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Family's Support, Coping Mechanism, Disability and Depression Among Elderly in Rural Area

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Abstract: Depression is a mental disorder which is indicated by a very depressed feeling, loss of interesting things, guilt and low self-esteem, caused by various factors in the elderly. This study is aimed at searching the family's relationships, coping mechanisms and disability with depression among elderly. The sample taken was 164 elderly people, selected by multistage random sampling in Abiansemal District, Badung Regency, Bali. The data were collected using survey in which data were taken using the cross-sectional method among 164 disabled elderly people. The results of this study indicated that there was a significant relationship between family's support with depression p = 0.05 and OR = 0.246. Proactive coping mechanisms had a significant association with the incidence of depression with p = 0.00, and OR= 0.028. There was no relationship between disability and depression p = 0.791 (P>0.05). Disabled elderly actually would not experience depression if they had got good support from family and had been educated about coping strategies of proactive mechanism.

1 INTRODUCTION

Depression is the most common mental disorder found among the elderly (Allender and Spradley, 2005). Depression in the elderly arises as a negative impact of the consequences of aging process (Miller, 1995; Maurer and Smith, 2005). Cases of depression are increasing as a result of multiple changes and loss of life (Multiple loss). Depression is common at old age. According to the 2010 data for the Institute of Health Metrics and Evaluation (IHME), the Disability Adjusted Life Years (DALYs) for depression (major depressive disorder plus dysthymia) over 60 is 9.17 million years or 1.6% of total the DALYs for this age group (Marcus M., Yasamy T., Mark van Ommeren, and Chisholm D, Shekhar, 2012).

Based on WHO data in 2015 (WHO, 2017), the incidence of depression among elderly is 8% of the elderly population. Research by Stek (2006) showed the prevalence of depression among elderly by 39.7%. Research in Jogjakarta in 2007 found the prevalence of depression among elderly by 56.4%. Karangasem regency in 2011 found the incidence of depression as much as 48% (Suardana, 2011). The high incidence was caused by the lack of support for the elderly.

The high incidence of depression in addition to the lack of family's support, is also strongly influenced by the health conditions experienced by the elderly. Elderly people who are living under the conditions of limited ability to meet daily needs (*disabilitas)* have a higher risk of suffering depression, especially if not supported by the ability to do the appropriate proactive coping mechanism.

Depression among the elderly is closely related to the decline and loss of physical functions (Physical Disability) (Furner et al., 2006) and the inability of the elderly to engage in proactive coping mechanisms and lack of family's support. Poor coping mechanisms among elderly may increase the occurrence of depression (Greenglass, Fiksenbaum, and Eaton, 2006).

A proactive coping mechanism is a cognitive ability, with attitude and behavior in anticipating and overcoming all the stressors faced. A family's support is the only resource available to a family that are used to providing support to family members in need. Disability is the degree of a person's ability to fulfill his or her daily needs without the help of others (Greenglass, Fiksenbaum, and Eaton, 2006).

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A family's support can improve coping mechanisms. Coping mechanisms can reduce the occurrence of depression especially among the elderly with a disability. The purpose of this study is to identify the relationships among family's support, coping mechanisms, disability with the incidence of depression in the elderly in rural areas in Bali.

2 METHODS

2.1 Design of Research

This research was a descriptive correlation type of study, observing the status of exposure and disease simultaneously from individuals in a single population (Murti, 1997). In addition, the study was conducted through population surveys. The population of this study was the elderly in Abiansemal District.

2.2 Sample of Research

The sample size was 164 people. The sample was selected by Multistage Simple Random sampling. Data collected with the data collection instrument include:

- family's support instruments as measured by the Perceived Social Support - Family Scale (PSS-Fa);
- coping mechanisms measured by the Proactive Coping Inventory (PCI);
- degree of disability measured by the Katz Index;
- depression measured by the Geriatric Depression Scale Short Form (GDS short form) to analyze the relationship among the family's support;
- proactive coping mechanisms and disability with measured depression events.

2.3 Statistical Analysis

The analysis of the relationship among the family's support, proactive coping mechanisms and disability with the incidence of depression was measured by spearman-rho with (α: 0.05) and multivariate analysis to see the most dominant factors using logistic regression.

