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RESEARCH ARTICLE

EVALUATION OF DERMATOLOGY TREATMENT SATISFACTION TOWARDS HOSPITAL REPUTATION AMONG CHRONIC SKIN DISEASE PATIENTS AT AN EASTERN INDONESIAN REFERRAL HOSPITAL

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ABSTRACT

INTRODUCTION

Chronic skin disease poses a major challenge due to the complexity of these diseases and the variety of symptoms require a highly individualized approach to diagnosis and long-term treatment. This study aimed to evaluate the factor of treatment satisfaction moderated with recurrency towards hospital reputation among patients with chronic skin disorder utilizing the modified Dermasat questionnaire with six variables (treatment effectiveness, convenience of use, impact on daily living, medical care information, treatment side effect tolerable) and an additional variable (physician communication).

METHODS

Based on improved patient satisfaction moderated with recurrency towards hospital reputation, a questionnaire survey was conducted among 179 patients at a referral hospital in East Indonesia. The relationship of patient satisfaction, recurrency, and hospital reputation was verified via SmartPLS® version 4.1.0.2.

RESULTS

The majority of the respondents were female from the productive age 18-39 years old (46%), mostly housewives with a senior high school qualification as their educational background level (51.4%). All six factors and moderation with recurrency (towards treatment effectiveness and physician communication) were significant (P-value<0.05) towards overall patient satisfaction. The strongest relationship is demonstrated by physical communication and tolerance of treatment side effects with patient satisfaction. Furthermore, overall patient satisfaction was significantly associated positively with hospital reputation (P-value=0.000).

CONCLUSIONS

Six variables were found that were related to skin disease patient satisfaction. Overall patient satisfaction is significantly associated positively with the hospital's reputation, indicating a higher overall patient satisfaction will increase the hospital's reputation which can encourage patient trust and compliance in the long term.

KEYWORDS

chronic skin disease, dermatology, hospital reputation, treatment satisfaction, referral

INTRODUCTION

Chronic skin diseases (e.g., psoriasis vulgaris, atopic dermatitis, contact dermatitis, and/or seborrheic dermatitis), often pose a significant challenge due to the complexity of these diseases and the variety of symptoms require a highly individualized approach to diagnosis and treatment, making them even more challenging [1]. Globally, an estimated 20-25% of the population is affected by chronic, non-communicable inflammatory skin disease, with each disease with its prevalence rate ranging from an orphan disease to 10-30% in certain populations, i.e., atopic dermatitis in the pediatric population [2]. The exact number of chronic skin diseases in Asia, specifically Indonesia, is yet to be reported. For example, as an overview, a recent epidemiological study on psoriasis reported a 0.38 percent prevalence in Indonesia [3].

Chronic inflammatory skin diseases affect physical, material, social, and psychological aspects of a person's life, impairing health-related quality of life and subsequently impacting health care quality [1]. Pathologically, chronic inflammatory skin diseases lead to the activation of the immune system, inducing mood changes that resemble sickness behaviors and overlap with the behavioral symptoms of depression, such as anhedonia, anorexia, and social withdrawal [1,4]. Phenotypically, chronic inflammatory skin disease may also lead to a lower quality of life underlaid by the disfigurement, stigmatization, or repulsion of the skin disease, especially when the lesions cover a considerable area of the skin, i.e., external genitalia and exposed areas, such as face and palms [5]. This phenomenon is closely faced in our study area.

Chronicity of a disease has been highlighted as one of the factors in patient satisfaction as it is a multifaceted concept with several determining factors, i.e., 1) health care-provider related factors (technical care and interpersonal care), 2) physical environment, 3) access (accessibility, availability, and affordability), 4) organizational characteristics (continuity of care, and outcome of care), and 5) patient-related factors (age, gender, education, socio-economic status, marital status, race, religion, geographic characteristics, visit regularity, length of stay, health status, personality, and expectations. Additionally, in terms of dermatology, compliance with long-term treatment is often a problem, given the persistence required for topical therapy, phototherapy, and/ or systemic therapy [4, 6-8].

