

# Multivariate Analysis of Social, Economic and Environmental Factors Against Mental Retardation Events

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## ABSTRACT

**Background:** mental Retardation or RM is a serious problem for the nation. Estimation of the case RM weighing about 0.3% of the entire population and almost 3% had an IQ below 70. The prevalence of disabilities RM as a whole is not yet known for sure, but the number estimated at 1 to 3% of the entire human population (Bi et al., 2016). Other researchers in the Netherlands reported that based on the population of meta analysis revealed the prevalence of RM – 1% with Division of 85% of all cases is mild, RM RM RM 10% and Moderate heavy very heavy/5% (Iqbal and Bokhoven, 2014). The purpose of the study to find out the relationship between the social, economic and environmental factors against mental retardation incident.

**Subjects and method:** this type of research is the study of analytic observational research with approach case control. Implementation time in October-December 2016 in district of Pare Regency Kediri, East Java, Indonesia. Variables in research is the socio-economic, environmental factors and mental retardation. The sample is selected by fixed disease sampling, by comparison to 1:2 the subject of cases and controls, a number of 105 subject. Engineering data collection using the questionnaire. The data were analyzed using Logistic regression analysis using SPSS program version 21.

**Results:** there are social relations of economic families (OR = 0.31; CI = 0.13-0.76; p = 0.009) and environment (OR = 0.36; CI = 0.14-0.75; p = 0.008) and status of mental retardation.

**Conclusion:** there is a relationship of socioeconomic status and family environment with mental retardation.

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## I. INTRODUCTION

Mental retardation or RM is a serious problem for a nation. The prevalence of Genesis RM is a problem of the world that have a major impact, especially for developing countries. Nations that their citizens experienced RM will experience weakness in terms of competitiveness with other Nations. Nations that their citizens experienced RM will experience a low productivity, thus ROM. Note, avoid and overcome. Estimation of the case RM weighing about 0.3% of the entire population and almost 3% had an IQ below 70. This is certainly going to complicate conditions children because 0.1% of children require care, guidance and supervision throughout his life (UNICEF, 2013).

Mental retardation or developmental level is the State of RM intelligence under normal since birth or the children with an IQ of less than 70, associated with limitations in cognitive functioning and adaptive behavior (Dalami et al., 2013; Huang, 2016; Al-Amri et al., 2016). The prevalence of disabilities RM as a whole is not yet known for sure, but the number estimated at 1 to 3% of the entire human population (Bi et al., 2016). Other researchers in the Netherlands reported that based on the population of meta analysis revealed the prevalence of RM – 1% with Division of 85% of all cases is mild, RM RM RM 10% and Moderate heavy very heavy/5% (Iqbal and Bokhoven, 2014).

The causes of intellectual disability or RM is very heterogeneous, can be due to genetic and non-genetic factors. Included in the genetic factor is the chromosome abnormalities single gene disorders. Non genetic factors – namely, the age of the mother when she was pregnant, the social economy, environment, history of prenatal, perinatal and postnatal, also have an important role against the onset of RM (Huang et al., 2016; Iqbal and Bokhoven, 2014).

Pregnancy on the mother with age, especially after 35 years at risk childbirth the mother because the RM, often accompanied by diseases that accompany it. The social economy is everything to do with fulfilling the needs of the community, such as clothing, food, housing, education, health, and others. Socio-economic status within the family can influence the occurrence of RM in children (UNICEF, 2013; Nisbett et al., 2012). Other researchers mention mother who came from a family that has a low socioeconomic status tend to be lacking in sufficient need good nutrition to the fetus as a result babies born has a low weight and a long body and short tend to experience malnutrition, so disruption of child development (Irianto, 2014). Prenatal period is the beginning of the formation of the fetus in the mother's womb after the conception, prenatal period contribute to mortality and morbidity of mother and fetus, including neurological disorders, growth and mental development of the child. The ten factors of prenatal (mother's age, the black race mother, mother's education, a third or more parity, mothers who consume alcohol, pregnant women who smoke, DM on pregnant women, hypertension, epilepsy mother mother and maternal asthma) by increasing the significance Genesis RM (Huang et al, 2016). Perinatal i.e. difficulty during childbirth (labor, with old Partus actions that result in the occurrence of trauma in the newborn, Dystocia, abnormalities in the layout) and postnatal factors i.e. include bleeding post delivery, health and nutrition, stimulation, the protection of the elderly, cultural and abnormalities, premature (Irianto, 2014).

Environmental factors can affect the mental development, such a waiver is emotionally as well as physically. The stimulation is crucial to child development. A child who is neglected, for example, do not get enough nutrients, can be interrupted the development of the brain (AAIDD, 2010).

## **II. RESEARCH OBJECTIVES**

Based on the above description it can be concluded that the incidence of mental retardation is an important issue to do research to find out the factors associated with the incidence of mental retardation. The purpose of this research is to analyze the relationship between the family and the socio-economic environment with mental retardation.

