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A Study to Assess the Effectiveness of a Self-Instructional Module (SIM) on Knowledge of Parents of R. L. Public School Morena Children in Identifying Attention-Deficit Hyperactivity Disorder (ADHD)

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Abstract:
Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders of childhood, characterized by persistent patterns of inattention, hyperactivity, and impulsivity. Early identification and intervention are crucial for effective management and better outcomes in affected children. Parents play a vital role in recognizing the early signs and seeking appropriate care, yet many lack the necessary knowledge and awareness. This study was undertaken to assess the effectiveness of a Self-Instructional Module (SIM) in enhancing the knowledge of parents of R.L. Public School, Morena, regarding the identification of ADHD. By improving parental understanding, the study aims to contribute to early detection, timely intervention, and better child developmental outcomes.

Objectives: *To assess knowledge of parents in experimental group in identifying ADHD before administering SIM. To assess knowledge of parents in control group in identifying ADHD. To assess knowledge of parents in experimental group in identifying ADHD after administering SIM. To assess post-test knowledge scores of parents in control group in identifying ADHD. To compare the knowledge scores before and after administering SIM. To compare the knowledge scores in experimental and control group. To correlate knowledge scores with selected demographic variables.*

Material and methods: *the investigator used quasi experimental research (pre-test post-test control group design). Convenient sampling of non-probability sampling technique used to select the 60 parents in selected school Morena children from Pune city. Self-structured questionnaire were used to assess the knowledge regarding attention deficit hyperactivity disorder. The conceptual framework for this study was based on general system theory. The data was analysed by using descriptive and inferential statistics.*

Results: *In the pre-test phase majority of parents in the experimental group (96.6%) had an average knowledge score (16-35), and the mean of the scores was 22.1, whereas in the post-test phase majority (70%) of parents have a good knowledge score (36-50), and the mean of the scores increased to 37.7. Also the calculated 't' value is 4.12, which is significantly higher than the table value of 1.94 at 0.05 level of significance. These findings indicate that the self-instructional module (SIM) is effective in increasing the knowledge of the samples regarding ADHD.* ***Conclusive:*** *Parents usually do not approach professional help for their problems with raising children. They feel that children will naturally outgrow their problems. Thus, written educative material can be very effective in educating them on a subject like ADHD, which is a very less known disorder. It can prove to be very effective in betterment of their child rearing practices in the future.*

Keywords: *Effect, evaluate, self-instructional module, knowledge, parents, attention deficit hyperactivity disorder*

I. INTRODUCTION

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders of childhood. Characterized by symptoms of inattention, hyperactivity, and impulsivity, ADHD affects academic performance, peer relationships, and family functioning. Despite its prevalence, awareness and early identification remain low in many regions of India. Parents, being the primary caregivers, play a critical role in observing early behavioural signs and seeking timely professional intervention. However, many parents lack the necessary knowledge to distinguish ADHD symptoms from normal developmental behaviours. This gap in awareness leads to delayed diagnosis and poor academic or social outcomes for affected children. The current study was undertaken to evaluate whether a structured, self-instructional module (SIM) could effectively improve parental knowledge about identifying ADHD symptoms.

II. Need of the study

Several studies have shown that early recognition of ADHD symptoms can significantly improve prognosis. Yet, in semi-urban and rural areas like Morena, parental awareness of such developmental disorders remains limited. A targeted educational approach, such as a SIM, can empower parents with the necessary knowledge to detect ADHD in its early stages and seek appropriate care. There is a pressing need for practical, scalable educational tools to bridge the information gap and promote early intervention strategies among parents.

III. STATEMENT OF PROBLEM

A study to assess the effectiveness of a self-instructional module (SIM) on knowledge of parents of R. L. Public School Morena children in identifying Attention-Deficit Hyperactivity Disorder (ADHD).

Objectives of the study:

- To assess knowledge of parents in experimental group in identifying ADHD before administering SIM.
- To assess knowledge of parents in control group in identifying ADHD.
- To assess knowledge of parents in experimental group in identifying ADHD after administering SIM.
- To assess post-test knowledge scores of parents in control group in identifying ADHD.
- To compare the knowledge scores before and after administering SIM.
- To compare the knowledge scores in experimental and control group.
- To correlate knowledge scores with selected demographic variables.

Operational definitions:

- **Effectiveness:** The extent to which the self-instructional module improves parents' knowledge, as measured by the difference in pre- and post-test scores.
- **Self-Instructional Module (SIM):** A structured, printed educational booklet designed for self-learning about ADHD signs, symptoms, and identification techniques.
- **Knowledge:** Awareness and understanding of ADHD among parents, measured through a structured questionnaire.
- **Parents:** Biological or legal guardians of children studying at R. L. Public School, Morena.
- **Attention-Deficit Hyperactivity Disorder (ADHD):** A neurodevelopmental disorder characterized by symptoms of inattention, hyperactivity, and impulsivity.

