

The effect of health education on the anxiety level of families with mentally retarded children

Pengaruh Pendidikan Kesehatan terhadap Tingkat Kecemasan Keluarga dengan Anak Retardasi Mental

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ABSTRACT

Background: Limited intellectual abilities in children with mental retardation have an impact on low learning ability and difficulty in adapting to social demands. This causes anxiety in the family of a mentally retarded child due to fears for the condition and future of the child.

Objective: This study aimed to analyze the effect of health education on the level of anxiety in families with mentally retarded children in State Special Needs School Bangkinang Kota.

Methods: This quantitative study employed a quasi-experimental design without a control group. The research was conducted at State Special Needs School Bangkinang Kota on May 6, 2024. The population consisted of 64 families with children with intellectual disabilities. A purposive sampling technique was used, with 25% of the population selected as participants, resulting in a total sample of 16 respondents. Anxiety levels were assessed using the Hamilton Anxiety Rating Scale (HARS).

Results: Based on the Paired Sample T-test test showed that there were differences in anxiety levels before and after health education with a p value of 0.000.

Conclusion: This means that there is an influence of health education on the level of anxiety of families with mentally retarded children in State Special Needs School Bangkinang Kota. The school is expected to provide health education to families about mental retardation.

Keywords: family anxiety, health education, mentally retarded children

ABSTRAK

Latar Belakang: Anak-anak dengan disabilitas intelektual sering mengalami keterbatasan dalam fungsi kognitif, yang mengakibatkan berkurangnya kapasitas belajar dan kesulitan dalam beradaptasi dengan ekspektasi sosial. Kondisi ini sering berkontribusi pada kecemasan yang meningkat diantara anggota keluarga, terutama mengenai kondisi anak saat ini dan prospek masa depan.

Tujuan: Penelitian ini bertujuan untuk mengkaji pengaruh pendidikan kesehatan terhadap tingkat kecemasan keluarga dengan anak terdiagnosis disabilitas intelektual di SLB Negeri Bangkinang Kota.

Metode: Penelitian kuantitatif ini menggunakan desain quasi eksperimen tanpa kelompok kontrol. Penelitian dilaksanakan di State Special Needs School Bangkinang Kota pada tanggal 6 Mei 2024. Populasi penelitian terdiri dari 64 keluarga yang memiliki anak dengan disabilitas intelektual. Teknik pengambilan sampel menggunakan purposive sampling dengan jumlah sampel sebanyak 25% dari populasi, sehingga diperoleh 16 responden. Tingkat kecemasan diukur menggunakan Hamilton Anxiety Rating Scale (HARS).

Hasil: Hasil uji-T sampel berpasangan menunjukkan perbedaan yang signifikan secara statistik dalam tingkat kecemasan sebelum dan sesudah intervensi ($p= 0,000$).

Kesimpulan: Temuan ini menunjukkan bahwa pendidikan kesehatan berpengaruh signifikan terhadap penurunan tingkat kecemasan pada keluarga dengan anak disabilitas intelektual di SLB Negeri Bangkinang Kota. Oleh karena itu, disarankan agar lembaga pendidikan secara aktif memberikan program pendidikan kesehatan kepada keluarga untuk meningkatkan pemahaman mereka tentang disabilitas intelektual.

Kata kunci: kecemasan keluarga, pendidikan kesehatan, disabilitas intelektual

INTRODUCTION

The family is considered the primary unit of human life, typically consisting of parents and their children. Although the concept of family has evolved with social change, it is generally understood as a group of two or more individuals who share an emotional bond and recognize themselves as part of the same family unit.¹

Children are an essential component of the family unit. Generally, they are defined as individuals under the age of 18 who are undergoing a developmental process encompassing physical, psychological, social, and spiritual dimensions.² According to Law No. 23 of the Republic of Indonesia in 2002, a child is defined as any individual under the age of 18, including those still in the womb. Meanwhile, Law No. 4 of 1979 defines a child as an unmarried person who has not reached the age of 21.³

Every family hopes their children can achieve optimal growth and development, both physically and psychologically. However, in reality, not all children follow a typical developmental pattern, as some have special needs. Children with special needs are those who exhibit significant differences in physical, cognitive, emotional, or social aspects, requiring specialized care and support. These conditions may include hearing impairments, visual impairments, speech difficulties, physical disabilities, intellectual disabilities, and emotional disturbances. Furthermore, children with exceptional intelligence are also considered part of this group, as they require specialized educational and developmental support.⁴

