

## “A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE OF CAREGIVERS OF UNDER FIVE CHILDREN DURING DIARRHEAL ILLNESS AMONG SELECTED RURAL AREA COMMUNITIES OF GURUGRAM.”

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### **ABSTRACT**

**Background:** In the twenty first century, diarrheal illness is very critical condition in children's diarrheal illness is usually short - lived lasting no more than few days, but when diarrhea lasts beyond few days, it is usually a clue to another problem Diarrhea is a leading killer of children, accounting for approximately 9% of all deaths among children under age 5 worldwide 2021. This translates to over 1200 children dying each day, or about 444,000 children a year, despite the availability of a simple treatment solution. **Methods and Materials:** The study was conducted on 138 caregivers in each of non-experimental descriptive research design was used to assess the knowledge and practices of caregivers of under- five children during diarrheal illness among selected rural communities of Gurugram. The present study was carried out in rural areas at Gurugram, Haryana. A semi structured questionnaire was administered to measure the level of knowledge and practices of caregivers of under- five children through this we are able to conduct the level of knowledge. The study was conducted successively and data was collected. By developing a checklist, the non-experimental study was given for the people including sociodemographic data, knowledge questionnaire and checklist to prevent diarrheal illness in under- five children and the tools validity and reliability were assessed using the descriptive method and the data analyzed. **Result:** The Pearson's correlation analysis between knowledge scores and practice scores reveals a correlation coefficient of -0.004, indicating a very weak negative relationship. The correlation is not statistically significant, as the p-value is 0.959, which is much greater than the conventional significance level of 0.05. This suggests that there is no meaningful association between the knowledge scores and practice scores in this dataset. Despite the mean knowledge and practice scores being relatively close (10.91 and 7.46, respectively), the lack of a significant correlation implies that changes in knowledge do not have a substantial impact on practice performance. **Conclusion:** This study aimed to assess the knowledge and practices of caregivers of under-five children during diarrheal illness. The findings reveal that while caregivers possess a basic understanding of diarrheal illnesses and

their management, gaps persist in critical areas such as the identification of dehydration, proper preparation and administration of oral rehydration solutions (ORS), and awareness of preventive measures.

**Key words:** Prevention, Knowledge, Practices, Caregivers, diarrheal illness.

## INTRODUCTION

Diarrhea is defined as the passage of three or more than that loose or watery stools coming between the 24-hour period. This is the symptom of a gastro intestinal infection which is caused by a bacterial, viral or parasitic organism. It has become a very critical public health issue mainly in the low income and rural areas where there is a problem of hygiene and sanitation condition. Also, diarrhea is a common situation among young children which can lead to problems like dehydration and malnutrition and in a severe case even death.

The most important cause of diarrhea among children under the age of 5 is the infectious agents like rotavirus or norovirus. It also includes bacteria like *Escherichia coli*, *Shigella*, and *Salmonella* and parasites including *Giardia lamblia* and *Entamoeba histolytica*. The infectious agents mainly spread through contaminated food and water, poor hygiene and sanitation practices. The chances of spreading of these pathogens in rural area is higher because of the limited access to clean sanitation facilities. Another major cause for diarrhea is inadequate sanitation and poor hygiene practices. In several rural areas the problem of open defecation is common and there is no proper based disposable system. There is also a lack of access to safe drinking water which also becomes a challenge in the rural areas. When contaminated source of water is used for drinking, cooking and washing, risk of diarrheal infection increases. It gives way to water born pathogens that can easily infect children as they are more vulnerable because of developing immune system. Apart from this, seasonal changes like monsoon season can increase the issue because the chances of water contamination due to flooding and runoff is high. It is important to understand these causes so that preventive actions and intervention strategies can be made. Once the root cause is addressed, improved hygiene practices and the problem of malnutrition can be reduced which further results in less diarrhoea cases in rural community like in Gurugram.<sup>1</sup> Understanding the root cause is knowing the early signs of diarrhoea and the primary one is the passage of three or more loose or watery stools in a day. If there is a frequent bowel movement, you can lead to rapid fluid loss and also dehydration. If children are having diarrhea they may experience abdominal pain and cramps. The pain can be mild to severe but it is caused because of increased intestinal activity. Nausea and vomiting frequently accompany diarrheal illnesses, especially when the cause is a viral infection. These symptoms can lead to dehydration and may also complicate fluid management.

