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A PRE EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CHILD WELFARE PROGRAMS IN INDIA AMONG MOTHERS OF UNDER FIVE CHILDREN, AT SELECTED RURAL AREA, GHAZIABAD

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ABSTRACT

Aim: This study aimed "to assess the effectiveness of a structured teaching programme on improving the knowledge of mothers with children under the age of five about various child welfare schemes in the rural regions of Ghaziabad, Uttar Pradesh". **Methodology:** A pre-experimental one-group pre-test post-test design was utilized. A total of 80 mothers of under-five children were chosen through non-probability convenience sampling. A structured questionnaire was utilized to valuate knowledge levels before and after the intervention. Data were analyzed utilizing descriptive statistics and inferential statistics including the paired *t*-test and chi-square test. **Result:** The mean knowledge score significantly increased from 13.09 in the pre-test to 20.09 in the post-test ($t = 9.202$, $p < 0.00001$), indicating the effectivity of the STP. Post-test results showed a decrease in the number of mothers with inadequate knowledge and an increase in those with adequate knowledge. Significant associations were found amid post-test knowledge levels and demographic variables such as age, educational status, and working status of the mothers. **Conclusion:** The structured teaching programme was effectual in enhancing the knowledge of mothers regarding child welfare programs. The study spotlight the importance of targeted educational interventions to enhance maternal awareness, especially among rural populations. Future studies should include a control group and evaluate long-term knowledge retention and behavioural impact.

KEYWORDS: Child welfare programs, maternal knowledge, structured teaching, rural health, under-five children, educational intervention, Ghaziabad.

INTRODUCTION

The initial phase of a child's life is foundational to their long-term health, cognitive development, educational attainment, and behavioural patterns. This critical developmental window, particularly the period from birth to five years, requires comprehensive attention to health, nutrition, and early learning opportunities. Children in this age group are especially vulnerable to the detrimental effects of malnutrition, preventable diseases, and lack of stimulation, which can collectively contribute to developmental delays and lifelong disadvantages. Recognizing the significance of early childhood development, the Government of India has implemented several national programs aimed at improving child survival rates, fostering physical and mental growth, and promoting holistic well-being. Notable efforts include schemes such as the "Integrated Child Development Services (ICDS)", "Reproductive and Child Health (RCH) programme", "Universal Immunization Programme (UIP)", and "Janani Suraksha Yojana (JSY)", designed to encourage institutional deliveries and reduce maternal and infant mortality. These initiatives collectively aim to bridge the gaps in maternal and child healthcare delivery, particularly in underserved rural areas, thereby laying a strong foundation for a healthier and more productive future generation.(*Ministry of Women & Child Development, Annual Report 2020-21*, 2021)

Despite the wide range of programs available, gaps in awareness and utilization persist, especially in rural areas. Based on data from the NFHS-5 (2019–21), just 67.1% of infants between 12 and 23 months received complete immunization in India's rural regions, and approximately 35.5% of children under five were found to be stunted, indicating chronic undernutrition.(Sciences (IIPS) & ICF, 2021) The survey also highlighted that awareness regarding key government initiatives remains suboptimal among mothers, particularly those with lower educational status and socio-economic background.

Mothers play a pivotal role as primary caregivers and decision-makers for their children's health and development. Research indicates that a mother's level of education plays a significant role in enhancing her child's well-being, contributing to higher vaccination rates, lower illness frequency, and better overall nutrition.(Vikram & Vanneman, 2020) However, many rural mothers remain unaware of the benefits and services offered under government child welfare programs, resulting in underutilization of these critical services. Cultural beliefs, lack of access to reliable information, and low literacy rates further compound this problem.(Bharati et al., 2021).

