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Original Research

The Effect of Anxiety Sensitivity to Loneliness in Hospitalized Children and Adolescents: Multidimensional Models

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Abstracts

Introduction: Although good quality social relationships are essential for every individual's mental and physical health and well-being, loneliness is an important yet often overlooked social determinant of child and adolescent health. Loneliness felt by a person can put them at risk of anxiety. Anxiety sensitivity is a sensation of fear that will result in physical, social, or psychological problems that later risk clinical anxiety problems. This study aims to determine the effect of anxiety sensitivity on loneliness in children and adolescents who are hospitalized in the hospital. **Method:** The type of research is quantitative research with an exploratory approach and a self-rating questionnaire. The research subjects were 20 respondents, who were inpatients at the West Java Provincial Mental Hospital. Anxiety was measured using the ASI - 3 (Anxiety Sensitivity Indexes - 3) questionnaire, and the UCLA Loneliness Scale 3 to assess the degree of loneliness. Data were analyzed using simple linear regression with the help of the EPI INFO 7 program. **Results:** The linear regression test obtained a regression coefficient of 0.786 which states the direction of the influence of variables X and Y is positive with a p-value of 0.000155 <0.05. **Conclusion:** There is a significant relationship between high anxiety sensitivity and feelings of loneliness in children and adolescents in inpatients. The most experienced dimension of anxiety sensitivity is about social problems while the dominant dimension of loneliness with the choice is always on the dimension of collective connectedness.

Keywords: Anxiety Sensitivity, Loneliness, Children and Adolescents

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INTRODUCTION

Good quality social relationships are essential for the mental and physical health and well-being of every individual, loneliness is an important but often overlooked social determinant of child and adolescent health. [1, 2]. Loneliness can be experienced by anyone, including children and adolescents. WHO (World Health Organization) reports the prevalence of loneliness in adolescent patients (12-18 years) in 28 studies in 76 countries, namely the prevalence of loneliness at 9.2% in Southeast Asia to 14.4% in the Eastern Region. In Indonesia, from May 2020 to June 2021, there were 5,211 participants from 6 provinces in Java and 28 provinces outside Java. According to the survey results, 98% felt lonely, with the majority being teenagers aged 18-24 years [3].

On April 11, 2023, the researcher conducted preliminary interviews with two stable pediatric patients who were admitted to the West Java Provincial Mental Hospital; from the results of these preliminary interviews, it was found that both patients experienced loneliness. The first patient experienced loneliness and felt that he did not have a friend who could ask for help, and when he was hospitalized, the patient felt that he was not close to other patients. The same thing was felt by the second patient who felt that he did not fit in with the people around him and often felt that no one knew the patient well, based on the patient's statement, this arose because he missed his parents so the feeling of loneliness experienced had the impact of being sleepless, sad and feeling anxious.

Loneliness felt by someone can be at risk of experiencing anxiety [4, 5]. Anxiety sensitivity is a sensation of anxiety that will result in physical, social, or psychological problems that will later risk clinical anxiety problems [6, 7]. Longitudinal studies also found that loneliness predicts an increase in the severity of these symptoms over time suggesting the role of loneliness in their development and maintenance [8]. Little is known about how anxiety sensitivity can interact with physiological modulation to predict feelings of loneliness in children who have anxiety sensitivity [2, 9]. Findings in previous studies provide clear evidence of the relationship between anxiety sensitivity and loneliness; as expected, lonely groups have higher anxiety sensitivity than normal or socially attached groups [10, 11]. In the current investigation, the researcher chose the feeling of loneliness that is often suffered by children as a modulator that will be connected between anxiety sensitivity in children and adolescents [9, 12].

Based on the phenomenon that has been described, researchers feel it is important to conduct research on the effect of anxiety sensitivity on loneliness in children and adolescents.

METHODS

Participants This research sample uses non-probability sampling techniques, namely purposive sampling. This technique uses a sample selection technique to determine certain criteria. The reason this technique is used is because not all samples have criteria that match the phenomenon under study. The study sample was a convenience sample composed of 20 participants (80% male). All participants were inpatients specializing in children and adolescents with an average age of 17 years (60%) (minimum = 19 Years (5%). The number of participants was calculated using the Slovin formula based on the average number of visits to the emergency department and outpatient clinic who were hospitalized during the last four months (January, February, March, and April 2023). The average length of hospitalization for patients was 12 days.