Along with the beneficial effects of a treatment, specifically a long-term treatment, the side effects of the treatment used, such as corticosteroids and biologics, add another layer of complexity to the management of these diseases [6]. Significant psychological impacts, including social stigma, depression, and anxiety, also worsen patients' conditions and reduce their quality of life [8]. Limited access to specialists, especially in rural areas or developing countries, often delays appropriate diagnosis and treatment, resulting in suboptimal care. Patient satisfaction is an important element in evaluating the quality of health services [9,10]. In the context of hospital services, patient satisfaction not only reflects clinical effectiveness and safety but also influences public perceptions of the hospital's reputation [11].

Referral may be defined as any process in which health care providers at lower levels of the health system, who lack the skills, the facilities, or both to manage a given clinical condition, seek the assistance of providers who are better equipped or specially trained to guide them in managing or to take over responsibility for a particular episode of a clinical condition in a patient. Referral hospitals are essential in providing quality health services for several reasons, such as high specialization and competence, advanced facilities and technology, efficient case management, research, and education [12]. A quality of health services will hopefully increase its preference among patients and, subsequently, its reputation. A study published in 2022 reported that the reputation of the hospital is significant in ensuring the patient's loyalty. Patient loyalty can be crucial in important health outcomes, e.g., treatment compliance/ adherence and increasing satisfaction [13].

In the field of dermatology, it is essential to assess the effectiveness of the treatment interlinked with satisfaction, a substantial parameter influencing the quality of life and therapeutic compliance. One of the instruments used to measure overall satisfaction was DermaSat, which consists of treatment effectiveness, convenience of use, impact on daily living, medical care information, and treatment side effects toleration [14]. For more relevant modeling, Dermasat was

developed by converting global satisfaction into overall patient satisfaction and then adding other important variables in patient evaluation, namely physician communication [15].

To the best of our knowledge, this study is the first to recruit outpatient chronic skin disease patients and to utilize a specific dermatology treatment satisfaction questionnaire to evaluate the satisfaction towards hospital reputation in Indonesia. Our study aims to assess the factor of treatment satisfaction among patients with chronic skin disorders utilizing the modified Dermasat questionnaire, specifically, with an additional variable (physician communication) from another questionnaire, for a contribution to improving healthcare quality strategies in hospitals and healthcare workers and provide recommendations to emphasize better policies, specifically in the area being researched (treatment effectiveness, convenience of use, impact on daily living, medical care information, treatment side effect tolerable, overall patient satisfaction, and hospital reputation), in improving health services for patients with chronic skin diseases at a referral hospital in Indonesia, especially in the Sulawesi region.

METHODS

STUDY DESIGN

This research is survey research with quantitative data analysis. The data was obtained from respondents who were treated at the skin polyclinic at the referral hospital. The survey was conducted in 2023 in a Sulawesi, East Indonesia referral hospital. A total of 200 questionnaires were distributed. In the survey, questionnaires were distributed on-site and were recovered within a limited time. A total of 179 valid questionnaires were recovered.