3 RESULTS

The elderly population of women were 88 people (53.7) more than that of men. The average age of the respondents was 68.7 years, in which the youngest respondent was aged 60 years old and the oldest 80 years old. Most of the elderly (139 people or 84.8%) still had a life partner, and only 1 person (0.6%) was not married. 69 people (42.2%) had never received an education and only 4 people (2.4%) had a high school education. Most of the elderly (76 people or 46.4%) still had a permanent job, whereas, 22 people (13.4%) did not have a permanent job. 88 people (53.7%) worked as farmers and only 1 person (0.6%) worked as a laborer. Most of the elderly, (89 people or 54.3%) did not have a steady income. There were only 13 people (7.9%) who had a fixed income.

Most of the elderly, (129 people or 78.7%), lived with their extended family, while 3 people (1.8%) lived alone. The average score of a family's support for elderly in Abiansemal Sub-district was 56.76, in which the highest support score was 72 and the lowest was 42. The highest number of support score of 62 was found in 22 elderly people (13.4%).

Table 1: Characteristic of Disabled Elderly and Depression in Abiansemal District, Rural of Badung Regency –Bali

Characteristic	Frequency (f)	Percentage (%)
Sex		
Male	76	46.3
Marital Status		
Married	139	84.8
Widow	24	14.6
Education		
No education	69	42.2
Basic Scholl	66	40.2
Junior High Scholl	25	15.2
Job Status		
Jobless	66	40.2
permanent worker	76	46.4
Temporary worker	22	13.4
Type of job		
Farmer	88	53.7
Laborers	1	0.6
Business man/woman	2	1.2

Characteristic	Frequency (f)	Percentage (%)
Retired	7	4.3
Income Status		
No income	62	37.8
Fix income	13	7.9
Non fix income	89	54.3
Living Status		
Alone	3	1.8
Extended Family	129	78.7
Nuclear family	32	19.5

The result of the evaluation of the disability experienced by the elderly in Abiansemal District found that the number of disabled elderly people was 22 people (13.4%). The average disability score of the elderly was 0.32. The highest disability score of 6 was found in 2 elderly people (1.2%) and the lowest disability score with a value 1 was found in 10 elderly people (10.1%). Most of Abiansemal District's elderly are in an unstable condition, (i.e. 142 people or 86.6%).

The mean score of proactive coping mechanism of elderly in Abiansemal was 6.59, with the highest score of 11, found in 1 person (0.6%), and the lowest score was 3, found in 4 elderly people (2.4%). The highest score of 7, was found in 50 elderly people (30.5%). The average score of elderly depression was 6.26, with the highest depression score of 14 was found in 4 elderly people (2.4%) and the lowest score of 1 was found in one elderly person (0.6%). The most common depression score was 4 which was found in 43 elderly people (26.2%).

Data analysis found that the lowest family's support (with a score of 43) contributed to the occurrence of 7 incidence of depression with a depression score of 10 in 1 person, depression score of 13 in 4 people and a depression score of 14 i 2 people. The highest family's support score of 72 was found in 1 elderly with the impact of depression with score 2. The analysis results found a correlation level of ($r = -0.521$). Further analysis found a p value of (0.00), at ($\alpha = 0.05$). This means that there is a very meaningful relationship between a low family support with the onset of depression. A correlation of 0.521 with a negative value indicates a moderate relationship between family's support and the occurrence of depression, where a lower level of family's support indicates a greater potential for depression.

The lowest proactive coping mechanism score with score 3 contributed to the occurrence of 4 incidence of depression, with 2 depressions score 2 people, depression score 13 in 2 people. Results of analysis with spearman rho found a correlation level of ($r = -0.677$). Further analysis found a p value of (0.00), at ($\alpha = 0.05$), which means that there is a very meaningful relationship between the low ability of proactive coping mechanism with the occurrence of depression. A correlation of 0.677 with a negative value indicates a moderate relationship between a family's support and depression, whereas a lower ability of proactive coping mechanisms of the elderly in the face of aging and its effects, indicates a greater potential for depression.