Instruments

Sociodemographic Questionnaire It included variables such as gender, age, and length of hospitalization.

UCLA Loneliness is measured using the UCLA Loneliness Scale version 3, which is one of the most widely used measuring in-

struments in detecting feelings of loneliness [13, 14] from Ruslan (1996), which consists of 20 items where 11 items are favorable items and 9 items are unfavorable items. The unfavorable items, namely item numbers 1, 5, 6, 9, 10, 15, 16, 19, and 20 reflect individual satisfaction with their social relationships. Conversely, favorable items, namely item numbers 2, 3, 4, 7, 8, 11, 12, 13, 14, 17, and 18 reflect individual dissatisfaction with their social relationships. Loneliness in this study can be seen from the following dimensions: Isolation (UCLA 2, UCLA 3, UCLA 4, UCLA 7, UCLA 8, UCLA 11, UCLA 12, UCLA 13, UCLA 14, UCLA 17, UCLA 18), relational connectedness (UCLA 10, UCLA 15, UCLA 16, UCLA 19, UCLA 20), and collective Connectedness (UCLA 1, UCLA 5, UCLA 6, UCLA 9). The score range is 0 - 72, 54 - 72 with high anxiety sensitivity, 53 - 36 with moderate anxiety sensitivity, 35 - 18 with low anxiety sensitivity, and 17 - 0 with almost no anxiety sensitivity. The instrument has a reliability rate of 0.94 [13, 15] and 0.89 [14].

ASI -3 (anxiety sensitivity index 3) Anxiety sensitivity is measured using the anxiety sensitivity index 3 (ASI 3) instrument [16] which is an 18-item version of the anxiety sensitivity index, the anxiety sensitivity score is determined to predict the anxiety that will arise from anxiety behavior. Anxiety sensitivity is considered to be multidimensional, consisting of three factors: 1. Physical symptoms (e.g. I am afraid when my heart beats fast), 2. Cognitive dyscontrol (e.g. When I can't keep my mind on my thoughts, I am afraid: When I cannot keep my mind on a task, I worry that I might go crazy), 3. Social concerns (e.g. when I tremble in the presence of others, I fear what people will think of me). Anxiety sensitivity can be thought of as an awareness, a cognitive reactivation to the physical symptoms of anxiety. Respondents indicated a 5-point scale (0 = very rarely, 1 = rarely, 2 = sometimes, 3 = often, 4 = very often) with an assessment of the extent to which the anxiety was disturbing. The score range is 0 - 72, namely 54 - 72: high anxiety sensitivity, 53 - 36: moderate anxiety sensitivity, 35 - 18: low anxiety sensitivity, 17 - 0: almost no anxiety sensitivity. Validation of the ASI instrument - 3 3-factor model showed a good fit between the model and the data (FI= .98; AGFI= .97; NFI= .96; RFI= .96; RMR= .05) [17]. As previously reported by Taylor et al (note: GFI = Adjusted Fit Index; AGFI = Fit Index; NFI = Bentler-Bonett Norm Fit Index; RFI = Bollen Relative Fit Index; RMR = Bollen Relative Fit Index; RMR = Root Mean Squared Residual) [18, 19].

Procedure

Completion of the Sensitivity instrument was carried out by conducting interviews in a separate room between the researcher and 1 respondent. This indicates that participation in this study is completely confidential, voluntary, and purely investigative. Consent was obtained from all participants in this study. Questionnaires were available to respondents. While answering the research questionnaire, the researcher was doing a check (√) in the comment column that suits the respondent's situation. Respondents indicate a 5-point scale (0 = very rarely, 1 = rarely, 2 = sometimes, 3 = often, 4 = very often), and filling out the loneliness instrument is done by writing a check (√) in the comment column of the choice that suits the respondent's situation Respondents indicate a 4-point scale from 1 = never, 2 = rarely, 3 = sometimes, to 4 = often. There is no missing data because the questionnaire uses answer options that must be filled in. The collected data was stored and maintained confidentiality.

RESULTS

Data Analysis

The data analysis technique used to test the hypothesis in this study is simple regression analysis techniques, previously the existing data was first transformed into ratios, this aims to change the measurement scale of or-

dinal data to ratios so that the data can meet the assumptions underlying the analysis. The EPI INFO 7 application is used to convert data into ratios.