MEASUREMENT INSTRUMENTS

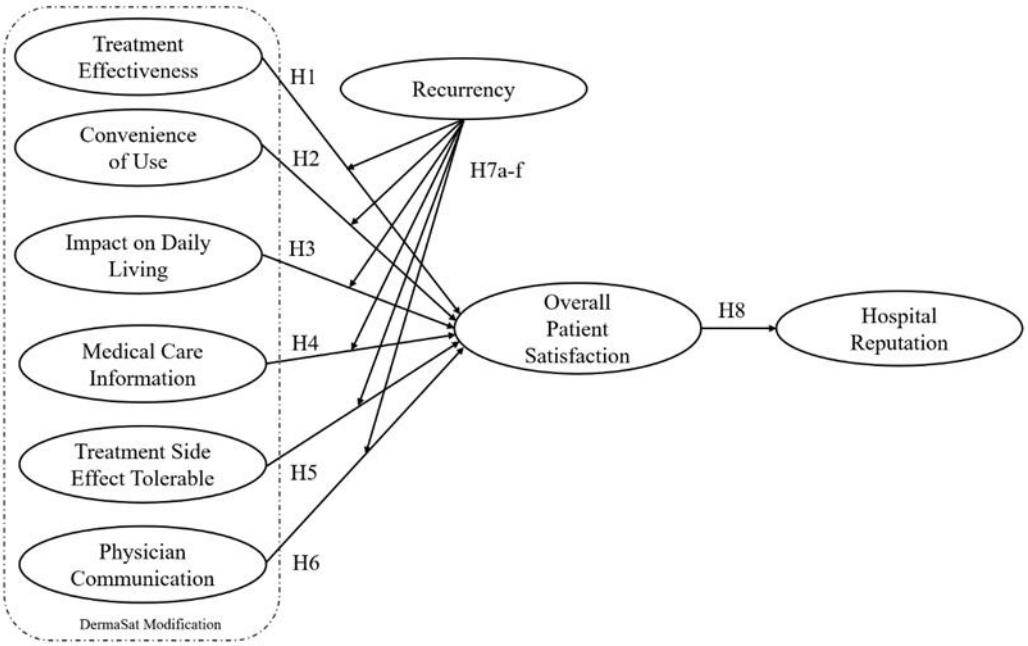
The structured questionnaire with closed questions was used to measure the interval scale using a 1-5 Likert points. The questionnaire items were obtained from previous studies, as seen in Table 1. This questionnaire was adapted from previous studies and translated from English to Bahasa Indonesia by a professional linguist. Specifically for recurrence, two options are given, where the first option (rare) is if the patient's recurrence occurs less than 3 times in 3 months, and the second option (frequent) is if the recurrence occurs more than 3 times in 3 months. The questions were assessed by an expert panel consisting of three academics to ensure face validity. After receiving input from the expert panel, improvements were made to the question sentences so that respondents could better understand them. A conceptual framework was prepared with several hypotheses, as in Figure 1.

TABLE 1: INSTRUMENT QUESTIONNAIRE SOURCES

Constructs	Conceptualized Definition	Scale References
Treatment effectiveness	Patient's opinion associated with the medication received	Ruiz et al. (2010)[14] Likert scale 1-5
Convenience of use	Patient's feelings towards the convenience and treatment compliance	
Impact on daily living	Association between received medication and patient's daily activity	
Medical care information	Clarity of information received by patients regarding the disease and medication to be received	
Treatment side effect Tolerable	Impact of perceived feeling towards the received medication	
Physician communication	Patient's opinion towards the doctor's way of communication and professionalism and informing information towards patient	Gremigni, Sommaruga and Peltenburg (2008)[15] Likert scale 1-5

Overall patient satisfaction	Satisfaction is the level of state that a person feels, which is the perceived result (in this case, treatment) in relation to one's expectations	Renzi et al. (2001)[16] Likert scale 1-5
Hospital reputation	Patient's assessment of hospital that are well recognized for quality services, through their own experience and the results of treatment received	Pilny and Mennicken (2014)[17] Likert scale 1-5

FIGURE 1: CONCEPTUAL FRAMEWORK



RESPONDENTS

The targeted population of this study was patients who visited the Dermatology and Venereology outpatient departments of a referral hospital in Sulawesi, East Indonesia. Respondents were taken purposively based on several criteria. The patients must be registered at the outpatient department in 2023, and have attended the outpatient department for at least three months or thrice, aged 17 years and over. Exclusion criteria were patients currently experiencing an infectious skin disease or having a history of catastrophic events, e.g., cancer, stroke, or chronic kidney disease. Respondents were fully conscious and agreed to fill out the questionnaire.

The minimum number of samples in the PLS-SEM multivariate study was calculated using power analysis by using G*power (version 3.1.9.7) software where f2 was set at 0.15, alpha 0.05, power 90%, and the number of predictors was eight variables, resulting in a minimum sample requirement of 136 [18,19]. Sampling was conducted in October-December 2023 by distributing questionnaires directly to prospective respondents. Previously, informed consent was given, and it was explained that filling out the questionnaire was voluntary and anonymous.

STATISTICAL ANALYSES

The PLS-SEM approach was chosen for its ability to test complex models in explanatory survey research. The PLS-SEM approach was advised when the study focused on the model's predictive capability [20,21]. SmartPLS® version 4.1.0.2 was used for the PLS-SEM analysis, as it offered a bootstrapping menu for significance testing [22]. PLS-SEM's main procedure was based on two types of models: measurement (outer model) and structural model (inner model). The measurement model assessed the validity and reliability of the relationships between indicators and constructs. The significant relationship between each construct in the research model was analyzed using the structural model.

