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Correlation between event of depression and risk of suicide among productive age in Purwodadi, Grobogan

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ABSTRACT

Introduction: From 2015 to 2019, 141 people died due to suicide in Grobogan Regency, and Purwodadi district was the third largest after Gabus and Wirosari districts, where most of the suicide perpetrators were of the productive age group. Event of depression is often associated as a risk factor for suicide. Depression is a mood disorder. Depression is characterized by sadness, loss of interest or excitement, feelings of guilt or uselessness, disturbed sleep or appetite, feelings of tiredness, and poor concentration. In its severe form, depression can lead to suicidal thoughts.
Purpose: To determine the correlation between the event of depression and the risk of suicide among productive age in Purwodadi, Grobogan.
Methods: This research is quantitative research with cross sectional design. The sample in this study consisted of residents of Purwodadi, Grobogan, who are members of Posbindu, using the consecutive random sampling method and bivariate analysis with Fisher's Exact test. The research instrument used a sociodemographic questionnaire, BDI-II questionnaire, and CSSRS.
Results: Most of the respondents of productive age in this study (68.6%) did not suffer from depression. There was a significant correlation between the event of depression and the risk of suicide among productive age in Purwodadi, Grobogan (p = 0,002).
Conclusions: There was a significant correlation between the event of depression and the risk of suicide.

Keywords: productive age; depression; suicide; Purwodadi.
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INTRODUCTION

Depression is the leading cause of lost productivity, death, and often comorbidity with anxiety and substance abuse disorders.[1,2] According to WHO reported that in 2020, depression was ranked second after heart disease, a disease commonly experienced by people in the world.[3] In 2012, WHO stated that depression is a mental disorder that affects 350 million people worldwide. Depression is the third leading cause of disability worldwide from years of life adjusted for total disability (DALY). It is estimated that by 2030, the morbidity rate due to depression will increase and become one of the leading causes of disability.[1]

The Indonesian Ministry of Health reported that in 2013, about 14 million individuals aged 15 and above had experienced depression and anxiety, with more than 400,000 suffering from severe mental disorders.[4]

Health Development in Indonesia aims to increase awareness, willingness, and ability to live in healthy for everyone to realize the highest public health status. The implementation of SDGs / TPB in Indonesia aims to maintain the improvement of the people's economic welfare in a sustainable manner, maintain the sustainability of the community's social life, maintain the quality of the environment and inclusive development, and implement capable governance, to keep improving the quality of life from one generation to the next.[5]

Some of the risk factors that trigger suicidal thoughts experienced by the productive age population include those who are married, have low education, do not have a job, come from rural areas, live with a large family in one house, and have a family history of higher mental health illness, past psychiatric disorders such as depression, and chronic medical illnesses.[6]

Grobogan is a regency in Central Java Province and adjacent to the provincial capital, Semarang. The total population of Grobogan Regency in 2017 was 1,365,207 people spread across 19 districts. Of the 19 districts, Purwodadi, Grobogan had a population of 138,203 people and a population aged 15-64 years (productive age) 2017 of 97,602 people.[7] According to data obtained from Bappeda Grobogan, from 2015 to 2019 there were 141 people died due to suicide in Grobogan, and Purwodadi district ranks third after Gabus and Wirosari.[7]

This research was conducted to determine the correlation between the event of depression and the risk of suicide among productive age in Purwodadi, Grobogan Regency.

METHODS

The research was conducted in Purwodadi, Grobogan, from December 2019 to July 2020 in the form of quantitative research with a cross-sectional research design that emphasizes the process of collecting independent and dependent variables, which is only done once at the same time using measuring instruments in the form of a demographic questionnaire, the Beck Depression Inventory-II (BDI-II) questionnaire to screen for depression in the sample and the Columbia Suicide Severity Rating Scale (CSSRS) to assess the risk of suicide in the sample. This questionnaire was given to people of productive age who are members of Posbindu in Purwodadi, Grobogan, with a non-probability sampling method through consecutive sampling and met the inclusion and exclusion criteria. The inclusion criteria were as follows: male or female aged 15-64 years, able to read and write, no accompanying general medical conditions, were willing to join the study by signing informed consent. The exclusion criteria were as follows: unwilling to be a respondent and not filling out the questionnaire completely. The number of samples used was 105 people.

The dependent variable in this study was the risk of suicide (no risk, high risk, moderate risk, and low risk), while the independent variable was the incidence of depression in productive age. All samples were asked to sign an informed consent form to participate in the study. After all the questionnaires have been filled in, they are processed and analyzed using the consecutive random sampling method and bivariate analysis with Fisher's Exact test.