American Association on Mental Retardation (AAMR) defines intellectual disability as a condition that manifests before age 18 and is characterized by significant limitations in intellectual functioning and adaptive behavior, including conceptual, social, and practical adaptive skills.⁵ Intellectual disability is a condition characterized by limited cognitive abilities, resulting in difficulties in learning and adapting to generally accepted social demands. This condition is generally characterized by below-average intellectual functioning ($IQ < 70$), accompanied by significant impairment in adaptive functioning.⁶

According to a 2022 World Health Organization (WHO) report, approximately 1.3 billion people, representing about 16% of the global population, live with significant disabilities.⁷ In Indonesia, more than 80,000 people were reported to have intellectual disabilities in 2017. Approximately 3% of the general population is estimated to have an intelligence quotient (IQ) below the mean. Among individuals with intellectual disabilities, approximately 80-90% are classified as mild, while only about 5% have severe to profound disabilities. This prevalence increased by approximately 25% in 2018.⁸

Research findings indicate that parents, especially mothers, of children with intellectual disabilities are more likely to experience anxiety and psychological distress during the caregiving process. The level of anxiety is associated with the child's characteristics, particularly the severity of the condition; more severe disorders tend to impose a greater psychological burden on the family. Family anxiety is also influenced by the social stigma surrounding intellectual disabilities, as well as the family's limited ability to cope with stress. These factors can reduce the family's capacity to provide optimal care, ultimately hindering the child's development. Therefore, managing families

with children with intellectual disabilities highlights the importance of interventions that address not only the child but also the family as an integrated system.⁹

One possible intervention is providing health education to families regarding intellectual disabilities. Health education is a structured approach that aims to improve health-related behaviors and foster supportive psychological conditions, thereby helping reduce anxiety among families with children with intellectual disabilities.¹⁰

Previous studies have shown a significant association between health education and anxiety levels among patients undergoing preoperative care for scrotal hernia, with a p value of 0.000 (≤ 0.05).¹¹ Another study found that health education had a significant effect on anxiety levels in patients scheduled for major surgery at Nene Mallomo Hospital, Sidenreng Rappang Regency, with a p-value of 0.001 (≤ 0.05).¹²

A preliminary study involving observations of five families awaiting their children at the Bangkinang City State Special Needs School revealed signs of anxiety among family members. These manifestations included occasional shortness of breath, tense facial expressions, trembling lips, clenched fists, and fidgeting while sitting. Further interviews revealed that families were concerned about their children's future, particularly the possibility of leaving them without adequate support if they died. These findings suggest that families of children with intellectual disabilities experience significant anxiety. Based on these observations, this study aims to evaluate the effect of health education on the anxiety levels of families with children with intellectual disabilities at the Bangkinang City Special Needs School.

METHODS

Study design

This study employed a quantitative research design with a quasi-experimental approach without a control group. The study was conducted at the Bangkinang City State Special Needs School on May 6, 2024.

Data sources and sampling procedures

The study population consisted of all 64 families with children with intellectual disabilities at the school. The sample included families whose members experienced anxiety related to their child's condition. The sampling method used was proportional sampling, selecting 10-30% of the population in accordance with quasi-experimental research guidelines.¹³ Another perspective suggests that an appropriate sample size for experimental research ranges between 10 and 20 respondents. In this study, 25% of the total population was selected, resulting in a sample of 16 families, each represented by one family member, either the father or the mother.

The sampling technique applied in this study was purposive sampling, which involves selecting participants based on predetermined inclusion and exclusion criteria, in line with the research objectives rather than population stratification. Inclusion criteria included families who were willing to participate as respondents, able to read and write, and who had two or more individuals living in the same household, related by blood or adoption. Exclusion criteria included families who were not biologically related, refused to participate, or did not have a child with an intellectual disability.¹³

Variable of study

The independent variable in this study was health education provided to families of children with intellectual disabilities. The dependent variable was the level of anxiety among families with mentally retarded children

Measurement and instrument

Prior to the intervention, family anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS). A health education session was then conducted using multimedia tools, followed by a post-intervention assessment using the same instrument

to evaluate changes in anxiety levels. The instrument used in this study was a questionnaire designed to assess anxiety levels in families with children with intellectual disabilities, using the Hamilton Anxiety Rating Scale (HARS), which consists of 14 items reflecting various symptoms experienced by respondents.

Data collection

The health education intervention began with a needs assessment, identifying key concerns among families, including anxiety related to the child's condition, future independence (such as the ability to live independently, find employment, and maintain social relationships), educational challenges (learning ability and access to appropriate education), caregiving responsibilities, and social stigma. Based on these findings, this study aimed to provide health education to families of children with intellectual disabilities who were experiencing anxiety.

