

Determinants of Compliance in Conducting Physiotherapy Among Patients with Low Back Pain in Medan Hospital, North Sumatera

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ABSTRACT

Background: Lower back pain (LBP) is a symptom of pain that occurs in the lower back area. It is often experienced to those who have activities with the wrong posture. Based on visit data, the high proportion of non-compliance in conducting physiotherapy among LBP patients in Medan Regional Hospital in 2016 was 71.7%. This study aimed to examine determinants of compliance in conducting physiotherapy among patients with LBP in Medan Hospital, North Sumatera.

Subjects and Method: This was a cross sectional study conducted at Medan Hospital, Sumatera Utara. A sample of 125 LBP patients was selected for this study by simple random sampling. The dependent variable was compliance to LBP physiotherapy. The independent variables were employment status, marital status, and family support. The data were obtained from medical record and questionnaire. The data were analyzed by a multiple logistic regression.

Results: Compliance to LBP physiotherapy increased with married (OR= 1.31; 95% CI 0.78 to 2.23; p= 0.310), occupation (OR= 1.83; 95%CI= 1.12 to 3.02; p= 0.017), and family support (OR= 0.83; 95% CI= 0.36 to 1.89; p= 0.652).

Conclusion: Compliance to LBP physiotherapy increases with married, occupation, and family support.

Keywords: ccompliance, pphysiotherapy, low back pain, patients

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BACKGROUND

Lower back pain is a pain syndrome that occurs in the lower back area due to various causes. The prevalence of LBP in the United States in 1 year was 15-20%. Besides, based on new patient visits to the doctor, the incidence of LBP was 14.3% (Panduwinata, 2014). Sandhyadkk (2015) states that the prevalence of LBP in India was 74.2%. Himnikaiye and Bamishaiye (2012) state that the prevalence of LBP in Nigeria was 78.1%.

There is no epidemiological data of LBP in Indonesia. However, it is estimated that the prevalence of acute LBP was 40%; 18.2% in male and 13.6% in female.

The total number of physiotherapy visits of LBP patients at Medical Rehabilitation Installation, Medan Regional Hospital, from January to April was 2,438 visits (43.9%). The total number of patients who conducted physiotherapy at Medical Rehabilitation Installation, Medan Regional Hospital in 2016 was 273 people (42.0%). The number of patients who conducted physiotherapy 6 times in August 2016 was 43 people (28.3%). Besides, the number of patients who conducted physiotherapy less than 6 times was 109 people (71.7%).

SUBJECTS AND METHOD

1. Study Design

This study was a cross sectional study conducted at Medical Rehabilitation Installation, Medan Hospital, Medan, North Sumatera.

2. Study Sample

A sample of 125 LBP patients was selected for this study by simple random sampling.

3. Study Variables

The dependent variable was compliance to LBP physiotherapy. The independent variables were occupation, marital status, and family support.

Table 1. Sample characteristics

Variable	N	%
Compliance		
Non-compliant	90	72.0
Compliant	35	28.0
Sex		
Male	51	40.8
Female	74	59.2
Occupation		
Employee	57	45.6
Unemployed	68	54.4
Marital status		
Unmarried	58	46.4
Married	67	53.6
Family Support		
Weak	94	75.2
Strong	31	24.8

2. Bivariate Analysis

Table 2 showed the results of bivariate analysis. Table 2 showed that employed (OR= 1.83; 95% CI= 0.98 to 3.40; p= 0.047), married (OR= 2.50; 95% CI= 1.28 to 4.89; p= 0.004), and strong family support (OR= 1.79; 95%CI= 1.03 to 3.11; p= 0.046) increased patient compliance to conduct physiotherapy.

3. Multivariate Analysis

Table 3 shows the result of a multiple logistic regression. Table 3 showed that employ-

4. Study Instrument

The data were obtained from medical record and questionnaire.

5. Data Analysis

The data were analyzed by a multiple logistic regression.

RESULTS

1. Univariate Analysis

Table 1 showed that 72.0% of samples had irregular visit to physiotherapy. 59.2% were female patients. 54.4% unemployed. 53.6% patients were married. 75.2% had weak family support.

ment (OR= 1.83; 95% CI= 1.12 to 3.02; p= 0.017) increased patients compliance to conduct physiotherapy and it was statistically significant. Compliance to conduct physiotherapy increased with married (OR= 1.31; 95% CI= 0.78 to 2.23; p= 0.310), but it was statistically non-significant. Compliance to conduct physiotherapy decreased with weak family support (OR= 0.83; 95% CI= 0.36 to 1.89; p= 0.652), but it was statistically non-significant.

