How to Cite
Aryani, L. N. A. ., & Kurniawan, L. S. . (2020). Cost analysis of health for popular depression in Bali. *International Journal of Health & Medical Sciences*, *3*(1), 117-122. https://doi.org/10.31295/ijhms.v3n1.182

Cost Analysis of Health for Popular Depression in Bali

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Abstract---*This research would like to reveal how much the cost of depressed people financing and lost (cost analysis), and how many benefits will be obtained when someone is free from the Depression. The cross-sectional study used a validated version of the Mini International Neuropsychiatric Interview (MINI) Questionnaire and deep interview to calculate the costs incurred when a person suffers from depression. The collected data were analyzed statistically using SPSS version 22. When a person suffers from Depression, the average cost needed to overcome his depression is IDR. 9,934,000. The loss rate will be even greater with the amount of income lost when they are no longer able to work and lose the achievement, he or she lost 100 million rupiahs. Prevalence of Depression is around 10% of the population, it means funds of more than 4 trillion rupiahs are needed to finance mental health in Bali and 250 trillion to finance national Depression. The national loss rate moves to more than 1,500 trillion rupiahs if all the opportunities and opportunities lost are accounted for. Likewise, when he or she commits suicide, the loss rate will increase tens of times according to the life expectancy who are cut off due to suicide. Depression disease burden is very heavy, the number of losses due to Depression comes from direct, indirect losses, plus the amount of opportunity lost due to someone unable to work and achievement. His or her loss will be increased when he or she commits suicide. Strong and simultaneous efforts are needed to prevent depression and eliminate the stigma of the mental disorder, to achieve a healthy community without Depression.*
Keywords---*benefit, cost, depression, mental health financing, suicide.*

Introduction

Depression is an emotional disorder experienced by a person that affects a person's behavior and perceptions of their environment (Sadock, 2017). According to WHO, depression is one of the biggest causes of mental illness burden globally. It is currently estimated that more than 350 million people experience depression, ranging from mild to severe. The worst manifestation caused by depression is a suicide, not only individually but can drag the entire family to commit suicide together. You can imagine how much it costs to finance those who are depressed, and how many benefits we get when we are free from depression (WHO_Release, 2009).

Recent research conducted by the World Health Organization (WHO) states that ten percent of the world's population has mental disorders, with the largest portion being anxiety and depression (Beck et al., 1997; Cox et al., 1996; Aryani et al., 2017). This figure, if projected on Indonesia's population, means more than 25 million people. Data from Riskesdas 2013, the prevalence of mental-emotional disorders (symptoms of depression and anxiety), is 6 percent for ages 15 years and over. This means that more than 14 million people suffer from mental-emotional disorders in Indonesia (Research & Development_ Health Agency, 2013; P2TP2A_Provinsi_Bali, 2017).

Meanwhile, the current mental health services have not been able to reach all existing patients. The stigma about mental disorders makes it difficult to successfully treat depression, even though one of the most feared risks of depression is suicide (Arman, 2016; Goldacre et al., 1993; Brent et al., 1999). If depression is not overcome, it will affect the human ability to live normally and carry out daily activities. At a chronic level, depression can lead to suicide (Darmono, 2014; Sabo et al., 1991).

ISSN 2632-9433
Submitted: 09 August 2020 |Revised: 27 September 2020 | Accepted: 18 October 2020

The burden of depression is very large, the number of losses due to depression comes from losses directly or indirectly, coupled with the large number of opportunities lost due to someone being unable to work and achieve. All of this often makes the family helpless. Depression and anxiety cost the world economy 925 billion dollars every year (Kurniawan, 2017). Research from The Lancet Psychiatry, which shows that the global economy will benefit greatly when investing in depression/anxiety response and treatment (Gold & Joshi, 2018).

The increasing number of people with depression and anxiety in the world has made a person's productivity decrease, which has an impact on the worsening of the business world. Depression is made even worse because it is not only expensive but also kills. Over the past 45 years, the suicide rate has increased by 60 percent worldwide, including in Indonesia and on the island of Bali (Suhendra, 2016).

This study tries to reveal how much it costs to support a depressed population, how much it costs someone suffering from depression, and how much benefit we get when we are free of depression (Kapphahn et al., 2006; MacLennan et al., 2002; Garber & Phelps, 1997). This study wants to know how much loss the population has to bear and incur as a result of experiencing depression in Bali. The purpose of this research is to find out the factors that affect the losses of the depressed population in Bali, and the factors that influence the calculation of the benefits that will be obtained when a person is free from depression. The benefit is that the community knows the various factors in calculating the health costs & benefits of the depressed population in Bali and for education managers to develop a better curriculum, to prevent depression in the community, especially on the island of Bali.

