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Prevalence of Mother's Misconceptions and it's Effect on Growth and Development of their Under Five Children in Rural Community of Western Rajasthan

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Abstract: Introduction: Early childhood is also marked by the attainment of developmental milestones age-specific functional skills that reflect progress in physical, cognitive, language, social, and emotional domains. The present study was done to assess the prevalence of misconception and their effect on growth and development in under five children among their mothers at Rural community in Jaipur, Rajasthan. Methodology: In this study, quantitative research approach and descriptive cross-sectional research design were selected for the present study. The study was conducted in at Jaipur Rajasthan. A total of 150 mothers of under five- year children's in Jaipur, Rajasthan. The simple random sampling technique was used. The data collection was done with health of demographic profile, Misconception and behavior - Checklist and child growth and development measure. Results: The study found that most mothers of under-five children were young adults, educated up to Higher Secondary, homemakers, and from joint Hindu families, with most children fully immunized. Misconceptions were generally low to moderate, child health effects were mainly moderate, and maternal occupation significantly influenced both, with a weak positive correlation between misconceptions and effects. Conclusion: The study highlights that misconceptions regarding child feeding and health among mothers of under-five children are generally low to moderate, with a corresponding moderate impact on child health and growth. Maternal occupation emerged as a significant factor influencing both misconception and effect levels. A weak positive correlation between misconception and effect scores indicates that higher misconceptions may contribute to slightly greater adverse effects on child health. These findings emphasize the importance of implementing targeted health education and behaviour change interventions tailored to maternal occupational and educational contexts, aiming to reduce misconceptions and enhance child health outcomes.

Keywords: Misconceptions, Growth, Development, Under Five Children, Rural Community.

Introduction

Growth is an essential and continuous process that begins at conception and progresses throughout childhood until adulthood. Although the terms *Growth* and *Development* are often used interchangeably, they represent two different aspects of change growth refers to quantitative physical changes, while development refers to qualitative improvements in skills, abilities, and functioning. Together, these processes occur dynamically, influenced by biological, environmental, social, and nutritional factors[1]. Misconceptions are **incorrect beliefs or understandings that do not align with scientific evidence. Such false beliefs** can negatively affect how parents feed, care for, and support their children, potentially leading to delayed growth and developmental problems. The first 1,000 days, from conception to a child's second birthday, are especially crucial[2]. After birth, the child's environment, including care practices, stimulation, and nutrition, determines how they reach developmental milestones such as walking, talking, problem-solving, and social interactions[3]. Despite awareness campaigns, many mothers have misconceptions regarding child growth and development. Misconceptions are false beliefs that may negatively influence caregiving practices[4]. Believing that delayed walking or talking is normal and does not require intervention. Underestimating the importance of play, social interaction, and language stimulation in early childhood development is not good for the children. Over-reliance on home remedies and ignoring preventive care, vaccination, and regular growth monitoring[5]. As per the NFHS-5, the stunting decreased from 38.4% (NFHS-4) to 35.5% while wasting reduced from 21.0% to 19.3%. Despite improvements, many children remain at risk due to inadequate nutrition, limited maternal knowledge, and persistent misconceptions[6]. Early childhood is also marked by the attainment of developmental milestones age-specific functional skills that reflect progress in physical, cognitive, language, social, and emotional domains. Mothers, being the primary caregivers, play an indispensable role in observing, supporting, and nurturing their children's development. Their knowledge and active involvement are crucial for identifying delays, providing appropriate stimulation, and ensuring healthy growth[7]. Despite these government interventions, gaps in maternal knowledge continue to influence child health outcomes. Strengthening maternal awareness about growth, development, and nutrition remains essential for ensuring that children achieve their full developmental potential[8]. To protect children from poor feeding practices, India has introduced several programmes that focus on child health and nutrition. Even with strong government programmes in place, the increasing use and promotion of toddler milk show that many parents still lack correct information about healthy feeding practices[9].

By investigating the prevalence and types of misconceptions held by caregivers, this study will fill a critical gap. It will generate evidence on how these beliefs influence child care practices and developmental outcomes. Such insights are invaluable because they can inform more effective, targeted interventions both in policy and on-the-ground programmes. Training modules for Anganwadi workers, ASHAs, and other community health personnel can be designed to specifically correct common misbeliefs, rather than offering all advice[10]. Therefore, this study was conducted to assess existing prevalence of misconception regarding growth and development among the mothers of under 5 children.

