

# A Study to Assess the Effectiveness of Parents Evaluation of Developmental Status Tool to Determine the Growth and Development of Children Delivered Under High Risk Among Parents, at SMVMCH, Puducherry

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**Abstract:** This paper presents a Study to assess the effectiveness of parents evaluation of developmental status tool to determine the growth and development of children delivered under high risk among parents, at SMVMCH, Puducherry.

**Keywords:** PEDS tool, high risk children.

## 1. Introduction

Children represents the future nation and ensuring their healthy growth and development ought to be a prime concern of all societies. Nowadays prevalence of children disabilities is very high. So, Parents Evaluation of Developmental Status tool is used for the assessment of growth and development and early diagnosis and treatment. Parents Evaluation of Developmental Status, or PEDS, is an evidence-based screening tool that elicits and addresses parental concerns about children's development, health and wellbeing. PEDS is a simple, 10-item questionnaire that is completed by the parent. Parents Evaluation of Developmental Status, or PEDS, is an evidence-based screening tool that elicits and addresses parental concerns about children's development, health and wellbeing. PEDS is a simple, 10-item questionnaire that is completed by the parent.

Components of Parent's Evaluation of Developmental Status tool are four components of PEDS. PEDS Brief Administration and Scoring Guide provides clear step-by-step instructions on administering PEDS. This booklet also includes detailed information about the use of the various PEDS forms, case study examples and statistical data related to the detection of developmental concerns. PEDS Response Form is a 10-item questionnaire completed by the parents as the first step in the PEDS assessment. Parents may complete this questionnaire at home, in the waiting room or in consultation with their practitioner. PEDS Score Form is completed by the practitioner.

## A. Statement of the Problem

A study to assess the effectiveness of Parents Evaluation of Developmental Status tool to determine the growth and development of children delivered under high risk among parents at SMVMCH, Puducherry.

## B. Objectives

- To assess the growth and development of children delivered under high risk using PEDS tool among parents.
- To identify any deviation in the growth and development of children delivered under high risk using PEDS tool among parents.
- To associate the growth and development of children delivered under high risk using PEDS tool among parents with their selected demographic variables.

## C. Hypotheses

- H1: There is a significant difference in the growth and development among children delivered under high risk using PEDS tool.
- H2: There is a significant association in the Growth and development of children delivered under high risk among parents with their selected demographic variables.

## 2. Review of Literature

Sharmila Mukherjee, et al., (2022) was conducted a Study on Diagnostic Accuracy of Parents Evaluation of Developmental Status (PEDS), Developmental milestones and PEDS Combined in Indian Children Aged Less than 2 Years in The Indian Journal of Pediatrics states that to assess the diagnostic accuracy of Parents Evaluation of Developmental Status (PEDS), PEDS Developmental Milestones (PEDS:DM) and

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PEDS Combined for developmental screening of Indian children aged less than 2 year. Method. A hospital-based study of diagnostic accuracy was conducted over 17-month Children under 24 month (n = 180) were enrolled after exclusion of severe illnesses or known neurodevelopment disorders. The index tools included standardized Hindi translations of PEDS and PEDS: DM. The reference tool was Developmental Assessment Scale for Indian Infants (DASII). PEDS:DM and PEDS Combined are not suitable for developmental screening of children less than 2 years due to suboptimal diagnostic accuracy.

### 3. Research Methodology

A Non-experimental research design (Retrospective cross sectional research design) was conducted among parents having children from 0 to 8 years born under high risk. Parents were selected using convenient sampling technique. A Hospital based study of effectiveness of PEDS tool was conducted over 0 to 8 years of children delivered under high risk with the 100 sample parents. The purpose and benefits of study were explained to parents. Self-structured questionnaires based on PEDS tool was administered and completing the assessment for 30 minutes. The data collection period was six weeks. The data gathered and analyzed by using descriptive and inferential statistics method and interpretations were made on the basis of the objectives of the study.

#### A. Description of Tool

The tool was designed in to two parts.

