

What are the Factors that Affect the Risk of Parenting Stress in Mothers with Disability Children? A New Evidence from Sukoharjo, Central Java

Syarifatul Fikriyyah¹⁾, Rita Benya Adriani²⁾, Bhisma Murti¹⁾

¹⁾Masters Program in Public Health, Universitas Sebelas Maret

²⁾School of Health Polytechnics Surakarta

ABSTRACT

Background: Mothers play an important role in the care of children with physical and psychological disabilities. However, the role of caring children with disabilities can cause stress for the mother. Parenting stress can lead to anxiety, emotional instability, and avoidance of the environment in mother. This, in turn, may deteriorate the quality of family life. As a result, children with disabilities may experience development and growth disorders. This study aimed to determine the factors that affect the parenting stress in the caring of children with disability in Sukoharjo District, Central Java.

Subjects and Method: This was an analytic observational study with a cross-sectional design. The study was conducted at Sanggar Inklusi, Sukoharjo, Central Java, from February to March 2018. A sample of 163 mothers with disabled children was selected for this study by exhaustive sampling. The dependent variable was parenting stress. The independent variables were adversity intelligence, disability level, maternal education, maternal employment status, family income, and family support. The data were collected by questionnaire and analyzed by path analysis.

Results: The risk of maternal parenting stress increased with children disability ($b= 4.64$, $SE= 1.72$, $p= 0.07$) and mothers working outside the house ($b= 1.68$, $SE= 0.93$, $p= 0.069$). The risk of maternal parenting stress decreased with high adversity intelligence ($b= -0.28$, $SE= 0.12$, $p= 0.016$), high maternal education ($b= -8.50$, $SE= 0.86$, $p< 0.001$), high family income ($b= -0.28$, $SE= 0.16$, $p= 0.078$), and strong family support ($b= -0.22$, $SE= 0.08$, $p= 0.007$).

Conclusion: The risk of maternal parenting stress increases with high children disability and maternal employment status, but decreases with high adversity intelligence, high maternal education, high family income, and strong family support.

Keywords: parenting stress, children, disability

Correspondence:

SyarifatulFikriyyah. Masters Program in Public Health, Universitas Sebelas Maret, Jl. Ir. Sutami 36 A, Surakarta 57126, Central Java. Email: vivisyarifah@yahoo.com. Mobile: +6285642009597

BACKGROUND

People with disabilities are the world's largest minority. WHO in 2011 mentioned that there is about 15% of the world's population are persons with disabilities, meaning that 1 in 4 family members in one house are persons with disabilities (Ministry of Health, 2014).

Sukoharjo regency is one of the first inclusive districts in Indonesia to implement the Inclusive Village Program. The high

number of people with disability becomes the background of the establishment of the Inclusion Studio in Sukoharjo District. This Inclusion Studio is one of the forms of community-based rehabilitation where services and rehabilitation are based on the role and empowerment of communities, community leaders, social organizations, NGOs, professional institutions, to help persons with disabilities meet their needs and rights. Currently, there are 4 Sanggar

Inclusion in 4 sub-districts namely Wijaya Kusuma Inclusion Studio, Mutiara Bunda, Tunas Bangsa, and Anak Bangsa. The number of children with disabilities handled by inclusion centers is 163 children with disabilities (Profile of Sukoharjo District Social Service, 2015).

Parents generally expect the child's condition to be born healthy, but not all is in line with expectations. Difficulties and multiple barriers to disability children result in the stress of parental gratification (Hayes & Watson, 2013).

Caring stress is more experienced by mothers than fathers. Research in Japan shows that the role of the mother as the closest person to the child has a tendency to experience parenting stress two times higher than the father's role in child care (Yamaoka et al., 2016).

