

Original Research

Correlation between Perception with The Needs of Structured Education for Psoriasis Patients during The Pandemic of COVID-19

Dewi Purnama Sari^{1*}, Alfrina Hany², Magdalena Ayu Christanti³, Aura Tasya Amalia⁴

^{1,2,3,4}Department of Nursing, Faculty of Health Sciences, University of Brawijaya

***Corresponding author:**

Dewi Purnama Sari

Nursing Department, Faculty of Health Sciences, University of Brawijaya

Jl. Puncak Dieng, Kalisongo, Kecamatan Dau Malang, Telp: +62-341-5080686

Email: ns.dewipsari_fk@ub.ac.id

Article Info

Article History:

Received November 18, 2021

Revised April 19, 2022

Accepted April 25, 2022

Keywords:

Psoriasis

Perception

Structured Education

ABSTRACT

The number of psoriasis patients visiting the health services during the COVID 19 pandemic is decreasing. Meanwhile, routine control is needed to maintain the prognosis education of psoriasis. The patient is suspected of having frequent problems and flares at home. Therefore, it is necessary to study the perception in assessing the need for structured education in a group of psoriasis patients. This study aimed to determine the correlation between perception with the need for structured education. Twenty psoriasis patients at General Hospital Dr. Saiful Anwar Malang were interviewed by telephone. The independent data consisted of patient perception (B-IPQ) of psoriasis, while the dependent data consisted of the need for structured education. Bivariate data showed the correlation between perception (B-IPQ) with the need for structured education, indicated by a p-value = 0.05. In conclusion, this study's perception (B-IPQ) level significantly correlates with the need for structured education. Promoting health education among people with psoriasis is essential to create a good perception of this diagnosis.

Introduction

Psoriasis is a severe problem that strongly affects people's way of seeing/herself and being seen by others. Psoriasis is related to social stigma, pain, inconvenience, physical disability, and psychological pressure (Bhosle, 2006). Chronic care and the decreasing productivity of the patients lead to significant economic and financial consequences. The annual budget for a psoriasis medication is approximately \$ 1.6 to \$ 4.3 billion. Nowadays, the population of psoriasis patients reaches 2% worldwide. The approximate total of the population is 125 million patients from all over the world.

The highest incident rate is located in Scandinavian and Northern-European countries. Meanwhile, the psoriasis prevalence in Indonesia reached 2.5% of the total population. Although new cases are rising, many patients have not received medical treatment (Krisnarto, 2016). The disease process with the early-onset before 16 years old (27-45% cases) and before 20 years old (50% cases) created challenges in controlling and minimizing the symptoms of the disease in the long term. Like the other chronic diseases, psoriasis patients need to have adequate management in self-care. Various challenges in managing self-care affect the result of the maintenance therapy. Patients often fail to adhere to the therapy regimen. Several probabilities cause the failure, such as doubting the therapy's efficacy and realizing the side effect of the excessive medication. The ineffective communication between patients and healthcare providers may also ruin self-care management. The success of caring for psoriasis needs a holistic approach, both medical and psychosocial achieve a better quality of life.

In the era of the pandemic of COVID-19, there are several considerations from the dermatologist to change the procedure in doing the immunosuppressant medication for psoriasis patients (Tim Satgas Covid-19, 2020). Applying the biological-agents therapy during the pandemic was conducted according to the cases faced by patients. However, the use of the immunosuppressant should be stopped during the pandemic of COVID-19

remains unclear. The type of non-biological medicine generally has a relatively short half-life, so quitting the therapy becomes easier. Meanwhile, biological treatment has a longer half-life than non-biological (Price, 2020). The severity of the disease also becomes an important consideration. Severe psoriasis and erythroderma, delaying the therapy aggravate the prognosis (Shanshal, 2020).

Thus, a study investigating the crucial factors in assessing the educational needs of a group of psoriasis patients is essential. The Research Center for Health and Technology in Denmark found out that people with chronic disease need education about the disease and a particular skill in anticipating the barrier and risks of the worsening conditions (Medicinsk, 2009). This research is conducted to determine the perception correlated with the need for education. The benefit of research serves basic theory and knowledge about perception and the need for structured education assessed from Psoriasis patients. Hence, a health provider can assist in fulfilling this considering many barriers met by patients in the General Hospital Dr. Saiful Anwar Malang.