Table 2. The result of the bivariate analysis

Variable	Compliance				Total		OR 95% CI	P
	Non-compliant		Compliant		n	%		
	n	%	n	%				
Sex								
Male	34	66.7	17	33.3	51	100.0	0.73	0.270
Female	56	75.7	18	24.3	74	100.0	(0.42-1.28)	
Occupation								
Employee	46	80.7	11	19.3	57	100.0	1.83	0.047
Unemployed	44	67.7	24	35.3	68	100.0	(0.98-3.40)	
Marital Status								
Unmarried	49	84.5	9	15.5	58	100.0	2.50	0.004
Married	41	61.2	26	38.8	67	100.0	(1.28-4.89)	
Family Support								
Weak	72	76.6	22	23.4	94	100.0	1.792	0.046
Strong	18	58.1	13	41.9	31	100.0	(1.03-3.11)	

Table 3. The Result of Multiple Logistics Regression Analysis

Independent Variable	OR	95% CI		P
		Lower limit	Upper limit	
Weak Family Support	0.83	0.36	1.89	0.652
Married	1.31	0.78	2.23	0.310
Employed	1.83	1.12	3.02	0.017

DISCUSSION

1. The Association between Sex and Compliance with Physiotherapy

The results of data processing regarding the association between sex and compliance with physiotherapy in LBP patients in Medan General Hospital in 2016 showed that of 64 LBP patients who were male there were 40 patients (62.5%) who were not compliant to do physiotherapists. There were 61 LBP patients who were female and 35 patients (57.4%) were not compliant to do physiotherapy. Chi-Square statistical test results obtained the insignificant value of $p > 0.050$ which means there was no association between sex and compliance with physiotherapy in LBP patients in Medan General Hospital in 2016.

Falavigna et al. (2011) stated that there is a weak association between the sex of the patients and compliance with physiotherapy. The majority of male patients who comply with physiotherapy were 10 people

(45.50%) and those who were not compliant did physiotherapy as many as 4 people (18.2%). While female patients who comply with rehabilitation were 5 people (22.7%) and those who were not compliant were 3 people (13.6%). According to Onabajó et al. (2016) stated that men and women have the same risk of LBP complaints until the age of 60 years. However, sex can affect the onset of complaints of low back pain (Alexandre et al., 2002; Rutten et al., 2010).

2. The Association between Occupation and Compliance with Physiotherapy

From the results of data processing regarding the association between occupation and compliance with physiotherapy in LBP patients in Medan General Hospital in 2016, it is obtained that from 94 LBP patients who worked, there were 60 patients (63.8%) who were not compliant to do physiotherapy. Of the 31 LBP patients who did not

work, there were 15 LBP patients (48.4%) who did not comply with physiotherapy.

Paraseth et al. (2018), who stated that there is an association between occupation and compliance with physiotherapy. This means that occupation does not significantly affect patient compliance in doing physiotherapy. Based on this study, it was found that LBP patients who were not compliant to do physiotherapy were 60 patients (63.8%) patients who were worked. Occupation is referred to as one of the indirect risk factors that can cause LBP due to the risky physical activity undertaken.

Therefore, occupation is an indicator that can determine a person's socioeconomic status so the type of occupation can affect one's economic level. Someone who works will have a better economic or income level than those who do not work. Socioeconomic level is one of the factors that can affect compliance with physiotherapy for LBP patients (Paraseth et al., 2018).

3. The Association between Marital Status and Compliance with Physiotherapy

From the results of data processing regarding the association of marital status with compliance with physiotherapy in LBP patients, it was obtained that from 80 LBP patients who were married there were 54 patients (67.5%) who did not comply with physiotherapy. Of the 45 LBP unmarried patients, there were 21 LBP patients (46.7%) who did not comply with physiotherapy.

Al-Eisa (2010) stated that there was a weak association between marital status and compliance with undergoing rehabilitation. This can be interpreted that there is no association between the marital status of patients with compliance with undergoing rehabilitation.

Alexandre et al. (2002) stated that marital status is related to one's obedience.

Patients who are married have a greater level of compliance than patients who are not married. Someone who has a spouse (husband or wife) can help and remind about taking medication or therapy.

4. The Association between Family Support and Compliance with Physiotherapy

Based on the study, it was found that family support is one of the determinants associated with compliance with physiotherapy for LBP patients. The results showed that of 79 LBP patients who received family support there were 56 patients (70.9%) who were not obediently do physiotherapy. Of the 46 LBP patients who lacked family support, there were 19 patients (41.3%) who did not comply with physiotherapy. Jack et al. (2010) stated that there is an association between family support and compliance with visits to health facilities.

Bachmann et al. (2018) stated that success in completing and complying with the treatment is not only patient's responsibility but also must be seen from other factors. Factors associated to medication compliance are individual patient factors, social support, health support, and family support.

Support from the family is a factor that can affect patient compliance with regular treatment. The presence and attitude of the people closest to the patient can affect the response to pain. Sufferers who experience pain often depend on family member or peer support, assistance, or protection. Although the pain is still can be felt, the presence of those closest to you can minimize feelings of loneliness and fear. Family support is very important in helping patients recover. Family support also has an association with LBP patient compliance with treatment (Chaira, 2016; Palazzo et al., 2016).

AUTHOR CONTRIBUTION

Anita Andriany collected the data and wrote the manuscript. Erna Mutiara did data analysis. Halinda Sari Lubis suggested the discussion.

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CONFLICT OF INTEREST

There was no conflict of interest in this study.

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