

## **“A Study to Assess the Prevalence and Knowledge on Risk Factors of Developmental Disabilities of Preschoolers Among Their Parents in Vinayagampet, Puducherry”**

MRS. K. DEEPALAKSHMI<sup>1</sup>, DR.G.MUTHAMILSELVI<sup>2</sup>, JEBASTINA.J<sup>3</sup>,  
JESVIN FERNANDEZ<sup>4</sup>, JUVISHA.C.T<sup>5</sup>, KAMALI.G<sup>6</sup> & KAMIDI PUJITHA<sup>7</sup>

<sup>1</sup>Assistant Professor, Department of Child Health Nursing, Sri Manakula Vinayagar Nursing College, Puducherry,

<sup>2</sup>Principal, Sri Manakula Vinayagar Nursing College, Puducherry

<sup>3-7</sup>B.Sc. Nursing IV-Year, Sri Manakula Vinayagar Nursing College, Puducherry-605 107.

Corresponding author- Mrs.K.Deepalakshmi

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### **Abstract**

Developmental disabilities are a group of conditions that affect an individual's physical, cognitive, emotional, or behavioural development. These conditions typically originate before the age of 22 and can affect an individual's ability to learn, communicate, socialize, and live independently. Several studies have investigated the prevalence and knowledge on risk factors of developmental disabilities among parents. The main objective of the study was to assess the knowledge on risk factors of developmental disabilities. Descriptive research design was adopted for the study. 100 samples were selected using convenience sampling technique. The residents was assessed with demographic questions and self-structured knowledge questionnaire and standardized tool. Study finding revealed that (0%) having Inadequate knowledge, (52%) having Moderate knowledge, and (48%) having Adequate knowledge. The Study concludes that the level of knowledge on risk factors of developmental disabilities on parents. Majority of the parents had moderate level of knowledge in community area.

**(Keywords: Descriptive, Convenience, self-structured knowledge questionnaire, standardized tool)**

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### **I. INTRODUCTION:**

Developmental disabilities are chronic conditions that affect individuals' physical, cognitive, emotional, or behavioral development, typically originating before the age of 22. Developmental disabilities affect approximately 1 in 6 children in the US, with varying prevalence rates for conditions like autism (1 in 54) and intellectual disability (1 in 100). Risk factors include genetic mutations, prenatal exposure to toxins, premature birth, environmental toxins, and socioeconomic disparities, highlighting the need for early intervention, support, and inclusive care.

### **NEED FOR STUDY**

Developmental disabilities (DDs) affect nearly 5–10% of children worldwide, with conditions such as autism, intellectual disability, speech and hearing disorders being commonly reported. Global reports indicate that about one in seven individuals lives with some form of disability, many identified during childhood. In India, developmental disabilities affect around 1.24% of children aged 0–6 years, with a slightly higher prevalence among boys than girls. Data from Puducherry (2021) estimates 1,343 children living with disabilities, including visual, hearing, speech, and movement impairments. Despite the growing burden, limited regional data highlights the need for

early screening, intervention, and follow-up care programs to reduce long-term impact.

### **II. STATEMENT OF THE PROBLEM:**

A study to assess the prevalence and knowledge on risk factors of developmental disabilities of preschoolers among their parents in Vinayagampet, Puducherry.

### **OBJECTIVES:**

- To assess the prevalence of developmental disabilities on preschool children among their parent
- To assess the knowledge on risk factors of developmental disabilities on preschool children among their parents.

- To associate the level of knowledge on risk factors of developmental disabilities on preschool children among their parents with their demographic variables.

### **III. RESEARCH METHODOLOGY:**

#### **RESEARCH APPROACH:**

The research designed in this study is a Quantitative research approach

#### **RESEARCH DESIGN:**

The design used for the study was Descriptive research design.

#### **SETTING OF THE STUDY**

The study was conducted at vinayagampet, puducherry.

#### **POPULATION**

The population of this study includes parents of preschooler in Puducherry.

#### **SAMPLE**

Sample of this study were the parents of preschoolers residents in the vinayagampet , puducherry.

#### **SAMPLE SIZE**

The sample size for this study was 100.

#### **SAMPLING TECHNIQUE**

The sampling technique used in the study is the convenience sampling technique.

#### **DESCRIPTION OF RESEARCH TOOL TECHNIQUE**

The tool was developed from extensive literature review, internet research, and expert discussion. The tool consists of three sections.

#### **Section: A - Demographic Variables**

Demographic variables consist of Age of the child, weight of the child during birth, APGAR score during birth, baby cries within one minute after birth, Mode of delivery, gestational age, any congenital anomalies, birth order, passing of stool and urine after birth, type of feeding given after birth.

