

Differences in Sociodemographic Characteristics of Schizophrenia Patients between Rural and Urban Areas in Badung Regency

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Abstract

Several studies have found differences in the incidence of schizophrenia in rural and urban areas. Most of the studies found that schizophrenia incidence was higher in urban areas. The purpose of this study was to determine differences in sociodemographic characteristics of schizophrenic patients according to rural or urban conditions in their homes. An observational, cross-sectional analytic, study conducted. The sample in this study were 503 people who had been diagnosed with schizophrenia recorded at community health centres in Badung Regency until October 2019. Sociodemographic data of patients were observed and then grouped according to the residence of rural or urban patients. Chi-square test with a significant value of $P < 0.005$ used to analyze the result. The proportion of schizophrenia is higher in urban than in rural areas (61.1%: 38.9%). There are differences in the incidence of men and women in villages and cities ($p = 0.011$), differences in rural and educational events low whereas in urban areas on the contrary ($P < 0.0001$). More schizophrenic patients do not work and live in cities than in villages ($p = 0.002$) and that people who are not married and live in cities suffer more schizophrenia ($p = 0.014$), only the age group variable was no difference ($p = 0.14$). The incidence of schizophrenia is higher in urban areas with differences in characteristics found in variables of gender, education level, employment status and marital status. Thus, can be an input to the health department and staff so that psychological education and screening are more directed at urban communities.

Keywords: Schizophrenia, rural, urban sociodemography

Abstrak

[Perbedaan Karakteristik Sosiodemografi Pasien Skizofrenia antara Perdesaan dan Perkotaan di Kabupaten Badung]

Beberapa penelitian menemukan adanya perbedaan kejadian skizofrenia di pedesaan dan perkotaan, sebagian besar hasil penelitian menemukan kejadian skizofrenia lebih tinggi di daerah perkotaan. Tujuan dari penelitian ini adalah untuk mengetahui perbedaan karakteristik sosiodemografi dari pasien skizofrenia sesuai dengan kondisi pedesaan atau perkotaan tempat tinggalnya. Penelitian observasional dengan rancangan crossectional analitik. Sampel dalam penelitian ini adalah sebanyak 503 orang yang telah didiagnosa skizofrenia dan terdata pada puskesmas se-Kabupaten Badung sampai bulan Oktober tahun 2019. Data sosiodemografi pasien diobservasi kemudian dikelompokkan sesuai tempat tinggal pasien pedesaan atau perkotaan. Penelitian ini dianalisis dengan uji Chi-square dengan nilai signifikan $P < 0,005$. Proporsi kejadian skizofrenia lebih tinggi terjadi pada daerah perkotaan daripada daerah pedesaan (61,1% : 38,9%), terdapat perbedaan kejadian pada laki-laki dan perempuan di desa dan kota ($p=0,011$), perbedaan kejadian yang di pedesaan dengan pendidikan rendah sedangkan di perkotaan sebaliknya ($P < 0,0001$), penderita skizofrenia lebih banyak yang tidak bekerja dan tinggal di kota daripada di desa ($p=0,002$) dan pada status pernikahan penderita yang tidak menikah dan tinggal di kota lebih banyak menderita skizofrenia ($p=0,014$), hanya variabel kelompok umur tidak terdapat perbedaan ($p=0,14$). Kejadian skizofrenia lebih tinggi terjadi pada daerah perkotaan dengan perbedaan karakteristik ditemukan pada variabel jenis kelamin, tingkat pendidikan, status pekerjaan dan status pernikahan. Hal ini sebagai masukan terhadap dinas kesehatan dan jajarannya agar edukasi psikologis dan screening lebih diarahkan kepada masyarakat perkotaan.

Kata kunci: Skizofrenia, kota, desa, sosiodemografi

INTRODUCTION

Schizophrenia is a form of severe mental disorder characterized by fundamental deviations and abnormal characteristics of perceptions, thoughts, feelings or effects, which can experience hallucinations such as listening to voices or seeing things that are not there and disturbances of behaviour and emotions that are not accordingly.

According to WHO¹, schizophrenia patients reach more than 21 million people or about 0.2 to 0.4 % of the total population worldwide and are mostly found in those aged 15 to 55 years¹. The prevalence of schizophrenia in Indonesia is 0.3 - 1%. If the estimation of the population of Indonesia is around 200 million people, there are about 2 million people suffer from schizophrenia. Data on Riskesdas 2018 showed that Bali Province has the highest prevalence of schizophrenia in Indonesia with a rate of 11 per mile². Based on the annual report of the mental health program known that the prevalence of severe mental disorders in Badung reached 2.5 per mile³.

