Geriatric depression scale score of elderly who lost their spouses in public and private elderly nursing home in Palembang

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Abstract. Depression is the most common mental disorder in the elderly, especially elderly that has lost their spouses. Elderly nursing home, public or private, is one of the alternatives residences for elderly who lost their spouses. The difference of residential has been reported as the independent predictor factor of depression in elderly. Therefore, screening of depression using Geriatric Depression Scale (GDS) is extremely needed. The aim of this study was to determine the difference of may GDS score between elderly who lost their spouses in public and private elderly nursing home in Palembang. This was a cross-sectional study done in November 2015. The sample was 34 elderly who have lost their spouses at Panti Social Tresna Werdha Teratai (public) and Panti Werdha Dharma Bakti (private). Data collection consists of subjects’ characteristics and Geriatric Depression Scale Score, defined by interview. The data was analyzed using Chi-Square or Fisher’s Exact Test. The depression incident of elderly who lost their spouses in a private nursing home was greater than in public nursing home (8.3% vs 0%). The GDS score showed a significant difference between private and public nursing home with p = 0.04, OR 6.429.

1. Introduction
The high number of elderly in population raises the number of health problems in the elderly as well. Depression is a mental health problem that most frequently happens among the elderly, especially in the group of elderly who has lost their spouses [1]. If they cannot adapt themselves to the situation after the death of their spouses, it will affect their psychology condition and increase the risk of depression [2]. Mi-Ra Won dan Yun-Jung Choi (2013) reported that 46.3% of 225 elderly in Korea has been in a depression state after the loss of their spouses [3].

Elderly nursing home is one of the alternative residences for elderly who lost their spouses, even in public or private nursing home. The difference of residential has been reported as the independent predictor factor of depression in elderly [4]. Wulandari found out the difference of depression incident between elderly who lost their spouses in public and private elderly nursing home in Semarang [5]. However, Kurniawati in Magelang didn't find the difference between level and incident of depression between elderly in public and private elderly nursing home [6].

Due to the importance of depression screening for elderly, especially who lost their spouses, and the different results among previous studies, it is strongly needed to create a study about the difference of GDS score between elderly lost their spouse in public and private nursing home in Palembang.
2. Methods
This was a cross-sectional study with primary data, conducted on elderly who lost their spouse in public and private nursing home, with total sampling collection technique. The sample’s characteristics and Geriatric Depression Scale (GDS) score were collected by interview process using GDS questionnaire. The subject of this study should response by answering with “yes” or “no” to each question according to their feelings during the past two weeks. The scores were divided into 3 groups, normal (score 0-4), most likely depression (score 5-9), and depression (score 10-15). The data were analyzed using Chi-square and Fisher's Exact statistical test.

Table 1. The characteristics of the sample.

| Characteristics          | Public nursing home | Private nursing home |
|--------------------------|---------------------|----------------------|
| Age                      |                     |                      |
| • Elderly                | 12 54.5             | 2 16.7               |
| • Old                    | 10 45.5             | 8 66.6               |
| • Very old               | 0 0                 | 2 16.7               |
| Sex                      |                     |                      |
| • Male                   | 8 36.4              | 2 16.7               |
| • Female                 | 14 63.6             | 10 83.3              |
| Educational grade        |                     |                      |
| • No education           | 6 27.3              | 1 8.3                |
| • Elementary             | 9 49.9              | 6 50                 |
| • Junior high            | 4 18.2              | 3 25                 |
| • Senior high            | 3 13.6              | 1 8.3                |
| • College/university     | 0 0                 | 1 8.3                |
| Ethnic                   |                     |                      |
| • Palembangnese          | 8 36.4              | 2 16.7               |
| • Javanese               | 6 27.3              | 4 35.3               |
| • Sundanese              | 5 22.7              | 0 0                  |
| • Malay                  | 3 13.6              | 0 0                  |
| • Chinese                | 0 0                 | 6 50                 |
| Reasons for staying      |                     |                      |
| • Own willingness        | 7 31.8              | 6 50                 |
| • Brought my family      | 2 9.1               | 6 50                 |
| • Brought by social      | 13 59.1             | 0 0                  |
| service officers         |                     |                      |
| Duration of spouses lost |                     |                      |
| • < 5 years              | 5 22.7              | 1 8.3                |
| • >5 years               | 17 77.3             | 11 91.7              |

3. Results
This study was done on November 2015 in Panti Social Tresna Werdha Teratai (public nursing home) dan Panti Werdha Dharma Bakti (private nursing home), with the total amount of sample was 34 elderly, consisted of 22 from public nursing home, 12 from private nursing home. Female respondents predominated than man (83.3% vs 16.7%). The youngest subject was 60 years old, yet the oldest one was 93 years old. The characteristics of the samples can be seen in table 1.
Consecutively, we did grouping to all the respondents based on their GDS scores into ‘normal’, ‘most likely depression’, and ‘depression (table 2). Most respondents in private nursing home showed abnormal GDS score, 66.7% showed most likely depression and 8.3% showed depression. While there was no depression respondent in a public nursing home (0%). There was a significant difference in GDS score between elderly who lost their spouse in public and private nursing home (p-value 0.04). Elderly who lost their spouse in a private nursing home had 6 times greater risk to be having abnormal GDS score and being depression (OR=6.429) (table 2).

