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SPECIAL NEEDS CHILDREN PROFILE IN BANYUMAS DISTRICT, CENTRAL JAVA PROVINCE, INDONESIA

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ABSTRACT

Introduction: Indonesia had increase the amount of children with special needs. Most of special needs biggest problem is related with social communication, especially social responsiveness impairment. Children with special needs are always claimed as people who are strange or have mental issues.

Objective: The aim of this study to identify the characteristic of special needs children and compare the social responsiveness between normal children and special needs population.

Methods: The study used cross sectional approach included 334 children consist of 245 normal children and 89 special needs children. Study population were in Banyumas district, Province of Central Java, Indonesia. Study used questionnaires that filled independently. Its content characteristics and social responsiveness and behavior factors using Indonesian version of modified Social Responsiveness Scale.

Results: Most of children with special needs were boys and had a history of sickness or injuries during 5 y.o. From 89 special needs children, 53 children were diagnosed as autism, 11 children were cerebral palsy, 9 children were ADD/ADHD, 5 children with down syndrome, 2 children with mental retardation, and 9 children had other special needs diagnosed.

Conclusions: Most children with special needs had an impairment of social responsiveness. Continuing screening and therapy will help children with special needs to have better social communication capacity in the community.

Keywords

Social behavior, responsiveness, autism, special needs, communication

Introduction

According to the World Health Survey, around 785 million (15.6%) persons 15 years and older live in disability condition. Meanwhile, the Global Burden of Disease estimated a figure of around 975 million (19.4%) persons (WHO, 2011). There are several categories of children with special needs such as autism, deaf-blindness, deafness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain

injury, and visual impairment (including blindness) (Individuals with Disabilities Education Act (IDEA), 2012)

Children with special needs, especially with neurogenetic disorder such as autism, cerebral palsy, down syndrome, mental retardation, and other experience some difficulties with social adaptation. Because of these problem, most of children with special needs experienced of bully in peer group. Some parents also afraid to let their children interact with society and made the situation became worst. The aim of this study was to identify the characteristic of various diagnoses of special needs children

Study setting and design

This cross sectional study was carried out at community in Banyumas District, Province Central Java, Indonesia. It was conducted over a period four month from October 2017 to January 2018.

Study Population

The sample included 334 children in Banyumas District, Province of Central Java, Indonesia. Consist of 245 normal children and 89 special needs children previously identified by health practitioner and clinical psychologist in Banyumas Autism Care Project (BACP) event. The inclusion criteria of consisted by children with age between 2-18 years old, and with parents agreement in informed consent after given explanation about research . Whereas, exclusion criteria were special needs children with non-neurogenetic conditions (e.g., blind, amputated, etc).

Measurements

This study used questionnaire consist of demography data. Participants was the parents of children and fill independently the questionnaire with accompany by fasilitator if there were question need confirmation.

Data collection

Data collected from parents of children ages 2-18 years old with significantly diagnosed using DSM 4 and DSM 5 by professional practitioners then grouped by diagnosed consist of normal children, autism children, and other special needs children during four month using questionnaire consist of demographic factors

Results and Discussion

Three hundred and thirty four respondent were participate in this study. Characteristics of participants shows in Table 1. Table 1 shows the characteristics of children include normal, autism, and others special needs diagnosed. Consist of sex, age, diagnose, parents age, parents education, History of sickness and injury at first 5 yo, and History of nutrisional state at first 5 yo.

Table 1. Characteristics of Children

Characteristics	Special needs		Normal	
	n= 89	%	n =245	%
Sex				
Boys	68	76.4	99	40.4
Girls	21	23.6	146	59.6
Age				
Boys				
2-5 yo	15	16.8	35	35.3
6-12 yo	35	39.3	46	46.5
13- 18 yo	18	20.2	18	18.2
Girls				
2-5 yo	5	5.6	56	38.5
6-12 yo	10	11.2	72	49.3
13- 18 yo	6	6.7	18	18.2
Mother age				
< 20 tahun	3	3.4	29	11.8
20-30	52	58.4	148	60.4
31-40	31	34.8	68	27.8
>41	3	3.4	-	-
Father age				
< 20 tahun	-	0	5	2
20-30	42	47.2	126	51.4
31-40	38	42.7	92	37.6
>41	9	10.1	22	9
Parents education				
Father				
Not educated	-	0	11	4.5
Elementary	8	9	60	24.5
Junior high school	9	10.1	38	15.5
Senior high school	32	35.9	84	34.3
High educated	40	45	52	21.2
Mother				
Not educated	2	2.2	7	2.9
Elementary	14	15.8	60	24.5
Junior high school	8	9	47	19.2
Senior high school	33	37.1	80	32.7
High educated	32	35.9	51	20.8
History of sickness and injury at first 5 yo				
Falls	16	18	5	2
Meningitis	1	1.1	1	0.4
Seizure with fever	11	12.4	8	3.3
Seizure without fever	5	5.6	1	0.4
Toxic	4	4.5	1	0.4
Allergic	4	4.5	1	0.4
Infection disease	6	6.7	3	1.2
None	42	47.2	225	91.8
History of nutrisional state at first 5 yo				
Malnutrition	6	6.7	5	2
Adekuat	75	84.3	236	96.4
Over nutrition	8	9	4	1.6

