

HONESTY REPORTING IN DYSREGULATION EMOTION: EMPLOYEES WITH ALLERGIC RHINITIS POINT OF VIEW

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Abstract

This research aims to explore the emotional dysregulation in employees with Allergic Rhinitis (AR) from the employee's perspective. This study used a mixed-method with an explanatory sequential design. The subjects of this study were sixty productive age employees with AR. This method was conducted to obtain a wider perspective than only having a quantitative self-assessment. Having a closed questionnaire of emotional regulation modified from Wienberg and Klonsky, this study compares the six variables of emotional regulation namely self-control, evaluating emotions, emotion managing, emotion modification, confidence, and concentration. Besides, there was also a semi-open questionnaire which was answered honestly with anonymous identities to capture perceptions of regulation weaknesses. Kruskal Walls followed by post hoc Mann Whitney was used in an analysis to consider the dimension of emotional regulation on self-assessment. The results showed that the lowest dimension of emotional regulation among employees with RA are self-control and self-confidence, while the highest mean score is evaluating emotions. Emotional dysregulation in men did not differ from that of women. The employees did not have problems in concentration to complete the tasks, and also keep to time based on the schedule from the company. This study suggested practically that employees with AR should not be placed in a warehouse, places having contact with glassware, or requiring them to promote company products.

Keywords: *allergic rhinitis, dysregulation emotion, employee, productive age, self-report*

Introduction

Although many studies showed that Allergic Rhinitis (AR) inflict as a global health problem that decrease work productivity due to its multiple co-morbidity, there was no concrete report about its impact on employees' emotions based on honest statements by employees. Various studies on employees with AR show only loss side of the company. Due to work productivity, AR in America is reported to cause losses of up to US \$ 9.7 billion at an average indirect cost of US \$ 593 per worker with allergic rhinitis. This decrease in productivity was related to the absence and cost of

treating allergic rhinitis. In Europe it is reported that the lost productivity due to allergic rhinitis is 653 Euros per worker with an estimated total cost of economic losses associated with AR in excess of 2.7 billion Euros per year (Strózek et al., 2019). Furthermore, AR causes nasal congestion, increased mucus secretions, and itching symptom. The interaction between the environmental and genetic (hereditary) factors determine the progression, severity, and increase health problems caused by AR (Bui et al., 2019; Carlberg, 2014), while its prevalence in Southeast Asia varies between 5.5% -44.2% (EAACI, 2015). The research in Europe showed that more than 50% AR patients visit the doctor at least 4 times a year and spend both direct and indirect health care costs (Youna Wang, 2017). These studies show that employers with AR are usually placed as research objects with a focus on data collection, while the novelty of this research is to place employees as research subjects.

In terms of psychology and medicine, it is necessary to know which AR symptoms are disturbing the employees' emotions. Allergic rhinitis is a symptom of sneezing, airflow obstruction, and nasal pruritus, and also the discharge caused by an IgE-mediated reaction involving mucosal inflammation induced by T helper (Th2) cells (Li et al., 2019; Seidman et al., 2015; Wheatley & Togias, 2015). It is also called inflammation of the inner nose, which occurs when an allergen is inhaled. The nasal mucosa inflammation due to AR is caused by hypersensitivity on early and late immunoglobulin E (IgE) phases (Scadding, 2015; Trakaki et al., 2019). The main symptoms of allergic rhinitis are nasal congestion, sneezing, itchy nose, red and itchy eyes (Seidman et al., 2015). These symptoms interfere with all aspects of daily life, since it is associated with decreasing in sleep quality, work comfort and performance (Bui et al., 2019; Fukuoka et al., 2019; Kakli & Riley, 2016; Ren et al., 2019). Furthermore, 15% -38% AR patients also have asthma (Bro et al., 2016). Therefore, those diagnosed with AR have fivefold risk of contracting asthma in the future (Lin et al., 2019), causing serious complications and have a significant impact on the patient's life quality (May & Dolen, 2019). These symptoms interfere with school or work performance and individuals' life quality, causing significant burden.

