

ORIGINAL ARTICLE

**SKIN DISEASES AMONG LONG STAY
PSYCHIATRIC PATIENTS IN INDONESIA**

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Abstract

Objective: Although the fact that the deficit in personal hygiene, hospital conditions, psychiatric medications and other factors can all be responsible for the development of skin problems among long stay psychiatric patients; the rate of skin diseases among this group is rarely studied. This study aimed to determine the prevalence of skin diseases among long stay male patients with schizophrenia in Indonesia. **Methods:** Patients who were hospitalized in a psychiatric long-stay institution were recruited, completed a short, structured interview and underwent a physical examination. **Results:** A total of 73% patients in the current study population (N=70 in total) suffered from dermatological diseases. Diseases of the skin and subcutaneous tissue were observed in 31 patients (44.3%), and cases of mycosis alone were found in 26 patients (37.1%). Dermatitis and dry skin diseases were found in 12 (17.1%) and 16 (22.9%) patients, respectively. There is insufficient evidence of association between having a skin disease and the duration of hospital stay ($p=0.5$), age ($p=0.45$) and their Body Mass Index ($p=0.53$) in this population. **Conclusion:** The findings of a high rate of skin diseases among long stay psychiatric patients call for further attention. *ASEAN Journal of Psychiatry, Vol. 16 (2): July – December 2015: XX XX.*

Keywords: Prevalence, Skin Diseases, Schizophrenia

Introduction

The appearance of dermatological disorders among long stay patients with schizophrenia is often neglected in psychiatric health service research, especially in developing countries where resources are scarce. The tendency to develop skin problem among this group of patients has been suggested to be a result of either antipsychotic treatment [1–3] or the nature of their illness, which may lead to reducing personal hygiene [4].

The prescription of any type of antipsychotics might lead to obesity [5]. Obese patients are not only at a higher risk for developing

cardiovascular disorders [6], but also show increased rates on some types of dermatological disorders [7]. A direct association between antipsychotic medication and the appearance of dermatological symptoms has been studied [8], and it was found that around 8.4% of hospitalized psychiatric patients had dermatological symptoms. All mentioned studies were conducted in industrialized countries, making it difficult to compare them with or conclude on the situation in low-and middle-income countries. Psychiatric patients in Indonesia tend to stay in the hospital longer compared to psychiatric in-patients in developed countries such as in Germany and the USA [9,10].

Prolonged hospitalization, together with medication and poor living conditions put Indonesian psychiatric patients at risk of developing dermatological disorders. However, data on dermatological conditions in this group of patients is limited. This study, therefore, aimed to examine the type and prevalence rate of skin diseases among long stay patients with schizophrenia. Furthermore, predictors for these diseases were also analyzed.

Methods

This study used a cross-sectional design. This study was conducted in a psychiatric nursing care institution (called 'Filial'), in Jantho, the capital of Aceh Besar Regency, Aceh province, Indonesia. The Filial consists of psychiatric wards that are attached to Jantho general hospital. The general hospital initially had seven nursing wards; however, due to a long distance from the urban area to the hospital and the under-population of the surrounding area, less than five percent of the beds were occupied. In February 2012, the local government decided to relocate some patients from the main psychiatric hospital in Banda Aceh to the Jantho general hospital. In January 2014, when data collection for this study was conducted, four nursing wards were used for the treatment of psychiatric patients, while the remaining three wards are devoted to non-psychiatric care. Of 72 long stay male psychiatric patients hospitalized in the Filial, 70 agreed to participate in this study. Furthermore, due to a small number of populations, the current study utilized a total population sampling technique, which is a type of non-probability purposive sampling that involves examining the entire population.

The study was approved by the Institutional Review Board Syiah Kuala University in Banda Aceh (Approval number: 144/KE/FK/2012). Permission to conduct the study was obtained from the Psychiatric hospital management. All respondents were informed of the study and agreed to participate therein.

A brief structured questionnaire was developed, including questions on demographic information, education, previous occupation, smoking behavior and substance

abuse history. The data collection, interview, physical examination and diagnosis of skin diseases of the patients were performed solely by L.F., a general practitioner at Jantho hospital. The diagnosis of skin diseases was evaluated according to ICD-10. Information on the psychiatric diagnoses, medication and age of the patients was secondarily generated from the patient registry. Psychiatric diagnoses were assessed previously by the hospital psychiatrists according to DSM-IV.

To test the statistical significance in the categorical data, χ^2 -tests or Fisher exact tests were used to analyse the data where applicable. For continuous data, the Mann-Whitney U test were performed. All analyses were performed using STATA statistical software version 13.0.

