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A Study to Evaluate the Effectiveness of Computer Assisted Teaching on Attitudes of Fathers Regarding Toddler Rearing Practices in Selected Tertiary Care Center of Dadra and Nagar Haveli

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Abstract:
Background: In India, while women and motherhood have traditionally been emphasized, the role of fathers in child development is gaining recognition. Fathering involves nurturing and supportive actions crucial for a child's growth. The toddler stage, often referred to as the "Terrible Twos," requires effective parental guidance to foster autonomy and social-emotional regulation. However, many fathers lack adequate attitudes toward toddler-rearing, highlighting the need for structured educational interventions. Objectives: This study aimed to evaluate the effectiveness of computer-assisted teaching on attitudes of fathers regarding toddler-rearing practices in selected health and wellness centers in Dadra and Nagar Haveli. Methodology: A quasi-experimental pre- and post-test design was employed with 60 fathers, divided equally into experimental and control groups. Both groups underwent a pre-test to assess baseline attitudes. The experimental group received computer-assisted teaching covering toddler-rearing topics, while the control group received no intervention. Post-tests were conducted 15 days later. Data were analyzed using paired t-tests and chi-square tests. Results: In the control group, no significant changes were observed in pre- and post-test attitude scores for both positive ($t = -0.302$, $p = 0.764$) and negative ($t = 1.569$, $p = 0.127$) questions. In contrast, the experimental group showed significant improvements in attitude scores for both positive ($t = -22.867$, $p < 0.001$) and negative ($t = -18.730$, $p < 0.001$) questions. Conclusion: The study demonstrated that computer-assisted teaching significantly improved fathers' attitudes toward toddler-rearing practices in the experimental group. This suggests that educational interventions can be effective in enhancing paternal involvement and improving child-rearing practices. Further research is recommended to validate these findings on a larger scale.

Keywords: Computer-Assisted Teaching, Attitudes of Fathers, Toddler-Rearing Practices, Tertiary care centre

Background

India has traditionally revered women and motherhood, but the role of fathers in child development is inc-

reasingly recognized. Fatherhood encompasses the social or legal status of being a father, while fathering involves the nurturing and supportive actions associated with parenting. Over the past three decades, research has highlighted the critical influence of fathers on their children's social and emotional development. Fathers contribute uniquely by promoting physical growth, problem-solving, and social behavior through energetic play and affectionate interactions (Rajalakshmi S, 2019; Gaynor A, 2012).

The toddler stage, often termed the "Terrible Twos," is marked by increased curiosity, a desire for autonomy, and the development of social and emotional regulation. Parents play a pivotal role during this phase by teaching toddlers essential life skills, communication, and social etiquette (Davies, 2004). Despite this, many parents lack adequate knowledge and attitudes toward effective child-rearing practices, necessitating structured educational interventions.

Need for the Study

With toddlers becoming more independent and exploring their environment, it is vital for parents, especially fathers, to be equipped with the knowledge and skills to guide them effectively. Fathers' involvement has been linked to positive developmental outcomes, yet in many cases, they remain underutilized resources in child-rearing. Educational programs that focus on fathers' roles can enhance their knowledge and attitudes, ultimately benefiting their children's growth and development.

Statement of the Problem

A study to evaluate the effectiveness of computer-assisted teaching on attitudes of fathers regarding toddler-rearing practices in selected health and wellness centers of Dadra and Nagar Haveli.

Objective

1. The pilot study aimed to evaluate the effectiveness of computer-assisted teaching on fathers attitudes regarding toddler-rearing practices in Dadra and Nagar Haveli.
2. Identify the association between post-test attitude scores with selected demographic variables.

Review of Literature

Research has shown that fathers' engagement in child-rearing is influenced by various factors, including psychological, social, and cultural contexts (Lamb & Tamis-LeMonda, 2004). Studies indicate that fathers who adopt egalitarian attitudes positively impact their children's mental health and intellectual growth (King, Singh, & Milner, 2019).

Mita et al. (2015) conducted a community-based study to compare parental attitudes toward father involvement in child-rearing. The findings revealed that fathers' attitudes are significantly influenced by their spouses, with positive attitudes correlating between partners. Similarly, Roshini et al. (2013) explored fathers' attitudes and knowledge regarding their involvement in childcare. The study found that fathers with higher knowledge scores displayed more positive attitudes toward child-rearing.