## **III. RESEARCH METHODS**

This type of research is the study of analytic observational research with approach case control. Implementation time in October-December 2016 in district of Pare Regency Kediri, East Java, Indonesia. The independent variable is socio-economic families and the environment. The dependent variable is mental retardation. The population was divided into two, namely population cases and population control. Sampling technique used was fix disease sampling, with comparison of 1:2 between diseased (case) and not diseased (control), amounted to a total of 105 respondents. Engineering data collection using the questionnaire. The data were analyzed using Logistic regression analysis using SPSS program version 21.

#### IV. RESULTS OF THE RESEARCH AND THE DISCUSSION

##### A. Research results

##### 1. Characteristics of the subject

The results of research on the subject characteristics table 1 shows that out of 105 research subject has a different distribution. The description of the variable described research based on characteristics, criteria, frequency and percentages (%).

A comparison of the subject that mental retardation mental retardation was not balanced and that is 1:2. The majority of the subject has a low socioeconomic i.e. 56 subject research (52.3%) and has a risky environmental conditions favor the occurrence of mental retardation that is the subject of research 61 (57%).

Tabel 1 Characteristics Of The Subject

Characteristics	Criteria	Frequency	Percentage (%)
Birth Weight	Risk	52	48.6
	Not At Risk	53	50.5
Age Of Mother	< 20 years	0	0
	20 – 35 years	68	64.8
	> 35 years	37	35.2
Gender	Women	85	79.4
	Male	20	18.7
The Order Of Children	1	37	34.6
	2	34	31.8
	3	18	16.8
	4	12	11.2
	5	4	3.7

Source : The Data Is Processed, 2016

##### 2. Bivariat Analysis

Variables in research namely family socioeconomic, environmental and mental retardation. The method used was chi-square test.

Table 2 Bivariat Analysis Results

No	Independent Variable	Value OR	Value p	CI (95%)	
				The Upper Limit Of	Lower Limit
1	Family social economy	0.31	0.009	0.13	0.76
2	Environment	0.36	0.008	0.14	0.75

Source : The Data Is Processed, 2016

##### 3. Logistic Regression Multivariate analysis

Multivariate influence explains the relationship of family and social economic environment with mental retardation.

Tabel 3. Hasil Analisis Regresi Logistik Hubungan Sosial Ekonomi Keluarga dan Lingkungan dengan Kejadian Retardasi Mental

Independent Variable	OR	CI(95%)		p
		Lower Limit	The Upper Limit Of	
Family social economy	0.28	0.11	0.70	0.007
Environment	0.28	0.11	0.70	0.006

Source : Data Primer, 2016

## B. Discussion

### 1. Socio-economic relations of families with Mental Retardasi Events

Low socioeconomic will increase the incidence of RM. Education is the process of changing the attitudes and behaviour of a person or group that is in the business of mendewasakan through the efforts of human guidance, instruction and training for a role in the future (RI ACT No. 20, 2013). High education will make it easier for someone to find and receive information so that the more knowledge anyway, and no doubt will get a job and a better income. This is in accordance with the research conducted by Hunter et al (2013) in the USA mentioned that low socioeconomic (education and low wages are low < \$25,000) will increase the incidence of Down Syndrome 2.17 times. Down Syndrome is the cause of most incident RM.

Low socioeconomic played an important role for the survival of premature babies with, children who experience impaired growth and development of both congenital and in the can after birth. A baby who was born at 28 weeks gestation and < life from parents with low socioeconomic 90% will experience death compared with 10% of premature babies from families with high socioeconomic (Rogers and Hintz, 2016).

### 2. Environmental Relations with Mental Retardation

A risky environment will increase the incidence of RM is higher than with an environment that is not at risk. The results of this study in accordance with the research in Brazil conducted by Karam et al (2016) that mental Retardation caused by environment (44.4%), genetic (20.5%), idiopathic (12.6%), neonatal sequelae (13.2%), other diseases (9.3%), meaning that 40% of children caused by factors nonbiologis RM, and this shows that the incidence of RM can be suppressed or reduced with the right interventions early in life.

The neighborhood is divided into major groups namely physical environment, biologically and mentally. The third major group in the environment cannot be separated because it is a unity and can be interconnected and affect each other. Living beings formed by the surrounding environment and can be changed to respond to environmental changes that occur in the vicinity (Sembel and Tje, 2015). Environment function as a provider of the basic needs of the child to grow and develop (UNICEF, 2013) and environment affect the disability Intellektual or RM (Reichenberg et al, 2015). Children who live in the House with paint containing lead (Pb) are at risk of poisoning (Pb) and lead to Intellectual Disability (Irianto, 2014).

The right interventions early in life as expressed by Karam et al (2016) here is absolutely right. Fulfilling the needs of good nutrition in the family is very important, in addition to the granting of full immunization, breast feeding exclusively on babies, order the parents to come to stimulasi for the posyandu and monitor the growing swell of children, hygiene and good sanitation in the family, physical freshness and recreation are the efforts undertaken as early intervention to become a healthy human physical as well as spiritual, will thus avoid Genesis RM.

## V. CONCLUSION

There is a relationship of socioeconomic status and family environment with mental retardation.

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