The intervention consisted of a health education session lasting approximately 45 minutes. The material was delivered using PowerPoint presentations, supported by handouts distributed to participants. The educational content included an overview and characteristics of intellectual disabilities, care and management strategies, special education and supportive therapies, guidance on maintaining children's physical and mental health, access to health and educational services, behavior management, and information on available family and community support systems.

Ethical consideration

Prior to data collection, ethical approval was obtained from the Institute for Research and Community Service (LPPM) of Pahlawan Tuanku Tambusai University, under approval number 024/LPPM/UPTT/IV/2024. This approval confirms that the research complies with the ethical standards established by the institution. All participants participated voluntarily after receiving a clear explanation of the research objectives and providing informed consent. Furthermore, respondent confidentiality and anonymity were strictly maintained throughout the research process.

Data analysis

Data were analyzed using paired sample t-tests to examine differences in anxiety levels before and after the intervention.

RESULTS

Table 1. Respondent characteristics

| Characteristics | n | (%) |
|---------------------------|----|-------|
| Religion | | |
| Islam | 16 | 100 |
| Age | | |
| 26-35 years old | 6 | 37.5 |
| 36-45 years old | 10 | 62.6 |
| Total | 16 | 100 |
| Gender | | |
| Male | 2 | 12.5 |
| Female | 14 | 87.5 |
| Total | 16 | 100 |
| Level of education | | |
| Elementary School | 1 | 6.25 |
| Junior High School | 1 | 6.25 |
| Senior High School | 9 | 56.25 |
| Diploma/Bachelor's Degree | 5 | 31.25 |
| Total | 16 | 100 |
| Occupation | | |
| Unemployed/Housewives | 8 | 50 |

| Characteristics | n | (%) |
|----------------------|----|-------|
| Trader | 4 | 25 |
| Government employees | 1 | 6.25 |
| Private | 3 | 18.75 |
| Total | 16 | 100 |

Based on Table 1, all respondents were Muslim (100%). Most respondents were aged 36–45 years (62.5%), female (87.5%), had a senior high school education level (56.3%), and were unemployed or housewives (50%).

Table 2. Average anxiety levels before and after health education was provided in families of mentally retarded children

| Variables | Mean | Min-max | SD |
|----------------------|-------|---------|-------|
| Anxiety level before | 15.38 | 8-26 | 6,479 |
| Anxiety levels after | 9.50 | 3-19 | 4,913 |

Table 2 shows that the average anxiety level of respondents before receiving health education was 15.38, while the average anxiety level of respondents after receiving health education was 9.50.

Table 3. Comparison of average anxiety levels before and after health education was provided in families of mentally retarded children.

| Variables | Mean | Mean Difference | SD | SE | p-value | N |
|---------------------------------------|-------|-----------------|-------|-------|---------|----|
| Anxiety level before health education | 15.38 | 5,875 | 6,479 | 1,620 | 0,000 | 16 |
| Anxiety level after health education | 9.50 | | 4,913 | 1,228 | | |

Table 3 shows that the mean anxiety score decreased from 15.38 before health education to 9.50 after the intervention, with a mean difference of 5.875. The Paired Sample t-test showed a p value of 0.000 ($p \leq 0.05$), indicating a significant difference in family anxiety levels before and after health education.

DISCUSSION

Based on the data obtained, all respondents were Muslim. Religious values play a role in influencing anxiety levels, as religion teaches its followers to strive (ikhtiar) towards a predetermined destiny and accept it sincerely (tawakal). Individuals with strong religious beliefs also perceive that everything that happens is God's will. A study titled "The Relationship of Religiosity and Anxiety among University Students: A Case Study at Kunduz University" found that as religiosity increases, anxiety levels tend to decrease. Religiosity has a significant inverse relationship with anxiety, meaning that a 1% increase in religiosity leads to a 0.271% decrease in anxiety. In the study, all respondents were also Muslim. Furthermore, a person's beliefs about their illness or personal condition can also influence their anxiety levels.¹⁵

The majority of respondents were categorized as late adults, with a total of 10 people (62.6%). According to experts, anxiety levels tend to be highest during adolescence and early adulthood, then gradually decline with age, although certain older individuals remain susceptible to anxiety.¹⁶ Research using meta-analyses and cross-age reviews has concluded that the prevalence of anxiety and depression tends to decrease with age. Older age appears to be inherently associated with a lower risk of anxiety, which may be linked to reduced emotional reactivity, improved emotional regulation, and greater psychological resilience to stress.¹⁷