Method

The study design used an analytical method with a cross-sectional study design. The analytical method aims to find a relationship between one variable and another. In cross-sectional research, cause and effect variables or cases that occur in the research object

The research subjects were patients suffering from depression in the psychiatric polyclinic and rooms/wards of Sanglah Hospital Denpasar for 6 (three) months, starting from January 1, 2019, to June 30, 2019. The sample of this study was taken from patients suffering from depression who were being treated at Sanglah General Hospital Denpasar. The research was conducted at the Mental Polyclinic and 3 (three) inpatient units of Sanglah General Hospital Denpasar which were randomly selected. The data collected in this study using a questionnaire which will be distributed to all selected respondents in the Mental Polyclinic, and 3 other wards/rooms in Sanglah Hospital Denpasar.

The operational variable definition is as follows: Cost, namely the number of costs incurred by the respondent during illness (in Rupiah). Depression is an emotional disorder experienced by a person following the diagnostic criteria in DSM V (APA, 2013). Age is the age of the respondent at the time of the study, with a rounding of 6 months and over. The age range of respondents is at least 18 years old (WHO's adult age). The duration of illness was calculated from the number of outpatient and inpatient days that the respondent had passed while suffering from depression. The residence is the city where the respondent lives for the last 1 year. Types of drugs are seen from the types of drugs prescribed by the doctor. Drug prices are calculated from the number of costs incurred to buy drugs during illness (in rupiah). Complementary diseases are other illnesses suffered before and after experiencing depression, while Health Insurance is the presence or absence of health insurance owned by the respondent. This research will be carried out after obtaining permission from the Coordinator of the Psychiatry Study Program, Faculty of Medicine, Udayana University, the Ethics Committee of the Faculty of Medicine, Udayana University / Sanglah Hospital Denpasar, and the Head of Kesbanglingmas Denpasar City.

Before the research is carried out, first a validation test will be carried out on the questionnaire used. The validation test was carried out to determine whether the scale on the questionnaire was able to produce accurate data following the measurement objectives. The validation test will be carried out on subjects outside the reachable population who have the same characteristics as the sample, a minimum of 30 samples is needed to meet the requirements of the correlation test.

After the validation test of the research, the instrument has been carried out, the actual research will then be carried out in an affordable population. The questionnaire will be distributed to as many as 100 respondents who will later be randomized to get 39 research samples, but previously the selected sample will be explained the technicality of the research, the objectives, and benefits of the research being carried out. After the sample agrees and signs the informed consent, then the research questionnaire is filled out.

Results and Discussion

From research conducted for 6 months from January to June 2018 at Sanglah Hospital, and statistical calculations were carried out, the following results were obtained:

Respondents of this study came for treatment between 1 - 59 times, with a visiting period of between 1-2 weeks. Costs incurred for depressive disorder therapy consist of the cost of examining the doctor, the cost of prescribed drugs, and transportation from the house where they live. If made on average, they spend IDR. 9,934,000,- per person, namely for medical visits of about 9.36 times. The largest expenditure was recorded by those who had come 59 times (came once a week or a total of about 15 months), amounting to IDR. 75.4 million,-.

The largest proportion of these respondents were those who came only 1 - 5 times therapy (48.7%), thus there are still quite some respondents who only came to the clinic once, with expenses ranging from IDR. 600,000,-. They stopped the treatment given for various reasons, for example, they felt that they had recovered, or at least had improved, so they did not need to take any more drugs.

Table 1
Sample characteristics

Sample Characteristics	n	(%)
Sex		
Male	11	28,2
Female	28	71,8
Age Group		
< 18 years	5	12,8
19 – 25 years	4	10,3
26 – 50 years	22	56,4
> 51 years	8	20,5
Place of Origin		
Denpasar	22	56,4
Badung	11	28,2
Gianyar	1	2,6
Tabanan	1	2,6
Klungkung	1	2,6
Singaraja	1	2,6
Outside Bali	2	5,1
Religion		
Hindu	12	30.8
Christian	12	30.8
Catholic	7	17.9
Islam	6	15.4
Buddha	2	5.1
Profession		
Not working	18	46,2
entrepreneur	10	25,6
Private employees	5	12,8
Civil servants	4	10,3
Lecturer	2	5,1
Diagnosis		
Depression	26	66,7
Bipolar Disorder	13	33,3

Duration of symptoms before treatment		
< 2 week	2	5,1
2 - 4 week	7	17,9
1-3 month	10	25,6
3 - 6 month	6	15,4
6 – 12 month	5	12,8
> 1	9	23,1
Compliance		
1-5 time	19	48,7
6-24 time	16	41,0
25-48 time	2	5,1
49 time/more	2	5,1

Table 2
Number of visits and total costs for depression treatment

	Number of visits (arrival)	Total cost (Thousand)
Range	58	74.800
Minimum	1	.600
Maximum	59	75.400

Depressive disorders seem to affect everyone, entrepreneurs/entrepreneurs, public or private employees, and academics, including students or college students, can suffer from depression. What is interesting in this study is that almost half of people with depression disorder (46.2%) do not work, generally, they lose their jobs due to difficulty concentrating, apart from a sense of extraordinary energy loss (anhedonia) which makes them reluctant to leave the house, even just they are lazy out of the room.

