



Effectiveness of Systematic Desensitization for Decreasing of Anxiety in Individual with Specific Phobia

Agus Prayetno, Raras Sutatminingsih, Jasetta M. R. Tuapattinaja

Faculty of Psychology, University of Sumatera Utara, Indonesia

Abstract— This study aims to examine the effectiveness of systematic desensitization to reduce anxiety in individuals with specific phobia. The research design used a quasi-experimental one group pre-test post-test design. The sampling method used a purposive sample. The subject of this study consisted of six people with specific phobia according to DSM-5. The systematic desensitization module used includes the relaxation exercises, develop a hierarchy of anxiety-producing stimuli, the process of imagining a hierarchy of anxiety while maintaining relaxation. Therapy sessions were given six times in three weeks. Quantitative data is taken from the Subjective Units of Discomfort Scale (SUDS). The quantitative data obtained were analyzed using the Wilcoxon nonparametric statistical test. The results showed a decrease in anxiety scores in individuals with specific phobias after being given systematic desensitization ($p = 0.014$; $p < 0.05$; $Z = -2.201$). Based on the results of the statistical analysis shows that systematic desensitization is effective in reducing anxiety in individuals with specific phobias.

Keywords— Anxiety, Systematic Desensitization, Specific Phobia.

I. INTRODUCTION

One of the most common disorders in populations in the world is Specific Phobia. In Europe, the estimated number of specific phobia sufferers is 7.7% - 15.3% of the general population. In East Asia, the population experiencing specific phobias is 2% -4% with details of 2.6% in China, 3.4% in Japan, and 3.8% in Korea. Whereas in America around 6%.^{2,5,12} Hamm revealed someone called experiencing a specific phobia characterized by constant anxiety and fear caused by a particular object or situation accompanied by a strong desire to escape or avoid meeting with an object or event that is the main feature of a specific phobia.⁶ In DSM-5, specific phobias are classified into five types: animal (for example dog, snake, insect), natural environment (for example dark, altitude, storm), situational (For example closed space, elevator, fly), blood-injection-injury (For example: see blood, receive injections) and other subtypes (For example: choking, noise, character costumes).²

Individuals with specific phobias usually tend to ignore the disorder they experience compared to individuals with other phobias. Only one-tenth to a quarter of individuals with specific phobias receive treatment, the rest are many individuals with specific phobias not seeking treatment. This possibility is caused by avoidance behavior can reduce the pressure and disturbances experienced. Even though the perceived impact can prevent them from carrying out their

daily activities. Moreover, individuals with specific phobias will usually experience physical symptoms such as fatigue, weakness, cold sweat, palpitations, dizziness, nausea, tremors or want to faint when meeting directly with the object or situation they anxiety.^{5,10} Besides, specific phobias are important risk factors in the development of other mental disorders. Specific phobias are predictors of increasing suicidal tendencies, and risk factors for developing major depression or anxiety disorder. Specific phobias are also associated with physical illnesses such as respiratory illness, heart disease, vascular disease, migraines, and others.¹⁴ For this reason psychological treatment is needed, so that specific phobias do not develop into other disorders.

Several factors influence the development of specific phobias namely genetic, educational and economic, learning behavioral, and cognition.⁵ Learning behavior can affect specific phobias due to classical conditioning, modeling, and information transmission. Classical conditioning explains that a person can be conditioned to show an anxiety response to a harmless situation by repeatedly linking a harmless conditioned stimulus to a dangerous stimulus.⁴ The transmission of negative information has the effect of forming beliefs related to anxieties or fears about certain situations or objects. Information transition is done by studying information conveyed by others that an object or situation is dangerous.¹⁵ Modeling is a process that can also develop phobias. Modeling refers to the phenomenon that anxiety can be learned by observing other people's responses to certain stimuli or situations.⁹

Several psychological therapies can be performed to treat specific phobias, one of which is systematic desensitization. Systematic desensitization is an intervention developed by Wolpe based on the classical conditioning principle. The goal of this therapy is to reduce the response of negative emotions in people with phobias by connecting the dreaded stimulus with something soothing.^{8,5,13} The implementation of systemic desensitization has three stages: participants learn to use one of the relaxation skills, therapists and participants develop a hierarchy of anxiety-producing stimulus, participants gradually imagine the hierarchy of anxiety-producing stimulus while applying relaxation.