Most of children with special needs were boys (76.4%). Both are dominated by the school age range (6-12 years). The ratio of ASD in men to women is reported to be 4.5: 1 (Christensen et al., 2018). Despite the fact, many neurodevelopmental disorders experience male bias, including attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) and intellectual disability (Werling and Geschwind, 2013). Disproportionate neurodevelopment (neuronal development) disorders are more common in male sex. The mechanisms underlying male vulnerability and protection for women are unknown and are still being studied.

Respondents were dominated by the age range of 6-12 years old was because the researchers took samples from special schools in the Banyumas area and its surroundings. Because in Indonesia the data distribution of children with special needs in the community has not been accurately and completely recorded, but data on children who have special needs who attend school are quite well recorded. So the researchers used the data recorded at the Banyumas Education Office and its surroundings to find children with special needs. Therefore, the age range of respondents is dominated by school age. The age of both parents is the age of the mother and father when pregnant with the child and is dominated by the productive age (20-30 years).

Paternal age (father) and maternal age (mother) during the conception of children diagnosed with special needs disorder.

The education of both parents was senior high school education and high educated. The presence of children with special needs in a family is not due to the educational status and social status of the parents. Initially, the birth of a child with special needs was thought to be due to the lack of knowledge of the parents, especially mothers in the prenatal, perinatal and post-natal periods, regarding the fulfillment of nutrition and health care during the child's pregnancy period. However, currently this allegation has shifted and it is suspected that there are other factors that are more related to the birth of children with special needs, namely genetic factors from both parents and the environment, in this case air pollution, contamination of foodstuffs with other toxic substances.

Based on history of sickness or injuries when the child was 0-5 years old, a predominant history of falls and febrile seizures was found (falls 18% and febrile seizures 12.4%). Child sickness history at 0-5 years old includes diseases that are susceptible to neurodevelopmental disorders such as seizures, head injuries, respiratory infections, and other infectious diseases. Individuals who experience seizures during childhood are at

risk of developing psychiatric illness in adolescence and early adulthood. Seizures in infancy are not only susceptible to mental illness in childhood, but may continue to the next stage of life (Dreier et al., 2019).

The history of the nutritional status of children aged 0-5 years was generally dominant in an adequate nutritional status (84.3% and 96.4%). A study in India showed that exclusive breastfeeding for six months in children was associated with a lower risk of developing ASD (Ravi et al., 2016). Exclusive breastfeeding of infants with breast milk only, and no other food or fluids for six months has several advantages over exclusive breastfeeding for three to four months followed by mixed breastfeeding. One of the advantages of just six months of breastfeeding is the lower risk of developing gastrointestinal infections in infants (WHO, 2011). The practice of feeding, especially breastfeeding during a critical phase of child development plays an important role in the development of the immune and nervous systems. Breast milk components such as IgA, alter IGF- β , interleukin-10, erythropoietin, and lactoferrin stimulate host defenses in the gut and prevent inflammation (Walker, 2010).

Table 2. Diagnose of special needs (n= 89)

Diagnose of special needs	n	%
Autism	53	59.6
ADD/ADHD	9	10.1
Cerebral palsy	11	12.4
Down Syndrome	5	5.6
Mental Retardation	2	2.2
Others	9	10.1

In this study, children with special needs were mostly diagnosed as autism. From 89 special needs children, 53 children were diagnosed as autism, 11 children were cerebral palsy, 9 children were ADD/ADHD, 5 children with down syndrome, 2 children with mental retardation, and 9 children had other special needs diagnosed. Children with ASD experience more frequent infectious diseases during their early life, namely in the first 30 days of birth and are at higher risk for certain types of infections, such as genitourinary and gastrointestinal infections, ear and respiratory tract infections.

Conclusion and recommendations

Fifty percent of children with special needs in this study were diagnosed with autism spectrum disorder. People with special needs are dominated by boys with an age range of 6-12 years.

These children had a history of pain and injuries between 0-5 years of age, with adequate nutritional status. The age of the father and mother at conception are of good reproductive age and have a good level of education and social status. In conclusion, the factors of history of illness and falls may be related to the incidence of ASD and other special needs. However, there are other suspected factors that may cause the incidence of special needs, such as genetic factors from both parents and the environment, in this case air pollution, contamination of foodstuffs with other toxic substances.

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Conflict of interest

None declare.

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