Structured teaching programmes have consistently demonstrated their effectiveness as educational interventions aimed at enhancing knowledge, addressing misconceptions, and encouraging positive health behaviours, particularly among vulnerable populations such as mothers of young children. These programmes utilize well-planned, evidence-based content delivered through engaging methods that are tailored to the sociocultural context of the target audience, ensuring relevance and comprehension. For mothers of under-five children, structured teaching sessions provide vital information on child welfare schemes, immunization, nutrition, hygiene, and early childhood care, empowering them to make informed decisions that directly impact their children's health and development. By fostering understanding and promoting behaviour change, such initiatives help bridge the knowledge gap prevalent in rural areas. The WHO 2020 emphasizes the importance of maternal education and community involvement as integral components in achieving Sustainable Development Goal 3 aims to guarantee healthy lifestyles and enhance well-being for individuals of all ages. Educating mothers not only improves the immediate health of their children but also contributes to long-term societal health outcomes, ultimately supporting the global agenda of reducing child mortality and rising quality of life.(Organization, 2020).

India has the highest number of young children globally, with an estimated 158 million below six years of age.(UNICEF, 2022) Despite government efforts, a significant proportion of these children continue to suffer from preventable conditions like malnutrition, vaccine-preventable diseases, and poor early childhood development outcomes. Based on Global Nutrition Report (2021), 34.7% of children under five years in India were reported as stunted, and 17.3% were wasted, reflecting ongoing challenges in child welfare.(*Global Nutrition Report | Country Nutrition Profiles - Global Nutrition Report*, n.d.) These alarming figures underscore the necessity of strengthening the outreach and utilization of child welfare programs, particularly among vulnerable rural populations.

Studies have consistently shown that maternal knowledge and awareness are crucial determinants of child health service utilization. A study by Shrivastwa et al. (2015) emphasized that low maternal education and poor awareness significantly contributed to incomplete child immunization in rural India.(Shrivastwa et al., 2015) Similarly, Meena et al. (2020) found that structured teaching programmes significantly enhanced mothers' knowledge about child welfare services, leading to better healthcare-seeking behavior.(P et al., 2020) Structured teaching programs have been recommended by the World Health Organization (WHO, 2021) as effective strategies to bridge informational gaps and promote preventive health behaviours.(*Global Strategy for Women's, Children's and Adolescents' Health Data Portal*, n.d.) Considering the socio-economic vulnerabilities and cultural barriers prevalent in rural settings like Ghaziabad, implementing structured educational interventions for mothers becomes essential to improve child welfare outcomes.

This study was carried out with the primary objective "to assess the effectiveness of a structured teaching programme on enhancing knowledge regarding child welfare programs in India among mothers of under-five children residing in selected rural areas of Ghaziabad". Child welfare programs play a pivotal role in improving the wellness, nutrition, and overall development of children, especially in rural communities where access to information and services is often limited. By empowering mothers with accurate and comprehensive knowledge about these government initiatives—such as the Integrated Child Development Services (ICDS), immunization schedules, nutritional supplementation, and early childhood education—the study aims to promote greater awareness and proactive utilization of these services. It is anticipated that with improved knowledge, mothers will make more informed decisions regarding their child's health and well-being, leading to increased participation in welfare schemes, timely immunizations, and improved nutritional practices. Ultimately, this can result in enhanced child health indicators, reduction in child morbidity and mortality, and strengthened community engagement in child development efforts in rural areas.

METHODOLOGY

Research Approach

The present study adopted a quantitative approach.

Research Design
The study utilized "a pre-experimental design" involving a single group assessed both before and after the intervention.

Study Setting and Participants
The study was carried out in a selected rural area of Ghaziabad, Uttar Pradesh.

The study focused on mothers living permanently in the selected rural region of Ghaziabad who were caring for one or more children below five years of age.

Sampling
Eighty mothers with children under five were chosen for the study using "a non-probability convenience sampling method".

Data Collection: Data was gathered using a structured questionnaire designed to evaluate both demographic details and awareness of government welfare schemes for children among mothers with kids below five years. This instrument captured key background details and initial understanding of major child-related initiatives in India.