Allergen exposure, air pollution, climatic and lifestyle changes, diet type, and psychological stress are factors affecting the allergen sensitization and prevalence, which is different in each country. However, in tropical countries, such as Indonesia, exposure to house dust is the most important factor triggering respiratory allergies (Alimuddin, Rengganis, Rumende, & Setiati, 2018). The research in Jakarta, Indonesia, showed the causes of asthma and AR as the sensitivity towards house dust mites followed by allergens to cockroaches, cat and dog hair (Sinurat, Rengganis, Rumende, & Harimurti, 2018). Among all the types of house dust mites, *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, and *Blomia tropicalis* are the main sources of AR allergens in tropical countries (Susanto, Rengganis, Rumende, & Harimurti, 2017). Since it is difficult to control dust in the workplace, therefore, AR becomes a perennial (eternal) condition (Nurmatov, Van Schayck, Hurwitz, & Sheikh, 2012).

In order to suppress hypersensitivity reactions, steroids are used. However, the use of steroid drugs in AR treatment depresses the allergic process causing both physical and psychological effects. The long-term physical side effects of steroids include hyperglycemia, hypertension, gastric ulcers, myopathy, osteoporosis, osteonecrosis, growth retardation in children, and cataracts. They also cause behavioral changes, such as nervousness, anxiety, and psychosis (Russell, 2012).

Various studies have shown a relationship between AR conditions and psychological problems. Kremer et al reported that AR impairs psychological well-being (Kremer, Den Hartog, & Jolles, 2002). The research conducted in South Korea showed a correlation between AR and mental health, in the form of stress and depression (Do Hyun Kim, Han, & Kim, 2016). Previous studies also showed a correlation between stress and increased allergic rhinitis symptoms on anxious individuals (Heffner, Kiecolt-glaser, Glaser, Malarkey, & Marshall, 2014; Marshall, O'Hara, & Steinberg, 2002; Trikojat, Buske-Kirschbaum, Schmitt, & Plessow, 2015). Meanwhile, individuals with anxiety disorders often have problems in regulating and understanding their emotions (Turk, Heimberg, Luterek, Mennin, & Fresco, 2005). For this reason, employees must understand their emotional weakness triggered by AR and learn to manage their emotions.

Emotional regulation includes the strategies for maintaining the intensity or trajectory of positive and negative thoughts (Young, Sandman, & Craske, 2019). Therefore, it is an individual's capacity to activate either implicitly or explicitly a goal to influence the generative process of emotions (Gross & Jazaieri, 2014). Also, it is a process of modulating an event or internal feelings' intensity (both positive and negative) which is associated with emotional physiological processes (Morris, Criss, Silk, & Houlberg, 2017).

Hasan Sadikin Hospital, West Java Province, Indonesia, reported that 64.6% of AR patients were of productive age (Fauzi et al., 2015). Previous studies have shown that AR reduces physical performance, because it interferes with emotional regulation, but the nasal provocation test for employees has not yet become the standard for recruitment and placement (Bernstein, 2018). Individual quality of work life and employee well-being are influenced by perceived and actual demands of work and job resources. In accordance with the theory of resource conservation (COR) (Holmgren, Tirone, Gerhart, & Hobfoll, 2017). This study aims to analyze which emotional dysregulation is most often experienced by employees with Allergic Rhinitis (AR), and to explore further from their own perspective as outlined in their diaries. The novelty of this study is to analyze the emotional dysregulation of employees with AR based on the self-reports they feel at work.

The Hasan Sadikin Hospital in West Java Province, Indonesia, reported that 64.6% AR patients are in the productive.

