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Original Article

Behavior and emotional problems in children with mental retardation

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ABSTRACT

Background Behavior and emotional problems in a mentally retarded child can inhibit the educational process of the child.

Objectives The aims of this study were to find out the prevalence of behavior and emotional problems in children with mental retardation as reported by parents and to assess associated risk factors consisting of mother's psychopathology, marital discord, male sex, child's age, socioeconomic status, and family size.

Methods This cross sectional study was carried out on 63 children with mental retardation in a school for retarded children, SLB C Asih Budi I, from January until March 2003. Parents were interviewed at school and home using special questionnaires, the Child Behavior Checklist (CBCL) and Symptom Checklist-90 (SCL-90).

Results The prevalence of behavior and emotional problems in this study was 52%. The majority of behavior and emotional problems were anxious/depressed (18%) and withdrawn (16%). Male sex and age group of 12-18 year-old were not risk factors of behavior and emotional problems (OR=0.49, p=0.190 and OR=1.14, p=0.94, respectively) while socioeconomic status, family size, and mother's psychopathology were risk factors (OR= 4.08, p=0.008; OR=4.17, p=0.014; OR=9.28, p=0.018; respectively). There was a correlation between behavior and emotional problems of children and marital discord.

Conclusion The prevalence of behavior and emotional problems was 52% in which the majority was internalizing disorder. Risk factors for behavior and emotional problems were mother's psychopathology, four or more children in the family, low socioeconomic status, and marital discord **[Paediatr Indones 2004;44:90-94].**

Keywords: *mental retardation, Child Behavior Checklist, Symptom Checklist-90, risk factor, behavior problem, emotional problem.*

Mental retardation is a life-long disability; about 120 million of people in the world suffer from this disability. Mental retardation may cause public health, social welfare, and educational problems in the affected child as well as his nearby surrounding.[1-3] The prevalence of mental retardation in developed countries is 1-3%, while in developing country is approximately 4.6%.[1,4,5] The prevalence of mental retardation in Indonesia is approximately 3% according to the 1st Asian Conference of Mental Retardation (1973) in Manila.[1,3]

Behavior and emotional problems in a mentally retarded child are problems that can inhibit the educational process of the child. In previous studies, we only found a few researches that assessed the behavior and emotional problems in children with mental retardation; most of the studies examined the emotional problems of the parents. Phillips *et al*[6] found that 39% of mentally retarded children were aggressive and hyperactive while Hauser[7] reported that 30-70% of them had psychiatric problems. Investigators had found rates of internalizing disorders between 3-15% among persons with mental retardation, as compared with rates of 2-5% in the general population. Thinking disorders are generally estimated to occur in about 3% of persons with mental retardation, versus the 1% rate for the general population. Estimation of conduct disorders ranged from 12% to 45%, as compared with 3% to 4% in the general population.[8] Prasadio found that

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90% of children with mental retardation in Yogyakarta have psychiatric problems.[3] Many characteristics of children, families, and social context had been identified as placing children at risk for behavior and emotional problems. Garmezy[9,10] had defined risk factors as those factors that, if present, increase the likelihood of a child to develop behavior or emotional problems in comparison with a randomly selected child from the general population, such as parents' psychopathology (especially mother's psychopathology), marital discord, male sex, child's age, socioeconomic status, family size, alcoholism, family problems, parent-child relationship, temperament of the child, physical handicap, and neurological damage. The aims of this study were to find out the prevalence of behavior and emotional problems in children with mental retardation as reported by parents and to assess six associated risk factors consisting of mother's psychopathology, marital discord, male sex, child's age, socioeconomic status, and family size.

Methods

This was cross sectional study on all children with mental retardation at SLB C Asih Budi I Central Jakarta from January until March 2003. Subjects were 4 to 18 years of age. The estimated sample size using formula gave 63 subjects. Subjects were selected by consecutive sampling from all 70 students with mental retardation in SLB C Asih Budi I.

The methods consisted of interviews with parents at school and home using special questionnaires, Child Behavior Checklist (CBCL) and Symptom Checklist-90 (SCL-90). The questionnaires included items of child age, gender, intelligence quotient (IQ), parents' education, parents' age, socioeconomic status (SES), marital discord, and total number of children in the family.

The CBCL, completed by the mothers, was used as a measure of behavior and emotional problems of their child. The instrument consisted of 118 items with 3-point responses of not true (score 0), somewhat or sometimes true (score 1), and very or often true (score 2). The behavior and emotional problems comprised 118 items which yielded a total problem score, nine narrow-band subscale scores (withdrawn, somatic complaints, anxious/depressed, social problems, thinking problems, attention problems, delinquent behavior, aggressive behavior, and sex problems) and two broad-band scores (externalizing, internalizing).[11,12]

The SCL-90, completed by the mothers, was used to examine psychopathology of the mothers. The instrument consisted of 90 items describing symptoms in one month later, with 4 points of 0 to 4. The items were summed to create a total score. The cut off point to assess psychopathology of the mothers was 61. If the total score was equal or above 61, a mother was defined as having psychopathology.[13]

Classifications of mental retardation according to The ICD-10 Classification of Mental and Behavioral Disorders WHO were mild (IQ 50-69), moderate (IQ 35-49) and severe mental retardation (IQ 20-34).[1]

The parents' education degrees were determined based on formal education, consisted of low education (primary school, junior high school), middle education (senior high school), and high education (academy, university level).