Method

This research used an analytical observation design with a cross-sectional framework. The research was conducted in the Dermatology and Venereology outpatient ward of the general hospital, Dr. Saiful Anwar Malang, East Java, Indonesia. The research lasted for three months, starting from July to September 2021. The research subject was the psoriasis patients with inclusive criteria as follows: 1. had been diagnosed with medical psoriasis; 2. was at least 16 years old; 3. was ready to participate in this research; 4. was ready to receive and respond the interview questions; 5. was fully conscious and generally in good health. In contrast, exclusion criteria consist of a history of comorbid diseases such as chronic infections, malignancies, and asthma and refusing the question and interview process.

The consecutive sampling method was used. The number of Psoriasis patients in the dermatology and venereology outpatient

ward in the General Hospital of Dr. Saiful Anwar Malang has been decreasing during the pandemic of COVID-19, so the respondents who participated in this study reached 20 people. The independent variable of this research is the perception level of the disease, which was measured by using a B-IPQ questionnaire. The dependent variable of this research is the need for structured education. The univariate demographic data measured were the gender, level of education, the severity of psoriasis measured by questionnaire on Psoriasis Area Severity Index (PASI), the long period of suffering the disease, and the medication of psoriasis.

The data collection mechanism during the pandemic of COVID-19 adhered to the health protocols. The patients were given informed consent. Then, an in-depth study and

data validation were conducted in a telephone interview. The instruments used were the B-IPQ questionnaire and the need for structured education, which had been tested for their validity and reliability. The data analysis was conducted using the SPSS program for Windows version 26.0 with a 95% confidence level and 0.05 error rate (α). The data were analyzed using the Spearman test.

Results and Discussion

The univariate and bivariate data of this research were obtained, which informed the demographic characteristics of the respondents and some related to the dependent variables such as perception and needs for education on the psoriasis patients.

Table 1. Characteristic of Respondents

Category	n
Sex	
Male	8
Female	12
Age	
≤30 Years old	6
30-40 Years old	6
≥40 Years old	8
Long Period of Being Early Diagnosed with Psoriasis	
> 1 year	8
1-5 years	4
5-10 years	5
>10 years	3
Education Level	
Junior High School	5
Senior High School	9
Bachelor Degree	5
Master Degree	1

Table 1 shows that among 20 respondents, most of them were female, consisting of 12 people. At the same time, the rest were male patients consisting of 8 people. Among 20 respondents, most of them were ≥ 40 Years old, consisting of 8 people. Out of 20 respondents, the long period of being early diagnosed with psoriasis, less than one year, consisted of 8 people. The least three people reported that they had suffered from the illness for more than ten years. Out of 20 people, 9 of them graduated from senior/vocational high school. The least

number of participants (1 person) was a master's graduate.

Table 2 shows that out of 20 respondents of this research, most suffered from Vulgaris psoriasis (12 people). On the other hand, Pustular psoriasis was suffered by six people, Guttate psoriasis by 1 person, and Erythrodermic psoriasis by one person. Out of 20 respondents, most suffered from mild psoriasis consisting of 8 people. On the other hand, moderate severity of psoriasis was suffered by 6 people, and 6 people suffered severe psoriasis. It reveals that among 20

respondents, the result yielded most of the respondents with a mild level of severity consisting of 8 people who took a topical therapy to decrease the pain in their skin. On the other hand, those who suffered from medium to critical psoriasis severity reported

receiving an injection therapy regimen, a biological agent (3 people), and conventional systemic therapy (2 people). Besides, seven people also said that they took the antihistamine medicine to decrease the pain of psoriasis.

Table 2. Psoriasis Conditions of Respondents

Category	n
Types of Psoriasis	
Vulgaris Psoriasis	12
Pustular Psoriasis	6
Guttate Psoriasis	1
Erythrodermic Psoriasis	1
Psoriasis Area Severity Index (PASI)	
Mild	8
Moderate	6
Severe	6

Table 3. Medical Records of Respondents

Category	n
Types of Medication	
Topical therapy	8
Biological Agent	3
Antihistamine	7
Conventional-Systemic Therapy	2
Medication Barrier	
No Barrier	4
Hard to get the medicine	5
Limited access to health care	7
Medication failure	4
Vaccination Records	
Vaccinated	16
Not Vaccinated	4
Vaccine Dosage	
1st dosage	4
2nd dosage	12
None	4
Complaints After Vaccination	
No complaint	13
Complaint	3
Not vaccinated	4