## NEED OF THE STUDY

Diarrhoea remains a significant public health concern, especially in developing countries like India. Children under five are particularly vulnerable to its severe effects, including dehydration and malnutrition. The need for a study focused on caregivers in rural Gurugram arises from several critical factors like High Prevalence of Diarrhoea in Rural Areas. The consequences of diarrhoeal disease extend far beyond the individual child. It places immense strain on families,

both emotionally and financially. Parents often lose workdays to care for their sick child, jeopardizing their livelihood. Healthcare costs associated with treatment can push families deeper into poverty. Additionally, the loss of a child shatters families and communities, leaving behind a legacy of grief and despair. Socioeconomic disparities: Rural areas often have limited access to clean water, sanitation, and healthcare facilities, increasing the risk of diarrheal diseases. Awareness gap: Low levels of education and awareness about hygiene and disease prevention can contribute to the spread of diarrhea. Impact of Caregiver Knowledge and Practices; Early detection and response: Early identification of diarrhea symptoms and appropriate initial care can prevent severe complications. Treatment adherence: Correct use of oral rehydration solutions (ORS), zinc supplements, and continued feeding are crucial for recovery. Prevention measures: Understanding caregiver practices related to hygiene, food safety, and sanitation can inform targeted interventions. Identifying Knowledge Gaps: Assessment of current practices: Identifying common misconceptions and knowledge gaps about diarrhea can help tailor educational programs. Barriers to care: Understanding challenges faced by caregivers in accessing healthcare can inform policy and program development. Developing Effective Interventions: Evidence-based approaches: Study findings can inform the development of culturally appropriate and effective interventions to improve caregiver practices. Community engagement: Involving community members in the research process can enhance ownership and sustainability of interventions.

## **AIM OF THE STUDY**

To assess the knowledge and practices of caregivers of under-five children during diarrheal illness in selected rural communities.

## **RESEARCH METHODOLOGY**

### **OBJECTIVES:**

1. To assess the prevalence regarding diarrheal illness among caregivers in the rural community.
2. To assess the knowledge regarding diarrheal illness among caregivers in the rural community.
3. To determine the situation of knowledge regarding diarrheal illness among caregivers with their selected socio demographic variables.

**Research Type-** Quantitative research

**Research design-** Non experimental descriptive research design was used.

**Sample and Size-** sample was consisted of 138 caregivers who were present in Budhera village, Gurugram, Haryana.

**Sampling technique-** sample was selected by using non probability purposive sampling technique.

### **Description of tool**

The tool was divided into three sections:

**Part1:** Socio demographic variables to obtain personal and general information among sample like age, gender, occupational area, educational qualifications, monthly family income, type of family, previous source of information regarding providing care to under-five children suffering from diarrhoea.

**Part 2:** For-care provision practice checklist sheet was used to assess the knowledge and practice regarding diarrhoea of caregivers of under-five children.

**Part 3:** Structured knowledge questionnaire was used to assess the knowledge and practices regarding of caregivers of under- five children during diarrheal illness.

## Validity of tool

To ensure content validity, the tool was submitted to 10 experts of different field of nursing. Experts were requested to judge the items for clarity, relevance, appropriateness, relatedness, and suggestion on the content, its coverage, organization.

## Reliability of tool

To reliability of structured questionnaire was found to be 0.82. Hence, tool was reliable.

## Organisation and Interpretation of the data for analysis

**Section 1:** Descriptive of sociodemographic variables by using frequency and percentage.

**Section 2:** Assessment of prevalence regarding diarrheal illness among caregivers.

**Section 3:** Assessment of knowledge regarding diarrheal illness among caregivers.

## RESULT

### Section A –

**Age of Caregiver:** The majority of caregivers are between 25-35 years old (34.8%, 48), followed by those aged 35-45 years (26.1%, 36). A smaller percentage are above 45 years (10.1%, 14), with the least being under 25 years (29.0%, 40).

**Gender:** The majority of caregivers are female (72.5%, 100), with a smaller proportion being male (27.5%, 38). No caregivers fall into the "Others" category.