Socioeconomic (SES) was measured by income per month per capita according to Balai Pusat Statistik Jakarta i.e., (1) Low SES, if the income was below 100,000 rupiahs/month/capita, (2) Middle SES, if the income was 100,000-300,000 rupiahs/month/capita, (3) High SES, if the income was more than 300,000 rupiahs/month/capita.[14]

The age of children was classified into two groups of 4-11 years old and 12-18 years old according to the CBCL grouping and Offord[15] study, which found that age group of 12-16 years was a risk factor for behavior and emotional problems compared with age group of 4-11 years.

Family size was measured by total number of children in a family, classified into two groups i.e., four or more children and less than four children. Seifer *et al*[16] reported that four or more children in the family was a risk factor for behavior and emotional problems in children.

Data were analyzed by SPSS 11.5. Odds ratio (OR) was used to find out the relationship between risk factors and behavioral and emotional problems. Kendall and Spearman correlation was used to find out the correlation between variables.

Results

There were 70 children in the source population, three of them had ages of more than 18 years, one did not live with his mother, and three parents did not consent to involve in this study. The remained 63 children became the study subjects.

Table 1 shows the characteristics of the subjects, including gender, age, grade of mental retardation, parents' education, socioeconomic status, family size, marital discord, and mother's psychopathology. The number of male subjects outnumbered female (65% vs. 35%). Most of the subjects (71%) were children 12 to 18 years of age. Grades of mental retardation were mild (75%), moderate (19%), and severe mental retardation (6%). The majority of parents' educational levels were middle and high education.

The prevalence of behavior and emotional problems in this study was 52%. The majority of behavior and emotional problems were anxious/depressed (18%) and withdrawn (16%). **Table 2** shows that there was no significant association between behavior and emotional problems and gender of children (p=0.190). In this study we found that male sex was not a risk factor for behavior and emotional problems (OR=0.49). There was no significant association between behavior and emotional problems and age of children (p=0.94). The age of children was not a risk factor for behavior and emotional problems (OR=1.14). Table 2 shows that socioeconomic status was a risk factor for behavior and emotional problems in mentally retarded children (OR= 4.08, p=0.008). Four or more children in the family was also a risk factor of behavior and emotional problems. There was a significant association between behavior and emotional problems and mother's psychopathology (p=0.018). Statistical analysis with Kendall and Spearman correlation found that there was a correlation between behavior and emotional problems and marital discord.

TABLE 1. CHARACTERISTICS OF SUBJECTS

	n	%
Gender		
Male	41	65
Female	22	35
Age		
4-11 years	18	29
12-18 years	45	71
Grade of mental retardation		
Mild	47	75
Moderate	12	19
Severe	4	6
Education of father		
Low	3	5
Middle	31	49
High	29	46
Education of mother		
Low	7	11
Middle	37	59
High	19	30
Socioeconomic status		
Low SES	4	6
Middle SES	26	41
High SES	33	52
Family size		
Children ³4	20	32
Children <4	43	68
Marital discord		
Yes	4	6
No	59	94
Psychopathology of mother		
Yes	9	14
No	54	86

Discussion

We found that prevalence of behavior and emotional problems in this study was 52%, which is in accordance

TABLE 2. RELATIONSHIP BETWEEN BEHAVIOR/EMOTIONAL PROBLEMS AND SIX RISK FACTORS

Risk factors	Odds ratio	95% CI	p
Male sex	0.49	0.17;1.43	0.190
Age	1.14	0.38;3.41	0.94
Socioeconomic status	4.08	1.42;11.72	0.008
Family size	4.17	1.28;13.55	0.014
Mother's psychopathology	9.28	1.08;79.39	0.018
Marital discord*			

*Correlation with Kendall and Spearman

with Hauser[7] that reported 30-70% of children with mental retardation had psychiatric problems. The majority of behavior and emotional problems were anxious/depressed (18%) and withdrawn (16%), both are internalizing disorders. Kim *et al*[8] reported rates of internalizing disorders of 3-15% among person with mental retardation.

Offord *et al,*[15] Garmezy,[9,10] Rutter[9] reported that male sex were risk factors for behavior and emotional problems. This study found that there was no association between behavior and emotional problems and gender. Offord *et al*[15] found that age group of 12-16 years old was a risk factor for behavior and emotional problems compared with age group of 4-11 years old. We found that there was no association between child's age and behavior and emotional problems. The result of this study was different from the previous report because the subjects in previous report were normal children compared with mentally retarded children in this study and the number of subjects in this study was limited.

Low socioeconomic status is a risk factor for behavior and emotional problems in child population, as reported by Seifer *et al,*[16] Rutter,[9] Garmezy,[9,10] and Raadal *et al.*[17] The results of this study confirmed the previous reports.

Seifer *et al*[16] reported that four or more children in the family was a risk factor for behavior and emotional problems of children. This study found that there was a significant association between behavior and emotional problems and family size which supported the previous report.

This study found that there was a correlation between behavior and emotional problems of children and marital discord. In this study we could not count the odds ratio because of zero value in the table. Kendall correlation was used to determine the correlation between behavior and emotional problems and marital discord. Although the number of subjects with marital discord was only four subjects, this study confirmed the Garmezy's research.

There was a significant association between behavior and emotional problems and mother's psychopathology ($p=0.018$, $OR=9.28$). The result of this study confirmed the previous studies as reported by Garmezy,[9,10] Seifer *et al,*[16] and Rutter.[9]

We concluded that the prevalence of behavior and emotional problems as reported by mother was 52.4%. The majority of behavior and emotional was internalizing disorder. Male sex and age group of 12-18 years were not risk factors for behavior and emotional problems. Risk factors for behavior and emotional problems were mother's psychopathology, four or more children in the family, low socioeconomic status, and marital discord.

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