Data Analysis: The collected data were analyzed utilizing both descriptive and inferential statistical methods. Descriptive measures like frequency, percentage, mean, and standard deviation were utilized to present demographic data and knowledge levels. To evaluate the significance of changes in knowledge before and after the intervention, a paired t-test was conducted.

RESULTS

Table 1: Frequency and Percentage Distribution of Participants Based on Demographic Variables.

S. No.	Variables	Frequency (f)	Percentage (%)
1	**Age (in years)**		
	18–22	15	18.75%
	23–27	30	37.50%
	28–32	20	25.00%
	33 years and above	15	18.75%
2	**Educational Status**		
	Illiterate	10	12.50%
	Primary education	25	31.25%
	Secondary education	30	37.50%
	Graduate and above	15	18.75%
3	**Occupation**		
	Housewife	60	75.00%
	Employed (Private/Public)	20	25.00%
4	**Monthly Family Income (INR)**		
	Less than 10,000	20	25.00%
	10,001–20,000	35	43.75%
	Above 20,000	25	31.25%
5	**Number of Under-Five Children**		
	One	45	56.25%
	Two or more	35	43.75%
6	**Source of Information on Child Welfare Programs**		
	Health worker (ANM/ASHA)	40	50.00%
	Mass media (TV, radio, newspaper)	25	31.25%
	Friends/Relatives	15	18.75%

The above table 1 reveals that most mothers (37.5%) were aged 23–27 years, and most (37.5%) had secondary education. A large proportion (75%) were housewives, and 43.75% reported a monthly income between ₹10,001–₹20,000. Over half (56.25%) had one under-five child. Health workers were the primary source of information on child welfare programs for 50% of mothers, followed by mass media (31.25%) and friends or relatives (18.75%). Overall, most participants were of reproductive age, moderately educated, and dependent on health workers for relevant information.

Table 2: Frequency Distribution of Pre-Test and Post-Test Knowledge Scores Regarding Child Welfare Programs Among Mothers of Under-Five Children.

Knowledge Level	Score Range	Pre-Test	Post-Test
		Frequency	
Inadequate Knowledge	0–15	66	13
Moderate Adequate Knowledge	16–22	25	52
Adequate Knowledge	23 and above	9	35

The above Table 2 demonstrates that In the pre-test, most of participants (66 out of 80) had inadequate knowledge (score 0–15), while only 25 mothers had moderately adequate knowledge (score 16–22), and just 9 demonstrated adequate knowledge (score ≥ 23). In the post-test, only 13 mothers remained in the inadequate category, while the number of mothers with moderately adequate knowledge increased to 52. Notably, the number of mothers with adequate knowledge rose to 35, indicating a marked improvement.

Table 3: Comparison and Paired t-Test Analysis of Pre-Test and Post-Test Knowledge Scores Regarding Child Welfare Programs Among Mothers of Under-Five Children.

Test	Mean	Mode	S. D.	t-Value	p-Value	Significance Level
Pre-Test	13.09	12	5.78	9.202	< 0.00001	p < 0.05
Post-Test	20.09	19	4.89			

The above table 3 indicates that the average pre-test score was 13.09, with a mode of 12 and a standard deviation of 5.78, suggesting limited and varied knowledge prior to the intervention. Following the teaching session, the post-test mean rose to 20.09, with a mode of 19 and a standard deviation of 4.89, pointing to a notable increase and more uniform understanding among participants. The t-value of 9.202 and p-value below 0.00001 demonstrate statistical significance at the $p < 0.05$ level, confirming the effectivity of the STP in enhancing mothers' knowledge of child welfare schemes.

Table 4: Chi-Square Test Showing Association Between Demographic Variables and Knowledge Level of Mothers Regarding Child Welfare Programs.