Hypothesis:

- **H_0 (Null Hypothesis):** There will be no significant difference between pre-test and post-test knowledge scores of parents after administration of the SIM.
- **H_1 (Research Hypothesis):** There will be a significant improvement in post-test knowledge scores of parents after administration of the SIM.

Assumption:

- Parents may have limited knowledge about ADHD.
- A self-instructional module can improve knowledge regarding ADHD identification.
- Parental involvement is essential for early recognition of ADHD symptoms.

Conceptual framework:

the conceptual framework of the present study is grounded in the General Systems Theory, guiding the development and evaluation of a self-instructional module on ADHD for parents. The model, structured into three phases—input, throughput, and output—serves to systematically organize and assess the intervention. The *input* involves identifying the parents' characteristics and learning needs, measured through a pre-test. The *throughput* comprises the preparation and administration of the self-instructional module to the experimental group. The *output* reflects the improvement in post-test knowledge scores, indicating the effectiveness of the module and its potential to positively influence future child-rearing practices. This model facilitates an organized, goal-oriented approach linking theory to practical nursing education and intervention.

IV. METHODOLOGY

Research Methodology is one of the vital sections of a research, since the success of any research is mostly depends upon the methodological issues that are followed in the execution of the research work. The role of methodology consists of procedures and techniques for concluding the study. This chapter deals with the methodological approach adopted for the study. It includes description of Research approach, Research design, setting of the study, Population, Sample, Criteria for sample selection, Sampling technique, Development of tool, Scoring procedure, Pilot study, Data collection procedure and Plan for data analysis.

Research Approach: An evaluatory research approach was used to find out the effectiveness of a self-instructional module(SIM) on knowledge of attention deficit hyperactivity disorder (ADHD).

Research Design:

The research design used in this study is pre experimental one group Pre Test Post
Test design which is represented in the figure given below.

Group	Pre test	Intervention	Post test
I	O1	X1	O2

Group: Staff nurses working in general hospital
O1: Pre-test before administering the self-instructional module
X: Administration of Self-instructional module.
O2: Post-testing of the group after administration of the self-instructional module.

Variables:

- The dependent variable of this study was knowledge of parents of R L Public School Morena Children regarding Attention Deficit Hyperactivity Disorder (ADHD).
- The independent variable was effectiveness of instructional module on knowledge regarding Attention Deficit Hyperactivity Disorder (ADHD).

Setting of the study: The study was conducted in selected school of Pune city.

Population: According to Polit and Hungler (2005). "A population is the entire aggregation of cases in which a researcher is interested". Population was parents of selected school's children of Pune city.

Sample and Sample size: Polit and Hungler, (2005). Stated that sample consists of a subset of population selected to participate in a research study. A total of 60 samples were selected for the present study, parents of selected school's children of Pune city.

Criteria for sample selection:

Inclusion criteria

- Parents who can read and understand English or Marathi language.
- Parents with children in the age group of 6-9 years.
- Only those who consent to participate in the study.

Exclusion criteria

- Stepparents will be excluded from the study.
- Parents of children with ADHD or any psychiatric illness.
- Parents not willing to participate due to illness or injury.

Sampling Technique: Convenient sampling of non-probability sampling technique was adopted for this study.

Development of the Tool: The research tool is developed in English after an extensive review of literature and expert opinion. The structured questionnaire used to assess the knowledge regarding attention deficit hyperactivity disorder.

Description of Tool: Consists of Part I and Part II.

Part I: Deals with the demographic data of the samples, which includes personal data of parents, housing, medical history, personal data of child, birth and past medical history of the child.

Part II: Consists of questions related to identification and management of Attention Deficit Hyperactivity Disorder (ADHD).

V. Data analysis

It deals with the analysis of data related to knowledge scores before and after administering the Self-instructional module (SIM).

Table.1 Distribution of overall knowledge scores in frequency and percentage obtained by the experimental group.

Overall	Pre-test		Post-test	
Knowledge score	Frequency	Percentage	Frequency	Percentage
0-15(Poor)	1	3.3	0	0
16-35(Average)	29	96.6	10	30
36-50(Good)	0	0	20	70

The above table shows that the majority (96.6%) of parents in pre-test of experimental group were having average knowledge score (16-35), where as in post test majority (70%) of the parents have a good knowledge score (36-50).

Table.2 Mean, Standard Deviation and't' value of knowledge scores in the pre-test and post-test phase of the experimental group.

Phase	Mean score	S.D.	T cal	Table value
Pre-test	22.1	3.96	4.12	1.94
Post-test	37.7	5.30		

* $P<0.05$

The mean of the scores obtained by the samples in the pretest phase was 22.1, and in the posttest phase it has increased to 37.7.