Table 1. Distribution of anxiety sensitivity with loneliness

		UCLA Loneliness Scale 3				Probability	Fisher exart
		low loneliness	moderate loneliness	high loneliness	Totally	0,0085	0,0008
ASI - 3 (Anxiety Sensitivity Indexes - 3)	almost no anxiety sensitivity	2	0	0	2		
		100,00%	00,00%	00,00%	100,00%		
		18,18%	00,00%	00,00%	10,00%		
	low anxiety sensitivity	9	2	0	11		
		81,82%	18,18%	00,00%	100,00%		
		81,82%	25,00 %	00,00%	00,00%		
	moderate anxiety sensitivity	0	6	1	7		
		00,00%	85,71%	14,29%	100,00%		
		00,00%	75,00%	100,00%	35,00%		
	Totally	11	8	1	20		
		55,00%	40,00%	5,00%	100,00%		
		100,00%	100,00%	100,00%	100,00%		

Based on the table above, is the distribution of anxiety sensitivity and loneliness, here it can be seen that in hospitalized pediatric patients the majority have low anxiety sensitivity and low feelings of loneliness, after the author examines in depth most respondents are old patients who have been treated before so that most have adapted to the hospital environment both with health workers and other patients, However, 7 respondents had moderate levels of anxiety and moderate loneliness during hospitalization, this needs to be a concern for hospitals to always pay attention to the level of anxiety of children during hospitalization so that feelings of loneliness during hospitalization are reduced which is expected to accelerate recovery and increase the effectiveness of treatment, then see the results of the p-value fisher exart obtained 0.0008 so that it can be seen that there is a relationship between anxiety sensitivity and feelings of loneliness in patients.

Table 2. Influence of Anxiety Sensitivity with Loneliness

Variable /	*Coefficient*	95% *Confidence*	*Limits*	*Std Error*	*F - Test*	P – *Value*
Kesepian	0,786	0,439	1,132	0,165	22,6975	0,000155
Correlation Coefficient : r^2 = 0,56						
Source	df	Sum of Square	*Mean Square*	*F – Statistic*	P – *Value*	
Regression	1	4,3214	4,3214	22,6875	0,0002	
Residuals	18	3,4386	0,1905			
Total	19	7,7500				
Pearson's Correlation Analysis						
Coefficient	T – Statistic	P – *value*				
0,74657	4,7631	0,0002				
Spearman's Correlation Analysis						
Coefficient	T – Statistic	*P – value*				
0,7966	5,5909	<0,0001				

Based on the table above using the dashboard from Epi Info 7 using linear regression analysis, meaningful results were found which can conclude that anxiety sensitivity can affect the feelings of loneliness of hospitalized patients.

Table 3. Multidimensional Distribution of Anxiety Sensitivity Factor

Value	Freq	percent	LCL	UCL
Physical Concerns				
Very Often	10	8.33%	4.04%	14.79%
Often	11	9.17%	4.67%	15.81%
Sometimes	13	10.83%	10.83%	17.81%
Rarely	38	31.67%	31.67%	40.78%
Very Rare	48	40.00%	40.00%	49.34%
Cognitive Concerns				
Very Often	4	3,33%	0.92%	8,31%
Often	28	23,33%	16,10%	31,93%
Sometimes	39	32,50%	24,23%	41,65%
Rarely	45	37,50%	28,83%	46,80%
Very Rare	4	3,33%	0,92%	8,31%
Social Concerns				
Very Often	5	4,17%	1,37	9,46%
Often	26	21,67%	14,67%	30,11%
Sometimes	50	41,67%	32,74%	51,02%
Rarely	36	30,00%	21,98%	39,04%
Very Rare	3	2,50%	0,52%	7,13%

The results of this study indicate that the dimension of anxiety sensitivity that is felt the most is the social dimension, such as the importance of not looking nervous in front of others and worrying about people around noticing the respondent's anxiety. This is shown in the results "sometimes" the greater choice is 50 out of 20 respondents (41, 67%) which illustrates that in hospitalization time, the social environment can be a concern in reducing feelings of anxiety compared to physical problems or thought problems which are relatively "rare" to "very rare". However, the physical and mental problems cannot be eliminated. For example, in the mind problem table there are sometimes high results (32%) so health workers, families and other patients being treated need to support each other in optimizing therapy during hospitalization.