Table 3 shows that out of 20 respondents, most of them (7 people) had limited access to the appropriate healthcare. On the other hand, five people stated that it was difficult to get the medicine. Four people had experienced medication failure, and four others had no barrier. Among the 20 respondents, 16 of them had been vaccinated while the rest had not been vaccinated. Most of them received the second vaccine dosage (12 people). The first dosage was given to 4 people

in this research, and the other four people had not been vaccinated. Out of 20 respondents of this research, most (13 people) had no complaints after the vaccination. On the other hand, three people reported having complaints after being vaccinated, and 4 of them had no complaints as they were not vaccinated. The average score could see the scoring of each question item from number 1 to 8 of each question item. Each question item has a score on a scale of 0-10. The higher the

score, the stronger the dimension. This makes the score in the middle interval show a strong influence on the perception. The question item covered several dimensions: consequences, time, personal control, medication control, identity, anxiety, coherence, and emotional representation (Broadbent *et al.*, 2015).

The first question item has an average score of 7.55, which means the patients have impacted or affected their lives (negative perception). The second question item has an average score of 6.7, implying that suffering from psoriasis makes them think it will last forever or continue for a long time (negative perception). The third question item has an average score of 5.9, which tells that the psoriasis patients have sufficient control of the disease (positive perception). The fourth question item reached an average score as big as 6.75, which shows that the psoriasis patients perceived the medication as sufficiently helpful in reducing the pain of the disease (positive perception).

The fifth question item reached an average score as big as 7.55, which means that many patients experienced the disease symptoms (negative perception). The sixth question item has an average score of 7.4 which means that the patients have enough anxiety about the disease (negative perception). The seventh question item reaches an average score of 6.65, implying that the patients have ample understanding of the disease (positive perception). The eighth question item got an average score of 6.55, which reveals that the patients perceived that psoriasis has consecutive impacts on their emotional state (negative perception).

The average score of the eight-question items was 55.05, which means that psoriasis disease is perceived as a threat since it was above the middle limit, that is 40, with a total range score of 0 up to 80. This research explains that the perception of the patients tends to be negative. Question item number 9 is the last question depicting the dimension of cause. Three main factors which are mostly believed as the main factor causing the psoriasis disease is stress and allergic followed by other factors such as excessive activities, accompanying disease, skin disease,

dental caries, lack of rest, unhealthy lifestyle such as smoking, and myths about the disease which is caused by the black magic. The respondent also mentioned environmental factors, such as the weather that affect affects psoriasis attack.

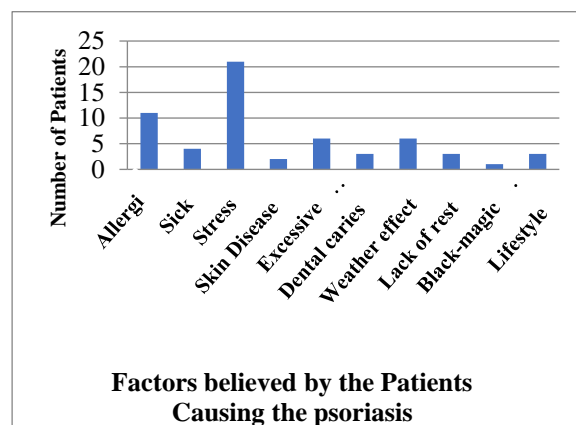


Figure 1. Graphic on the Result of B-IPQ Instrument in Indonesian Version for Question 9

Table 4. Data on Psoriasis Patients' Perception based on the Perception Score (B-IPQ Score)

Category	n
Perception	
Positive Perception	2
Negative Perception	18
Need for structured Education of Psoriasis Patients	
Not assessed	18
Assessed	2

Table 4 showed that among the 20 respondents, the majority of them (18 people) have high level of negative perception from the interpretation of B-IPQ score while the rest of them (2 people) have positive perception. It also showed the need for structured education on psoriasis among the 20 respondents based on the assessment we reached. Most of the respondents (18 people) did not assess that they seek structured education on psoriasis, while the rest (2 people) seek it to care for psoriasis during pandemic COVID 19. This research analyzed the correlation between the data variables using a non-parametric test with the Spearman Rho test by applying the IBM SPSS Statistic 26 Commuter License software.