**Marital Status:** Most caregivers are married (52.2%, 72), while a significant proportion are unmarried (47.8%, 66).

**Educational Qualification:** A large majority of caregivers are illiterate (89.1%, 123), with only a small percentage having up to primary school education (8.0%, 11) and even fewer having higher education (2.9%, 4). None have a graduation or higher degree.

**Occupation:** The most common occupation is home worker (58.0%, 80), followed by those in private jobs (15.9%, 22), government jobs (11.6%, 16), and other occupations (14.5%, 20).

**Number of Children:** Most caregivers have two children (35.5%, 49), followed by those with three or more children (29.0%, 40). A notable percentage have one child (23.9%, 33), and the least have no children (11.6%, 16).

**Monthly Family Income:** The majority of families earn below Rs. 5000 (61.6%, 85), followed by those earning Rs. 5000-10,000 (31.9%, 44). Fewer families earn between Rs. 10,001-15,000 (2.9%, 4) or above Rs. 15,000 (3.6%, 5).

**Type of Family:** Most caregivers belong to joint families (64.5%, 89), with fewer in nuclear families (34.1%, 47) and a very small number in extended families (1.4%, 2).

**Any Previous Knowledge about Diarrheal Illness:** A majority of caregivers have previous knowledge about diarrheal illness (68.8%, 95), while a smaller percentage do not (31.2%, 43).

**Source of Information:** The most common source of information about diarrheal illness is mass media (40.6%, 56), followed by peer groups (29.0%, 40) and health workers (21.0%, 29). Teachers are the least common source (9.4%, 13).

The criteria measure of knowledge scores reveals that the majority of participants fall into the "Average" category, with 80.4% scoring between 8 and 14. A smaller proportion of participants are classified as having "Good" knowledge, with 9.4% scoring between 15 and 20. The least number of participants fall into the "Poor" category, with 10.1% scoring between 0 and 7.

The descriptive statistics for the knowledge scores show a mean score of 10.91 with a standard deviation of 2.88, indicating a moderate level of knowledge among participants. The median score is 11.00, reflecting the central tendency of the data. The scores range from a minimum of 0 to a maximum of 18, with a total range of 18 points. The mean percentage score is 54.5%, suggesting that participants, on average, score just above half of the maximum possible score.

## SECTION - B

□ **Age of Caregiver:** No significant association was found between the age of the caregiver and the knowledge score categories (Chi-square = 1.219,  $p = 0.976$ ).

□ **Gender:** There is no significant association between gender and knowledge score categories (Chi-square = 0.613,  $p = 0.736$ ).

□ **Marital Status:** Marital status does not show a significant association with knowledge score categories (Chi-square = 2.758,  $p = 0.252$ ).

□ **Educational Qualification:** No significant association was observed between the educational qualification of caregivers and their knowledge score categories (Chi-square = 3.015,  $p = 0.555$ ).

□ **Occupation:** Occupation of the caregiver does not significantly relate to knowledge score categories (Chi-square = 6.149,  $p = 0.407$ ).

□ **Number of Children:** The number of children does not significantly affect the knowledge score categories (Chi-square = 4.498,  $p = 0.610$ ).

□ **Monthly Family Income:** There is no significant association between monthly family income and knowledge score categories (Chi-square = 9.542,  $p = 0.145$ ).

□ **Type of Family:** The type of family does not significantly influence the knowledge score categories (Chi-square = 1.521,  $p = 0.823$ ).

□ **Any Previous Knowledge About Diarrheal Illness:** Previous knowledge about diarrheal illness does not show a significant association with knowledge score categories (Chi-square = 1.512,  $p = 0.470$ ).

□ **Source of Information:** No significant association is found between the source of information and knowledge score categories (Chi-square = 5.121,  $p = 0.528$ ).

**Table –: Frequency & Percentage distribution of knowledge Scores.**

CRITERIA MEASURE OF KNOWLEDGE SCORE		
CATEGORY SCORE	PERCENTAGE	FREQUENCY
GOOD (15-20)	9.4%	13
AVERAGE (8-14)	80.4%	111
POOR (0-7)	10.1%	14

Maximum Score=20 Minimum Score=0

## SECTION - C

**Age of Caregiver:** Caregivers aged 35-45 years have the highest mean knowledge score of 56.11 (SD = 2.72). Other age groups have slightly lower mean scores, with values around 53.38 to 54.38, indicating that age does not show a significant variation in knowledge scores.