Studies have emphasized the importance of parental education in improving child-rearing practices. Davies (2004) highlighted that well-informed parents are better equipped to foster their child's development, emphasizing the need for structured training programs to enhance parental knowledge and attitudes.

Methodology

The study employed a quasi-experimental control group design with 60 participants, divided equally into experimental and control groups. Both groups underwent a pre-test to assess baseline attitudes. The experimental group received computer-assisted instruction covering various aspects of toddler-rearing, while the control group received no intervention.

The intervention topics included:

- General child-rearing practices
- Toddler growth and development
- Nutritional and immunization needs
- Accident prevention and basic healthcare

Post-tests were conducted 15 days after the intervention to assess changes in attitudes. Data were analyzed using descriptive and inferential statistics, including t-tests and chi-square tests.

The study was conducted in the tertiary health center of Dadra and Nagar Haveli following approval from the institutional ethics committee.

- Research approach: Quantitative approach
- Study Design: Quasi-experimental Pre and post-test design
- Sample: 60 fathers (30 each in experimental and control groups).
- Intervention: Computer-assisted teaching on toddler-rearing practices.
- Tools: Five-point Likert scale for attitude assessment (20 items).

Hypotheses

H01: No Significant difference in attitude between experimental and control groups after computer-assisted teaching.

H1: There is a Significant difference in attitude between experimental and control groups after computer-assisted teaching.

Results:

Table 1: Table: Paired Samples Test for Pre- and Post-Attitude Scores in Control Group

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre Attitude Total of Positive Qs - Post Attitude Total of Positive Qs	-.167	3.018	.551	-1.294	.960	-.302	29	.764
Pair 2	Pre Attitude Total of Negative Qs - Post Attitude Total of Negative Qs	.600	2.094	.382	-.182	1.382	1.569	29	.127

Table 2: Paired Samples Test for Pre- and Post-Attitude Scores in Experimental Group

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre Attitude Total of Positive Qs - Post Attitude Total of Positive Qs	-11.690	2.753	.511	-12.737	-10.642	-22.867	28	.000
Pair 2	Pre Attitude Total of Negative Qs - Post Attitude Total of Negative Qs	-9.067	2.651	.484	-10.057	-8.077	-18.730	29	.000

Control Group:

Positive Questions: The mean pre-attitude score for positive questions is 28.50, and the post-attitude score is 28.67. The paired t-test shows a mean difference of -0.167, with a standard deviation of 3.018 and a standard error mean of 0.551. The 95% confidence interval for the difference ranges from -1.294 to 0.960. The t-value is -0.302, with a p-value of 0.764. Since the p-value is greater than 0.05, the difference in pre- and post-scores for positive questions in the control group is **not statistically significant**.

Negative Questions: The mean pre-attitude score for negative questions is 22.57, and the post-attitude score is 21.97. The paired t-test shows a mean difference of 0.600, with a standard deviation of 2.094 and a standard error mean of 0.382. The 95% confidence interval for the difference ranges from -0.182 to 1.382. The t-value is 1.569, with a p-value of 0.127. Since the p-value is greater than 0.05, the difference in pre- and post-scores for negative questions in the control group is **not statistically significant**.

Experimental Group:

Positive Questions: The mean pre-attitude score for positive questions is 28.72, and the post-attitude score is 40.41. The paired t-test shows a mean difference of -11.690, with a standard deviation of 2.753 and a standard error mean of 0.511. The 95% confidence interval for the difference ranges from -12.737 to -10.642. The t-value is -22.867, with a p-value of 0.000. Since the p-value is less than 0.05, the difference in pre- and post-scores for positive questions in the experimental group is **statistically significant**.

Negative Questions: The mean pre-attitude score for negative questions is 22.23, and the post-attitude score is 31.30. The paired t-test shows a mean difference of -9.067, with a standard deviation of 2.651 and a standard error mean of 0.484. The 95% confidence interval for the difference ranges from -10.057 to -8.077. The t-value is -18.730, with a p-value of 0.000. Since the p-value is less than 0.05, the difference in pre- and post-scores for negative questions in the experimental group is **statistically significant**.

Conclusion:

In the **Control Group**, no significant changes were observed in attitude scores for both positive and negative questions between pre- and post-assessments. In the **Experimental Group**, significant improvements were observed in both positive and negative attitude scores after the intervention. This suggests that the intervention had a significant impact on improving attitudes in the experimental group.

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