Stress in mothers with children with disabilities results in increased anxiety, emotional instability and avoidance of environmental reactions that lead to a deterioration in the quality of family life (Lara and de los Pinos, 2017). The limited ability of mothers in finding information and knowledge to handle the problems of children with disabilities cause stress on the mother. Mothers need a great effort to cope with every issue of care for their children with disabilities. The ability to deal with life's problems is called adversity. The caring process has an important component that cannot be separated from social support, especially the support of a spouse or husband (Isa et al., 2016).

Husband's support will improve the welfare and adaptation of mothers with children with disabilities. A study conducted by Ki and Joane (2014) shows that good cooperation between husband and wife can reduce the stress of parenting (Ki & Joanne, 2014). Research in Japan states that single parent mothers with children with dis-

abilities have higher stress levels than mothers with partners in caring for children (Yamaoka et al., 2016).

A study conducted in the United States in 2015 shows that family support has a significant influence on nursing stress. High family support has an impact on the quality of a good marital relationship resulting in low parenting stress levels (Mitchell et al., 2016). The researchers concluded from the above research that family support has an influence on maternal stress levels in the mother. Strong family support will reduce the stress of parenting in mothers with children with disabilities.

Needs of children with disabilities are more than normal children's needs, because children with disabilities have many obstacles in some aspects of development that require therapy, facilities and infrastructure and treatment that is longer and even lifetime. This will have an impact on the high economic burden of the family because it has to spend a lot of money for the needs of children with disabilities (Azeem et al., 2013).

Needs which are not fulfilled will have an impact on the emotional state of family members. The Sinai & Tikotzky (2012) study that examined maternal sleep patterns with maternal stress on working moms and working moms taking a leave showed that working mothers had higher levels of stress with poor sleep quality. The researchers concluded that working mothers had a higher degree of parental stress than those who did not work (Sinai and Tikotzky, 2012).

Children with multiple disability types have a higher risk of parenting stress than children with a single type of disability. Children with dual disabilities have an influence on the level of parenting stress in the elderly, especially on the mother. Mothers with children with dual disabilities

have a higher stress level than mothers with single children with disabilities (Craig et al., 2016).

Provision and health services in Sukoharjo District have only focused on people with disabilities and exclude the role of parents, especially mothers, though the role of mothers has a greater burden in the care of children with disabilities both physically and psychologically. This will disrupt the process of development and growth of children especially in children with disabilities that require more care. This problem is what makes the researchers interested to conduct a study under the topic of "Factors Affecting Maternal Stress with Disabled Children in Sukoharjo District Inclusion Studio" and is expected to provide new evidence about the stress of care.

SUBJECTS AND METHOD

1. Study design

This was an analytic observational study with a cross sectional design. The study was conducted in Sanggar Inklusi, Sukoharjo, Central Java, from February to March 2018.

2. Population and samples

The target population in this study was all mothers with children with disabilities. Source population in this study is mothers who have children with disability in Sanggar Inklusi Sukoharjo District. The number of samples in this study was 163 subjects. The sampling technique was done using total sampling technique. The inclusion criteria in this study were mothers with children with disabilities aged ≤ 18 years old and not illiterate. Exclusion criteria of this study were mothers who did not complete the questionnaire and who have severe mental disorder.

3. Study variables

In this study endogenous variables consist of stress parenting, family income, adversity intelligence and husband support. The exo-

genous variables were education, employment, husband support, disability level and family support.

4. Operational definition of variable

Nurture stress was defined as the condition of the maternal role function in the parenting process and the interaction with the child which is unbalanced, causing conflict and resulting a negative response on the mother. The data were collected by Parenting Stress Index questionnaire. The measurement scale was continuous, but for the purpose of data analysis, it was transformed into dichotomous, coded 0 for low stress (score < 75) and high stress (score ≥ 75).

The adversity intelligence was defined as an ability to measure maternal resilience when faced with problems and difficult situations in having children with disabilities. The data was measured by Adversity Response Profile questionnaire. The measurement scale was continuous, but for the purpose of data analysis, it was transformed into dichotomous, coded 0 for low adversity intelligence (score < 61) and 1 for high adversity intelligence (score ≥ 61).