ETHICAL APPROVAL

The study proposal has received ethical review and clearance from Pelita Harapan University (Reference Number: 019/M/EC-M/Vb/2023).

RESULTS

This research was conducted on 179 respondents who met the criteria in this study. The profile of the respondents who participated in the study is presented in the demographic profile (Table 2).

TABLE 2: RESPONDENT PROFILE

Categories	Frequency (n)	Percentage (%)
Sex		
Female	106	59.2
Male	73	40.8
Age group (years old)		
18-29	40	22.3
30-39	42	23.5
40-49	38	21.2
50-59	30	16.8
60-69	29	16.2
Occupation		
University student	10	5.6
Public sector worker	19	10.6
Private sector worker	39	21.8
Housewife	51	28.5
Entrepreneur	15	8.4
Retired	14	7.8
Not working	16	8.9
Others	15	8.3
Educational background level		
Elementary school	9	5
Junior high school	18	10.1
Senior high school	92	51.4
University/ Postgraduate	60	33.5
Marital status		
Not married	37	20.7
Married	138	77.9
Divorced	4	2.2
Latest visitation		
<6 months	137	76.5
>6 months	42	23.5
Duration of treatment		
1-6 months	67	37.4
6-12 months	47	26.3
>12 months	65	36.3
Treatment seeking intensity/ recurrency		
Seldom	94	52.5
Often	85	47.5

Symptoms complained		
Erythematous macules	93	51.9
Erythematous papules	18	10.1
Dry skin	18	10.1
Scales	22	12.3
Others	28	15.6
Insurance type		
National insurance	171	95.5
Private insurance	1	0.6
Out-of-pocket/ personal	7	3.9

The majority of the respondents were female (59%). Most respondents were from the productive age of 18-39 years old (46%). The majority of the patients were housewives (28.5%), with a senior high school as the educational background level (51.4%).

This study's outer loading (OL) findings eliminated one indicator (COU3) outside the set value limit of 0.708. Subsequently, all indicators are deemed reliable for measuring every research item. Construct reliability was tested by evaluating the composite reliability (CR) and Cronbach's alpha (CA) values. All constructs in this study were found to be greater than 0.7 and did not exceed the upper limit of 0.95, indicating that CR is acceptable (Table 3). The average variance extracted (AVE) value was greater than 0.5 for each construct, accounting for at least 50% of the variance items in the model, deemed convergence validity.

TABLE 3: CONSTRUCTS VALIDITY AND RELIABILITY

Variable	Code	Construct	OL	CA	CR	AVE
Treatment effectiveness	TRE1	The medication I am using or taking relieves my skin disease	0.907	0.800	0.836	0.714
	TRE2	I feel better now than I did before starting the treatment	0.852			
	TRE3	I think that my skin disease is now well under control	0.771			
Convenience of use	COU1	I find it easy to apply or take the medication in its present form	0.960	0.922	0.927	0.928
	COU2	The dosage for taking or applying the medication is convenient for me	0.966			
Impact on daily living	IDL1	After the medication, I feel I can do more daily activities without disturbance relating to my skin disease	0.951	0.877	0.908	0.801
	IDL2	After the medication, I can perform my daily activities like the usual	0.839			
	IDL3	After the medication, I feel in a better mood	0.892			
Medical care information	MCI1	I received useful information needed about my medication concerning my skin disease	0.799	0.845	0.850	0.766
	MCI2	I received clear information about the benefit of my medication	0.930			
	MCI3	I received clear information about the side effects of my medication (*e.g.*, stomach issue)	0.892			
Treatment side effect Tolerable	TSE1	The side effects of the medication interfere with my work or occupation	0.915	0.885	0.952	0.806
	TSE2	The side effects of the medication interfere with my leisure and free time activities	0.901			