#### **Section : B – Standardized questionnaire**

Standardized questionnaire regarding the prevalence of developmental disabilities on preschool children . It consists of totally 30 questions.

SCORE	KNOWLEDGE LEVEL
0-5	Low
6-15	Moderate
16-30	High

#### **Section: C – Self developed questionnaire**

Self developed questionnaire regarding assessment of the level of knowledge on risk factors of developmental disabilities on preschool children among their parents .

**It consists of totally 20 questions.**

#### **SCORING INTERPRETATION OF LEVEL OF KNOWLEDGE :**

SCORING KNOWLEDGE LEVEL	SCORING KNOWLEDGE LEVEL
0-9 Inadequate knowledge	0-9 Inadequate knowledge
10-14 Moderate knowledge	10-14Moderate knowledge
15-20 Adequate knowledge	15-20Adequateknowledge

#### **STUDY FINDINGS:**

**SECTION A:** Description of demographic variables of the parents.

**SECTION B:** Assessment of the prevalenceof developmental disabilities on preschoolers among their parents

**SECTION C:** Assessment of the level of knowledge on risk factors of developmental disabilities on preschoolers among their parents

**SECTION D:** Association of the level of knowledge on risk factors of developmental disabilities on preschool children among their parents with their selected demographic variables.

**SECTION A:** Description of demographic variables of the parents

**Table 1: Frequency and percentage wise distribution of demographic variables of the parents. N=100**

S.No	Demographic Variables	Number of Frequency	Percentage (%)
1	<b>Age</b>		
	a) 0-12 months	15	15
	b) 1-2 years	47	47
	c) 2-4 years	37	37
	d) 5-6 years	1	0
2	<b>Weight of the child during birth</b>		
	a) 2.5 Kg-3.5 Kg	58	58
	b) 1.5 Kg-2.5 Kg	30	30
	c) <1.5 Kg	3	3
	d) >3.5 Kg	9	9
3.	<b>APGAR score during birth</b>		
	a) 0-3	8	8
	b) 4-6	18	18
	c) 7-10	74	74
4	<b>Baby cries within one minute after birth</b>		
	a) Yes	85	85
	b) No	15	15

The above tables provides a summary of demographic data for a sample of 100 parents, In terms of age, the majority of children are between 1-3 years old (47%), and the number of frequency is 47 followed by those aged 4-6 years (37%) and the number of frequency is 37. In most of the children are 0-12 months old (15%) and the number of frequency is 15 or 5-7 years old (0%) and the number of frequency is 1. Mostly children weighed between 2.5 kg and 3.5 kg (58%) and the number of frequency is 58, while 30% weighed between 1.5 kg and 2.5 kg and the number of frequency is 30. A small proportion had a birth weight of less than 1.5 kg (3%) and the number of frequency is 3 and more than 3.5 kg (9%) and the number of frequency is 9. The APGAR score during birth, 74% of babies scored between 7-10 and the number of frequency is 74, indicating good health at birth, while 18% had a score between 4-6 and the number of frequency is 18, and 8% scored between 0-3 and the number of frequency is 8. The majority of children (85%) cried within one minute of birth and the number of frequency is 85, which is often used as an indicator of healthy preschooler.

5	<b>Mode of Delivery</b>		
	a) Spontaneous Vaginal Delivery	33	33
	b) Lower Segmental Caesarean Section	58	58
	c) Instrumental delivery	7	7
	d) Vaccum delivery	2	2
6	<b>Gestational Age</b>		
	a) Before 37 weeks	53	53
	b) 38-42 weeks	42	42
	c) After 42 weeks	5	5
7	<b>Any congenital anomalies</b>		
	a) Yes	40	40
	b) No	60	60
8	<b>Birth order</b>		
	a) First born	53	53

	b) Middle born	32	32
	c) Last born	13	13
	d) Twin baby	2	2

The above tables provides a summary of demographic data for a sample of 100 parents, When it comes to delivery, most child were delivered by Lower Segmental Caesarean Section (58%) and the number of frequency is 58, followed by spontaneous vaginal delivery (33%) and the number of frequency is 33 and instrumental (7%) and the number of frequency is 7 or vacuum (2%) deliveries and the number of frequency is 2. In terms of gestational age, over half of the child(53%) were born before 37 weeks and the number of frequency is 53, with 42% born between 38-42 weeks and the number of frequency is 42 and 5% after 42 weeks and the number of frequency is 5. Forty percent of the child had congenital anomalies and the number of frequency is 40, while 60% did not and the number of frequency is 60. Regarding birth order, the first-born babies were the most common (53%) and the number of frequency is 53, followed by middle-born (32%) and the number of frequency is 32 and last-born (13%) babies and the number of frequency is 13. Only 2% were twins and the number of frequency is 2.