II. OBJECTIVE AND METHOD

The main objective of this study is to examine the effectiveness of systematic desensitization to reduce anxiety in

individuals with specific phobias. The design of this study uses a quasi-experimental one group pre-test post-test design. The sampling method used was purposive sampling. Participants in this study were six people with specific phobias according to DSM-5 criteria. All participants aged 19-30 years. Each participant was given systematic desensitization therapy individually. Therapeutic sessions were given six times in three weeks. Quantitative data were taken from the Subjective Units of Discomfort Scale (SUDS) and analyzed by Wilcoxon nonparametric statistical tests.

III. RESULT AND DISCUSSION

This study hypothesizes that systematic desensitization is effective in reducing anxiety in individuals with specific phobias. The Wilcoxon analysis test results of pre-test and post-test scores obtained $Z = -2,201$ and obtained a significance value of 0.014 less than $p < 0.05$, it can be concluded that there are significant differences between pretest and posttest in participants after systematic desensitization. This shows a decrease in the anxiety of the phobic objects in participants with specific phobias after the administration of systematic desensitization.

In DSM-5 specific phobias are characterized by excessive fear and anxiety towards certain objects or situations. The object or situation of phobia is always avoided by intense anxiety.² Participants who received systematic desensitization in this study experienced a decrease in the anxiety of phobia objects or situations. Ifeanyi revealed systematic desensitization is a therapy that has been developed by experts to eliminate maladaptive behaviors such as fear, anxiety, insecurity, and depression.⁷ Research conducted by Aboot and Abu-Melhim also revealed that systematic desensitization contributed to reducing the anxiety and fear associated with learning foreign languages.¹ This statement adds to the evidence that systematic desensitization can indeed reduce anxiety. The difference in this study is systematic desensitization is effective in reducing anxiety in individuals with specific phobias.

The decrease in anxiety was also evident from the reduced physical response experienced by participants after getting systematic desensitization. Physical responses such as palpitations, cold hands, trembling, rapid breathing, and tense when faced with phobia objects or situations have been reduced and successfully overcome by doing the relaxation taught. The body's response such as palpitations, cold hands, trembling, rapid breathing is the autonomic arousal experienced as components of the fear and anxiety problem experienced. Relaxation procedures are used to reduce autonomic arousal.⁸ Carter, et al. stated that relaxation is a series of practices that are performed to obtain a relaxed (comfortable) response, and reduce overall physical arousal symptoms. Individuals with phobias applying relaxation techniques aim to reduce the stress of the dreaded stimulus. Decrease physical symptoms in participants, making them confident and bolder against anxiety when dealing with objects or situations of phobic.³

In systematic desensitization, participants are trained to use two relaxation techniques (progressive muscle relaxation

and diaphragmatic breathing). After they managed to learn it. The therapist then invites participants to identify some of the triggers for anxiety and then compile them from stimuli that are less anxiety to the most anxiety when faced with the object phobic. After the participants managed to arrange it in the form of a hierarchy of anxiety, the therapist asked participants to imagine the hierarchy of anxiety gradually and asked participants to relax while imagining it. The process of imagining is repeated until participants feel able to fight their anxiety and feel more comfortable.

The success of participants in dealing with anxiety stimuli imaginary creates confidence to challenge themselves to face more extreme anxiety stimuli. Even participants felt ready to face directly their anxiety stimulus. This is evidenced by participants accepted the challenge from the therapist to face directly some of the situation the hierarchy of anxiety that successfully they passed through imaginal processes. It seems that participants began to prepare themselves by doing relaxation and still seeing the anxiety object and continuing to relax. After several times the participants felt bolder and were not afraid to see the object they were afraid of. Following research conducted by Rajiah and Saravanan, it was revealed that psychoeducation and systematic desensitization had a significant effect in reducing anxiety, psychological pressure, and amotivation on first-year pharmacy students in Malaysia. Students who receive psychoeducation and systematic desensitization can reduce anxiety and psychological stress before the exam, which in turn increases their confidence and motivates them to obtain a higher GPA.¹¹ This study confirms that systematic desensitization plays a role in influencing the emergence of self-confidence in participants to facing more challenging situations that cause anxiety.