The report of Global Burden Diseases study in 2017 showed that schizophrenia is one of the 20 top diseases causing disability⁴. Disability in schizophrenic patients increases the risk of comorbidities, for instance, diabetes mellitus, coronary heart diseases, stroke, depression, and suicide. The comorbidity decreases life expectancy compared with the general population. The disability condition in schizophrenia patients also results in high family economic burdens, dependency ratios and low quality of life⁵. Globally, the WHO estimates that the cumulative impact of mental disorders spends a cost of US \$ 16,000 billion over 20 years into the future⁶.

The causes of schizophrenia are multifactorial and related to one another. Theories of schizophrenia risk factors are organo-biology (genetics, viruses, malnutrition fetus), psycho-religious, and psychosocial including the psychological, socio-demographic, socio-economic, socio-cultural, migration, and population density in a rural and urban area⁷. All these factors are related to one another resulting in a

vulnerable psychological condition. Someone who exposed to stressors will more easily become schizophrenia. Aini's study¹⁰ in Wahyudi & Febriana⁸ found that the percentage of environmental triggers is the dominant factor, which is 85% rather than 15% individual and family factors⁸.

Environmental factor based on place of birth is a dominant factor or schizophrenia trigger factor⁹. The urban community showed significant differences compared to the conditions of rural communities. The urban community are advanced, from the perspective of education and economy. Rural communities are generally described as traditional societies that are slowly developing, while urban communities described as modern societies rapidly develop. The rural-urban difference lies precisely in their discrepancy between the village and the city, both the physical and social territory¹⁰.

The influence of globalization, modernization, urbanization, and industrialization as the results of science and technology development for improvement in all fields has changed our lifestyle and values. From the perspective of psychiatric, those changes increase the necessities of life, competition on fulfilling those needs, and individualism. Those conditions can trigger psychological stressors resulting in mental changes and require new adjustments¹¹.

The prevalence of schizophrenia is associated with the residential area in rural or urban. Urban areas have a higher level of competition, suspense, noise, violence, and feeling threatened than in rural areas. The incidence of schizophrenia among people living in cities with high population density was found two times higher than in rural areas. In a study conducted by Amin¹² found that people who live in cities have 3.22 times risk of schizophrenia compared to those who live in rural areas¹². It is different from the results of Riskesdas in 2013. The results showed that the proportion of severe mental disorders in urban areas was 10.7% while rural areas were higher (18.2%), with a context that poverty in rural areas is higher than in urban areas¹³.

In a study conducted by Davies in Wahyudi & Febriana⁸ states that socio-demographic factors on individual, such as marital status, age, employment status, the educational level can affect the risk of suffering from mental disorders. Unmarried, low education level, male, adult age, unemployment may increase the risk of mental disorders⁸.

Research conducted by Alladyce¹⁴ comparing the onset of schizophrenia on residents who live in urban areas of Camberwell and residents living in rural areas of Dumfries and Galloway. It suggested that the relative risk of schizophrenia for people living in urban areas is 1.61 times compared to those living in the countryside¹⁴. In a cohort study found an increase of schizophrenia with urban birthplaces 1.34 times compared to the place of birth in the rural area¹⁵.

Badung regency, one of the regencies in Bali Province, is a tourism area with a high population density. The Badung Regency consists of 6 districts, namely South Kuta, Kuta, North Kuta, Mengwi, Abianselem and Petang with a total of 62 sub-districts. Thirty-seven sub-districts are urban area, while 25 sub-districts are rural areas. Badung Regency with a high population density will affect the psychological condition of its people¹⁶.

Based on the description above, the writer is interested in studying the differences in sociodemographic characteristics of urban and rural areas on the number of

schizophrenia incidents in Badung Regency.

METHODS

This research is a quantitative, observational study with a cross-sectional analytic design. The study was conducted in Badung regency using secondary data. A total of 503 samples used in this study were diagnosed schizophrenia from January until October 2019. Univariate analysis conducted to show frequency and distribution of sex, age, education, occupation, and marital status based on patient residential area classified as rural and urban areas. Bivariate analysis conducted to determine differences in socio-demographic characteristics between rural and urban areas, which were then analyzed using the Chi-square test with a significant value of $P < 0.005$.

RESULTS

The results of data analysis at the health centres in Badung Regency on the research subjects indicated that the proportion of schizophrenia incidence based on the rural and urban was (38.9%: 61.1%). Based on the sub-districts, the highest incidence of schizophrenia occurred in the Abianselem (38.2%) and followed by Mengwi (22.7%), Petang (13.5%), North Kuta (10.9%), South Kuta (9.9%) and Kuta (4.8%), relatively. The socio-demographic characteristics on the patients' residential areas showed in the following table.