S. No.	Demographic Variable	Chi-Square (χ^2)	df	p-Value	Result
1	Age of the mother (in years)	23.85	6	0.02	**S**
2	Religion of the Family	2.3	6	0.8	NS
3	Type of Family	3.078	4	0.12	NS
4	Number of Children in the Family	7.342	6	0.29	NS
5	Educational Status	22.23	6	0.051	**S**
6	Working Status of the mother	30.363	6	0.001	**S**

The above table 4 presents chi-square analysis, a statistically significant association amid knowledge level and three demographic variables: age of the mother ($\chi^2 = 23.85$, $p = 0.02$), educational status ($\chi^2 = 22.23$, $p = 0.051$), and working status of the mother ($\chi^2 = 30.363$, $p = 0.001$), indicating that these factors influence maternal knowledge regarding child welfare programs. Conversely, no significant association was found with religion of the family ($\chi^2 = 2.3$, $p = 0.8$), type of family ($\chi^2 = 3.078$, $p = 0.12$), and number of children in the family ($\chi^2 = 7.342$, $p = 0.29$). These findings suggest that younger, more educated, and working mothers are more likely to possess better knowledge, highlighting the importance of tailoring educational interventions based on these variables to improve program reach and effectiveness.

DISCUSSION

The findings of the study strongly indicate that the STP significantly improved the knowledge of mothers regarding child welfare programs. A key piece of evidence supporting this conclusion is the increase in mean knowledge scores from 13.09 in the pre-test to 20.09 in the post-test, which was statistically significant with a p-value < 0.00001.

In this study, 82.5% of mothers exhibited inadequate pre-test knowledge. This finding reflects a common trend across populations. For example, Abu Alhaija et al. (2024) found that only 1.9% of mothers had good knowledge about iron-deficiency anemia in infants before an intervention, highlighting a generally low baseline knowledge among rural mothers on child health topics.(Abu Alhaija et al., 2024) Similarly, Babarinde and Nnodimele (2022) observed low mean knowledge scores (9.6/33) on immunization among mothers prior to educational intervention.(O.J. & A.O., 2022)

Post-test scores significantly improved in this study, with a rise in adequate knowledge from 11.25% to 43.75%. This aligns with the findings of Silva et al. (2018), who showed improved childcare knowledge among young mothers after playful group-based educational interventions, though noted that some knowledge retention declined after five months, emphasizing the need for continued reinforcement.(Silva et al., 2018) Likewise, Ahwinahwi and Odili (2022) found a large post-intervention gain in knowledge regarding antibiotics, with the percentage of mothers scoring "good" increasing from 7.7% to over 50%.(Ahwinahwi & Odili, 2021).

The observed mean difference of 7.0 points ($p < 0.00001$) confirmed the effectiveness of the educational intervention. This effectiveness is strongly corroborated by similar results from randomized controlled and quasi-experimental studies. For example, a study in eastern China found a significant increase in mothers' vaccination knowledge and children's full vaccination coverage after a prenatal education session.(Hu et al., 2017) In Nigeria, Babarinde and Nnodimele (2022) reported a jump in post-test immunization knowledge

from 9.6 to 21.8 (on a 33-point scale), showing a sustained effect even after 6 weeks.(O.J. & A.O., 2022).

This study found significant associations between post-test scores and age (p = 0.02), education (p = 0.051), and working status (p = 0.001). These findings are consistent with Alseraty et al. (2024), who observed that mothers' education levels and employment status influenced knowledge gains and the ability to manage children with ADHD after intervention.(Alseraty et al., 2024) Similarly, in a Chinese multi-province study, increased maternal health knowledge was associated with more intensive, home-based education efforts, particularly among better-educated and younger mothers.(Yu-hu, 2011).

This study clearly shows that structured educational interventions significantly improve maternal knowledge, supported by strong statistical evidence. However, its limitations include a pre-experimental design, lack of a control group, and limited sample scope. A notable finding was the strong influence of government employment on knowledge gains. The hypothesis was confirmed, underscoring the value of targeted maternal education. Future research should use experimental designs, broader samples, and assess long-term knowledge retention and behavior change.

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