	TSE3	The side effects of the medication interfere with my daily activities/ task	0.877		
Physician communication	PYC1	I feel my doctor listen to my complains and communicate in an easily manner	0.838	0.848	0.902	0.690
	PYC2	The doctor gave me the opportunity to ask questions about my skin disease	0.924		
	PYC3	The doctor was able to reassure me that my skin disease could be treated	0.898		
	PYC4	The doctor showed a professional attitude during my care	0.631		
Overall patient satisfaction	OPS1	In general, I feel satisfied with the treatment I received at the Dermatology and Venereology outpatient department	0.821	0.872	0.875	0.723
	OPS2	The service at the Dermatology and Venereology outpatient department is in line with my expectations	0.821		
	OPS3	I feel satisfied with the result of the treatment received	0.864		
	OPS4	I feel satisfied with the attitude shown by the doctors and nurses at the Dermatology and Venereology outpatient department	0.894		
Hospital reputation	HPR1	I feel that this hospital prioritizes a patient-centered care	0.838	0.828	0.845	0.743
	HPR2	In my opinion, this hospital deserves to be the first choice for patients	0.859		
	HPR3	This hospital has demonstrated superior quality services	0.888		

OL: Outer loadings, CA: Cronbach's alpha, CR: composite reliability, AVE: average variance extracted; TRE: treatment effectiveness; COU: convenience of use; IDL: impact on daily living; MCI: medical care information; TSE: treatment side effect tolerable; PYC: physician communication; OPS: overall patient satisfaction; HPR: hospital reputation

The heterotrait-monotrait ratio (HT/MT) was known to be more accurate in identifying discriminant issues and used to determine the discriminant validity test. All the constructs in this study's validity test had values less than 0.9 (Table 4), which led to the conclusion that every indicator in the research model had been adequately discriminated against to enable the measurement of each construct.

TABLE 4: HETEROTRAIT-MONOTRAIT RATIO (HTMT) – MATRIX

Variable	COU	HPR	IDL	MCI	OPS	PYC	RCY	TSE	TRE	RCYxPYC	RCYxTSE	RCYxMCI	RCYxIDL	RCYxCOU	RCYxTSE
COU	1														
HPR	0.488														
IDL	0.318	0.721													
MCI	0.369	0.709	0.430												
OPS	0.666	0.820	0.431	0.700											
PYC	0.373	0.465	0.154	0.489	0.711										
RCY	0/131	0.330	0.692	0.169	0.111	0.075									
TSE	0.491	0.642	0.422	0.548	0.707	0.447	0.278								

TRE	0.817	0.751	0.438	0.615	0.810	0.412	0.187	0.529						
RCY x PYC	0.156	0.215	0.132	0.293	0.339	0.406	0.016	0.221	0.130					
RCY x TSE	0.265	0.422	0.418	0.325	0.299	0.188	0.441	0.545	0.235	0.455				
RCY x MCI	0.221	0.404	0.344	0.502	0.309	0.247	0.270	0.320	0.239	0.594	0.625			
RCY x IDL	0.220	0.45	0.745	0.283	0.183	0.064	0.842	0.336	0.244	0.139	0.580	0.513		
RCY x COU	0.477	0.366	0.276	0.233	0.230	0.144	0.221	0.282	0.326	0.334	0.539	0.456	0.420	
RCY x TRE	0.382	0.435	0.381	0.305	0.324	0.147	0.382	0.299	0.421	0.345	0.575	0.589	0.540	0.790

TRE: treatment effectiveness; COU: convenience of use; IDL: impact on daily living; MCI: medical care information; TSE: treatment side effect tolerable; PYC: physician communication; OPS: overall patient satisfaction; HPR: hospital reputation

Previously, the inner variance inflation factor (VIF) was used to assess common method bias (CMB) resulting from measurement bias. This study's findings indicate that all constructs have an inner VIF below 3.3, implying that no common method bias issue is found in this model [23].

This research model shows that the OPS R2 was 0.788, categorized as strong explanatory power, while the HPR variable R2 was 0.507, categorized as moderate-to-strong explanatory power. The PLS_predict procedure was used to evaluate the predictive ability of the overall model [20,21]. Furthermore, the cross-validated predictive ability test (CVPAT) approach was carried out to assess a model's predictive capacity (Table 5) [24]. The results of this research show a comparison of PLS-SEM with the average indicator (IA). Then, compared to IA, the linear model (LM) shows a negative value, which means the error value is lower in PLS-SEM, whereas LM has a positive value found, and the model has adequate predictive ability.