9	<b>Passing of stool and urine after birth</b>		
	a) Yes	94	94
	b) No	6	6
10	<b>Type of feeding given after birth</b>		
	a) Breast Feeding	81	81
	b) Complementary feeding	19	19

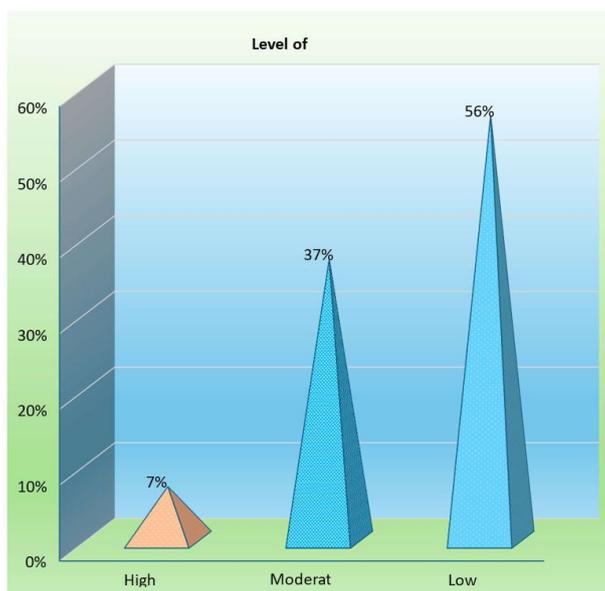
The above table provides a summary of demographic data for a sample of 100 parents. Most child (94%) passed stool and urine after birth and the number of frequency is 94 and while 6% not and the number of frequency is 6. In this 81% were breastfed and the number of frequency is 81, while 19% received complementary feeding and the number of frequency is 19

**Section B: Assessment of the prevalence of developmental disabilities on preschoolers among their parents.**

**Table: 2 Frequency and distribution of prevalence of developmental disabilities on preschoolers among their parents.N = 100**

S.NO	Prevalence	Frequency (n)	Percentage %
1.	High (16-30)	7	7
2.	Moderate(6-15)	37	37
3.	Low(0-5)	56	56

The above table presents the distribution of developmental disabilities among preschoolers, as reported by their parents. The data shows that 7% of parents observed a high level of prevalence of developmental disabilities in their children and number of frequency is, while 37% reported a moderate level and the number of frequency is 37. The majority of parents, 56%, noted a low prevalence and the number of frequency is 56. insight into the overall prevalence of such disabilities in early childhood.



**Figure 1: Percentage wise distribution according to the age of the children**

The above table presents the distribution of developmental disabilities among preschoolers, as reported by their parents. The data shows that 7% of parents observed a high level of prevalence of developmental disabilities in their children and number of frequency is, while 37% reported a moderate level and the number of frequency is 37. The majority of parents, 56%, noted a low prevalence and the number of frequency is 56. insight into the overall prevalence of such disabilities in early childhood.

**Table 3: Item wise analysis of prevalence of developmental disabilities on preschooler. N=60**

S.No	Question	Frequency (n)	Percentage %
1	Does your child struggle with following simple instructions?	52	52
2	Have you noticed delays in your child's speech development?	16	16
3	Does your child exhibit repetitive behaviors?	20	20
4	Does your child have difficulty making friends?	25	25
5	Does your child struggle with fine motor skills?	28	28
6	Does your child have extreme sensitivity to sensory stimuli?	27	27
7	Does your child exhibit limited interests?	34	34
8	Does your child have difficulty transitioning activities?	18	18
9	Does your child react strongly to changes in routine?	28	28
10	Does your child struggle to maintain eye contact?	34	34
11	Does your child engage in repetitive play?	21	21
12	Has your child been diagnosed with a developmental disorder?	22	22
13	Does your child exhibit delayed physical development?	28	28
14	Does your child have difficulty understanding emotions?	12	12
15	Does your child engage in self-injurious behaviour's?	21	21
16	Does your child have difficulty following daily routines?	26	26
17	Does your child avoid certain textures or foods?	21	21
18	Does your child have difficulty playing with peers?	17	17
19	Does your child engage in repetitive body movements?	13	13
20	Does your child have difficulty expressing needs verbally?	13	13
21	Does your child exhibit obsessive interests?	14	14
22	Does your child show lack of interest in pretend play?	16	16

The table provides a item wise analysis of the prevalence of developmental disabilities among preschoolers, with data collected from 100 parents. The findings reveal that the most common issue is children struggling with following simple instructions, reported at 52%. Other significant concerns include limited interests and difficulty maintaining eye contact, each affecting 34% of children. Problems with fine motor skills and strong reactions to changes in routine were each reported by 28% of children. Additionally, 28% of children exhibit delayed physical development, and 27% show extreme sensitivity to sensory stimuli.