Table 4. Multidimensional Distribution of Loneliness Factors

Value	Freq	percent	LCL	UCL
Dimension isolation				
Never	6	2.73%	1.01 %	5.84 %
Rarely	66	30.00 %	24.02%	36.52%
Sometimes	97	44.09 %	37.42%	50.92%
Always	51	23.18%	17.77%	29.33%
Dimension Relational Connectedness				
Never	4	4.00 %	1.10 %	9.93 %
Rarely	41	41.00 %	31.26%	51.29%
Sometimes	40	40.00%	30.33%	50.28%
Always	15	15.00%	8.65 %	23.53%
Dimension Collective Connectedness				
Never	7	8.75%	3.59%	17.20%
Rarely	21	26.25%	17.04%	37.29%
Sometimes	21	26.25%	17.04%	37.29%
Always	31	38.75%	28.06%	50.30%

The dimension of collective connectedness becomes an important factor. The high result in "Always" for feeling every day in a patient, indicated that friendly gestures between them and health workers are a foundation to build a pleasurable environment. The patient also feels accepted in a group. This can be a lesson for health workers who provide services to inpatients to show a feeling of kinship and friendship. So, this can make patients not feel lonely and have physical improvement.

DISCUSSION

Given the importance of assessing anxiety sensitivity and loneliness, efficient, informative, valid, and reliable scores are needed to evaluate the psychological well-being of hospitalized patients. The ASI-3 and UCLA are classic scales and are each widely used to measure a person's anxiety sensitivity and loneliness [14, 20]. However, although many studies have examined each scale, few researchers have linked the two scales and the dimensions of ASI-3 and UCLA remain unclear.

In this study, a relationship was found between anxiety sensitivity and loneliness. The results show that the higher the anxiety sensitivity, the greater the level of loneliness. In this study, it can be concluded that high anxiety sensitivity in patients is at risk of causing feelings of loneliness to get worse in hospitalized children and adolescents who are far away from family or close relatives who enter a new environment such as hospitalization. Feelings of anxiety that arise such as other people's concerns about their anxious reactions and fear of someone thinking negatively about them being the most felt by patients. However, related to the dimensions of loneliness that have unexpected results, namely the highly unfavorable group (reflecting individual satisfaction with social relationships) has a fairly high value of "Always" 38.70% describes a patient who tries to be friendly and friendly with other patients (UCLA 9). Then it is likely that he will easily feel accepted by the environment (UCLA 5). This indicates the average result of a low level of loneliness - a moderate level of loneliness in the subjects of this study.

The author's suggestion in this study can be further developed by adding the number of respondents who become participants which is expected to produce broader results than the current study. Meanwhile, the obstacles experienced by the author when interpreting the results of each dimension of anxiety sensitivity and loneliness which make the author hope to get the opportunity to examine in more detail than the current study. It caused by the number of components and groups of each dimension can be the key to solving problems in feelings of anxiety and loneliness in hospitalized pediatric and adolescent patients.

CONCLUSION

This study aims to find the effect of anxiety sensitivity on feelings of loneliness in adolescent patients who are hospitalized the number of participants 20 people with a relative average age of at most 17 years obtained the results of P - Value 0.0001 in the table.2 coupled with statistical calculations Pearson's Correlation Analysis (P - Value 0.0002) and Spearman's Correlation Analysis (P - Value <0.0001) found the results of a person's anxiety sensitivity the higher the level of risk of experiencing loneliness the greater the picture shown in the table. 1 which shows that most of the participants have low anxiety sensitivity and low loneliness as many as 9 respondents or 81.82% and low anxiety sensitivity who have low loneliness only 2 respondents or 18.18% while for the sensitivity of respondents with moderate anxiety who have moderate feelings of loneliness are 6 respondents or (85.71%). Then for the anxiety sensitivity dimension, the final results in the table indicate that the most experienced dimension is social problems (41.67%) while for the loneliness dimension of concern is the dimension of collective connectedness who answer always as

much as 38.75% and the dimension of isolation with the results sometimes (44.09%) or during one week as many as 3 times felt isolated things during hospitalization.

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CONLFLICT OF INTEREST

The author(s) of this article declare no conflict of interest.

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