The analysis of the relationship between disability (or the limitation of activity) and the fulfillment of the need for depression among the elderly shows that the highest disability level was score 6, which means that there is a need for bathing, dressing, toileting, shifting, urinating and assisted eating, and this was found in 2 elderly people, who had an impact on the incidence of 2 depression events each with score 14. The lowest total disability score was 0, which means all the needs of activities and daily needs could be met by the elderly was found in 142 respondents. 20 (90.9%) disabled elderly had a depression score of more than 5 in experiencing depression. The result of the analysis found the correlation level of ($r = 0.517$). Further analysis found a p value of (0.00, at ($\alpha = 0.05$). This means that there is a very significant relationship between the disabled conditions of depression. A correlation of 0.517 with a positive value indicates a straight relationship with moderate strength between disabilities and the occurrence of depression, where the higher levels of disability experienced by the elderly lead to a greater potential for depression.

The result of multivariate analysis shows that the proportions of good family support and bad family support are both 50%, and there was only a small number of 22 diseased elderly people (13.4%). Most of the elderly mechanisms are proactive, i.e. 100 people (61%). The number of elderly suffering from depression were 66 people (40.2% of the total respondents).

Table 2: Logistic Regression Modeling Analysis

Variable	B	SE	OR 95% C. I.	Sig.
Family's support	-1.404	.498	0.246 (0.092- 0.652)	0.005

Proactive Coping Mechanism	-3.559	.495	0.028 (0.011 - .075)	0.000
Constant	7.209	1.065		

The above table illustrates the end result of the multivariate model of logistic regression model prediction. It can be concluded that from 3 variables suspected to be associated with the incidence of depression in the elderly in Abiansemal Sub-district, Badung, it was found that there were only 2 significant related variables, namely family's support and coping proactive mechanism. Family's support had a significant relationship with the occurrence of depression among elderly with p value 0.005 and OR: 0.246 (95% CI: 0.092-0.652). Proactive coping mechanisms have a significant association with the occurrence of depression (p value = 0.00, OR = 0.028 (95%), CI: (0.011 - 0.075)), which means that a family's support and proactive coping mechanism become protective factors to prevent the incident or event of depression among elderly in rural Abiansemal District, Badung Regency-Bali.

The end result of this multivariate analysis will produce a logistic regression equation which will be able to explain the probability of the elderly suffering depression, i.e.: $z = \alpha + \beta 1x1 + \beta 2x2$
Depression = 7.209 + 0.246 family's support + 0.028 coping proactive mechanism

From the logistic regression equation above, it can be concluded that the proportion of elderly in Sub Abiansemal suffering from depression was 0.246 points influenced by family's support variable, and 0.028 points influenced by coping proactive mechanism with a constant equal to 7.209.

4 DISCUSSIONS

A general description of respondents in Abiasemal Sub-district is a rural area where the majority of its occupants work as farmers. The citizens' income is not fixed, and education is low. They live with extended family and the average age is 68.74. Unfixed income, low education and living with extended families are factors that contribute greatly to the occurrence of depression (Suardana, 2011).

Depression among the elderly in Abiansemal Sub-district can be noticed from the results of the survey conducted in August to September of elderly in Abiansemal District; the depression in question was the elderly whose GDS score > 5 found that 66 people (40.2%) elderly were suffering from depression.

These findings show that the prevalence of depression cases among the elderly in Abiansemal sub-district is quite high, compared to WHO findings (2001), which says that 30% of elderly people in the community suffered from depression. However, the rate was lower than in the community, where elderly depression found in Karangasem in 2011 (Suardana, 2011), with a 48% depression prevalence and lower than depression findings reported by Wirasto and Tri (2007), where studies were conducted for six months in Jogjakarta and found a depression prevalence of 56.4%.

The high prevalence of depression in the elderly is closely linked to various factors that allow the occurrence of depression, such as the impact of natural aging process, resulting in a consequence of decreased overall anatomy and body functions, as well as the negative consequences of age (Miller, 1995), so that the elderly have a high risk of depression (Allender and Spraley, 2005). Aging conditions coupled with the acquired disease factor, psychosocial conditions impaired by loss, will have negative functional consequences for the elderly (Miller 1995, Mauk, 2010). The form of negative functional consequences of the occurrence of self-esteem disorders can lead to depression (Miller, 1995, Mauk, 2010).