Method

This study used a mixed-method with an explanatory sequential design. This method was conducted to obtain a wider perspective than only having a quantitative self-assessment. Having a closed questionnaire of emotional regulation modified from Wienberg and Klonsky (Victor & Klonsky, 2016; Weinberg & Klonsky, 2009, 2014), this study compares the six variables of emotional regulation namely self-control, evaluating emotions, emotion managing, emotion modification, confidence, and concentration. Besides, there was also a semi-open questionnaire which was answered honestly with anonymous identities to capture perceptions of regulation weaknesses. This study used a mixed-method with a concurrent design to obtain a wider perspective than only a quantitative self-assessment. The emotional regulation questionnaire modified from Wienberg and Klonsky's instruments, was used to compare the six variables of emotional regulation, namely self-control, emotion evaluating, managing, modification, confidence, and concentration. Also, a semi-open questionnaire was answered honestly with anonymous identities to capture perceptions of regulating weaknesses. The subjects of this study were sixty productive age employees with allergic rhinitis. Inclusion criteria are:

- (1) employees 19-25 years old, male or female;
- (2) having at least 2 AR clinical symptoms (rhinorrhea, stuffy nose, sneezing, itching nose) under inclusion;
- (3) having AR medical history at least in the last two years;
- (4) having been diagnosed as an AR patient by a doctor.
- (5) having historical symptoms of AR when getting dust allergen.
- (6) voluntarily participated in this study, able to read, write, understand, and sign the informed consent.

Instrumen used in this honesty in dysregulation emotion research consists of 2 questionnaires. The closed questionnaire is modified from Wienberg and Klonsky instruments to analyze differences in emotional dysregulation from its dimensions, followed by a semi-open questionnaire to see from the respondents' daily records, what AR symptoms were felt within 6 working days. The closed questionnaire was given to all research subjects, while the collection of opened daily records was done from 3 respondents.

Statistical analysis using Kruskal Walls followed by post hoc Mann Whitney was used in an analysis to consider the dimension of emotional regulation on self-assessment. Semi opened questionnaire was used to make Pareto chart. Pareto chart is a bar chart showing problems based on the frequency of events. The sequence ranges from the number of emotional regulation problems that occur most to the least. This is intended to determine and identify the priority of emotional regulation problems among employees with AR. The purpose of using the Pareto diagram is to show what dimensions interfere with their performance from the emotional regulation aspect. The problems that mostly occurred are the top priority to be discussed and will be addressed later in suggestions.

Result and Discussion

The results of the study began with presenting a description of the mean emotional dysregulation in men and women shown in Figure 1.

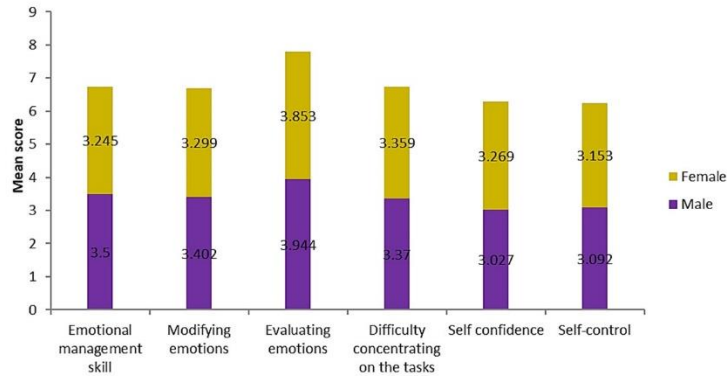


Figure 1
Emotional Regulation Dimension Score

Figure 1 showed that the emotional regulation score on each item similarly between men and women. In the next step, we describe the number of workers with AR at the emotional dysregulated level in Figure 2.