##### Section-A:

It consists of demographic of parents and baby. Demographic variables of parents include characteristics information about the age, sex, mode of delivery, religion, type of family monthly income, occupation of father and mother, education, family history of communicable diseases, mode of delivery, antenatal checkup, marriage, dietary history. Demographic variable of child includes age of the baby, weight of the baby, APGAR score, birth order, congenital anomalies.

##### Section-B:

This section having 10 questions of parents responses about their child activities.

##### Section-C:

PEDS tool is used to assess the determinants of growth and development of high- risk children. It consists of 10 components include Global/cognitive, Expressive language and Articulation, Receptive language, Fine motor, Gross motor, Behavior, Social – emotional, self- help, school, others.

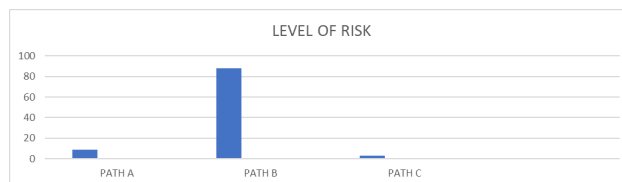
#### B. Scoring Interpretation

The scoring from Path A, Path B and Path C is used to find the growth and development of the children from birth to 8 years.

Table 1

S.No.	Paths	Risk Category
1.	Path A	Two or more concern (High risk)
2.	Path B	One concern (Moderate risk)
3	Path C	No concern (Low risk)

Table 2 shows the frequency and percentage wise distribution of level of risk on growth and development of children delivered under high risk among parents. The finding reveals that out of 100 children, 9% were in high risk, 88% were in moderate risk and 3% was in low risk respectively.



### 4. Major Findings in the Study

- The analysis of the data was organized and presented under the following aspect.
- Findings reveals that effectiveness of PEDS tool for 100 parents having children from 0 – 8 years born under high risk, 9% were in high risk, 88% were in moderate risk and 3% was in low risk respectively.
- The comparison of mean and standard deviation on level of risk regarding Parental Evaluation of Developmental Status tool among parents. The study finding reveals that their mean and standard deviation values are (1.26+1.06) respectively.
- The study was conducted the association of level of risk regarding growth and development of children delivered under high risk with their demographic variables among parents and children.
- The demographic variable had shown statistically significant association of level of risk regarding growth and development of children delivered under high risk with their demographic variables among parents in that residence having ANOVA value of  $X^2 = 3.169$ , P Value = 0.046\* at  $p > 0.05$  level and the other demographic variable had shown statistically significant are type of marriage having ANOVA value of  $X^2 = 3.659$  and P value = 0.000\*\*\* at  $p = 0$  respectively.

#### A. Nursing Implication

The study had implications for nursing education, nursing administration and nursing research.

#### B. Nursing Education

The child health nursing and the nursing foundation curriculum needs to be strengthened to enable the nursing students to know about the standards of nursing towards assessing the developmental deviation. It also helps the nursing students to develop the knowledge regarding assessment of growth and development using PEDS tool. The nursing students need to organize a workshop, in-service education programme for nurses, student and also for paramedical workers.

Table 2

Frequency and Percentage wise distribution of level of risk on growth and development of children delivered under high risk among parents (N = 100)

S.No.	Level of Risk	Frequency	Percentage
1.	Path A (> 1 concern) High risk	9	9.0
2.	Path B (one concern) Moderate risk	88	88.0
3.	Path C (No concern) Low risk	3	3.0
	Total	100	100.0

Table 3

Association between level of risk regarding growth and development of children delivered under high risk with their demographic variables among parents (N=100)