Results

From April 2012 until the end of 2013, the psychiatric Filial in Jantho treated around 184 patients. Eighty seven were sent home, and 25 returned to the main psychiatric hospital in Banda Aceh due to the deterioration of their mental condition. Whenever a patient recovers and is sent home, a new patient is brought from the main hospital to the Filial, so that the average number of patients has been always between seventy and seventy five. During data collection, of the 72 patients hospitalized in the Filial, one patient was excluded due to the severity of his mental illness, and another was unwilling to participate in the study. Of the remaining 70 patients, all were diagnosed with one of four different types of schizophrenia; paranoid schizophrenia was the most common (87.1%, N=61). The mean age of the patients was 33.3 years (range: 20 to 50 years). 14.3% patients (N=10) did not have any formal education, while senior high school (28.6%, N=20) was the highest level of education reached by any of the patients. Before hospitalization, more than a third of the patients had been farmers (37.1%, N=26), and 18.6% (N=13) had no formal job. The majority of the patients were unmarried (78.6%, N=55), and only 17.1% (N=12) of them were married. While almost all of the patients were currently active smokers (98.6%, N=69), only one patient said that he had quit smoking. Furthermore, almost half of the patients had a history of cannabis use (45.7%, N=32) and

nearly half had a history of physical restraint and confinement due to their mental illness in the community (42.9%, N=30). The findings

of the clinical features and demographic conditions of the respondents are summarized in Table 1.

Table 1. Demographic and Clinical Features

	Number	Percent/range/SD
Mean of age (year)	33.3 years	20 - 50 years
Education		
No Formal Education	10	14.3
Attended Elementary School (6 yrs)	23	32.9
Attended junior high school (9 yrs)	17	24.3
Attended senior High school (12 yrs)	20	28.6
Previous Occupation		
No formal Job	13	18.6
Farmer	26	37.1
Fisherman	10	14.3
Private enterprise	21	30
Civil status		
Single	55	78.6
Married	12	17.1
Widow	3	4.3
Payment of hospital treatment cost		
Jamkesmas (Community health security)	35	50
JKA (Aceh Health Insurance)	35	50
Currently smoking	69	98.6
History of cannabis use	32	45.7
History of pasung	30	42.9
Duration of current hospitalization: median	12 months	2 - 72 months
Number of previous admission: median (n = 52)	3 times	1 - 20 times
Type of schizophrenia		
Paranoid type	61	87.1
Catatonic type	1	1.4
Undifferentiated type	4	5.7
Residual type	4	5.7
Visual acuity		
Normal	56	80
Myopia	5	7.1
Presbyopia	8	11.4
Presbyopia + Hyperopia	1	1.4
Systolic blood pressure: mean	116 mmHg	SD: 12.8
Diastolic blood pressure: mean	76 mmHg	SD: 10.6
Weight: Median	62 Kg	45 - 93
Height: Median	165 cm	149-176
Body Mass Index: Mean	23.3	SD: 3
Body Mass Index Category		
Underweight	2	2.9
Normal	51	72.9
Overweight	11	15.7
Obese	6	8.6
Having Skin Problem	51	72.9

Jamkesmas = (Jaminan kesehatan masyarakat), JKA = (Jaminan Kesehatan Aceh) and pasung = (physical restraint and confinement of the mentally ill in the community)

The median of the length of hospital stay was 12 months; one patient has been hospitalized for nearly six years. All patients were covered by the social health insurance whereby the premium is paid by the government. The median of previous admission was three times, with two patients stating that they had been admitted around 20 times. The current period of hospitalization was the first admission for 25.7% of patients (N=18).

Cardiovascular Risk Factors

About two third of patients have a normal body mass index (BMI) (72.9%, N=51), while overweight and obesity were found in 15.7% (N=11) and 8.6% (N=6) of patients, respectively. The mean BMI was 23.33/m²

(SD±3.01). Systolic hypertension (BP ≥ 140 mmHg) was only found in three cases (4.2%), but diastolic hypertension (BP ≥ 90 mmHg) was found in eight cases (11.4%).

Skin Diseases

Skin diseases were found in 72.9% patients (N=51). Mycosis, which is part of certain infectious and parasitic diseases in ICD-10, was found in 26 patients, while diseases of skin and subcutaneous tissue were found in 44 patients. Among those with skin diseases, some 72 different diagnoses were found, as in some cases, one patient was diagnosed with two to three different skin problems. A detailed overview of skin diseases is displayed in table 2.

Table 2. Diagnoses of skin diseases

ICD 10 Code	Diagnosis	Number	Total
B35-B49	<i>Mycoses</i>	26	
A00-B99	Chapter I, certain infectious and parasitic diseases		26
K00-K14	Diseases of oral cavity, salivary glands and jaws	1	
	• K12 stomatitis and related lesions (=1)		1
K00-K93	Chapter XI, Diseases of the digestive system		
L00-L08	Infection of the skin and subcutaneous tissue	8	
	• L02 Cutaneous abscess, furuncle and carbuncle (=8)		
L20-L30	Dermatitis and Eczema		
	• L21 Seborrheic dermatitis (=1)	9	
	• L27.2 Dermatiti due to ingested food (=3)		
	• L30.9 Dermatitis, unspecified (=5)		
L55-L59	Radiation-related disorders of the skin and subcutaneous tissue	3	
	• L55 Sunburn (=3)		
L60-L75	Disorders of skin appendages		
	• L65.2 Alopecia Mucinososa (=1)	5	
	• L70.0 Acne Vulgaris (=3)		
	• L73.0 Acne Keloid (=1)		
L80-L99	Other disorders of the skin and subcutaneous tissue		
	• L81.1 Chloasma (Melasma) (=2)	19	
	• L85.3 Xerosis cutis (Dry skin dermatitis) (=15)		
	• L90.5 Scar condition and fibrosis of skin (=2)		
L00-L99	Chapter XII Diseases of the skin and cubcutaneous tissue		44
T63.4	Venom of other arthropods (Insect bite)	1	
S00-T98	Chapter XIX, Injury, poisoning and certain other consequences of external causes		1
	No skin diseases	19	19
	Total number of diagnosis		72