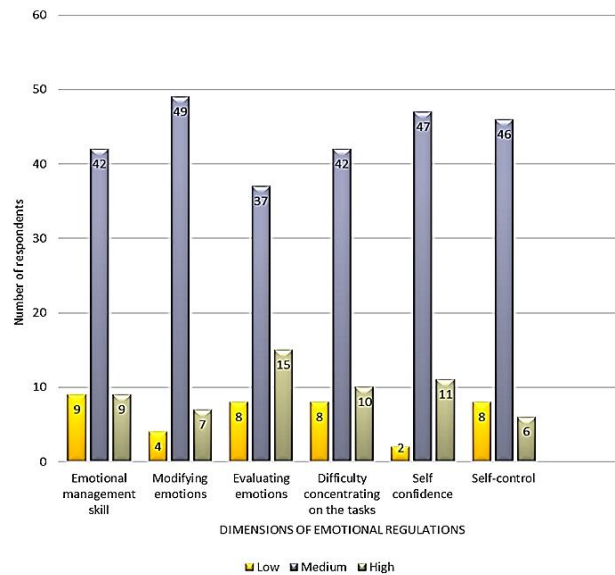


Figure 2
The number of workers at various levels of emotional dysregulation

Figure 2 described that there are 9 out of 60 employees (15%) had the lowest score in emotional management skills. It was followed by 8 employees (13.3%) who have a low emotional evaluation, problem in concentration on the tasks, and low self-

control. In the following, we present the average emotional dysregulation per dimension to see which dimensions are high and low.

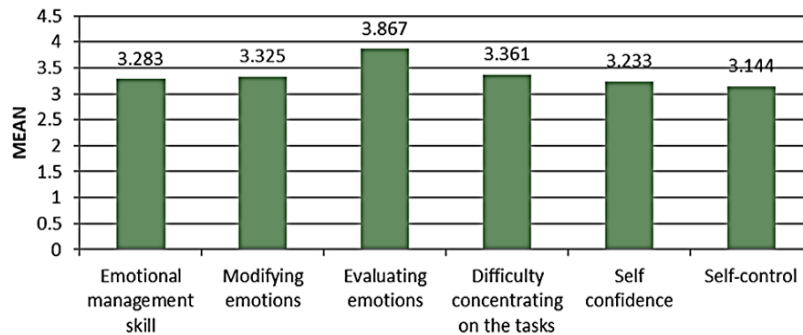


Figure 3
Dimensions of Emotional Regulations

Figure 3 showed that the lowest dimension of emotional regulation among employees with RA are self-control and self-confidence, while the highest mean score is evaluating emotions. To see the significance of the mean differences in the dimensions of the dysregulation, a statistical analysis of Kruskal wallis was carried out. The result shows $p = 0.000$. To see the classification of the differences, a post hoc Mann Whitney analysis was performed which is shown in table 1.

Table 1
Mann-whitney analysis test

	Self-control		Evaluating emotions		Emotion managing		Emotion modifies		Self-confidence		Concentration	
	MWU	p	MWU	p	MWU	p	MWU	p	MWU	p	MWU	p
SC			649.5	0.00	1622.0	0.34	1401.0	0.04	1598.5	0.29	1339.0	0.01
EvE	649.5	0.00			943.5	0.00	859	0.00	808.5	0.00	986	0.00
EMan	1622.0	0.34	943.5	0.00			1663.5	0.47	1768.5	0.87	1768.5	0.87
EMod	1401.0	0.04	859	0.00	1663.5	0.47			1625.5	0.36	1680.5	0.53
SConf	198.5	0.29	808.5	0.00	1768.5	0.87	1625.5	0.36			1513.5	0.13
Con	1339.0	0.01	986	0.00	1608.5	0.31	1680.5	0.53	1513.5	0.13		

Annotation. SC (Self-control), EvE (Evaluating emotions), EMan (Emotion managing), EMod (Emotion modifies), SConf (Self-confidence), Con (Concentration).

Analysis post hoc Mann Whitney between aspects showed that there were 3 groups of emotional dysregulation levels. The results showed that the highest dysregulation emotions were low self-control and confidence. Respondents have moderate emotion managing, emotion modification, and concentration levels. The lowest dysregulation emotion dimension is emotional evaluation. The results of data collection from workers' daily records are shown in Figure 4.

