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A Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding the Effects of Electronic Gadget Use on Emotional Development among Preschool Children in Selected Schools of Bagalkote

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Abstract | **Original Research Article**

***Background*:** The increasing use of electronic gadgets among preschool children has raised concerns regarding their emotional development. Parents and caregivers play a crucial role in regulating children's screen exposure; however, inadequate knowledge may contribute to inappropriate gadget use. Educational interventions are essential to improve parental awareness and promote healthy emotional development in young children. ***Methods*:** A quantitative research approach with a pre-experimental one-group pre-test and post-test design was adopted. The study was conducted among 60 parents/caregivers of preschool children. Data were collected using a structured knowledge questionnaire. A structured teaching programme on the effects of electronic gadget use on emotional development was administered following the pre-test. Post-test assessment was carried out after the intervention. Data were analysed using SPSS. Descriptive statistics and inferential statistics, including paired *t*-test and Chi-square test, were used. ***Results*:** Pre-test findings revealed that 71.7% of parents had average knowledge, 23.3% had poor knowledge, and only 5% had good knowledge. The mean pre-test knowledge score was 13.82 ± 4.18. Post-test results showed a significant improvement, with 75% of parents attaining good knowledge and none remaining in the poor category. The mean post-test score increased to 24.23 ± 3.66. The paired *t*-test demonstrated a statistically highly significant improvement in knowledge ($t = 26.91$, $p < 0.001$). No significant association was found between pre-test knowledge scores and selected socio-demographic variables ($p > 0.05$). ***Conclusion*:** The study concluded that parents/caregivers had inadequate baseline knowledge regarding the effects of electronic gadget use on emotional development of preschool children. The structured teaching programme was highly effective in improving parental knowledge. The findings highlight the importance of nurse-led educational interventions to promote responsible gadget use and support healthy emotional development in preschool children.

Keywords: Electronic Gadgets, Emotional Development, Preschool Children, Parents/Caregivers, Structured Teaching Programme.

INTRODUCTION

The rapid proliferation of electronic gadgets such as smartphones, tablets, and televisions has significantly increased exposure among preschool children aged 3–6 years [1]. Emotional development during early childhood is crucial, as it forms the foundation for social relationships, behavior, and mental health [2]. Excessive screen time may interfere with essential developmental processes such as caregiver-child interaction, play, and social engagement [3].

Studies have shown that increased screen exposure is associated with reduced emotional regulation, irritability, and poor social skills [4]. However, moderated and guided use of electronic media may provide educational benefits, indicating a complex

relationship between technology and child development [5].

Global guidelines, including those by the World Health Organization and American Academy of Pediatrics, recommend limiting screen time to less than one hour per day for children aged 2–5 years [7, 8]. Despite these recommendations, studies indicate that many children exceed these limits due to lack of parental awareness.

In India, increasing accessibility to digital devices has led to higher screen exposure among preschool children, raising concerns regarding their emotional and behavioral outcomes. Therefore, educating parents through structured interventions is essential to promote healthy gadget use and emotional development.

Objectives

1. To assess the level of knowledge regarding the effects of electronic gadget use on emotional development among parents/caregivers.
2. To evaluate the effectiveness of the structured teaching programme.
3. To associate pre-test knowledge scores with selected socio-demographic variables.

Hypotheses

- **H1:** There will be a significant improvement in post-test knowledge scores compared to pre-test scores.
- **H2:** There will be a significant association between pre-test knowledge and socio-demographic variables

Materials and Methods

Study Design

A quantitative evaluative approach with a pre-experimental one-group pre-test and post-test design was used.

Setting: The study was conducted in selected preschools of Bagalkote district, Karnataka.

Population and Sample: The study population included parents of preschool children aged 3–6 years.

Sample Size: 60 Sampling technique: Non-probability purposive sampling.

Inclusion Criteria

- Parents of preschool children aged 3–6 years
- Willing to participate
- Able to understand Kannada or English

Exclusion Criteria

- Parents who attended similar programmes
- Healthcare professionals

Data Collection Tool

- A structured questionnaire to collect Socio-Demographic data.
- A structured questionnaire to assess the Knowledge.

Scoring

- Poor: 0–10
- Average: 11–20
- Good: 21–30

Intervention: A structured teaching programme (30–45 minutes) including lecture, discussion, and visual aids.

Data Collection Procedure

- Pre-test assessment
- Administration of teaching programme
- Post-test after 7 days

Statistical Analysis

- Descriptive statistics: frequency, percentage, mean, SD
- Inferential statistics: paired t-test, Chi-square test
- Significance level: $p < 0.05$

Ethical Considerations

- Ethical approval obtained
- Informed consent taken
- Confidentiality maintained

Results

The analysis was conducted on data collected from 60 parents/caregivers of preschool children using descriptive and inferential statistics.