Husband support was defined as the presence of a husband who is trustworthy, caring, giving attention and assistance to the wife who plays a role as a mother with children with disabilities. The measurement scale was continuous, but for the purpose of data analysis, it was transformed into dichotomous, coded 0 for weak husband support and 1 for strong husband support.

Family support was defined as the presence of members of the family and relatives who still have blood relatives who pay attention and assistance to mothers with children with disabilities. The measurement scale was continuous, but for the purpose of data analysis, it was transformed into dichotomous, coded 0 for weak family support and 1 for strong family support.

Education was defined as the highest level of formal education pursued by mothers. The measurement scale was categorical.

Family income was defined as the amount of income from family member's house in 1 month expressed in rupiah. The measurement scale was continuous.

Employment status was defined as the position of mother with child with disability in doing work in an agency or business unit in order to earn income. The measurement scale was categorical.

Disability level was defined as the number of child disabilities. The data were collected by questionnaires. The measurement scale was categorical.

5. Data analysis

Data analysis used in this study was path analysis, conducted using SPSS AMOS 22 program to know the effect of variable, either directly or indirectly. The steps of path analysis were model specification,

Table 1. The Characteristics of Subjects

Characteristics	Criteria	N	%
Education	Primary school	17	10.4
	Junior high school	44	27.0
	Senior high school	73	44.8
	Diploma	13	8.0
	Bachelor	16	9.8
Occupation	Working outside the house	107	65.6
	Entrepreneur	20	12.3
	Farmer	26	16.0
	Civil Servant	10	6.1
Family Income	Low	59	36.2
	High	104	63.8
Type of disability	Single	79	48.5
	Double	84	51.5

Descriptive statistics of continuous data in the form of education level, employment status, family income, disability type, adversity intelligence, family support, husband support and nursing stress can be seen in Table 2.

Table 2 shows descriptive statistics of each variable including median, standard deviation, minimum and maximum to

model identification, model fit, parameter estimation, and model re-specification.

6. Research Ethics

The research ethics included informed consent by the subjects, anonymity, confidentiality and ethical clearance. The ethical clearance in this study was conducted in Dr. Moewardi hospital, Surakarta, Central Java.

RESULTS

The characteristics of subjects in this study were seen based on the education level, employment status, family income and disability level. Research subjects in this study were 163 mothers with children with disabilities in Sanggar Inkusi, Sukoharjo. Table 1 shows that out of 163 study subjects, 44.8% of mothers are high school graduates, 65.5% of mothers are unemployed, families have income ≥ Rp 1,500,000.00, and there were 51.5% children with disabilities double.

measure variables on a continuous scale, whether it is independent or dependent. The median describes the mean value and is used because the data distribution is not normal. Standard deviation (SD) describes how far the data variations are. If the SD value is much greater than the median value, then the median value is a poor representation of the whole data, whereas if

the SD value is very small compared to the median value, then the median value can be used as a representation of the whole data. Table 2 shows the measurement of the variables of education level, employment

status, family income, adversity intelligence, husband support, family support, and nursing stress have a standard deviation value well below the median value.

Table 2. Univariate Analysis

Variable	n	Median	SD	Min.	Max.
Education	163	3	1.061	1	5
Occupation	163	1	0.963	1	4
Family Income (Rupiah)	163	15	5.759	9	4
Type of disability	163	1	0.501	0	1
Adversity Intelligence	163	61	7.518	45	72
Husband Support	163	76	10.712	45	96
Family Support	163	67	7.829	40	80
Parenting stress	163	75	15.647	34	100

Table 3. The results of bivariate analysis using Pearson correlation

Independent Variable	Pearson Correlation (r)	p
Education	-0.65	<0.001
Occupation	0.21	0.007
Family Income	-0.21	0.007
Type of Disability	0.16	0.039
Adversity Intelligence	0.001	<0.001
Husbands' Support	-0.12	0.013
Family Support	-0.20	0.011