S.No.	Demographic Variables of Parents	N	Mean	SD	X <sup>2</sup>	p value
1.	<b>Age in years</b>					
	a. 20 – 25	26	1.35	1.20	0.204	0.893 (N.S)
	b. 26 – 30	43	1.28	1.18		
	c. 31 – 35	25	1.20	0.82		
	d. 36 – 40	6	1.00	0.00		
2.	<b>Residence</b>				3.169	0.046 * (S*)
	Rural	13	1.00	0.00		
	Urban	84	1.25	1.03		
	Semi urban	3	2.67	2.89		
3.	<b>Religion</b>				0.293	0.746 (N.S)
	Hindu	91	1.29	1.11		
	Christian	2	1.00	0.00		
	Muslim	7	1.00	0.00		
4.	<b>Type of family</b>				1.631	0.201 (N.S)
	Nuclear family	56	1.43	1.33		
	Joint family	43	1.05	0.49		
	Extended family	1	1.00	0.00		
5.	<b>Education of mother</b>				1.280	0.286 (N.S)
	Primary	23	1.57	1.50		
	Secondary	35	1.09	0.51		
	Graduate	38	1.29	1.14		
	Illiterate	4	0.75	0.50		
6.	<b>Occupation of Mother</b>				0.385	0.701 (N.S)
	b. Private employee	13	1.15	0.56		
	d. Housewife	87	1.28	1.12		
7.	<b>No. of children</b>				1.240	0.299 (N.S)
	1	50	1.14	0.57		
	2	43	1.30	1.21		
	3	6	2.00	2.45		
	> 3 children	1	1.00	0.00		
8.	<b>Monthly income</b>				0.744	0.478 (N.S)
	a. Rs. 10,000 below	50	1.26	1.10		
	b. Rs. 11,000 – 20,000	43	1.19	0.82		
	c. Rs. 21,000 – 30,000	7	1.71	1.89		
9.	<b>Socio economic status</b>				1.067	0.348 (N.S)
	Low class family	9	1.56	1.67		
	Middle class family	90	1.24	0.99		
	High class family	1	0.00	0.0		
10.	<b>Type of the diet</b>				Not applicable	
	Vegetarian					
	Non vegetarian	100				
11.	<b>Antenatal history</b>				Not applicable	
	Radiation					
	Steroid therapy					
	Alcoholism	100				
	No history					
12.	<b>Any antenatal check up</b>				1.801	0.075 (N.S)
	Yes	97	1.23	1.01		
	No	3	2.33	2.31		
13.	<b>Type of Marriage</b>				3.659	0.000 *** (S*)
	Consanguineous	8	2.50	2.14		
	Non consanguineous	92	1.15	0.85		
14.	<b>Family medical history</b>				0.884	0.416 (N.S)
	Communicable disease	3	0.67	0.58		
	Non communicable disease	34	1.15	0.78		
	c. No medical history	63	1.35	1.19		
15.	<b>Any sexual transmitted disease</b>				No	Not applicable
	Yes					
	No	100				

Note: \* - p&lt;0.05, \*\*\* - p&lt;0.001, Level of Significant, N.S. – Not Significant

Table 4

Association between level of risk regarding growth and development of children delivered under high risk with their demographic variables among children

S. No.	Demographic Variables of Children	n	Mean	SD	X <sup>2</sup>	p value
1.	<b>Age of the baby</b>					
	5 – 6 years	50	1.20	0.95		
	6 – 7 years	24	1.21	1.14	0.277	0.842 (N.S)
	7 – 8 years	15	1.40	1.12		
		11	1.45	1.37		
2.	<b>Birth Weight</b>					
	a. 2.5 – 3.5 Kg	72	1.26	0.90		
	b. 1.5 – 2.5 Kg	19	1.42	1.68	0.516	0.672 (N.S)
	c. < 1.5 Kg	2	1.00	0.00		
	d. > 3.5 Kg	7	0.86	0.38		
3.	<b>APGAR score</b>					
	b. 4 – 6	2	1.00	0.00	0.349	0.728 (N.S)
	c. 7 – 10	98	1.27	1.07		
4.	<b>Baby cries within one minute after birth</b>					
	Yes					
	No	98	1.27	1.07	0.349	0.728 (N.S)
		2	1.00	0.00		
5.	<b>Mode of Delivery</b>					
	Spontaneous vaginal delivery	12	1.33	1.16	0.052	0.950 (N.S)
	Lower segmental caesarean section	82	1.24	1.07		
	Instrumental delivery	6	1.33	0.82		
6.	<b>Gestational age</b>					
	Before 37 weeks	30	1.30	1.15	0.724	0.488 (N.S)
	38 – 42 weeks	69	1.26	1.02		
	After 42 weeks	1	0.00	0.00		
7.	<b>Any congenital anomalies</b>					
	Yes	2	1.00	0.00	0.349	0.728 (N.S)
	No	98	1.27	1.07		
8.	<b>Birth order</b>					
	First born	70	1.23	0.98		
	Middle born	13	1.62	1.76	0.612	0.609 (N.S)
	Last born	15	1.13	0.64		
	Twin baby	2	1.00	0.00		
9.	<b>Passing stool &amp; urine after birth</b>					
	Yes	91	1.24	1.04	0.545	0.587 (N.S)
	No	9	1.44	1.33		
10.	<b>Type of Feeding after birth</b>					
	Breast feeding	93	1.28	1.10	0.671	0.504 (N.S)
	Complementary feeding	7	1.00	0.00		