TABLE 5: CROSS VALIDATED PREDICTIVE ABILITY TEST (CVPAT)

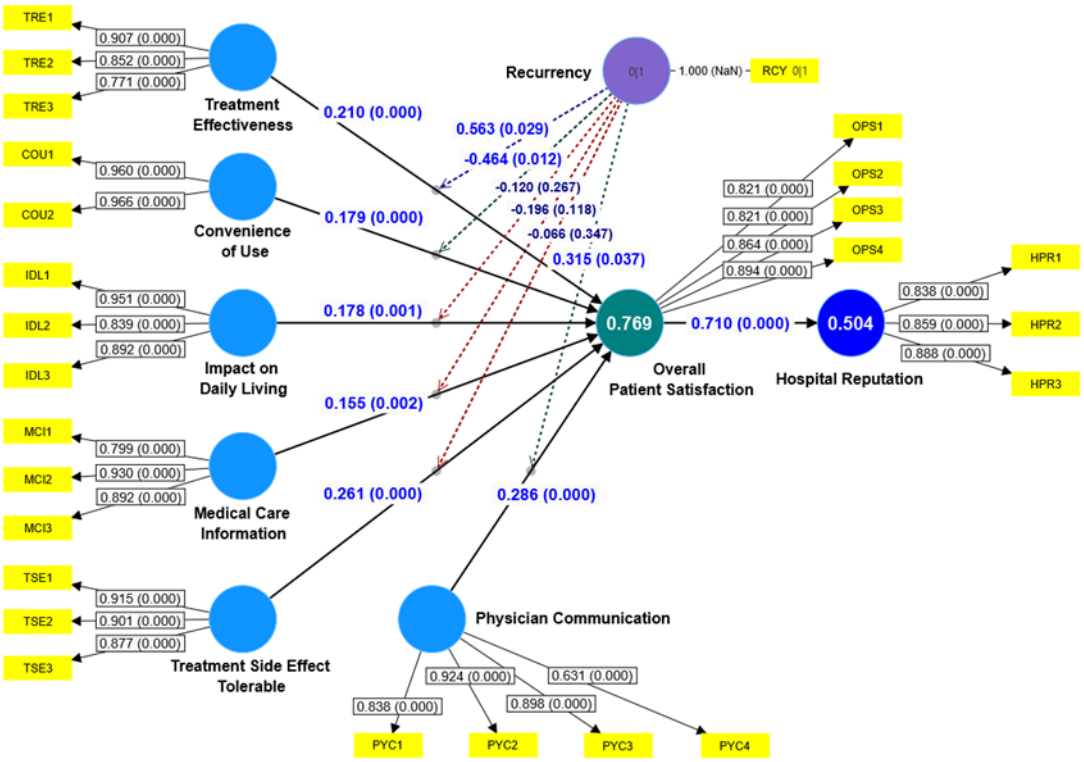
Variable	PLS-SEM vs. Indicator Average (IA)		PLS-SEM vs. Linear Model (LM)	
	Average loss difference	P-value	Average loss difference	P-value
Hospital reputation	-0.160	0.000	0.114	0.000
Overall patient satisfaction	-0.226	0.000	0.013	0.214
Overall model	-0.198	0.000	0.056	0.000

According to the results of hypothesis testing using the bootstrapping feature (Table 6 and Figure 2), ten hypotheses were accepted based on the criteria of P-value <0.05 and confidence interval (CI) of 5% and 95% in the direction of the hypotheses. However, hypotheses H7c, H7d, and H7e did not meet the significance requirements, and thus, they were not supported.

