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Counseling on the Potential of Platelet Growth Factor as a Biological Agent to Overcome Osteoarthritis Disorders at Ar-Rasyid Hospital, Palembang, Indonesia

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ABSTRACT

Growth factors are cytokines that play a role in triggering a series of inhibition of inflammatory processes and triggering the repair of joint cartilage, which acts as a shock absorber. However, the current phenomenon shows that patients are still very reluctant to take advantage of the potential of platelet growth factor as a modality for the treatment of OA. The aspect of patient ignorance regarding the potential of this modality is believed to be the reason for the lack of interest in OA patients in utilizing this therapeutic modality. This community service aims to increase the knowledge aspect of OA patients about the potential benefits and possible risks of using platelet growth factors through the counseling and education process for OA patients at Ar-Rasyid Hospital, Palembang, Indonesia. This counseling activity was carried out for outpatients at the polyclinic of Ar-Rasyid Hospital, Palembang, Indonesia. There is enhancement knowledge score for respondents after being given counseling about the potential of growth factor from platelets to treat OA, with $p < 0.05$. The results of the study also showed that there was an increase in attitudes and behavior in choosing the modality of platelet growth factor therapy after the counseling process was carried out, with $p < 0.05$. Counseling activities are effective in improving aspects of patient knowledge and behavior at Ar Rasyid Hospital, Palembang, Indonesia, in choosing the modality of growth factor therapy from platelets for OA.

1. Introduction

Osteoarthritis (OA) is a health problem that is very common in the elderly population. The incidence of OA has increased almost 4-fold in the population over 50 years. OA is caused by the occurrence of chronic and repeated microtrauma in the joints. As a person ages, the ability of the cartilage in the joints to act as a shock absorber for pressure and microtrauma decreases. This is believed to play an important role in the occurrence of OA. As life expectancy increases, the risk of developing OA also increases.¹⁻³

Various therapeutic modalities have been used to treat OA disorders. However, until now, there is no optimal therapeutic modality. The use of anti-inflammatory drugs, NSAIDs, and steroids is currently used as the main therapeutic modality for OA. It's just

that many studies have clearly shown quite serious side effects from the chronic use of anti-inflammatory drugs, namely the initiation of gastric mucosal irritation. In elderly patients, of course, these side effects are enough to cause a very serious decrease in quality of life. Gastric mucosal irritation will trigger eating disorders in the elderly, which will reduce the health of the elderly.^{4,5}

The platelet growth factor is a biological agent developed from the patient's blood in order to optimize the growth factor available from the patient's platelets. Growth factors are cytokines that play a role in triggering a series of inhibition of inflammatory processes and triggering the repair of joint cartilage, which acts as a shock absorber. However, the current phenomenon shows that patients are still very

reluctant to take advantage of the potential of platelet growth factor as a modality for the treatment of OA. The aspect of patient ignorance regarding the potential of this modality is believed to be the reason for the lack of interest in OA patients in utilizing this therapeutic modality.⁶⁻⁹ This community service aims to increase the knowledge aspect of OA patients about the potential benefits and possible risks of using platelet growth factors through the counseling and education process for OA patients at Ar-Rasyid Hospital, Palembang, Indonesia.

2. Methods

The implementation of community service is carried out through 3 stages of the implementation process, namely preparation, implementation, and evaluation. The target audience for this community service activity is outpatients at the polyclinic of Ar-Rasyid Hospital, Palembang, Indonesia. At the preparatory stage, materials and educational materials were prepared related to the platelet growth factor for OA. Educational material is provided in the form of a flyer containing what platelet growth factor is, the potential of platelet growth factor for OA, various studies related to the utilization of platelet growth factor for OA, procedures for applying platelet growth factor for OA, and side effects that may be encountered in the application of this modality. At the stage of implementing the extension, it is carried out

directly in the waiting room for outpatients at Ar-Rasyid Hospital, Palembang, Indonesia. Before the counseling process is carried out, outpatients are given flyers related to counseling materials. At the evaluation stage, an assessment process is carried out related to the respondent's knowledge before counseling is carried out and after the counseling process is carried out. Analysis of the evaluation result data was carried out univariate and bivariate using SPSS software. Univariate analysis was performed to present the sociodemographic data distribution of the respondents. Meanwhile, bivariate analysis was conducted to find out the differences in the mean scores of respondents' knowledge before and after counseling.

3. Results and Discussion

Table 1 presents the characteristics of the respondents. As many as 100 respondents participated in counseling on the potential of growth factors from platelets to treat OA disorders. The majority of respondents are over 50 years old. The majority of respondents were female. The majority of respondents have their last education in secondary education. The majority of respondents are retirees, bearing in mind that the majority of respondents are elderly people aged over 50 years. The majority of respondents came to Ar-Rasyid Hospital with complaints of osteoarthritis.

Table 1. Characteristics of respondents.

Variable	Frequency
Age	
< 50 years	36
≥ 50 years	64
Gender	
Male	35
Female	65
Education	
Primary school	24
Senior high school	65
College	11
Occupation	
Private	10
Civil servant	31
Retired	59
Health disorders	
Diabetes mellitus	15
Hypertension	21
Osteoarthritis	62
Insomnia	2

Table 2 shows a comparison of aspects of knowledge, attitudes, and behavior of respondents before and after counseling about the potential of platelet growth factors in overcoming OA disorders. Counseling activities seem to be able to increase respondents' knowledge about platelet growth factors for OA. There is an enhancement knowledge score for

respondents after being given counseling about the potential of growth factor from platelets to treat OA, with $p < 0.05$. The results of the study also show that there is an increase in attitude and behavior aspects in choosing the modality of platelet growth factor therapy after the counseling process was carried out, with $p < 0.05$.

Table 2. Comparison of aspects of knowledge, attitudes, and behavior of respondents before and after counseling.

Variable	Before counseling (Mean±SD)	After counseling (Mean±SD)	p-value*
Average knowledge score (score 0-100)	24,6±3,2	89,9±6,8	0,001
The average score of attitudes and behaviors (score 0-100)	35,6±2,2	95,8±8,8	0,001

*Dependent T-test, $p < 0,05$.

The results of this study are in line with several studies showing the potential and effectiveness of the extension process as an effective communication medium.¹⁰⁻¹² Counseling accompanied by props is an effective method of communication as a medium of communication. Effective communication is an important aspect of the process of transferring knowledge to each individual.¹³⁻¹⁵ Various studies show that the knowledge aspect is very important that influences aspects of the attitude and behavior of respondents.^{16,17} Good knowledge will produce positive aspects and attitudes to take action according to the direction of the knowledge provided.^{18,19}

4. Conclusion

Counseling activities are effective in improving aspects of patient knowledge and behavior at Ar-Rasyid Hospital, Palembang, Indonesia, in choosing the modality of growth factor therapy from platelets for OA.

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