Note: N.S. – Not Significant

### C. Nursing Administration

The nursing administrator should take an active role in organizing and implementing through standards of nursing and also conducting mass media communication regarding the Parents Evaluation of Developmental status tool. The nursing administrator play a vital role in ongoing educational programmes and in-service education programme to provide knowledge and attitude to assess the developmental deviation among nurses.

### D. Nursing Practice

As a nurse, it is one's accountability to explicit holistic care to the children considering all the aspect of the holistic component and manage the children with preventive care concerns, the level of knowledge regarding growth and development of children using PEDS tool is improved and associated the factors is being done, as they are more prone for clinical issues. This is aids as a preventive tool to appropriately ensure the care of the children by ruling out early and to provide appropriate care.

### E. Nursing Research

The effectiveness of a research study is verified by its utility by the parents and nursing in the clinical and community field.

The findings of the study also help the professional nurses and the students to develop inquiry and provide a base. This study helps the nurse researcher to develop the effective care.

### F. Recommendation

On the basis of the finding of the study, the following recommendation has been made.

- A similar study can be replicated on a large sample to generalize the findings.
- A similar study can be conducted by asking 2 points for the domains such as various developmental tools among parents in various institutions.
- A comparative study can conduct between PEDS tool and other tools for determining the growth and development of the children.
- A similar study can be conducted to find the level of knowledge regarding administration PEDS tool among staff nurses at various settings, such as government hospital and private institution.

## 5. Result

The finding reveals The ANOVA (Analysis of Variance) reveals that there is a significant association with selected demographic variables among parents such as residence ( $F =$

3.169,  $P = 0.046$ ) and type of marriage ( $t = 3.659$ ,  $P = 0.000$ ) with the self-structured questionnaires based on Parental Evaluation of Developmental Status tool among parents.

### 6. Conclusion

The study implies that the Parents Evaluation of Developmental Status tool is effectively significant to find the determinants of growth and development of the children from 0 to 8 years delivered under high risk among with their selected demographic variables include residence and type of marriage respectively.

### References

- [1] Paruldatta, Textbook of Pediatric Nursing, 3<sup>rd</sup> edition, published by Jayee Publications, pp. 64.
- [2] Panjali pal, Textbook of Pediatric Nursing, 1<sup>st</sup> edition, published by Paras Medical Publications, pp. 122.
- [3] Wongs, Essentials of Pediatric Nursing, Published by Elsevier Publications, pp. 219-222.
- [4] R. Arvind, Textbook of Pediatric Nursing, first edition, published by EMMESS publication, pp. 2-3.
- [5] O.P. Ghai, Piyush Gupta, V. K. Paul, Essential pediatrics sixth edition revised and enlarged published by CBS publishers, pp. 1-4.
- [6] <https://www.pedstest.com/AboutOurTools/LearnAboutPEDS/IntroductionToPEDS>
- [7] <https://gta5-hub.com/tools/add-peds-oiv-generator-tool>