Table 3 shows that education level has $r = -0.65$ and $p = <0.001$. This suggests that education has a negative effect on maternal stress and is statistically significant. A high level of maternal education will make the level of parenting stress lower than that of a low educated mother. The maternal employment status has a value of $r = 0.21$ and the value $p = 0.007$. This suggests that the status of work has a positive effect on parenting stress. Mothers who work outside the home have a higher level of parenting stress than mothers working at home.

Family income has $r = -0.21$ score and $p = 0.007$ score. Family income has a negative effect on parenting stress. High level of family income would decrease the parenting stress in mothers. Disability type has $r = 0.16$ and $p = 0.039$. This type of

disability has a positive effect on parenting stress. Mothers with multiple disabilities children have a higher stress level than mothers with single disability children. Adversity intelligence with $r = 0.001$ score and $p < 0.001$ score has a positive and statistically significant effect. If the level of mothers' adversity intelligence was high, then it would decrease the level of maternal stress. Husband's support has $r = -0.12$ and $p = 0.013$. Husband's support has a negative effect on parenting stress. Strong husbands' support would lead to low maternal stress levels than low support from husbands. Family support has $r = -0.20$ and $p = 0.011$. Family support has a negative effect on parenting stress. Strong family support would decrease maternal stress levels than mothers with low family support.

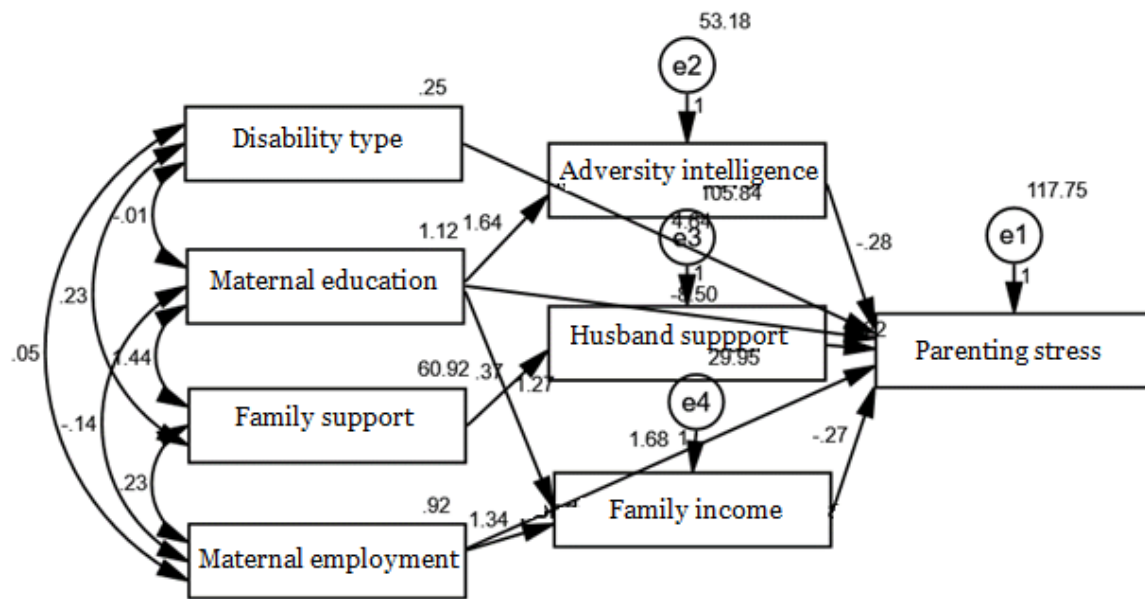


Figure 1. Structural model of path analysis

Table 4. Path analysis results about the effect of education, employment status, family income, disability type, adversity intelligence, husband support, and family support on parenting stress