Methodology

The research approach adopted for this study is the Quantitative Research Approach. The research design selected for the present study is Descriptive Cross-Sectional Research Design. The target populations consisted of the Mothers of Under – Five Children Residing In Jaipur, Rajasthan. Simple Random Sampling Technique was used to select 150 mothers of under five- year children's in Jaipur, Rajasthan. The data collection was Demographic profile, Checklist regarding Misconception and effect and Child growth and development measure *(*weighing machine, Infantometer, stadiometer shakir tape). The pilot study was done in Rural community (Rundal), Jaipur after obtaining formal administrative permission the tool was administered to 20 samples, selected as per the set criteria. The scores were calculated and then given for statistical analysis.

The reliability coefficient was calculated and the value is equal to 0.83, if value of reliability is greater than 0.80 then the test is reliable. As the value of reliability in this test is 0.83, the test is more reliable.

Ethical Consideration : Official permission is obtained from the selected rural community prior to conducting the study. Ethical clearance is sought and obtained from the **Institutional Ethical Committee RUHS College of Medical Sciences, Jaipur.** Prior to data collection, all mother's of under-five children are informed about the purpose, procedures, benefits, and potential risks of the study. The c***onfidentiality and Privacy of the subjects were maintained.***

Inclusion Criteria:

- ✓ Mothers who have children aged 0-5 years.
- ✓ Mothers residing in the rural (Rundal) community.
- ✓ Mothers who were willing to participate.

Exclusion Criteria:

- ✓ Mothers who were unwilling to participate.
- ✓ Mothers with some psychological problems.

Results and Discussion

Table 1. Frequency and Percentage Distribution of Mothers by Age Group (N=150)

Variables		N	Percentage
Age group (years)	20–24	35	23.3
	25–35	95	63.3
	>35	20	13.3
Mother's education	No schooling	12	8.0
	Primary+Middle	15	10.0
	Secondary	55	36.7
	Higher Secondary	58	38.7
Occupation	Homemaker	65	43.3
	Labour	20	13.3
	Farming	30	20.0
	Private/Business	25	16.7
	Government	10	6.7
Monthly Income	<10,000	30	20.0
	10,000–19,999	35	23.3
	20,000–29,999	25	16.7
	30,000–49,999	15	10.0
	≥50,000	45	30.0
Religion	Hindu	129	86
	Muslim	21	14.0
Type of family	Nuclear	62	41.3
	Joint	79	52.7
	Extended	9	6.0
Immunization status	Fully immunized	119	79.3
	Partially immunized	29	19.3
	Not immunized/No card	2	1.3

As per table-1, majority of mothers were in the age group 25–35 years (n=95, 63.3%), followed by 20–24 years (n=35, 23.3%). This indicates that most respondents were in the early to mid-adult age range while parenting under-five children in the study area. The highest proportion of mothers had education up to Higher Secondary (11–12) (n=58, 38.7%). Overall, the educational

distribution suggests varied educational exposure, which may influence maternal beliefs and misconceptions related to child feeding and health practices. Majority of mothers were Homemaker (n=65, 43.3%). This reflects the typical rural household structure where a large proportion of women are involved primarily in home management, while others participate in farming, labour or private/business work. The highest proportion of families belonged to the income group ≥50,000 (n=45, 30.0%). This indicates mixed socio-economic status among the study participants, which may affect access to health information and practices. Majority of mothers belonged to Hindu religion (n=129, 86%). Majority of mothers belonged to Joint families (52.7%). Family structure may influence decision-making and continuation of traditional practices related to child care. Most children were fully immunized (n=119, 79.3%), while 19.3% were partially immunized and 1.3% were not immunized/no card. This indicates relatively good immunization coverage in the study population.

Table 2. Frequency and Percentage Distribution of Mothers by Misconception Level (N=150)

Misconception level	F	%
Low	90	60.0
Moderate	47	31.3
High	13	8.7

According to table-2, majority of mothers had low level of misconceptions (n=90, 60.0%), followed by moderate level (n=47, 31.3%). High level misconceptions were observed in 8.7% mothers, indicating a smaller but important group requiring focused health education.