Part I: Socio-Demographic Characteristics

Table 1: Frequency and Percentage Distribution of Demographic Variables (n = 60)

Demographic Variable	Category	Frequency (f)	Percentage (%)
Age of Child	3 years	16	26.7
	4 years	19	31.7
	5 years	14	23.3
	6 years	11	18.3
Gender	Male	30	50.0

Demographic Variable	Category	Frequency (f)	Percentage (%)
	Female	30	50.0
Mother's Education	No formal education	14	23.3
	Primary education	15	25.0
	Secondary education	16	26.7
	Graduation and above	15	25.0
Father's Education	No formal education	14	23.3
	Primary education	14	23.3
	Secondary education	17	28.3
	Graduation and above	15	25.0
Mother's Occupation	Home maker	17	28.3
	Labourer	16	26.7
	Government employee	13	21.7
	Private employee	14	23.3
Father's Occupation	Farmer	19	31.7
	Labourer	13	21.7
	Government employee	15	25.0
	Private employee	13	21.7
Type of Family	Nuclear	31	51.7
	Joint	29	48.3

The majority of children were aged 4 years (31.7%)**,** followed by 3 years (26.7%). Gender distribution was equal. Most mothers and fathers had secondary education, and a large proportion of mothers were homemakers while fathers were predominantly farmers. Slightly more than half of the families were nuclear.

Part-II: Assessment of knowledge regarding the effects of electronic gadget use on emotional development of preschool age children.

Section A

Table 2: Distribution of Pre-test Knowledge Scores among Participants (n = 60)

Knowledge Level	Score Range	Frequency (f)	Percentage (%)
Poor	0–10	14	23.3
Average	11–21	43	71.7
Good	22–31	3	5.0
Total	—	**60**	**100**

Above table shows that the majority of participants (71.7%) had average knowledge during the pre-test, while 23.3% had poor knowledge and only 5% had good knowledge prior to the intervention.

Section – B

Table 3: Distribution of Post-test Knowledge Scores among Participants (n = 60)

Knowledge Level	Score Range	Frequency (f)	Percentage (%)
Poor	0–10	0	0.0
Average	11–21	15	25.0
Good	22–31	45	75.0
Total	—	**60**	**100**

Above table reveals a marked improvement in post-test knowledge scores, with 75% of participants attaining good knowledge and none remaining in the poor category.

Part –III: Evaluation of the effectiveness of the structured teaching programme on knowledge regarding the effects of electronic gadget use on emotional development on preschool age children.

Table 4: Comparison of Mean Pre-test and Post-test Knowledge Scores (n = 60)

Test	Mean ± SD	t value	df	p value
Pre-test	13.82 ± 4.18			
Post-test	24.23 ± 3.66	**26.91**	59	**< 0.001**

Above table indicates a statistically highly significant difference between pre-test and post-test knowledge scores ($p < 0.001$), demonstrating the effectiveness of the planned teaching programme.

Part – IV: Association between pre-test knowledge scores of parents regarding the effects of electronic gadget use on emotional development on preschool age children.

Table 5: Association between Pre-test Score and Demographic Variables

Demographic Variable	χ^2 value	p-value	Result
Age of Child	2.389	0.496	Not significant
Gender	2.424	0.120	Not significant
Mother Education	2.484	0.478	Not significant
Father Education	2.496	0.476	Not significant
Mother Occupation	0.685	0.877	Not significant
Father Occupation	0.946	0.814	Not significant
Type of Family	0.082	0.775	Not significant

There was no statistically significant association between pre-test knowledge scores and selected demographic variables, as all p-values were greater than 0.05.

DISCUSSION

The findings indicate that parents had inadequate baseline knowledge regarding the effects of electronic gadget use. This aligns with previous studies highlighting low parental awareness of screen time guidelines [6].

The structured teaching programme significantly improved knowledge scores, supporting the effectiveness of educational interventions. Similar findings have been reported in studies emphasizing caregiver education as a key factor in improving child health outcomes.

The lack of association between demographic variables and knowledge suggests that educational interventions are universally beneficial regardless of background characteristics.

CONCLUSION

The study concludes that:

- Parents had insufficient knowledge regarding electronic gadget use and emotional development.
- The structured teaching programme was highly effective in improving knowledge.
- Educational interventions should be implemented widely to promote healthy child development.

Recommendations

- Conduct similar studies with larger samples
- Implement community-based educational programmes
- Include behavioral outcome assessment in future studies

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