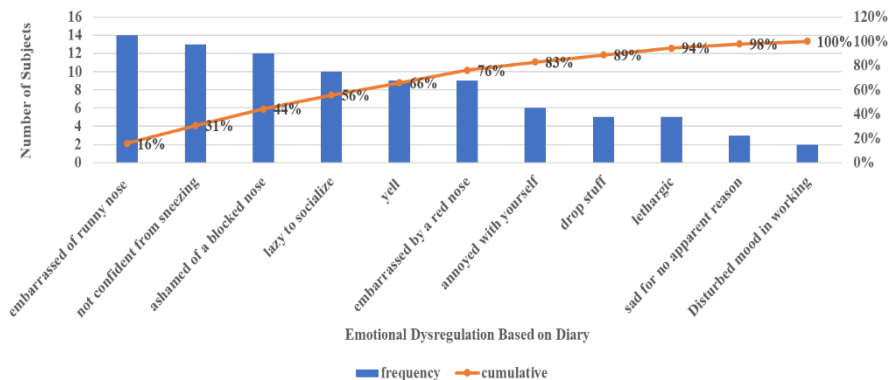


Figure 4
Pareto's Chart of Dysregulation Emotion

Figure 4 presented a Pareto chart describing the priority of emotional dysregulation that needs attention. This chart displays the compliance of employees with AR every day in 6 days. Since dust can't be controlled in some places, they get sneezing, having a runny nose, and a red nose which disturbs their performance, employees mostly found difficulty in promoting products to the public. It also showed that the employees often accidentally dropping the goods in the packing process when the dust triggered the AR attack.

Besides, the employees found a problem in controlling emotions, so that they often get angry with high voices to others even though they don't intend to hurt them. It was triggered by self-annoyance when the employee felt short of breath due to AR. Respondents also admitted that they feel different so that they do not like getting around people. However, employee conveyed that they could complete their tasks based on their job description.

Discussions

Emotional regulation has been defined as a set of automatic and controlled processes involved in the initiation, maintenance, and modification of the occurrence, intensity, and duration of feeling states. There are several findings from this study. Self-control was found as the most disturbing dimension of emotional regulation among employees with AR. Self-control is an ability to direct behavior by restraining, suppressing, and regulating will with some considerations to avoid mistakes in making decisions. According to Hagger (2020), self-control can be identified as various kinds of responses and abilities such as controlling something, inhibiting or suppressing temptations, emotions, urges, thoughts, impulses, and 'dominant responses' (Ciarrochi, Chan, & Bajgar, 2001). Self-control is generally defined as regulation that comes from conflicting impulses in achieving one's own goals (Duckworth, Gendler, & Gross, 2016).

Since self-control can be influenced by the environment, so that the more direct interaction with a particular temptation than the more difficult to suppress it. Low self-control can be caused by weak control, strong impulses, or a combination of them.

Besides, environmental factors also affect self-control (L. Wang, Fan, Tao, & Gao, 2017). Meanwhile, if prospective employees have low self-control, then they will be weak in some aspects of the job such as social interaction with colleagues. This is in line with Wang's research results that argued the relationship between antisocial behavior and low self-control (Burke, Kraut, & Wang, 2016). Antisocial behavior can be dangerous in the workplace since it makes employees tend to disobey rules, cannot form stable relationships, and have no consistency at work. Besides, low self-control will lead to procrastination (Jinha Kim, Hong, Lee, & Hyun, 2017). Low self-control also makes the ability in time management poor so that individuals with procrastination find it difficult to follow the schedule. A person with good self-control will be able to resist having procrastination (Wijaya & Tori, 2018).