| GDS score Category          | Total | p     | 95%CI  |
|-----------------------------|-------|-------|--------|
| Normal                      | 15    | 22    | 0.04*  |
| Not normal                  |       |       | 6.429  |
| Most likely depression      |       |       |        |
| Depression                  |       |       |        |

| Public nursing home         |       |       |        |
|------------------------------|-------|-------|--------|
| n                            | 15    | 22    | 0.04*  |
| %                            | 68.2  | 31.8  | 100    |
| Private nursing home         |       |       |        |
| n                            | 3     | 8     | 12     |
| %                            | 25    | 66.7  | 8.3    |
| Total                        | 18    | 16    | 60     |
| %                            | 52.9  | 47.1  | 100    |

Table 3. Differences in GDS score between male and female respondents.

| GDS score Category          | Total | P     | 95%CI  |
|-----------------------------|-------|-------|--------|
| Normal                      | 7     | 10    | 0.72*  |
| Not normal                  |       |       | 2.758  |
| Most likely depression      |       |       |        |
| Depression                  |       |       |        |

| Male                         |       |       |        |
|------------------------------|-------|-------|--------|
| n                            | 11    | 12    | 24     |
| %                            | 45.8  | 50    | 4.2    |
| Female                       |       |       |        |
| Total                        | 18    | 16    | 34     |
| %                            | 52.9  | 47.1  | 100    |

Based on the group of the gender, the depression and most likely depression was higher in the widow group (4.2 % and 50%). There was no depression respondent in the male group (0%). But there was no significant difference in GDS score between female and male respondents in those two nursing home (p-value 0.27).

4. Discussions
In this study, the percentage of depression in public nursing home was 0%. It means that there was not any depression case among elderly who lost their spouses in this nursing home. This result showed less number than the previous study done by Kurniawati (57%) [6]. This also showed a smaller number of elderly with depression, compared with the previous study conducted by Wulandari (38.5%) [5].
The percentage of depression in the elderly who lost their spouses in a private nursing home was 8.3%. This number was smaller than Purbowinoto's study which found that the percentage of depression in the elderly who lost their spouses in a private nursing home was 51.9% [7]. This study also showed less number of depression among the elderly, compared with the depression case reported by Suryo's previous study (85.7%) [8].

Based on the analysis that has been conducted with Chi-square method, this study reported that there was a significant GDS score difference of GDS between elderly who lost their spouses in public and private nursing home, with the p-value of 0.04. The result of this study was in accordance with the previous study from Wulandari, that got a significant difference as well (p-value of 0.03 [5]. This also showed a consistent result, compared with Barnaba's study that also found a significant difference in both of nursing home (p-value 0.008) [9].

However, this study was not corresponding to the previous study conducted by Kurniawati. It was found that there was no significant difference in GDS score in both of nursing home (p-value) 0.187 [6]. The differences of GDS score between elderly who lost their spouses in public and a private nursing home was affected by three major factors, such as social and economic status, autonomy, and expectation of life satisfaction. In our study, depression in the elderly was only found among the elderly who lived in a private nursing home. Most elderly who lived in private compared with public nursing home had higher social and economic status.

Based on the gender analysis of this study, the proportion of female with depression was higher (54.2%) than male. This result was in accordance with the previous study conducted by Kurniawati. It was stated that depression in the elderly most commonly happened to a female [6]. However, this study was not corresponding with the study of Mechakra which found out that the proportion of the depression in male elderly was higher than female [10].

The female respondents of this study barely stated that they honestly did not want to get married again after the death of their spouses for several reasons behind it. The first reason was that they could not forget their spouses yet. They still clearly remembered all memories with their spouses all along and they did not want to replace their husbands with anyone new. The second reason was that their unproductivity and their menopause period. That was why having a husband and child was no longer their priority as well.

Male elderly in this study stated the opposite way. They stated that most of them were still in a good to get into a marriage after the death of their spouses. They still want a presence of new wife to accompany them to get through the rest of their life.

The limitation of this study was a small sample size. The proportion of subjects in each nursing home, public and private, was not equal. The researchers also didn't identify kinds of activities given to the elderly in each nursing home that might become therapy to prevent depression. Religion status of elderly also wasn't identified, while this could play the important part in preventing depression because religious therapy from religious leaders was quite effective as social therapy.

5. Conclusions
From this study, we found that elderly who lost their spouses who lived in a private nursing home suffered more depression and most likely depression than elderly who lived in a public nursing home. They had 6 times greater risk to have abnormal GDS score. This phenomenon probably was caused by higher social and economic status of the elderly who lived in a private nursing home. Female elderly were also more prone to suffer depression and most likely depression than men [1,3].

6. References
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