The results of this study indicate a change in behavior in the participants. If previously the participants did not dare and avoid their phobic object. After undergoing systematic desensitization the participants do relaxation and stay faced with the objects or phobic situations.

IV. CONCLUSION

Based on the results of this study it can be concluded that systematic desensitization is effective in reducing anxiety in individuals with specific phobias. This can be seen from the Wilcoxon test results, pretest scores and posttest scores obtained Z scores = -2.01 and scores $p = 0.014$ so that $p < 0.05$. based on the results of Wilcoxon analysis it was found that there were significant differences between the pretest and posttest of study participants after systematic desensitization was given. This means that after systematic desensitization, the participant experiences a decline in the anxiety of the object or situation of phobic.

REFERENCES

- [1] Aboot, M. H dan Abu-Melhim, A-R. H. "Investigating the Effectiveness of Systematic Desensitization in Reducing Anxiety among Jordanian EFL Learners." *Arab World English Journal, Conference Proceedings*, pp.54-70, 2015.
- [2] American Psychiatric Association (APA). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, DSM 5*. Washington D.C.: American Psychiatric Association, pp.197-199, 2013.



- [3] Carter, A.E., Carter, G., Boschen, M., Alshwaimi, E., & George, G. "Pathway of anxiety and anxiety in dentistry: A review," *World Jurnal Clinical Cases*, vol 2, issue 11, pp 642-653, 2014.
- [4] Coelho, C.M dan Purkis, H. "The Origins of Specific Phobias: Influential Theories and Current Perspectives," *Review of General Psychology*, vol 13, issue 4, pp 333-348, 2009.
- [5] Eaton, W.W., Bienvenu, O.J dan Miloyan, B. "Specific Phobia," *Lancet Psychiatry*, Vol 5, issue 8, pp 678-686, 2018.
- [6] Hamm, A.O. "Phobias Across the Lifespan," *International Encyclopedia of the Social & Behavioral Sciences, 2nd edition*, vol 18, pp37-44, 2015.
- [7] Ifeanyi, A. "Effect of systematic desensitization technique on test anxiety among secondary school students," *International Journal of Humanities Social Sciences and Education*, vol 2, issue 2, pp 167-178, 2015.
- [8] Miltenberger R.G. *Behavior Modification Principles & Procedures*. USA: Wadsworth Cengage Learning, 2012.
- [9] Muris, P & Merckelbach, H. *Specific Phobia: Phenomenology, Epidemiology, and Etiology*. Netherlands: Springer Science+Business Media, pp 3-18, 2012.
- [10] Mutiara, V. "Empathic Love Therapy untuk mengurangi Kecemasan pada Individu dengan Fobia Spesifik," M.S. thesis, Department of Psychology, Universitas Gadjah Mada, Yogyakarta, Indonesia, 2017.
- [11] Rajiah, K., & Saravanan, C. "The effectiveness of psychoeducation and Systematic Desensitization to Reduce Test Anxiety Among First-year Pharmacy students," *American Journal of Pharmaceutical Education*, vol 78, issue 9, pp 163-169, 2014.
- [12] Rudaz, M., Ledermann, T., Margraf, J., Becker, E.S., Craske, M.G. "The moderating role of avoidance behavior on anxiety over time: Is there a difference between social anxiety disorder and specific phobia?" *Plos One*, vol 12, issue 7, pp 1-14, 2017.
- [13] Singh, J., Singh, J. "Treatment Options for The Specific Phobias," *International Journal of Basic and Clinical Pharmacology*, 5(3): 593-598, 2016.
- [14] Wittthauer, C., Ajdacic-Gross, V., Meyer, A.H., Vollenweider, P., Waeber, G., Preisig, M., Leib, R. "Associations of specific phobia and its subtypes with physical diseases: an adult community study," *BMC Psychiatry*, vol 16, issue 155, pp 1-10, 2016.
- [15] Koerner, N., Rogojanski, J. dan Antony, M.M. *Specific Phobia*. Cambridge University Press, pp 61-67, 2010.