Graph 2 showed that mean of self-control is the lowest dimension of emotional regulation. There were no differences between men and women in their self-control. This is different from a previous study which revealed that men have better self-control than women although it is not significant (L. Wang et al., 2017). These changes occurred when the employees had allergic rhinitis in which all work being conducted will be stop or distracted. Some allergic rhinitis symptoms are rhinorrhea, nasal obstruction, and sneezing. When allergic rhinitis recurs, work is distracted since the employees have to overcome with cleaning mucus in the nose, covering the mouth and nose area when sneezing, and having difficulty in breathing due to nasal obstruction. Multitasking is an ability to switch jobs and do multiple works (Hirsch, Koch, & Karbach, 2019). Men and women have the same ability in multitasking (Hirnstain, Larøi, & Laloyaux, 2019; Hirsch et al., 2019). The more task they face then the lower self-control they have (Shin, Webb, & Kemps, 2019). Therefore, when having allergic rhinitis, gender is not correlated with self-control.

The results of the emotional regulation report showed that employees did not have problems in concentration to complete the tasks. They also keep trying to come and work based on the schedule from the company. It was different from the research in America and Europe which states that AR reduces work productivity and wastes company expenses for medical treatment since employees in Indonesia keep coming and working even though they get AR at work. This is because of their awareness about the difficulty to get a job. It also happens in treatment in which they rarely go to company doctors but prefer buying drugs freely sold in the stall. However, they admit that they often do procrastination, postpone doing the task until the end of time, and have no accuracy at work.

Table 2, describing Mann-Whitney analysis showed that not only self-control but also self-confidence was low in the emotional regulation of employees with allergic rhinitis. Self-confidence is defined as a belief in ability and strengths had (Visser, 2017). Self-confidence also means a mental attitude in which individuals believe in and rely on themselves. Lack of self-confidence can make problems in having responsibility, making decisions, and communicating with others (Rahimi, 2019). Lower levels of self-confidence will also effect on procrastination, increase

mistakes made, and anxiety (Mesquita, Santana, & Magro, 2019). When facing uncertain or complex choices, self-confidence will encourage individuals to have innovation and never give up.

There are internal and external factors affecting self-confidence. Internal factors include personal experience, self-perception, personal expectations, and skill development while external factors are relationships with colleagues, work environment, and work performance (Lees, Zheng, Daniels, & White, 2018). Semi-open questionnaire results showed that employees perceived themselves as the one different from others and found other people are difficult to accept their situation. Self-confidence also depends on self-appearance (Piatkowski, White, Hides, & Obst, 2020). Employees with allergic rhinitis have some symptoms such as rhinorrhea, nasal obstruction, and sneezing. The more often they sneeze, the more people avoid them because sneezing called spreads viruses and bacteria (Busco, Yang, Seo, & Hassan, 2020). Since self-confidence can be obtained from personal experience, employees with allergic rhinitis who are avoided because they are easy to relapse, then their self-confidence will be decreased. In general, individuals want to have a perfect appearance. However, when they have allergic rhinitis, then it makes them cannot fully control when and where the allergy will recur (Kos et al., 2017; Shannon, Boiser, & Lindsey, 2019). Consequently, the patient cannot fully control the voice, expression, and their condition when the allergic rhinitis recurred. The activity of dealing with recurrent allergies will also be quite disturbing since cleaning the nasal mucus, having loud sneeze in the streak, getting red in the nose can reduce the appearance and automatically affect the self-confidence built (Piatkowski et al., 2020).

Conclusion

This study concluded that employees with AR have high dysregulation emotion in self-confidence and especially in self-control. There are no differences between men and women in their self-control. They feel ashamed to appear in public and find it difficult to control themselves from yelling when they are upset. The lowest dysregulation emotion dimension is emotional evaluation. Employees feel normal either to complete their tasks or to come and work based on the schedule from the company. It is suggested that employees with AR should not be placed in a warehouse, places having contact with glassware, or requiring them to promote company products.

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