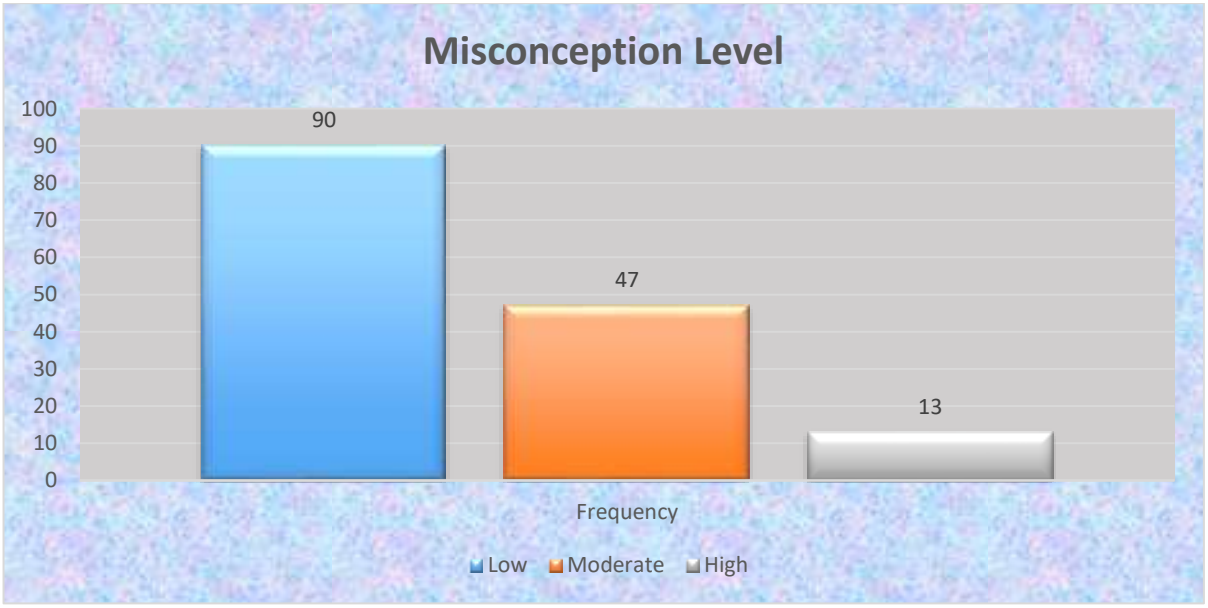


Figure 1. Bar diagram showing Frequency and Percentage Distribution of Mothers by Misconception Levels.

Table 3. Frequency and Percentage Distribution of Children by Effect Level (N=150)

Effect level	f	%
Mild	45	30.0
Moderate	93	62.0
Severe	12	8.0
Total	150	100.0

Majority of children were reported under moderate effect level (n=93, 62.0%), followed by mild effects (n=45, 30.0%). Severe effects were observed in 8.0% children, suggesting a smaller subset with higher health/growth related concerns (Table-3).

Table 4. Mean and Standard Deviation of Effect Score (N=150)

Variable	Mean	SD	Minimum	Maximum
Effect score	9.97	2.98	6	15

The mean effect score was 9.97 ± 2.98. This indicates that, on average, mothers reported moderate level effects related to child health and growth indicators.

Table 5. Correlation Between Misconception Score and Effect Score (N=150)

Variables	Pearson r value	p-value
Misconception score v/s Effect score	0.193	0.0182*

Karl Pearson correlation showed a weak positive correlation between misconception score and effect score (r=0.193, p=0.0182). This indicates that higher misconception scores were associated with slightly higher effect scores, and the relationship was statistically significant at 0.05 level. (Table-5 , Figure-2).