Only 5.1% of respondents came after experiencing symptoms of depression for 1-2 weeks, 17.9% just came after experiencing symptoms 2-4 weeks, a quarter of them came to seek treatment after being sick between 1-3 months, another quarter even came after illness for more than 1 year, thus there are 77% of respondents with depression who are late in seeking help. Many of them come to a place of treatment that is not quite right, and the staff there do not immediately refer to the mental health unit/clinic, perhaps the officers also do not realize that they are people with depression. Vigilance is too late when the patient finally commits suicide and carries a moral burden not only on the family but also on the health workers who have served them.

The provincial minimum wage (UMP) for the province of Bali is IDR 2,127,157 per month. It can be imagined that if they do not work for 1 (one) year, it means that they will lose their wages of IDR. 25,525,884, -. The value of this loss will be even greater if the company they work for prepares various allowances and bonuses throughout the year for its employees, where the amount of allowances and bonuses ranges from 50% to 200% of the wages they take home (take-home pay), so the total loss, as a result, they do not work can reach IDR. 38,288,826, - to IDR. 76,577,652, -. If the employee turns out to be being promoted for an increase in the level of achievement, with an additional 50% to 100% additional salary, it means that the loss they experienced during 1 year of unemployment will increase to IDR. 51,051,768, - to IDR. 102,103,536, -.

The total loss experienced by the depressed patient reaches an even more fantastic figure when added to the average cost of treatment for depression of IDR. 9,934,000 per person, so that the loss is IDR. 60,985,768, - up to IDR. 112,037,536, - due to suffering from depression and losing their job.

The symptoms experienced by the respondents in this study were quite varied, the largest group was due to feeling various pressures both in their thoughts and feelings (38.5%), followed by complaints of difficulty sleeping (28.2%) and pain in various parts of their bodies (12.8%) as shown in Table 5.3. Depressive disorders also affect a person's behavior, as felt by 7 respondents here, they admitted that their behavior was very chaotic, terrorized by unfounded fear, using drugs, and being involved in acts of theft so they had to deal with law enforcement officials. One of them admitted that initially, they came to the mental clinic to get family counseling because they kept

fighting with their partner. The patient was detected as having depression which made him very sensitive and irritable.

Table 3
The main complaint of depressed patients comes for treatment

The main complaint	Frequency	Percent
Depressed	15	38.5
Difficulty sleeping	11	28.2
Pain in various part of the body	5	12.8
Chaotic behavior	2	5.1
Drugs	2	5.1
Fear	2	5.1
Theft	1	2.6
Family Counseling	1	2.6
Total	39	100.0

When a person experiences depression, it costs them an average of IDR. 9,934,000,-. This fee is used for the purchase of drugs, and all they need for treatment including the treatment of comorbidities that arise due to depression. This figure will be even greater if coupled with the amount of lost income when they are no longer able to work and lose the opportunity to excel until it reaches 100 million rupiahs per person.

After calculating the prevalence and expenditure of treatment and the need for comorbidities, the data is quite surprising. With the prevalence of depression around 10% of the population, funds of more than 4 trillion rupiahs are needed to finance mental health in the province of Bali and 250 trillion to finance depression nationally. The National loss figure moves to more than 1,500 trillion rupiahs if all the opportunities and opportunities that are lost from people with depression are taken into account. Likewise, when a person with depression decides to commit suicide, the loss rate will increase tens of times according to the life expectancy of those who are cut short by suicide.

Conclusion

The burden of depression is very large, the number of losses due to depression comes from direct and indirect losses, coupled with the amount of opportunity lost due to someone being unable to work and achieving, as well as the multiplication of losses that arise when a person with depression commits suicide. It takes strong and simultaneous efforts to prevent depression and eliminate the stigma about mental disorders, to achieve a healthy society without depression.

Prevention efforts need to be put forward so that the community can recognize the symptoms of depression, so that early detection of depressive disorders can be easily carried out and handled properly, including prevention at the first level as early detection screening, at the second level in the form of immediate and complete treatment, and prevention at the level third is to rehabilitate all depressed sufferers so that they can quickly recover and return to functioning in society.

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