TABLE 6: SIGNIFICANCE & COEFFICIENTS

Hypotheses		Std. Coefficient	P-values	CI		Result	f2
				Lower 5%	Upper 95%		
H1	Treatment effectiveness → Overall patient satisfaction	0.210	0.000	0.110	0.309	Hypothesis supported	0.063
H2	Convenience of use → Overall patient satisfaction	0.179	0.000	0.091	0.261	Hypothesis supported	0.051
H3	Impact on daily living → Overall patient satisfaction	0.178	0.001	0.080	0.272	Hypothesis supported	0.061
H4	Medical care information → Overall patient satisfaction	0.155	0.002	0.070	0.244	Hypothesis supported	0.051
H5	Treatment side effects tolerable → Overall patient satisfaction	0.261	0.000	0.179	0.342	Hypothesis supported	0.142
H6	Physician communication → Overall patient satisfaction	0.286	0.000	0.216	0.358	Hypothesis supported	0.220
H7a	Recurrency x Treatment effectiveness → Overall patient satisfaction	0.563	0.029	0.119	1.089	Hypothesis supported	0.047
H7b	Recurrency x Convenience of use → Overall patient satisfaction	-0.464	0.012	-0.838	-0.172	Hypothesis supported	0.053
H7c	Recurrency x Impact on daily living → Overall patient satisfaction	-0.120	0.267	-0.426	0.186	Hypothesis not supported	0.003
H7d	Recurrency x Medical care information → Overall patient satisfaction	-0.196	0.118	-0.427	0.100	Hypothesis not supported	0.010
H7e	Recurrency x Treatment side effect tolerable → Overall patient satisfaction	-0.066	0.347	-0.344	0.211	Hypothesis not supported	0.002
H7f	Recurrency x Physician communication → Overall patient satisfaction	0.315	0.037	0.049	0.621	Hypothesis supported	0.031
H8	Overall patient satisfaction → Hospital reputation	0.710	0.000	0.665	0.754	Hypothesis supported	1.018

FIGURE 2: INNER MODEL



The result also shows that OPS has a large effect size on HPR with an f2 value of 1.018. This indicates that overall patient satisfaction has a large effect size. At the same time, physician communication has a moderate size effect on overall patient satisfaction.

DISCUSSION

The purpose of this study was to assess factors that can affect overall patient satisfaction in chronic skin disease patient services at a referral hospital. Key findings from this study indicate that overall patient satisfaction has a strong relationship with hospital reputation. The more satisfied patients are, the more positive their perception of the hospital will be, which will encourage compliance with the treatment given by the doctor. Another key finding is that physician communication has a greater influence than other factors, followed by treatment effectiveness.

The results of this study provide strong empirical evidence supporting the significant relationship between patient satisfaction and hospital reputation in the context of chronic skin disease treatment. The six variables—treatment effectiveness, convenience of use, impact on daily living, medical care information, treatment side effects, and physician communication—all contribute meaningfully to overall patient satisfaction, with physician communication and treatment side effects being the strongest predictors. The moderation analysis reveals that recurrency has a nuanced effect, strengthening the link between treatment effectiveness and patient satisfaction while positively moderating physician communication. These findings are critical as they highlight the importance of clinical efficacy, communication, and patient-centered care in fostering trust and building the hospital's reputation. This insight can guide public hospitals in enhancing the quality of care for chronic conditions, especially in a long-term treatment setting, ultimately improving patient retention and hospital performance.

This study shows that communication must be a concern for doctors who practice skin outpatient departments so that interactive, informative, and more persuasive communication can occur so that the disease can be cured/ underwent remission; this result was obtained from a lower mean in descriptive items. The importance of physician communication was consistent with a previous study [15]. Therefore, the Dermasat instrument, when implemented, should be integrated with the communications element, following the modification done for this study. Physician communication in health care

involves a communication skill centered on the patient, positively impacting patient satisfaction, treatment compliance, and self-management [25]. Physician communication also occurs between patients with skin disease in the outpatient department, not limited to explaining but also to empathizing and motivating the patient to heal, which may exert a positive feeling among patients with chronic skin disease.

Treatment effectiveness revealed that good outcomes from care or treatment tend to increase patient satisfaction. When a treatment effectively decreases a symptom of a disease, improves the health condition, or increases the quality of life of a patient, this will directly contribute to the patient's positive perception of the care received. A chronic skin disease will require a longstanding and continuing treatment; therefore, an effective treatment will yield a great outcome and subsequently increase overall patient satisfaction [26].