The high prevalence found in the elderly in Abiansemal sub-district is closely linked to various factors including the elderly aged over 68 years who have no special preparation for facing old age. The elderly people just rely on their children for their lives who actually give less attention in accordance with the needs of the elderly.

The analysis of a family's support relationships and the incidence of depression explained that there was a significant relationship between a family's support and the incidence of depression ($p = 0.00$, $\alpha = 0.05$) and $r = - 0.521$. A negative correlation of 0.521 indicates a moderate association between a family's support and the occurrence of depression, where the lower levels of family support often create a greater potential for depression

Similar situations, however, with different results were found in a study conducted by Lyness et al. (2009) who said that there was a relationship between a family's support and the occurrence of depression ($p < 0.00$ α: 0.05), in which the elderly person's chances of depression were 5.76 times more likely with poor family support. Research in Karangasem shows elderly whose family's support

is less than 62% suffered from depression (Suardana, 2011).

The family is the most important part of an elderly person's life. The lack of family support may become a trigger for depression in old age (Vilhjalmsson, 1993). Today, one close family member and spouse are the only friends an elderly person has. Many family members live in one house, but they are lacking the emotional attachment and attention to the elderly. Such things can lead to depression among the elderly who need more attention (Lee, 1999).

That is what happened in the Abiansemal community. Most of the productive age residents live in one house with the elderly, but they are lacking the care of basic needs. The elderly people live in the same house as their children and grandchildren, but their interactions are not as warm as the elderly would expect. Elderly people still have to work to meet the needs of his life to support their lives.

The results of the analysis of proactive coping mechanism and depression showed a significant correlation level of p: 0.000 with a strong enough relationship of 0.677 with a negative correlation. This means that a lower proactive coping mechanism, might mean a higher the risk of depression. The results of this study are in accordance with the results of research conducted by Greenglass, Fiksebaum and Eaton (2006), which says that there is a significant relationship between coping mechanism with the incidence of depression with p: 0.00 and r: amount - 0.2. Studies conducted on several subjects showed that a lower coping mechanism of one's proactive would increase the probability of suffering from depression.

Proactive coping mechanism is a form of independence and shows the ability of a person to set goals as an effort to prepare themselves in the face of challenges. Proactive coping mechanism is one form of internal peripheral which is like a mirror of integration of motivation and intensity in the process of achieving goals. Management carried out in proactive coping mechanism includes the ability to conduct self-management on a regular basis, self-defense, as a form of past, present and future reaction (Taubet, 1999). Proactive coping mechanism serves as a partial mediator in social support that affects the improvement of one's psychological function. The elderly, who are unable to use the past as a lesson, regret the present and do not prepare for future independence, tend to experience more depression.

Balinese Elderly mostly believes that his future will depend heavily on his children and grandchildren. Relying on and handing the future to children will be a problem if the child in question is not able to meet the elderly's expectations. Cultural shifts cause children to separate themselves from their parents. The economic shift caused many children to be unable to sustain their lives which meant that it became a burden for the elderly.

There were 22 (13.4%) respondents whose ADLs were not normal and suffered from depression. Of the 22 people who suffered disability, 20 people (90.9%) had a depression score of more than 5, which means 'suffering from depression'. The statistical test results explain a significant relationship between ADL status and the incidence of depression (p value = 0.00 (α = 0.05) R value of 0.517. This means that a worse disability would increase the chance for the occurrence of depression. This is consistent with the research by Jacoby, Oppenheim, Tom, (2008), which mentions that 18% of the elderly, whose ADLs were not normal, suffered from depression. The results are consistent with those found by Robert (2000), who says that there is a relationship between low ADLs and depression, in which the elderly with ADLs have 3.09 times the risk of depression. Research by Strawbridge et al. (2002) found that elderly with less ADLs were 4.94 times more likely to be depressed than those with good ADLs. These results were in line with research conducted in Karangasem in 2011, which stated that an adult whose ADL was disrupted had 4 times the chance of having depression compared with those with good ADL (Suardana, 2011).