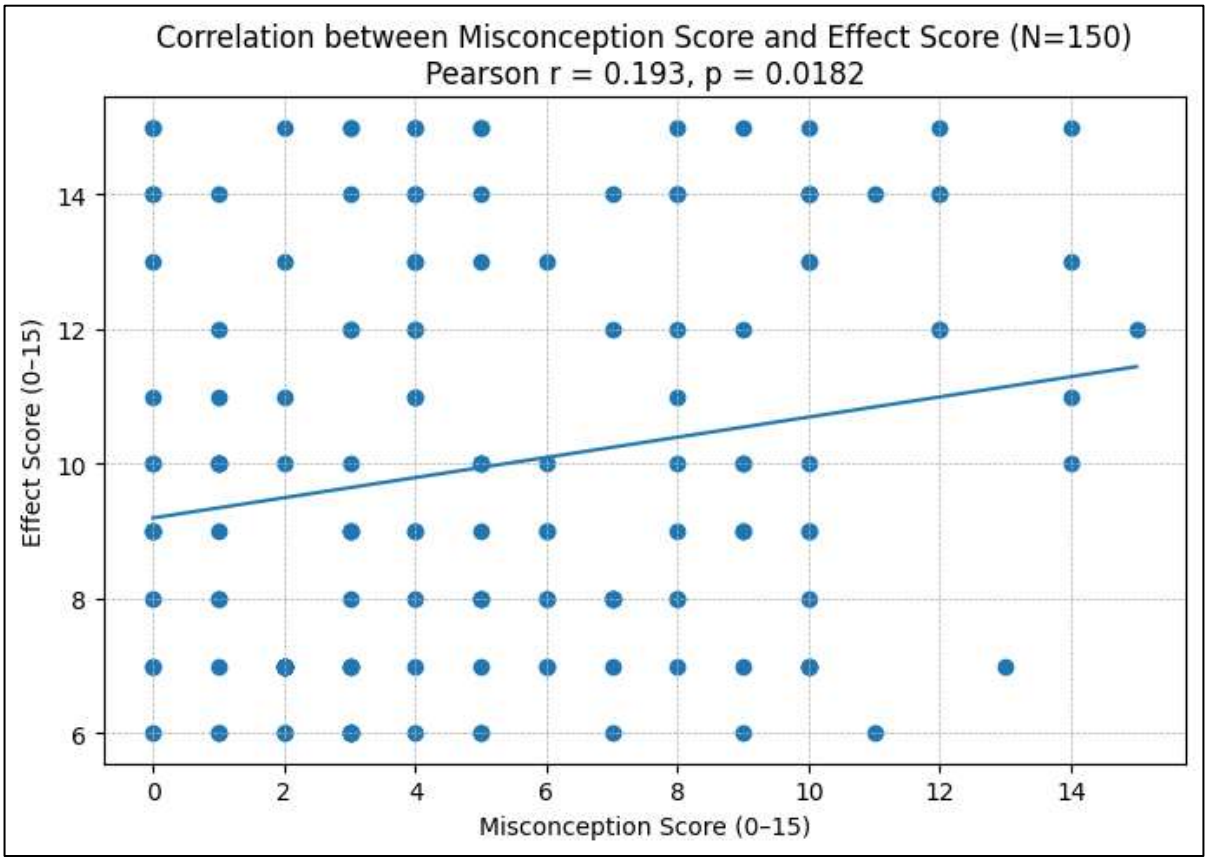


Figure 2. correlation graph between Misconception score and Effect score.

Association Between level of misconception and Selected Socio-demographic Variables

Chi-square test was applied to determine the association between selected socio-demographic variables of mothers and the level of misconceptions (Low/Moderate/High) among mothers of under-five children (N=150). The association analysis showed that mother's age group (χ^2=2.522, df=4, p=0.64), monthly family income (χ^2=10.22, df=8, p=0.24), family type (χ^2=4.80, df=4, p=0.39), religion (χ^2=1.40, df=2, p=0.50), and child immunization status (χ^2=3.27, df=4, p=0.51) did not show statistically significant association with misconception level. Mother's occupation showed a statistically significant association with misconception level (χ^2=16.43, df=8, p=0.03). Mother's education showed borderline association (χ^2=19.137, df=8, p=0.05) indicating that misconception level tended to vary with educational status. Overall, the findings suggest that misconceptions are not uniformly influenced by all socio-demographic factors, but are meaningfully related to occupational background, and possibly to educational exposure. This

indicates the importance of tailoring health education strategies according to occupational groups and strengthening educational interventions to reduce misconceptions and improve correct child health and growth-related practices

Association Between Effect Level and Selected Socio-demographic Variables

The chi-square analysis showed that Mother Age Group (χ^2=6.18, df=4, p=0.18), Mother Education (χ^2=5.50, df=8, p=0.69), Monthly Family Income (χ^2=8.06, df=8, p=0.42), Family Type (χ^2=4.12, df=4, p=0.38), Religion (χ^2=0.24, df=2, p=0.88), and Child Immunization Status (χ^2=1.13, df=4, p=0.85) did not show statistically significant association with effect level. In contrast, Mother Occupation showed statistically significant association with effect level (χ^2=16.91, df=8, p=0.03). Overall, the results highlight **mother's occupation** as an important determinant influencing effect level related to child health and growth, suggesting that variations in work pattern, time availability, exposure to health information, and health-seeking behaviour across occupational groups may affect child-related practices and outcomes.