Treatment

Antipsychotic agents belonging to the group of atypical neuroleptics were given to 65.7% patients (N=46) throughout their treatment; typical neuroleptics were only prescribed in three cases and a mix of medication from both groups was found in 30% (N=21) of the cases. Clozapine and Risperidone were the most commonly prescribed antipsychotics, with 68.6% (N=48) and 78.6% (N=55), respectively. Furthermore, the use of anticholinergic medication, Trihexyphenidyl was also common (67%, N=47). In a further analysis, no association was found between the

type of antipsychotics prescribed and having a skin disease. Details of the prescribed antipsychotics and other medications are summarized in Table 3.

In bivariate analyses, insufficient evidence of associations was found between having a skin problem and potential exposure variables (duration of hospital stays (p=0.5), age (p=0.45) and BMI (p=0.53)). The only significant association was observed between having a skin problem and the prescription of folic acid (p=0.003), and between having a skin infection and the prescription of antibiotics ($\chi^2=6.24$; p=0.012).

Table 3. Medication

Medication Group	Drug	N	%
Typical Antipsychotic	Chlorpromazine	8	11.4
	Haloperidol	10	14.3
	Trifluoperazine	10	14.3
Atypical Antipsychotic	Clozapine	48	68.6
	Olanzapine	12	17.1
	Quetiapine	1	1.4
	Risperidone	55	78.6
Anticholinergic	Trihexyphenidyl	47	67.1
Anti-anxiety	Diazepam	5	7.1
	Lorazepam	1	1.4
Antidepressant	Fluoxetine HCl	2	2.9
Mood stabilizer	Valproic Acid	3	4.3
Analgesic antipyretic	Mefenemic Acid/Paracetamol	10	14.3
Antibiotic	Antibiotic	7	10
Folic Acid	Asam Folat	16	22.9

Discussion

In this study, 73% of the long-stay patients with schizophrenia residing in a psychiatric nursing care institution for the chronically ill had a skin disease. The finding of a high prevalence rate in the current study supports the findings from previous studies, where Mookhoek, et al. [11] found a rate of

dermatological disorders of 77% among psychiatric inpatients in The Netherlands, Moftah et al. [12] detected the presence of skin diseases in 71.5% of psychiatric patients in general and 80.2% among patients with schizophrenia, specifically in outpatient clinics of psychiatric hospitals in Egypt, and recently Wu et al. [13] reported the rate of 61.4%

fungal infection and 46.9% dermatitis among patients with schizophrenia in Taiwan.

An association between BMI or obesity and the present of dermatological disorder was also reported in previous studies [7,14]. Obese (BMI>30) psychiatric patients have a 7.4 odds ratio of having a skin disease [11]. This might be explained by the fact that obese people's skin had a lower water permeability compared to non-obese individuals [14]. Nevertheless, the association between being overweight-obese and having a skin disease was not found in the current study, our results thus differing from previous studies.

The skin conditions among the population in the current study were not related with the type of antipsychotic medication, age, or length of hospital stay. Other factors such as personal hygiene, the cleanliness of nursing ward, lack of nursing staff or the severity of the illness might play more influential roles. It is widely known that mental healthcare in Indonesia is largely institutionalized in psychiatric hospitals, within which the patients are usually locked inside the nursing wards. The number of nursing wards is limited, and the wards are usually occupied by more patients than the number of beds available. Nursing wards are generally dirty, smelly and have poor sanitation due to the lack of funds allocated to the mental health sector [15]. Lack of nursing staff may be also responsible for the poor personal hygiene of the patients. Each shift, two nurses should take care of more than twenty patients in a nursing ward. This makes them difficult to fully take care of their personal hygiene, including the skin hygiene. Furthermore, patients have to wear a hospital uniform, and this tends not to be changed regularly. These conditions might explain the high rate of dermatological diseases better than the factors of medication, age or duration of stay. Additionally, the previous study in The Netherlands also showed no association between length of hospital stay and skin problems [11]. Nevertheless, the findings of the current's study show the importance of observing the physical condition of the psychiatric patients during hospitalization.

Limitation of the study

In this study, no control group was facilitated

in order to draw a comparison to the general population in Aceh. Another limitation is that the physical examination of the skin was not supported by further diagnostic procedures, but rather based solely on the clinical pictures. Furthermore, a small sample size is another important limitation of the study.

Conclusion

Further studies should be conducted to explain the role of environment and daily nursing care factors in the development of skin problems among long stay patients with schizophrenia

Conflict of Interest

The authors declare no competing interests.

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