Table 5. The Correlation of Perception, Education Level, Psoriasis Area Severity Index (PASI) and Need for Structured Education among the Psoriasis Patients

Variables	Needs of the Structured Education			P
	Awareness	No Awareness	Total	
Perception (B-IPQ)				0.05
Positive	1	1	2	
Negative	1	17	18	
Education Level				0.897
Junior High School	0	5	5	
Senior High School	2	7	9	
Bachelor Degree	0	5	5	
Master Degree	0	1	1	
Psoriasis Area Severity Index (PASI)				0.898
Mild	1	7	8	
Moderate	0	6	6	
Severe	1	5	6	

According to the statistic test shown in table 5, the correlation result between the perception and the need for structured education for the psoriasis patients acquired a p-value of 0.05, which can be inferred that there is a significant correlation between patients' perception of the disease with the need for structured education on the psoriasis patients. The correlation between the education level with the need for structured education according to the statistical test result obtained a p-value of 0,897. It can be inferred that there was no significant correlation between the education levels with the need for structured education. The correlation analysis between the Psoriasis Area Severity Index and the need for structured education based on the score of statistical tests obtained a p-value of 0.898. It can be concluded that there was no significant correlation between the Psoriasis Area Severity Index with the need for structured education among the psoriasis patients.

Evaluation of health care becomes essential considering that psoriasis patients are an auto-immune disease that is susceptible to the transmission of COVID-19 virus infection. The doctors and nurse team as the front liners need some consideration on the clinical procedure and self-management in the implementation of the application of nursing for psoriasis patients. The patients' need becomes the reference in making a decision that needs to be examined. Several respondents reported that they faced

difficulties in getting the prescribed medicine by the doctor when they were unable to come to the hospital. Most of the respondents stated that they only use the antihistamine medicine to relieve the pain. This makes them unaware that the condition of the disease cannot be well controlled.

This research explains that the majority of the psoriasis patients found barriers and got flares during the pandemic of COVID-19. They were worried about being exposed to the infection of COVID-19 in the hospitals, long-distance with the location of the health center, difficulties in taking the prescribed medicine in a pharmacy that is not affiliated with the hospitals, and the existence of the side effects of the drug makes them fail in continuing the medication. Structured education concerns the concepts of the need for health management and solutions during the pandemic.

The medication of psoriasis patients with a level of severity mild is conducted by giving topical medicines such as emollient, corticosteroids, keratolytic, retinoid, vitamin D analog, the combination of corticosteroids and vitamin D analog, with 3% area of skin disorder, which were reported easy to be obtained by the respondents. Meanwhile, patients with the level of severity mild to severe stated that they took medicine via subcutaneous injection. The biological agents that have been administered through injection are such as Etarnecept, Ustekinumab, Adalimumab, Infliximab, or Secukinumab.

Explanation from the respondents related to helping per-oral conventional systemic therapy involved several kinds of medicine, i.e. methotrexate, cyclosporine, and sulphasalazine, which cannot last for long, considering its side effects.

The risks of the psoriasis disease (flares) recurrence are considered high when the immunosuppressant medication is delayed or halted. However, several systemic medicines have some contraindications that must be carefully noticed, mainly when an acute infection happens, such as COVID-19, and comorbid diseases, for example, uncontrollable diabetes mellitus. In this research, 20 respondents denied that they were once infected by COVID-19. Most of the respondents had been fully vaccinated for COVID-19. Only a few of them were not vaccinated due to a doctor's recommendation to postpone the vaccine as they were undergoing systemic therapy. This is under the International Psoriasis Council (2020) recommendation to delay or stop administering the immunosuppressant agent to the psoriasis patients if they were infected by the COVID-19 virus (ST. Louis, 2020). The psoriasis medication target in remission. When the patient returned and reported some complaints, they should be back to the health care to receive a structured education related to their current psoriasis treatment.

The need for structured education was assessed using a questionnaire. Items include the severity of the illness, cause of flares, recommendation of therapy, method of controlling illness problem, skincare, and stress management. The patient should describe their experience maintaining personal skin hygiene, a good lifestyle, and UV light protection. Besides, patients can also be assessed for how deep they understand health protection management. Health providers advise that vaccination can be canceled unless three months after being infected by COVID 19. The research resulted in most of the patients not seeking structured education during the pandemic of COVID-19.

The perception of the disease is a cognitive and emotional response formed by the individual upon their current disease

condition. It will lead someone to choose a strategy to control the disease that will threaten or threaten their lives with both internal and external stimuli. Positive perception will shape an adaptive coping mechanism from within oneself by basing on the acceptance of appropriate education in line with the current therapy needs. This research reported that most of the respondents had negative perceptions of the psoriasis disease, mainly when measured during the pandemic of COVID-19.

Besides the perception, there are some predictive factors affecting the need for structured education, including the individual's characteristics, for example, the level of education, gender, level of education, the severity of psoriasis measured by a questionnaire on Psoriasis Area Severity Index (PASI), the long period of suffering the disease, and the medication of psoriasis.