Table.3 Distribution of pre-test & post-test knowledge in frequency & percentage in both groups

Class Interval	Pre-test				Post-test			
	Experimental		Control		Experimental		Control	
	Freq	%	Freq	%	Freq	%	Freq	%
0-15	1	3.3	1	3.3	0	0	0	0
16-35	29	96.6	29	96.6	10	30	27	90
36-50	0	0	0	0	20	70	3	10

Table-3 shows that in control group maximum subjects in the pre-test were having average knowledge in the range of 16-35, and in the post-test also maximum subjects were in the same range which shows that there is no significant change in the knowledge level.

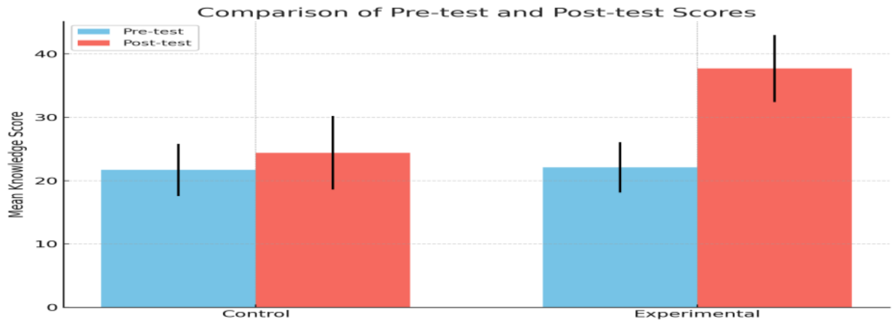
In experimental group maximum subjects in the pre-test phase were in the range of 16-35, whereas in the post-test phase maximum subjects were in the range of 36-50 i.e. good knowledge levels.

This clearly indicates that the level of knowledge in experimental group in the post-test phase is higher than in the pre-test phase. This shows that after administering.

The data presented in table4 shows the comparison between control and experimental group according to categories. The calculated't' value is greater than the table value (1.94) in all the categories. This means there is a significant increase in knowledge levels in all the categories. The p value is <0.05* which shows that it is highly significant. This indicates that the knowledge level has increased in all the categories in the experimental group.

Table.4 Mean & Standard deviation of pre-test & post-test scores in control and experimental group

S.No	Group	Mean score		Standard deviation	
		Pre-test	Post-test	Pre-test	Post-test
1	Control	21.70	24.4	4.12	5.79
2	Experimental	22.1	37.7	3.96	5.30

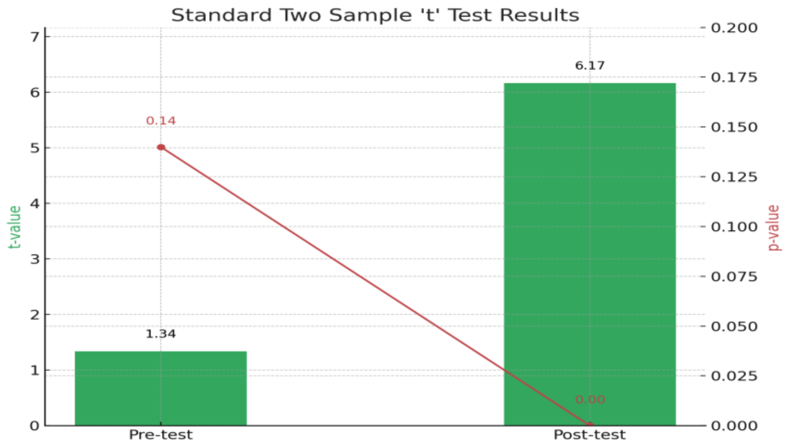


The data presented in table-o shows that, in control group there is no significant difference in pre-test and post-test mean knowledge scores. The experimental group shows significant difference in knowledge scores, which indicates an increase in knowledge level after administering the self-instructional module (SIM).

Table.5 Comparison between pre-test score & post-lest scores of samples from control and experimental group

S.No.	Standard two sample 't' test	't' cal value	p value
1	Pre-test (scores of experimental & control group)	1.34	0.14
2	Post-test (scores of experimental & control group)	6.17	0

*** P<0.05**



The data presented in table-8 shows that the p value in pre-test is more than 0.05, which means that there is no significant difference between pretest scores of control and experimental group.

In post-test scores of control and experimental group p value < 0.05*. This means that there is highly significant difference in the post-test scores of control and experimental group. This clearly suggests that because of the intervention i.e. self- instructional module (SIM) there is an increase in post-test knowledge level of the experimental group.

VI. CONCLUSION

In the pre-test phase majority of parents in the experimental group (96.6%) had an average knowledge score (16-35), and the mean of the scores was 22.1, whereas in the post-test phase majority (70%) of parents have a good knowledge score (36-50), and the mean of the scores increased to 37.7. Also the calculated 't' value is 4.12, which is significantly higher than the table value of 1.94 at 0.05 level of significance. These findings indicate that the self-instructional module (SIM) is effective in increasing the knowledge of the samples regarding ADHD.

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