RESULTS

Basic characteristics of respondents

In this study, as shown in Table 1, the respondents were 69 females and 36 males between the ages of 15 and 64. For marital status, the number of respondents who were married was 57 people, 42 were unmarried, and 6 were divorced. The lowest level of education is elementary school, and the highest is college. Most jobs are informal workers, with the highest monthly income and an income level of less than Rp. 2,000,000, and those without income numbered 34 people. All respondents had no general medical conditions and were not taking medication from a doctor.

Table 1. Distribution of respondent sociodemographic characteristics

Variable	F	%
Gender		
Man	36	34.3
Woman	69	65.7
Marital Status		
Single	42	40.0
Divorce life/death	6	5.7
Married	57	54.3
Last Education		
Elementary School	10	9.5
Junior High School	18	17.1
Senior High School	39	37.1
Community College	17	16.2
College	19	18.1
Others	2	1.9
Work	16	15.2
Civil servant	17	16.2
Private employee	17	16.2
Self employed	30	28.6
Others	25	23.8
No Work		
Income Per Month		
< Rp.2,000,000	38	36.2
Rp.2,000,000 – Rp.3,000,000	18	17.1
Rp.3,000,000 – Rp.5,000,000	13	12.4
>Rp.5,000,000	2	1.9
No Income	34	32.4

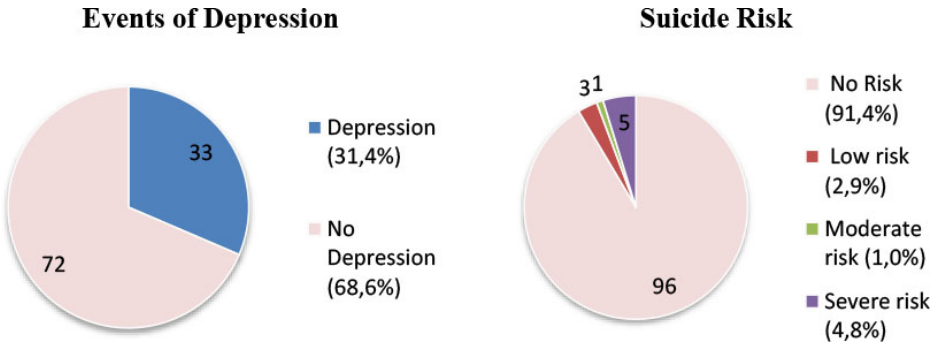

Figure 1. Distribution of depression events and distribution of suicide risk.

Percentage distribution of event of depression and risk of suicide

Respondents who found depression were 33 people (31.4%), and respondents who did not get depression were 72 people (68.6%).

There were 96 respondents (91.4%) who did not have a suicide risk, 3 people (2.9%) had a low risk of suicide, 1 person (1.0%) had a moderate risk of suicide, and 5 people (4.8%) indicates a severe risk of suicide as shown in Figure 1.

Correlation of depression and demographics

Based on the assessment of several demographic variables, as shown in Table 2, it was found that there was a significant correlation between events of depression and marital status (p = 0.011) because the p-value was <0.05. There was no significant correlation between the event of depression and gender (p = 0.234), latest education (p = 0.510), occupation (p = 0.512), and monthly income (p = 0.126) because the value of p> 0.05.

Table 2. Sociodemographic correlation of research respondents with depression incidence

Variable	Depression events		P
	Depression	No Depression	
Gender			
Man	14 (38.9%)	22 (61.1%)	0.234
Woman	19 (27.5%)	50 (72.5%)	
Marital Status			
Single	20 (47.6%)	22 (52.4%)	0.011 *
Divorce Life/Death	2 (33.3%)	4 (66.7%)	
Married	11 (19.3%)	46 (80.7%)	
Last Education			
Elementary School	2 (20.0%)	8 (80.0%)	0.510
Junior High School	8 (44.4%)	10 (55.6%)	
Senior High School	14 (35.9%)	25 (64.1%)	
Community College	5 (29.4%)	12 (70.6%)	
College	4 (21.1%)	15 (78.9%)	
Others	0 (0.0%)	2 (100.0%)	
Work			
Civil servant	2 (12.5%)	14 (87.5%)	0.512
Private employee	6 (35.3%)	11 (64.7%)	
Self-employed	6 (35.3%)	11 (64.7%)	
Others	11 (36.7%)	19 (63.3%)	
Not work	8 (32.0%)	17 (68.0%)	
Income per Month			
<Rp.2.000.000	15 (39.5%)	23 (60.5%)	0.126
Rp.2.000.000-Rp.3.000.000	2 (11.1%)	16 (88.9%)	
Rp.3.000.000-Rp.5.000.000	2 (15.4%)	11 (84.6%)	
>Rp.5.000.000	1 (50.0%)	1 (50.0%)	
No income	13 (38.2%)	21 (61.8%)	

Table 3. Event of Depression of research respondents against suicide risk

Variable	Suicide Risk		P
	No risk	Risk	
Event of Depression			0.002 *
No Depression	70 (66.7%)	2 (1.9%)	
Depression	26 (24.8%)	7 (6.7%)	

Correlation between depression and suicide risk

In the CSSRS assessment, it was found that respondents with a suicide risk score were only 8.5%, and the number of respondents who were not at risk was 91.5%.