The research demonstrates that the perception of the disease has a significant correlation with the need for structured education. This research needs to be developed with another factor. Next, it is expected to fulfill the need for structured education to improve comprehensive management and cooperation with psoriasis patients for a better quality of life.

Conclusion

It can be concluded from this research that perception of the disease (B-IPQ) significantly correlated with the need for structure education among psoriasis patients.

Acknowledgment

The authors would like to thank LPPM University of Brawijaya, which supported this research project financially, the patients, and all research members taking part in this study.

References

- Badan Mutu Pelayanan Kesehatan. (2020). *Kumpulan Referensi Layanan Kesehatan Esensial Pada Masa Pandemi Badan Mutu Pelayanan Kesehatan*. <http://badanmutu.or.id/2020/09/02/kumpulan-referensi-layanan-kesehatan-esensial-pada-masa-pandemi/>.

- Bartholomew, L.K., Parcel, G.S., Kok, G., and Gottlieb, N. H. (2006). *Intervention Mapping Step 1: Needs Assessments*. in Planning Health Promotion Programs: An Intervention Mapping Approach, pp. 193–250, Jossey-Bass, San Francisco, Calif, USA.
- Gudjonsson, JE., Elder, JT. (2012). *Psoriasis: General Medicine*. Wolff, K., Goldsmith, LA., Katz (8nd ed., pp. 197-230 2). New York. Mc Grew Hill.
- International Psoriasis Council. (2020). *Statement on the Coronavirus (COVID-19) Outbreak*, March 11. <https://www.psoriasisCouncil.org/blog/Statement-on-COVID-19-and-Psoriasis.htm>.
- Jacobson, C.C., & Kimball, A. B. (2004). Rethinking the Psoriasis Area and Severity Index: The Impact of the Area Should be Increased. *British Journal of Dermatology*, 151(2), 381–387. <https://doi.org/10.1111/j.1365-2133.2004.06035.x>.
- Javitz, HS., Ward, MM., Farber, E. Nail, L, Vallow, SG. (2002). Psoriatic Arthritis in the United States. *J Am Acad Dermatol*, 46, 850-860.
- Kelompok Studi Psoriasis Indonesia Perhimpunan Dokter Spesialis Kulit dan Kelamin Indonesia. (2014). *Pedoman Tatalaksana Psoriasis dan Informed Consent*.
- Krisnarto, E., Novitasari, A., & Aulirahma, D. M. (2016). Faktor Prediktor Kualitas Hidup Pasien Psoriasis. *Jurnal Unimus*, 49, 43–51. <https://jurnal.unimus.ac.id/index.php/ke-dokteran/article/view/2584/2434>.
- Lebwohl, M., Rivera-Oyola, R., Murrell, DF. (2020). Should Biologics for Psoriasis Be Interrupted in the Era of COVID-19? *J Amer Acad Dermatol*, in press.
- Medicinsk Teknologivurdering. (2009). Sundhedsstyrelsen, Monitorering & Medicinsk Teknologivurdering. Patientuddannelse—en Medicinsk Teknologivur-Dering, 11, 3. Odense Universitet Hospital.
- Skarpathiotakis, M., Fairlie, C., & Ryan, S. (2006). Specialized education for patients with psoriasis: a patient survey on its value and effectiveness. *Dermatology Nursing*, 18(4), 358–361.
- National Psoriasis Foundation. *National Psoriasis Foundation Benchmark Survey*. (2006). <http://www.psoriasis.org/files/pdfs/press/npfsurvey.pdf>.
- Price, KN., Frew, JW., Hsiao, JL., MD., Vivian., Y., Shi VY. (2020). COVID-19 and Immunomodulator/ Immunosuppressant Use in Dermatology. *JAAD*. Available from <https://doi.org/10.1016/j.jaad.2020.03.046>.
- Reich K, Ortonne JP, Gottlieb AB. (2012). Successful treatment of moderate to severe plaque psoriasis with the PEGylated Fab' certolizumab pegol: results of a phase II randomized, placebo-controlled trial with a re-treatment extension. *Br J Dermatol*. 167(1): 180–190.
- Shanshal M. Is the Coronavirus (COVID 19) (2020). Pandemic an Indication to temporarily Modify Dermatology Management Plans? *Journal of Drugs in Dermatology* April; 19(4): 436-7.
- Tim Satgas Covid-19 PERDOSKI. (2020). *Pandemi Covid-19 dan Implikasinya Terhadap Praktik Dermatologi dan Venereologi di Indonesia*. Pengurus Pusat PERDOSKI.