Challenges in social interactions are highlighted with 25% of children having difficulty making friends and the same percentage struggling to understand jokes. Speech development delays and lack of interest in pretend play each affect 16% of children, while difficulties with repetitive behaviors, transitioning activities, and sleep patterns are reported for around 20% of the sample. About 22% of children have been diagnosed with a developmental disorder, and similar numbers face issues with repetitive play (21%), self-injurious behaviors (21%), avoiding certain textures or foods (21%), and difficulty with potty training (21%).

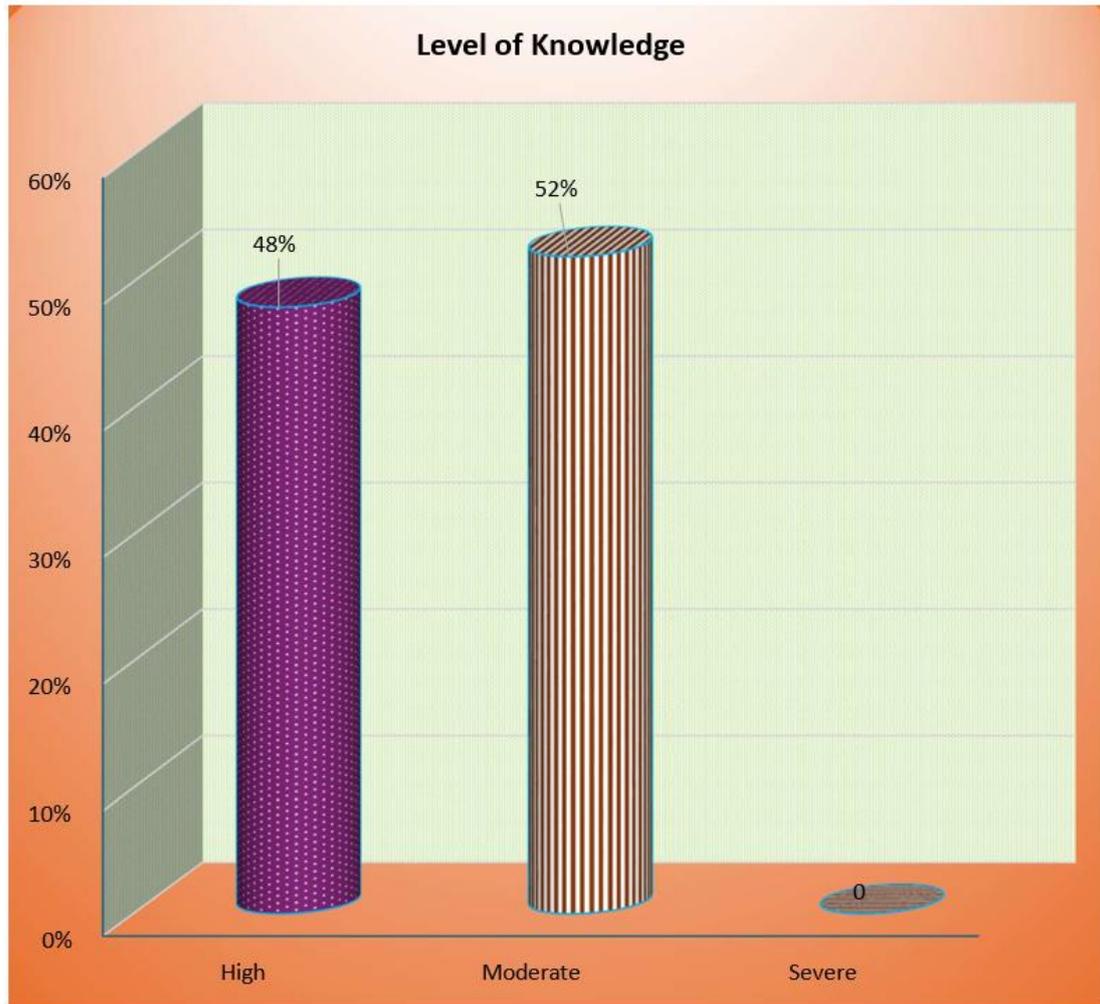
Less frequent issues include children engaging in repetitive body movements, having difficulty expressing needs verbally, and exhibiting obsessive interests, each reported at around 13-14%. Additionally, some children show echolalia or repetitive counting or sorting, affecting 13% and 10% of the sample, respectively. The least common issue, reported at 6%, is an intense focus on specific objects.

