value was -0.543. It meant that there was significant negative relationship between AI and level of stress among co-assistants in Pirngadi General Hospital Medan. In other words, it can be said that height of AI tended to lead to normal stress level.

But, in this study, the most of AI's co-assistants were in the moderate category with normal stress level. It was related to many factors that affected individual's AI level. As said by Stoltz (2004) many factors could influence AI's level. First, internal factors, e.i genetics, belief, talent, desire, character, performance, health and intelligence.Second, external factors, e.i education and environment.

Furthermore, most of co-assistants were able to manage stress appropriately and effectively or they might not assume the professional education as a stressful event. Garmezy and Michael (inTaylor, 1999) states that some people develope maladaptive behavior as a reaction to survive and the others are able to survive and develop by adaptive behavior. They would also be better, when they get out of trouble and live a healthy life. This means that they use adaptive coping skills. In other words, it can be said that individuals who develope adaptive coping

skills patterns tend to have resilience, when facing failure.

Furthermore, the researchers also found an overview of AI's co-assistants outlined in the table 2. This table showed that most of co-assistants in Pirngadi General Hospital, Medan had medium category of AI.

Table 2: AI among Young Doctors (CoAssistants) in Pirngadi General Hospital, Medan.

Interval	Level	Frequency (n)	Perscentage (%)
x > 50	High	0	0
$30 \leq x \leq 50$	Average	17	57
x < 30	Low	13	43

Zhou (2009) states that everyone is born with a basic drive to move on, moving towards a life goal, no matter what the purpose of life is. He terms life like climbing a mountain. There are three individual types, e.i quitter, camper, and climber.

Related to AI's theory, it can be said that co-assistants were included in campers category, a type characterized by good ability to deal with hardships or challenges, but unable to endure hardships or challenges threatening. This type also has limited ability to deal with change, especially big change that requires a lot of adaptability. Individuals with this type feel satisfied and sufficient with the result already obtained, so that eventually they are less motivated to develop potential possessed to the fullest. Growing spirit will have an impact on the level of AI. It means that co-assistants in Pirngadi General Hospital Medan had adequate spirit and confidence when faced the problems related to academic activities in the hospital.

The study also found several co-assistants with low level of AI. They were included in quitters, a type characterized by low ability to deal with adversity denying the opportunity to view obstacles as a challenge.

However, this study could not find a co-assistants' high level of AI, also known as climbers. People with this type have the ability to survive when faced withcute hardships and makeit as an opportunity to continue to grow. According to Stoltz (2004), the support from people around, e.g listening also could make them feel recognized, strengthened and cared for. Storytelling could be a

tool of expressing one's emotions and thoughts, so that they feel more comfortable and ready to deal with the problem. However, support from the others, e.g solutions could make individual dependent on theperson who provide the solution. It caused them to become unfamiliar with their problem.

Overview of stress level among co-asisstants in Pirngadi General Hospital, Medan was outlined in the table below:

Table 3: Level of Stress among Young Doctors (Co-Assistants) in Pirngadi General Hospital, Medan.

Interval	Level	Frequency (n)	Percentage (%)
x ≤ 14	Normal	15	50
15 ≤ x ≤ 18	Mild	4	13
19 ≤ x ≤ 23	Moderate	6	20
26 ≤ x ≤ 33	Severe	5	17
x ≥ 34	Very Heavy	0	0

The table showed that most of co-assistants had normal category of stress. Holroyd and Lazarus state that cognitive point has a significant role to stress reaction and it is usually conceptualized in two interaction processes, namely appraisal and coping. Appraisal determines whether situation is assumed as stressful and cognitive appraisal would change individual to reduce stress. So, if the individual feels that a situation as something stressful, coping is needed.

Otherwise, if someone thinks a situation is not something stressful, coping is not needed. The stressful situation can also be minimized through effective coping skills (Lazarus and Folkman, 1984).

In relation to research findings, it can be argued that most of co-assistants assumed professional education was not a stressful situations or they assumed that the situation was as stressful but they minimized stressful situations by implementing effective coping skills.

In addition, academic climate factors in Pirngadi General Hospital Medan which has been well planned also affected normal category of stress among co-assistants. The climate includes a harmonious relationship between senior-juniors,

supervisors and other academic staff. Through decades Pirngadi General Hospital Medan has become one of the educational hospitals helping students to adjust and go through their academic activities comfortably.

4 CONCLUSIONS

This study shows that there is a significant negative relationship between AI and stress level among co-assistants in Pirngadi General Hospital Medan. Tracking of coping skills types is considered effective to minimize stressful situations and can be taken into consideration for further research.

5 RECOMMENDATION

The conclusion of this research shows that AI plays an important role in one's stressful experience. But cognitive process also has a significant role to minimize or reduce the stress level. Practical coping skills could help people but we do not know which coping skills are effective. Hopefully, this research gives contribution to other researchers, especially those related to coping skills.

REFERENCES

Abdulghani, H. M., 2008. Stress and depression among medical students: A cross sectional study at a medical college in Saudi Arabia. *Pakistan journal of medical sciences, 24*(1), 12.

Alka, V.R.S., 2012. A Study of secondary school students' response to adversity in relation to certain psychological and performance factors; *Thesis*, Department of Education University of Mumbai, Mumbai.

Anonymous, 2013. Undang-Undang Republik Indonesia Nomor 20 Tahun 2013 Tentang Pendidikan Kedokteran. Jakarta: Depdiknas.

Ariasandi, E., 2011. Hubungan Antara Kemampuan Adversitas Dengan Stres Akademik Pada Mahasiswa. Semarang: Perpustakaan Unikat.

Lovibond P. F and S. H Lovibond., 1995. The Structure of Negative Emotional States: Comparison of The Depression Anxiety Stress Scale (DASS) with The Beck Depression and Anxiety inventories. Australia: Pergamon.

Lazarus, R.; Folkman, S., 1984. *Stress, appraisal and coping*. New York: Springer Publishing Company.

Matore, M.E.E.M.; Khairani, A.Z.; Razak, N.A., 2015. The influence of AQ on the academic achievement

among Malaysian Polytechnic Students, *International Education Studies*, 8 (6): 69-74 .

Putri, S.A., Zulharman., Firdaus., 2015. Hubungan Adversity Quotient dengan Tingkat Stres Akademik Pada Dokter Muda Fakultas Kedokteran Universitas Riau. Riau : FK UNRI.

Stoltz, P.G., 2004.Adversity quotient: Mengubah hambatan menjadi peluang;adversity quotient: Turning obstacles into opportunities, Penerjemah: T. Hermaya, PT Grasindo, Jakarta.

Sujoko; Yuniati, R., 2016.Analisaperilaku striving for superiority padasiswa yang tidak lulus ujiannasional, *JurnalIlmiahPsikologi*, Juli; 8 (2).

Yakoh, M.; Chongrukasa, D.; Prinyapol, P., 2015. Parenting styles and adversity quotient of youth at Pattani Foster Home: 282-286. *6th World Conference on Psychology Counseling and Guidance.*

Widosari, Y.W. 2010. Perbedaan Derajat Kecemasan dan Depresi Mahasiswa Kedokteran Preklinik dan Ko-asisten di FK UNS Surakarta. Surakarta : FK Universitas Sebelas Maret.

Zhou, H., 2009. The adversity quotient and academic performance among college students at ST.Joseph's College, Quezon City, *Thesis*. The Departments of Arts and Sciences ST.Joseph's College, Quezon City.