ADL limitation is a physical stressor that affects the occurrence of psychological problems. An elderly person whose ADL is dormant will always be dependent on the people around them. This is a very powerful factor influencing the occurrence of depression. ADL disorders found among elderly in Abiansemal sub-district are substantially limited in terms of migration, as a result of having chronic diseases, both in joints, bones, sight, respiration and cardiovascular activities. A moving disorder causes the elderly to be very dependent in doing other ADLs. This condition is a chronic stressor which increases the risk of depression. The multivariate analysis of logistic regression model prediction concludes that there are 2 variables suspected to be related to the incidence of depression among elderly in the Abiansemal Sub-district, namely the family's support and coping proactive mechanism. These findings are slightly different from statements

relating to the incidence of depression and suicide presented by the Bali Police and Widnya's (2008) study. They stated that the chronic disease factor became the cause of depression which resulted in high rates of suicide among the elderly in Bali. Depression is often undetectable and undiagnosed in primary health care (*puskesmas)* almost all over the world (Ahmed and Bhugra, 2007). According to Ahmed and Bhugra (2007), the elderly might find it difficult to explain the condition of discomfort, feelings of sadness and powerlessness due to linguistic barriers. The information they give can be very difficult to interpret by health personnel. In addition, a bad stigma against mental illness and different views associated with depression make depression very difficult to find. Most depression is manifested by somatic symptoms and cultural-related notions. Many people with depression in Bali complain about the uncomfortable feeling of "inguh" that does not go away. Therefore, they will seek traditional treatment. Depression in traditional medicine in Bali is often associated with illness due to black magic or the fault of the ancestors, which is characterized by psychosomatic or emotional causes (Yudhiantara, 2011). The elderly people in Abiansemal District say that they often get feelings of sadness and helplessness. The feelings come repeatedly and at random. Sometimes it lasts for a long time, sometimes only briefly, but the elderly considers it as a matter of course and never seek treatment because of the problem. The analysis above illustrates that the high incidence of depression can occur due to the nature of the Balinese elderly who find it difficult to adapt to changes. A proactive coping mechanism as an effective form of psychological defense in overcoming the changes of aging condition becomes a very important part in preventing the depression among elderly, but is less developed because of the Bali culture. The elderly gives his life to his children and grandchildren. Balinese Elderly tend to be apathetic and accept it as a part of life and karma. Balinese do not it very easy to change jobs, as they do not like challenges, as they lack an achieving desire, and always compare the past condition with present condition without seeing the change of the present. They are less aggressive in fulfilling desires, are afraid of failure and less optimistic. This can be judged from their slogans, which include: "ede ngaden crew can", "open bukite johin katon rawit", "beduda tai urek", "blind tumben kedat" These slogans make Balinese more "mulat sarira" or more introspective. This slogan creates an "introvert" behavior model. An introverted attitude is a factor that becomes one of the causes of depression. The disability condition in multivariate analysis has no effect on the occurrence of depression. This condition can be explained in the way that depression is actually directly related to family or social support, and is strongly influenced directly by proactive coping mechanisms. Elderly suffering from disability who get good family support and strong proactive coping mechanisms will not fall into depression. Therefore, disability in the context of the relationship of depression depends on the control of proactive coping mechanisms and support from surrounding families. If the coping mechanisms and support are good, then the elderly will not be depressed and vice versa (Greenglass, Fiksenbaum and Eaton, 2006).

5 CONCLUSIONS

The result of multivariate analysis showed that disability was not the main factor that can cause depression among elderly. The most dominant factors associated with depression among elderly in rural areas seen in Abiansemal Sub-district, Badung Regency were a proactive coping mechanism and family support. Proactive coping mechanisms and good family support became factors that prevented depression in the elderly. Therefore, efforts to increase family support through family care as well as strategies to increase proactive coping mechanisms become a very important thing in strengthening the psychology of the elderly so that cases of depression can be reduced.

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