### **Section C: Assessment of the level of knowledge on risk factors of developmental disabilities on preschoolers among their parents**

**Table 4: Frequency and distribution of the level of knowledge on risk factors of developmental disabilities on preschoolers among their parents. N = 100**

S.NO	Level of Knowledge	Frequency (n)	Percentage %
1.	High (15-20)	48	48
2.	Moderate (10-14)	52	52
3.	Low(0-9)	0	0

The above table shows the distribution of parental knowledge regarding the risk factors of developmental disabilities in preschoolers. Among the 100 parents, 48% reported having high knowledge and the number of frequency is 48, 52% reported moderate knowledge and the number of frequency is 52, and none reported low knowledge. This indicates that most parents have a moderate to high understanding of the risk factors associated with developmental disabilities in their children.



**Figure2: Percentage wise distribution of parents according to their level of knowledge**

The above table shows the distribution of parental knowledge regarding the risk factors of developmental disabilities in preschoolers. Among the 100 parents, 48% reported having high knowledge and the number of frequency is 48, 52% reported moderate knowledge and the number of frequency is 52, and none reported low knowledge. This indicates that most parents have a moderate to high understanding of the risk factors associated with developmental disabilities in their children.

**Section D:**

**i. Association of the knowledge on risk factors of developmental disabilities on preschool children among their parents with their selected demographic variables.**

**ii. Association of the quality of life among mothers having disabilities children with selected demographic variables.**

**\* Significant at  $P \leq 0.05$  level**

There is a no significance association of passing of stool and urine after birth and type of feeding given after birth.

**\* Significant at  $P \leq 0.05$  level**

There is a significance association of weight of the baby during birth and model of delivery with the quality of life among mothers having disabilities children.

#### **IV. CONCLUSION**

The present study assessed the prevalence and knowledge on risk factors of developmental disabilities on preschoolers among their parents in Vinayagampet, Puducherry. The study findings concluded that there is a moderate level of prevalence. There is a moderate level of knowledge regarding the risk factors of developmental disabilities in preschoolers. There is a significance association of age, gestational age with knowledge on risk factors of developmental disabilities on preschool children among their parents.

#### **NURSING IMPLICATIONS**

The findings of this study have implications for nursing practice, education, administration, and research in assessing the prevalence and knowledge of risk factors associated with developmental disabilities in preschoolers among parents.

#### **NURSING EDUCATION**

- Nurse educators should design and conduct educational programs to enhance parents' understanding of developmental disabilities and their risk factors.
- Educational initiatives should emphasize the importance of early detection, intervention strategies, and the role of family support in managing developmental challenges.
- Training should include methods to identify early signs of developmental delays, equipping nursing professionals to guide parents in seeking appropriate medical and educational interventions.

#### **NURSING PRACTICE**

- The study results can assist nursing personnel in recognizing developmental disabilities in preschoolers and understanding parental awareness regarding risk factors.
- Nurses play a critical role in educating parents, providing guidance on preventive measures, and facilitating referrals to pediatric specialists when needed.
- Incorporating developmental screenings in routine pediatric care will help address concerns proactively, ensuring timely interventions.

#### **NURSING ADMINISTRATION**

- In-service education programs should be organized to train nursing staff on developmental disabilities, their risk factors, and early screening techniques.
- Awareness programs could focus on equipping parents with knowledge about developmental milestones, risk factors, and the significance of early intervention.
- Administrators should advocate for resources such as parental counseling services, community outreach programs, and specialized support for children with developmental concerns.

#### **NURSING RESEARCH**

- The findings of this study can guide the development of evidence-based protocols for identifying, managing, and preventing developmental disabilities in preschoolers.
- Future nursing research can explore the effectiveness of various interventions (e.g., parental education, early therapy, nutritional programs) in mitigating developmental disabilities.
- Further research should examine parental perceptions and barriers to accessing healthcare services for children with developmental challenges.

## V. RECOMMENDATIONS

- A similar study could be conducted with a larger sample size across multiple regions to improve the generalizability of the results.
- Future research could explore the correlation between specific risk factors (e.g., nutrition, environmental exposure, parental education) and the prevalence of developmental disabilities.
- Additional studies should assess the long-term impact of early interventions on the overall development and quality of life of children diagnosed with developmental disabilities.

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