From the correlation analysis between depression and suicide risk in respondents using bivariate analysis with Fisher's Exact test, it was found that there was a significant correlation between the event of depression and the risk of suicide ($p = 0.002$) ($p < 0.05$), as shown in Table 3.

DISCUSSION

According to this study, several exciting things may be discussed. Most respondents who experienced depression were women.[8] Productive age who experienced depression were 31.4%, and those who did not experience depression were 68.6%, as shown in Figure 1. People of productive age more often experience depression.[8] Respondents with the incidence of depression found that those who were not married were more likely to experience depression.[8-10] Respondents of senior high school education (35.9%) and junior high school (44.4%) experienced the most depression (Table 2). Respondents with primary school education (20.0%) experienced less depression than respondents with the latest education of college (21.1%) and community college (29.4%), as shown in Table 2. This study shows that someone with a secondary education level experiences the most depression.[8] Respondents who do not work and respondents with jobs other than the private sector, self-employed, or civil servants are more likely to experience depression. A person without income has more experience of depression.[8] A person who has no income will have feelings of guilt or uselessness and then will be at risk for depression.[11]

From the research results, it was found that the number of respondents of productive age in Purwodadi district, Grobogan Regency, who experienced depression was 33 people (31.4%). In comparison, those who did not experience depression were 72 people (68.6%), as shown in Figure 1. In individuals who have entered the productive age with an average age between 15 and 64 years, major depressive disorders can occur because, at this time, there have been many quite serious life problems.

The results of this research using the CSSRS questionnaire show that there are variations in the demographic characteristics of all respondents of productive age with a risk of suicide; it is found that most of them are 91.4% of respondents of productive age do not have a risk of suicide. This study shows that with the varied demographic characteristics of productive age respondents in this study, however, most of the respondents, namely 91.4%, did not have a risk of suicide, which means that most respondents were in the productive age group who did not have a risk of suicide. This result is in line with previous research conducted on a group of respondents of productive age at risk of suicide.[8,9,12-14]

The results of research on several demographic variables made it known that there was a significant correlation between the event of depression and the risk of suicide ($p = 0.002$).

The author's research in several journals shows a correlation between depression and the event of suicide. This study followed previous studies conducted on a group of respondents in Korea, Bangladesh, Indonesia, and the USA, in which the risk of suicide was associated with the presence of symptoms of mental disorders such as depression.[8,9,12-16] This study shows that the risk of suicide in productive age with depression not only occurs in the city alone as in the study conducted by Rof Rememberul Mubasyiroh et al.,[8] these incidents could also occur in the regions.

Limitations of this research are that the research design uses a cross sectional method, which can only describe conditions at the time of data collection where there were no screening services at the research site. The survey method uses a questionnaire, written or recorded, which is carried out only in one district area.

CONCLUSION

We conclude that there was a significant correlation between the event of depression and the risk of suicide among productive age. The population of productive age with risk of suicide in Purwodadi District, Grobogan Regency, was divided into 91.4% no risk, 2.9% low risk, 1.0% moderate risk, 4.8% severe risk, and event of depression was divided into 31.4% depression and 68.6% no depression. This needs to improve health services to carry out BDI-II and CSSRS screening as to educate people of productive age about risk factors for depression and treatment of depression as well as being able to screen for the risk of suicide.

ETHICAL AGREEMENT

The ethics permit has received approval from the Health Research Ethics Committee of the Ethics Committee of the Faculty of Medicine, Diponegoro University. The ethical license number is No. 18 / EC / KEPK / FK-UNDIP / II / 2020.

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CONFLICT OF INTEREST

The author states there is no conflict of interest.

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AUTHOR CONTRIBUTION

The contributions of this research are as follows:
"Conceptualization, Natalia and Made; methodology, Hang and Natalia; software, Made; validation, Hang, Natalia, and Made; formal analysis, Hang and Natalia; investigation, Hang and Natalia; resources, Made; data accuracy, Made; writing - preparation of original draft, Made; writing - reviewing and editing, Made; visualization, Made; supervision, Hang and Natalia; project administration, Hang and Natalia; fund acquisition, Natalia.

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