Convenience of use, in terms of treatment received by a patient, refers to how easy and practical a treatment or care is to be used or implemented by a patient or health care provider. This concept includes several aspects, e.g., the practicality of medical equipment, availability of an easy-to-take drug formulation, and simplicity in carrying out treatment procedures [27]. The result of this study aligns with the study from Qian et al. (2020), that ease of use of the drug is a crucial factor in the perception felt by a patient, which may influence the degree of satisfaction of a patient in a hospital [28]. Impact on daily living, in terms of treatment received by a patient, refers to how the treated condition or disease influences a patient's daily activities. This aspect includes the ability to work, social interaction, physical activity, and general daily living [14]. The result of this study is confirmed by a study done by Meule et al. (2020), who reported a significant increase in the quality of life among patients with mental disorders during treatment, and this change was associated with a change in depression symptoms [29]. When a treatment can overcome a patient's symptoms or improve the patient's functionality, this will tend to impact overall patient satisfaction positively.

Medical care information may be defined as the comprehensiveness and consistency of information, influencing the efficiency, quality, and secureness of a diagnosis and treatment [30]. The result of this study aligns with a study by Zhang et al. (2020), who stated that the outcome perception of patients' visits to health care and patient communication with the professional healthcare provider were the most important variables associated with the satisfaction of patients at an outpatient department in China [31]. Patients will generally feel satisfied when given a detailed explanation concerning their disease. Apart from the information regarding their disease, patients will be required to know how the received treatment will impact the course of the disease, how to use the treatment, side effects that may arise, and preventive measures to prevent the side effects.

The treatment side effect is a concerning treatment complication that may result in decreased quality of life and earlier cessation of treatment and negatively impact the treatment outcome [32]. Long-term treatment and compliance are required to avoid recurrences in chronic skin disease. However, this compliance will be reduced by the side effects. Effective, informative education is crucial in increasing patient adherence to taking medication. A systematic study by Aljofan (2023) highlighted that patient unintentionally falls into the nonadherence category of therapy-related factors due to their misunderstanding of treatment, particularly when given complex regimens, resulting in improper timing of drug administration or administration of numerous medications at frequent or unusual times during the day. Therefore, the patient should be provided with all necessary and essential information, including the name of the medication, its purpose, the rationale for choosing it, the dosing frequency, when it should be taken, how long it should be taken, and any potential adverse effects (their likelihood of occurring, whether they will resolve without intervention, and how the treatment plan may change if they do not resolve) [33].

This study supports the concept of quality of healthcare by Donabedian (1988) and indicates that structure and process are the core of a quality outcome [10]. The findings of this study highlighted that competent structural resource and communicative skills, i.e., effective information exchange, establishing good interpersonal relations, overcoming patient concerns, and utilizing a patient-centered associated with patient satisfaction and health outcomes. The theoretical implementation of the current study is to strategize comprehensive management for chronic skin disorder based on the outcome process by Donabedian, where the interconnected structure of six measurable variables, i.e., treatment

effectiveness, convenience of use, impact on daily living, medical care information, treatment side effect tolerable, physician communication should be integrated. This proposed study model has a significantly adequate explanatory and predictive value for replication for future studies.

To complement the findings of this study, future researchers could explore the impact of cultural and socio-economic factors on patient satisfaction and hospital reputation, particularly in diverse regions. Additionally, conducting longitudinal studies would provide valuable insights into how patient satisfaction and hospital reputation evolve, especially in chronic skin disease management cases. Further research could also investigate the role of telemedicine in enhancing physician-patient interactions, potentially broadening the scope of physician communication as a critical factor in patient satisfaction. Finally, expanding the study to include other chronic conditions could enhance the generalizability of the findings across different patient populations

CONCLUSION

In conclusion, this study highlighted that treatment effectiveness and physician communication have a significant positive relation toward overall patient satisfaction. A higher perception of each described variable yielded a higher overall patient satisfaction. Another important highlight is the moderated recurrency variables, which are significantly associated positively with treatment effectiveness, physician communication, and significantly associated negatively with convenience of use. However, recurrency needs proof of the impact on daily living, medical care information, and treatment side effects toleration. Overall patient satisfaction is significantly associated positively with hospital reputation, indicating that higher overall patient satisfaction will increase the hospital reputation, which can encourage patient trust and compliance in the long term. This can be an input for policies to improve the health status of chronic skin patients.

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