**Gender:** Female caregivers have a higher mean knowledge score of 55.30 (SD = 2.73) compared to males, who have a mean score of 52.50 (SD = 3.24). This suggests females have slightly better knowledge scores.

**Marital Status:** Unmarried caregivers have a higher mean knowledge score of 55.23 (SD = 3.23) compared to married caregivers, who have a mean score of 53.89 (SD = 2.52), indicating that marital status may have a minor influence on knowledge scores.

**Educational Qualification:** Illiterate caregivers have the highest mean knowledge score of 54.84 (SD = 2.71). Those with primary school education have a lower mean score of 52.27 (SD = 4.66). Educational qualification shows a varied effect on knowledge scores.

**Occupation:** Caregivers with other occupations have the highest mean knowledge score of 57.50 (SD = 3.03). Home workers and those in private or government jobs have slightly lower scores, suggesting that occupation has a minor impact on knowledge scores.

**Number of Children:** Caregivers with three or more children have the highest mean knowledge score of 55.00 (SD = 2.17). The mean scores for caregivers with fewer children are slightly lower, indicating that the number of children may have a slight influence on knowledge scores.

**Monthly Family Income:** Caregivers with an income above Rs. 15,000 have the highest mean knowledge score of 58.00 (SD = 1.82), followed by those with incomes in other ranges. Higher income may be associated with better knowledge scores.

**Type of Family:** Caregivers from nuclear families have the highest mean knowledge score of 56.70 (SD = 3.09), compared to those from joint or extended families. This suggests that the type of family might influence knowledge scores.

**Any Previous Knowledge About Diarrheal Illness:** Caregivers with previous knowledge about diarrheal illness have a slightly lower mean score of 53.53 (SD = 2.72) compared to those without, who have a mean score of 56.74 (SD = 3.19), indicating previous knowledge might not significantly affect current knowledge scores.

**Source of Information:** Caregivers who obtained information from teachers have the highest mean knowledge score of 61.92 (SD = 2.66). Those who relied on other sources have lower mean scores, suggesting that the source of information impacts knowledge scores.

The Pearson's correlation analysis between knowledge scores and practice scores reveals a correlation coefficient of -0.004, indicating a very weak negative relationship. The correlation is

not statistically significant, as the p-value is 0.959, which is much greater than the conventional significance level of 0.05. This suggests that there is no meaningful association between the knowledge scores and practice scores in this dataset. Despite the mean knowledge and practice scores being relatively close (10.91 and 7.46, respectively), the lack of a significant correlation implies that changes in knowledge do not have a substantial impact on practice performance.

## To determine the association between practice and socio-demographic variables:

1. **Age of Caregiver:** The association between age groups and practice scores is not significant ( $\chi^2=2.598$ ,  $p=0.857$ ), indicating that age does not notably affect practice scores.
2. **Gender:** Gender does not significantly impact practice scores ( $\chi^2=1.348$ ,  $p=0.510$ ), showing no clear difference in practice levels between males and females.
3. **Marital Status:** Marital status is not significantly related to practice scores ( $\chi^2=1.071$ ,  $p=0.585$ ), suggesting that whether a caregiver is married or unmarried does not influence their practice scores.
4. **Educational Qualification:** The level of education does not significantly affect practice scores ( $\chi^2=3.910$ ,  $p=0.418$ ), indicating that educational attainment is not a major factor in practice performance.
5. **Occupation:** Occupation shows a significant association with practice scores ( $\chi^2=14.321$ ,  $p=0.026$ ). Home workers have a notably higher proportion of good practice scores compared to those in private or government jobs, highlighting a potential influence of occupation on practice levels.
6. **Number of Children:** The number of children does not significantly affect practice scores ( $\chi^2=9.040$ ,  $p=0.171$ ), meaning that the number of children a caregiver has does not significantly alter their practice scores.
7. **Monthly Family Income:** Monthly family income is not significantly associated with practice scores ( $\chi^2=3.995$ ,  $p=0.677$ ), indicating that variations in income levels do not strongly affect practice performance.
8. **Type of Family:** The type of family is not significantly related to practice scores ( $\chi^2=3.792$ ,  $p=0.435$ ), showing that whether caregivers belong to a joint, nuclear, or extended family does not significantly impact their practice scores.
9. **Any Previous Knowledge About Diarrheal Illness:** Previous knowledge about diarrheal illness is not significantly associated with practice scores ( $\chi^2=0.605$ ,  $p=0.739$ ), suggesting that having prior knowledge does not notably influence practice scores.
10. **Source of Information:** The source of information does not significantly affect practice scores ( $\chi^2=0.929$ ,  $p=0.988$ ), indicating that whether information comes from teachers, health workers, mass media, or peer groups does not significantly impact practice performance.