Table 1. Socio-demographical Characteristics of Patients with Schizophrenia in Rural and Urban Areas

Variables/Area	Rural		Urban		Total	
	n	%	n	%	n	%
Gender						
Male	132	67.3	172	56.0	304	60.4
Female	64	32.7	135	44.0	199	39.6
Age Group						
Youth	5	2.6	18	5.9	23	4.6
Adult	80	40.8	140	45.6	220	43.7
Elderly	82	41.8	120	39.1	202	40.2
Seniors	29	14.8	29	9.4	58	11.5
Education Level						
No Education	14	7.1	62	20.2	76	15.1
Did Not Finish Elementary School	3	1.5	5	1.6	8	1.6
Primary School	103	52.6	63	20.5	166	33.0
Junior High	43	21.9	55	17.9	98	19.5
Senior High	30	15.3	118	38.4	148	29.4
Bachelor	3	1.5	4	1.3	7	1.4
Profession						
Unemployed	79	40.3	166	54.1	245	48.7
Housewife	4	2.0	8	2.6	12	2.4
Farmer	76	38.8	34	11.1	110	21.9
Labor	10	5.1	14	4.6	24	4.8
Traders	2	1.0	10	3.3	12	2.4
Private	16	8.2	67	21.8	83	16.5
Entrepreneur	6	3.1	4	1.3	10	2.0
Civil Servant	1	0.5	4	1.3	5	1.0
Retired	1	0.5	0	0	1	0.2
Chief of Traditional Village	1	0.5	0	0	1	0.2
Marital Status						
Married	92	46.9	105	34.2	197	39.2
Not Married	96	49.0	190	61.9	286	56.9
Widow	8	4.1	12	3.9	20	4.0

Table 1. shows that most cases of schizophrenia in the Badung regency are male (60.4%), adults aged 26-45 years (43.7%), elementary school (33.0%), unemployed (48.7%) and unmarried (56.9%). Table 1. also shows that cases of schizophrenia in rural areas are mostly men (67.3%), elderly aged 46-65 years old (41.8%), elementary school (52.6%), unemployed

(40, 3%) and unmarried at 49.0%. In the case of schizophrenia in urban areas are predominantly male (56.0%), adults aged 26-45 years (45.6%), high school (38.4%), unemployed (54.1%), and unmarried by (61.9%). The correlation between socio-demographic characteristics and patients' residential area showed in Table 2 below.

Table 2. Differences in Socio-demographic Characteristics among Schizophrenia Patients between Rural and Urban Areas

Variables	Rural n/ (%)	Urban n/ (%)	P- Value
Gender			0,011
Male	132 (67,3)	172 (56.0)	
Female	64 (32,7)	135 (44,0)	
Age Group			0,14
Youth	5 (2,6)	18 (5,9)	
Adult	80 (40,8)	140 (45,6)	
Elderly	82 (41,8)	120 (39,1)	
Seniors	29 (14,8)	29 (9,4)	
Educational Level			< 0,001
Low	163 (83,2)	185(60,3)	
High	33 (16,8)	122 (39,7)	
Profession Status			0,002
Unemployed	83 (42,3)	174 (56,7)	
Employed	113 (57,7)	133 (43,3)	
Marital Status			0,014
Married	92 (46,9)	105 (34,2)	
Not Married	96 (49,0)	190 (61,9)	
Widow	8 (4,1)	(3,9)	

Based on chi-square test between patients with schizophrenia who live in the rural and urban areas, it is known that the variables with significant differences are gender (p-value=0.011), educational level (p-value<0.001), employment status (p-value =0.002) and marriage status (p-value= 0.014). Meanwhile, only the age variable (p value=0.14) has no significant difference.

DISCUSSION

The results indicated that the proportion of schizophrenia incidence based on the rural and urban areas was 38.9% and 61.1%, respectively. The high incidence of schizophrenia in urban areas is because Badung regency has a lot of urban areas, and close to the Denpasar - the capital of Bali Province. The results are in line with a study by Allardyce¹⁴ showing that relative risk of schizophrenia in urban areas was 1.61 (95% CI; 1.42 to 1.82) compared to those in the rural areas¹⁴. Research by Chan¹⁷ revealed that the incidence of schizophrenia among the population in China is higher in urban areas compared to rural areas (RR = 1.62 1.10 to 2.40)¹⁷. Research by Long¹⁸ of the study on the prevalence of schizophrenia in mainland China identified from the electronic database until July 2013 also found that the incidence is higher in urban residents than rural¹⁸.

The highest incidence of schizophrenia occurred in the Abiansemal sub-district (38.2%) as Abiansemal was the only sub-district that has a mental health unit at Abiansemal Primary Health Center 1.

There are differences in the number of schizophrenia occurrences in rural and urban areas, where the sample of schizophrenia patients in men has a higher number than women. Besides, the majority of schizophrenic male patients live in urban areas. The condition caused by men living in urban areas has higher stress levels. The men have a responsibility as the breadwinner and must deal with economic competition so that the pressure in life tends to be higher¹⁹. The results of research by Sukanta²⁰ also showed that the incidence of

schizophrenia is more prevalent in urban and male²⁰. A study of schizophrenia incidence in mainland China from 1965 to 2001 conducted by McGrath²¹ also found a significantly higher incidence of schizophrenia occur in men who live the urban areas rather than those at rural areas²¹⁻²³.