Dependent Variable	Independent Variable	b	SE	p	β
Direct effect					
Parenting Stress	← Disability Type	4.64	1.72	0.007	0.15
Parenting Stress	← Employment	1.68	0.93	0.069	0.10
Parenting Stress	← Husband Support	-0.22	0.08	0.007	-0.15
Parenting Stress	← Education	-8.50	0.86	<0.001	-0.58
Parenting Stress	← Adversity Intelligence	-0.28	0.12	0.016	-0.14
Parenting Stress	← Family Income	-0.28	0.16	0.078	0.10
Indirect effect					
Husband Support	← Family Support	0.37	0.10	<0.001	0.27
Family Income	← Education	1.27	0.41	0.002	0.24
Adversity Intelligence	← Education	1.64	0.54	0.003	0.23
Family Income	← Employment	1.34	0.45	0.003	0.22
N observation= 163					
Fit Model					
b= Unstandarized Path Coefficients	NFI	= 0.946			
β= Standarized Path Coefficients	CFI	= 1.000			
CMIN = 9.461	RMSEA	= 0.000			
p = 0.663					

Figure 1 showed the structural model after the estimation using IBM SPSS AMOS 22 in order to obtain the values provided in the picture. Indicator that showed the suitability of path analysis model in table 4

which also showed the goodness of fit measure that got result of CMIN fit index by 9.461 with score $p = 0.663 > 0.05$; GFI (Goodness of Fit Index) = $0.985 \geq 0.90$; NFI (Normed Fit Index) = $0.946 \geq 0.90$;

CFI (Comparative Fit Index) = $1.00 \leq 0.90$; RMSEA (Root Mean Square Error of Approximation) $< 0.001 \geq 0.08$ which mean that the empirical model met the specified criteria and was determined according to the empirical data.

Table 4 showed the results of path analysis of the effect of education, employment status, family income, disability type, adversity intelligence, husband support, family support, and parenting stress.

Parenting stress was directly and positively affected by disability type ($b = 4.64$, $SE = 1.72$, $p = 0.007$) and maternal employment status ($b = 1.68$, $SE = 0.93$, $p = 0.069$).

Parenting stress was directly and negatively affected by husband support ($b = -0.22$, $SE = 0.08$, $p = 0.007$), education \geq Senior high school ($b = -8.50$, $SE = 0.86$, $p < 0.001$), adversity intelligence ($b = -0.28$, $SE = 0.12$, $p = 0.016$) and family income ($b = -0.28$, $SE = 0.16$, $p = 0.078$).

Husband support increased with family support ($b = 0.37$, $SE = 0.10$, $p < 0.001$). Family income increased with education \geq Senior high school ($b = 1.27$, $SE = 0.41$, $p = 0.002$) and mother working outside the house ($b = 1.34$, $SE = 0.44$, $p = 0.003$). Adversity intelligence increased with maternal education ($b = 1.64$, $SE = 0.54$, $p = 0.003$).

DISCUSSIONS

1. The Effect of Maternal Educational Level on Parenting Stress.

The result of analysis showed that there was indirect and negative effect of maternal educational level on parenting stress. Parenting stress was influenced by indirect maternal education through family income and adversity level of intelligence. High educational level increased the family income and adversity intelligence but decreased the stress levels of parenting.

A study in Scotland found that mothers with low educational levels were at risk of experiencing parenting stress by two times greater than mothers with high level of education (Parkes et al., 2015). This was related to the lack of professional support received by mothers with low education due to low economic status.

Mothers with low levels of education have six times higher risk of experiencing parenting stress (Deniz-Can and Ginsburg-Block, 2016).

2. The Effect of Employment Status on Parenting Stress.

The result of analysis showed that maternal employment status has a direct and indirect effect on parenting stress. The indirect effect of maternal employment status on parenting stress was through family income.