Discussion

The present study investigated the distribution of maternal misconceptions regarding child health and growth, the corresponding effect levels observed in children, and the statistical relationship between these two variables among a sample of 150 mother-child dyads.

1. Prevalence and Distribution of Maternal Misconceptions

According to the findings in Table 2, the majority of mothers exhibited a low level of misconceptions (60.0%, n=90), followed by a moderate level (31.3%, n=47). Only a small minority (8.7%) demonstrated high-level misconceptions. This skewed distribution toward lower misconception scores is an encouraging indicator of foundational health literacy within the sampled population. However, the presence of a persistent subset (8.7%) harbouring high misconceptions highlights a critical target group for localized community health interventions. These results align with broader literature emphasizing that while general awareness regarding childcare has improved through public health campaigns, specific nuances concerning early childhood development, nutritional milestones, and symptom management often remain misunderstood[11][12]. Misinformation frequently circulates via word-of-mouth or unverified digital platforms, reinforcing the need for continuous professional guidance from primary healthcare providers[13].

2. Child Health and Growth Effect Levels

The evaluation of children using effect levels and descriptive statistics of the effect scores revealed that most children experienced moderate effects (62.0%, n=93), with a mean effect score of 9.97 (ranging from a minimum of 6 to a maximum of 15). While severe effects were confined to a smaller subset of children (8.0%, n=12), the predominance of moderate effects suggests that subclinical or intermediate health and growth challenges are remarkably common. These outcomes indicate that many children encounter developmental or nutritional hurdles that may not immediately present as acute medical emergencies, but nonetheless require active tracking and intervention to prevent long-term growth faltering[14].

3. Correlation between Maternal Misconceptions and Child Effect Scores

Karl Pearson's correlation coefficient demonstrated a weak positive correlation between maternal misconception scores and child effect scores ($r = 0.193$, $p = 0.0182$). Although the correlation coefficient reflects a weak linear association, the relationship achieved statistical significance ($p < 0.05$). This finding implies that higher levels of maternal misconceptions are associated with slightly elevated effect scores in children. In a clinical context, even a weak positive correlation is theoretically and practically meaningful; it supports the premise that cognitive gaps, myths, or inaccurate beliefs held by primary caregivers can tangibly influence child health and growth parameters, whether through delayed recognition of symptoms, inappropriate dietary practices, or

suboptimal utilization of growth monitoring programs[15] Caregiver understanding directly dictates health-seeking behaviors and proactive home management, suggesting that mitigating parental misconceptions can serve as a viable pathway for improving child health outcomes.

Conclusion

The study findings showed that most mothers belonged to the age group of 25–35 years and had education up to higher secondary level. Majority were homemakers and belonged to joint families, which may contribute to the continuation of traditional child-care practices. The majority of mothers had **low to moderate levels of misconceptions**, indicating partial awareness along with the persistence of certain cultural beliefs. A small proportion of mothers had high misconception levels, emphasizing the need for focused health education. Most children were found to have **moderate effects on growth and development**. Mother's occupation showed a **statistically significant association** with both misconception level and effect level, whereas other socio-demographic variables did not show significant association. A **weak but significant positive correlation** was found between misconception score and effect score, indicating that an increase in misconceptions was associated with increased adverse effects on child growth and development. The study concluded that misconceptions regarding child feeding and health practices still exist among mothers of under-five children in rural areas. Although the overall level of misconceptions was low to moderate, these misconceptions were found to influence child growth and development. Mother's occupation was identified as a significant factor affecting both misconception and effect levels. The study highlights the importance of continuous health education and counselling by nurses to improve maternal knowledge and child health outcomes.

Limitations of the Study

The study was conducted in a single rural community. Sample size limited to 150 mothers, which may not represent the larger population. Data collected was self-reported, subject to recall bias. Cross-sectional design limits the ability to establish cause-effect relationships. Other caregivers' influence on child care practices was not considered.

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