This study showed differences in educational level between the schizophrenia patients in urban and rural areas. Schizophrenia patients who live in urban areas have a higher level of education than rural areas as the government's is more likely to pay attention to the quality of education in urban areas, so the quality of education in urban areas is better than in the rural areas. Besides, the socio-economic level in urban areas is better than in rural areas. It causes urban people to be more enthusiastic for a higher education level. However, the increasingly crowded urban areas have increased competition for life to fulfil the necessities, which has led to an increase of life pressure among people in urban areas²⁴. Another factor caused by the large number of patients forced to discontinue school because they have schizophrenia. It affects the patient's social life. The low level of education becomes one of the obstacles in social interaction and in getting information about schizophrenia. The results are in line with a study conducted by Yanuar²⁵ which found that the majority of people with mental disorders are poorly educated (73%) but showed no significant relationship (p= 0.941). Similarly, a study by Erlina & Pramono²⁶ showed that the majority of schizophrenia patients have a low educational level but had no significant different (p> 0.05)²⁵.

Profession among the schizophrenia patients showed a significant difference between schizophrenic patients who are unemployed and those who work in rural and urban areas. Rural areas offer more opportunities for people with schizophrenia to use their capacities for productive work. For instance, available jobs in the rural area (such as farmer) may be more accessible for people with schizophrenia than the available jobs in urban areas such as labour

in manufacturing. Work is important and beneficial for people with schizophrenia to be able to participate and socialize in society. Overall, schizophrenia patients in Badung Regency are often unemployed. The results of this study are in line with research conducted by Erlina & Pramono²⁶ showed that more schizophrenic patients are unemployed and there is a significant difference of the incidence of schizophrenia-related to the profession²⁶. Rosemarie²⁷ also stated a relationship between the job status and the onset of schizophrenia²⁷. Unemployed individuals are more easily stressed causing helplessness, while people who work have a sense of optimism about the future and have greater motivation for life than those who are unemployed²⁸.

Marital status showed a significant difference in schizophrenia patients who unmarried between those who live in rural and urban areas. Unmarried patients with schizophrenia are higher in urban areas than in rural areas. Many child marriages occur because of poverty, difficult geographical location, low educational access, and unclearly regulated policies. Girls from rural areas are susceptible more of getting married than from urban areas as they most likely come from low-income families, and lack of education or drop out of school¹¹. The results from a study by Fakhari²⁹ showed that unmarried individuals have a risk of getting schizophrenic than the general population. A married individual can exchange egos and identify behaviours between husband and wife to achieve peace²⁹. Besides that, attention and affection are the basis for achieving a better social life. Moreover, a study by Koujalgi & Patil²² found a significant difference in the variables of marital status. The study also showed that the ratio of people who are unmarried among schizophrenia patients is 57% because of their unstable personality condition that becomes a barrier for them to marry²².

The age groups variable showed no significant difference between rural and urban areas. In urban areas, most schizophrenia patients are the adult (26-45 years

old, the average age of 46 years), while in rural areas most of the patients are an elderly group (46-65 years old, the average age of 50 years). In general, most patients with schizophrenia are an adult with age between 26-45 years old. The result is in line with a study by Handayani³⁰ conducted on schizophrenic patients who hospitalized at the Grhasia Mental Hospital, DIY. The study showed that the majority of the patients with schizophrenia are aged 25-44 years old (55.7%). No statistically difference is found among age groups and area of residency ($p = 0.14$)³⁰. Symptoms of schizophrenia usually appear in late adolescence or young adulthood. The onset in men is generally between 15-25 years and in women between 25-35 years²⁸. Age 25-35 years old are likely to have a 1.8 times greater risk of suffering from schizophrenia than those aged 17-24 years²⁶.

CONCLUSION

Characteristics of schizophrenia patients who live in the rural areas are unmarried men aged 46-65 years old, only have elementary education level and unemployed. Meanwhile, the characteristics of schizophrenia patients living in urban areas are mostly unmarried adult men (26-45 years old), only have high school educational level and unemployed. Based on the different test among the characteristic variables between rural and urban schizophrenia patients, the significant variables are gender, education level, profession status and marital. Meanwhile, the age group variable shows no significant difference between schizophrenia patients living in rural and urban areas.

Based on the results, we recommended to the government to do mental health screening and community training for people who live in urban areas to prevent the emergence of stressors that cause schizophrenia disorder. Besides, people with schizophrenia should be included in groups of peer house that provides treatment, guidance, and skills so that they can be independent and have a meaningful life.

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