Mothers who work outdoors have a higher parenting stress than mothers who work at home. A study by Nomaguchi and House (2013) showed that 57% of mothers who work outside the house have a higher level of parenting stress than mothers who work at home. Mothers have to worked outside the house because their husband have unfixed job so that family income was not sufficient for family needs (Nomaguchi and House, 2013).

Stress level of maternal parenting which was investigated by Sinai and Tikotzy (2012) through sleep patterns indicated that working mothers have poor sleep patterns. This was because maternal burden was more than the mother who worked at home.

3. The Effect of Family Income on Parenting Stress.

The result of analysis showed that there was a negative and direct effect of family income on parenting stress. The higher family income, the lower the parenting stress. The needs of families who have family members with disabilities were more than normal family members.

A study by Azeem *et al.* (2013) showed that low income families have little opportunity to fulfill the family needs, while children with disabilities have more needs. This resulted in higher parenting stress in families with low incomes (Azeem *et al.*, 2013). Research in the United States found that low-income families had four times higher risk of parenting stress than families with high family income (Zalewski *et al.*, 2012).

4. The Effect of Disability Types on Parenting Stress

The result of analysis showed that disability types has a positive and direct effect on parenting stress. Mothers who have children with multiple disability types had higher levels of parenting stress than mothers who have children with a single type of disability. Children with multiple disabilities have more limitations and disruptions. This required more care and attention from mothers than children with single disability. Therefore, parenting stress experienced by mothers who have children with multiple disabilities was higher than mothers who have children with single disability.

Research in the United States showed that stress levels of parenting who have children with multiple disabilities (ASD and ADHD) were higher than children with single disability (Craig *et al.*, 2016). The result of a study by Almogbel *et al.* (2017) stated that parenting stress in parents who have children with multiple disabilities was 5.5 times higher than parents who have children with single disability (Almogbel *et al.*, 2017).

5. The Effect of Adversity Intelligence on Parenting Stress.

The result of analysis showed that adversity intelligence has a negative and direct effect on parenting stress. The higher the maternal adversity intelligence, the lower the parenting stress. Mothers need a great effort to

face every parenting problem for their children with disabilities. Adversity intelligence was the ability of mothers to face problems and survive and also overcome the difficulties which in this case was having children with disabilities (Tian and Fan, 2014).

Adversity intelligence has a direct effect on maternal parenting stress as stated in a study by Ratnani (2014) which stated that adversity intelligence factor has 53.8% effect on parenting stress. A study in Thailand revealed that teenagers who came from families with unresponsive parent and child interactions have a low score in each dimension of adversity intelligence (Yakoh *et al.*, 2015).

6. The Effect of Husband Support on Parenting Stress.

The result of analysis showed that husband support has a negative and direct effect on parenting stress and it was statistically significant. Mothers with high husbands support have low levels of parenting stress. The parenting process has an important component that cannot be separated from social support, especially the support of spouses or husbands (Isa *et al.*, 2016).

Husband support would improve the welfare and adaptation of mothers who have children with disabilities. A study by Ki and Joane (2014) stated that good cooperation between husband and wife could reduce the stress of parenting. Study in Japan stated that single parent mothers who have children with disabilities have higher levels of stress than mothers who have partners in parenting (Yamaoka *et al.*, 2016).

7. The Effect of Family Support on Parenting Stress.

The result of analysis showed that family support has a negative and indirect effect on parenting stress. Family support was also indirectly affected to parenting stress through husband support.

A study in India stated that high family support would reduce the stress of parenting in mothers who have children with mental disabilities (Das et al., 2017). A study in the United States in 2015 showed that family support has a significant influence on parenting stress. High family support has an impact on the quality of a good marriage relationship so that the level of parenting stress was low (Mitchell et al., 2016).

The results of this study concluded that family support has an effect on maternal parenting stress. Strong family support would decrease parenting stress among mothers who have children with disabilities.

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