In this study, the majority of respondents were women, totaling 14 people (87.5%). Women consistently showed a higher prevalence of anxiety disorders than men. Gender differences in anxiety disorders, as outlined in the DSM-IV, were examined in a large sample of adults (N = 20,013) in the United States using data from the Collaborative

Psychiatric Epidemiology Studies (CPE). The 12-month prevalence ratio of anxiety disorders was approximately 1:1.7 to 1:1.79 (men to women)..¹⁸

The majority of respondents in this study had a high level of education, namely high school (9 respondents (56.25%) and diploma/bachelor's degree (5 respondents (31.25%). The study, entitled "*Educational attainment and anxiety in the middle-aged and older Europeans*" The results showed that the higher the level of education, the lower the likelihood of someone experiencing symptoms of anxiety.¹⁹

The study, "well-being of parents of children with disabilities - does employment status matter," found that employment positively impacts the well-being of parents of children with intellectual disabilities. Employed parents tend to have broader social networks and greater social support, which can increase well-being and help reduce anxiety levels. In this study, eight respondents (50%) were employed.²⁰

These findings indicate a decrease in the average anxiety level among families with children with intellectual disabilities after the health education intervention. The average anxiety score before the intervention was 15.38 (SD = 6.479), which decreased to 9.50 (SD = 4.913) after the intervention. The average difference of 5.875 between the pre- and post-intervention scores reflects a significant improvement. These results are consistent with the study by Shanti and Rodiyah (2023), who reported that family psychoeducation significantly influenced the coping mechanisms of families with children with intellectual disabilities, with a p-value of 0.002.²¹

Health education is an independent nursing intervention designed to assist individuals, families, groups, and communities in addressing health-related problems through a learning process, with nurses as educators.²² Health education is an activity or effort aimed at helping individuals, groups, or communities improve their abilities (behaviors) to achieve optimal health, including emotional and psychological well-being. The results of health education are reflected in behavioral changes that promote better health, starting with increased knowledge and understanding, followed by awareness in the form of positive attitudes toward health, and ultimately expressed through actions that support well-being. In this context, providing health education can be an effective approach to help manage anxiety levels in families with children with intellectual disabilities.

Health education offers new insights, helping to alleviate tension and fear in individuals who are anxious about their experiences. By increasing knowledge, it can contribute to reducing anxiety related to the situations they face.²³ Another study found that health education had a significant effect on anxiety in primigravida women facing childbirth, as indicated by a p-value of ≤ 0.05 .²⁴

Another study entitled "the influence of health education on anxiety levels in patients with major preoperative results" found that there was an influence of health education on anxiety levels in patients with major preoperative results.¹² Another study found that there was an influence of pre-operative health education on the level of anxiety in pre-operative hernia patients at Kudus Regional Hospital.¹¹

This study has several strengths. First, it contributes to scientific research by offering empirical evidence that health education can reduce anxiety levels in families with children with intellectual disabilities. These findings highlight that non-pharmacological interventions, such as education, can be an effective, low-cost, and easily implemented strategy to support family psychological well-being. Second, these findings have practical significance, as they can be directly applied in family and community nursing practice. Third, this study underscores the crucial role of nurses in providing health education, not only to patients but also to families as the primary support system.

This study also has several limitations. The study design was relatively simple, which limited its ability to account for other factors that may influence family anxiety, such as social support, educational background, and economic status. Furthermore, the small sample size reduces the generalizability of the findings to the broader population. Furthermore, the study only evaluated the short-term impact of health education and therefore does not provide insight into its long-term sustainability.

Based on these findings, several implications can be drawn. Practically, the results can guide nurses and other healthcare professionals in developing more focused health education programs for families with children with intellectual disabilities, including guidance on parenting, stress management, and enhanced psychosocial support.

From a theoretical perspective, this study contributes to knowledge in family and community nursing by strengthening the relationship between health education and anxiety reduction. From a policy perspective, these findings can provide a basis for establishing routine counseling programs in health facilities and for integrating psychosocial components into family health services. For future research, it is recommended to involve a larger sample size, implement a longitudinal study design, and consider additional variables that may influence family anxiety.

CONCLUSION

There is an influence of health education on the anxiety levels of families with children with mental retardation. It is hoped that community health centers can provide health education to families with children with mental retardation to reduce the level of anxiety experienced by families.

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