## DISCUSSION

### **1.To assess the practice regarding diarrheal illness among caregivers in the rural community.**

Average category, with 80.4% scoring between 8 and 14. A smaller proportion of participants are classified as having "Good" knowledge, with 9.4% scoring between 15 and 20. The least number of participants fall into the "Poor" category, with 10.1% scoring between 0 and 7. The descriptive statistics for the knowledge scores show a mean score of 10.91 with a standard deviation of 2.88, indicating a moderate level of knowledge among participants. The median score is 11.00, reflecting the central tendency of the data. The scores range from a minimum of 0 to a maximum of 18, with a total range of 18 points. The mean percentage score is 54.5%, suggesting that participants, on average, score just above half of the maximum possible score.

### **2.To assess the knowledge regarding diarrheal illness among caregivers in the rural community.**

Caregivers who obtained information from teachers have the highest mean knowledge score of 61.92 (SD = 2.66). Those who relied on other sources have lower mean scores, suggesting that the source of information impacts knowledge scores. The Pearson's correlation analysis between knowledge scores and practice scores reveals a correlation coefficient of -0.004, indicating a very weak negative relationship. The correlation is not statistically significant, as the p-value is 0.959, which is much greater than the conventional significance level of 0.05. This suggests that there is no meaningful association between the knowledge scores and practice scores in this dataset. Despite the mean knowledge and practice scores being relatively close (10.91 and 7.46, respectively), the lack of a significant correlation implies that changes in knowledge do not have a substantial impact on practice performance.

### **3.To determine the association of knowledge regarding diarrheal illness among caregivers with their selected socio demographic variables.**

Occupation shows a significant association with practice scores ( $\chi^2=14.321$ ,  $\chi^2 = 14.321$ ,  $p=0.026$ ,  $p = 0.026$ ,  $p=0.026$ ). Home workers have a notably higher proportion of good practice scores compared to those in private or government jobs, highlighting a potential influence of occupation on practice levels.

## CONCLUSION

This study aimed to assess the knowledge and practices of caregivers of under-five children during diarrheal illness. The findings reveal that while caregivers possess a basic understanding of diarrheal illnesses and their management, gaps persist in critical areas such as the identification of dehydration, proper preparation and administration of oral rehydration solutions (ORS), and awareness of preventive measures. The Pearson's correlation analysis between knowledge scores and practice scores reveals a correlation coefficient of -0.004, indicating a very weak negative relationship. The correlation is not statistically significant, as the p-value is 0.959, which is much greater than the conventional significance level of 0.05. This suggests that there is no meaningful association between the knowledge scores and practice scores in this dataset. Despite the mean knowledge and practice scores being relatively close (10.91 and 7.46,



respectively), the lack of a significant correlation implies that changes in knowledge do not have a substantial impact on practice performance.

## LIMITATION

The study was conducted on 138 caregivers of the rural area in Gurugram about knowledge and practice regarding diarrheal illness in under 5 children.

## RECOMMENDATION

- Recognize the signs of diarrhoea, such as frequent, watery stools, abdominal cramps, nausea, and sometimes fever.
- **Dehydration:** Understand the risks of dehydration, especially in infants and young children, and how to identify its symptoms (e.g., dry mouth, decreased urine output, sunken eyes).

**Conflict Interest:** In this study have no involvement in any organization or entity with any financial or non- financial interest in the subject matter or materials discussed in this paper.

**Funding Resources:** There is no funding resources for this study.

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