

# Effect of Video-Assisted Structured Teaching Program on Mothers' Knowledge and Practices regarding Diarrhea Prevention among Children Less Than Five Years

(<sup>1</sup>) Shadia Abd Elmoniem Syan, (<sup>2</sup>) Donia Elsaid Fathi Zaghmir, (<sup>3</sup>) Mervat Amin Sayed ,  
(<sup>4</sup>) Shereen Said Gouda Ahmed

(1) Pediatric Nursing Department, Faculty of Nursing, Sohag University

(2) Pediatric nursing Department, Faculty of nursing, PortSaid University, Egypt

(3) Assistant Professor of Community Health Nursing, Faculty of Nursing, Fayoum University, Egypt.

(4) Pediatric Nursing Department, Faculty of Nursing, Beni-Suef University

## Abstract

**Background:** providing teaching programs to mothers is very important and will improve their knowledge and practice regarding diarrhea prevention among children which reduces mortality and morbidity. **Aim:** To evaluate the effect of video-assisted structured teaching programs on mothers' knowledge and practices regarding diarrhea prevention among children less than five years. **Subjects and Methods: Design:** A quasi-experimental research design was used in the current study. **Setting:** This study was conducted at the Medical Pediatric Outpatient Clinics at Sohag University Hospital. **Sample:** A convenient sample of (410) mothers was recruited in the study. **Tools of data collection:** Three tools were used: (I) structured interviewing questionnaire, (II) knowledge assessment tool, and (III) reported practice assessment tool. **Results:** The results of the present study indicated that statistically significant improvements were found in mothers' total knowledge and practice regarding diarrhea prevention among children less than five years post video-assisted structured teaching program. **Conclusion:** The current study concluded that video-assisted structured teaching program has found to be positively affected on improving mothers' knowledge and practices level regarding diarrhea prevention among children less than five years. **Recommendations:** It is very important to apply a video-assisted structured teaching program for mothers of children less than five years concerning diarrhea prevention to promote and improve their knowledge and practices.

**Keywords:** Video-assisted structured teaching program, diarrhea prevention, mothers' knowledge, and practices, children less than five years

## Introduction:

Diarrhea is the passage of loose or watery stools occurring three or more times in 24 hours which means an increased frequency or decreased consistency of bowel movements, and it affects people of all ages (Mohamed, 2016). It is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral, and parasitic organisms (Dawit et al., 2016).

Diarrhea is a common disease and one of the major determinants of childhood morbidity and mortality. This disease is one of the main causes of death in children under five years of age in developing countries. Approximately 1.5 million children lost their life due to diarrhea-related diseases every year,

among that Africa and Asia accounted for 78% of these deaths (Amare et al., 2016).

WHO estimates the 88% of all diarrheal diseases are due to unsafe water supply, inadequate sanitation & poor hygiene practices (World Health Organization, 2019). In developing countries, diarrheal diseases are the most prevalent disease and cause of death in children under five years of age and it causes serious economic problems for developing countries. Around 1.1 billion people worldwide lack access to proper water sources and 2.4 billion have no basic sanitation in developing countries. Diarrhea due to infection is widespread throughout developing countries which most commonly caused by a gastrointestinal infection which kills around 2.2 million peoples globally every year. It rarely occurs among the peoples who live in

developed countries where sanitation is widely available access to safe water is high and personal and domestic hygiene is relatively good (**Ghasemi et al., 2013**).

Diarrheal diseases are major causes of malnutrition, delayed physical development, and early childhood mortality in developing countries and poor communities, and the major cause of death in children with diarrhea is loss of water and essential minerals (**Dodicho, 2013**).

The awareness of mothers about health, disease, and preventive services is a barometer by which we can measure the progress of the family, the community, and the country. Lack of awareness can lead to improper utilization of health services that are available in society. A mother in the family occupies a pivotal role for their children and their family and if she is educated can play a significant role in health awareness and responsibilities. Healthy practices adopted by the mother can raise the healthful living condition thereby lessens the morbidity and mortality of under five-year children (**Gedamu, 2013**).

Various preventive techniques were reported including hygiene and sanitation, diet, medications, and supplements which are generally classified as health care, breastfeeding, immunization, supplemental zinc, and probiotics (**Khalili, 2013**). Diarrhea can be prevented by practicing primary preventive measures such as the use of clean water, hand washing, exclusive breastfeeding, immunization, sanitary disposal of excreta, use of latrines, and good sanitary and hygienic practices (**Shah et al., 2018**).

Training by using the video teaching method would help mothers to develop and refine their existing skills and knowledge, which would lead to an improvement in the care (**Basnett, et al., 2016**). Video-assisted teaching modules and online learning have emerged as an alternative means of providing continuing education (**Safwat & Khorais, 2018**).

Various teaching strategies are used to improve mothers' knowledge and practice, such as lecturing, demonstration, discussion, self-education, and video-assisted teaching strategy.

Video is the technology of electronically capturing, recording, storing, transmitting, and reconstructing a sequence of images representing scenes in motion. Also, it helps to overcome language barriers because illustrations communicate without words (**Balasubramanian et al., 2018**).

The video teaching method improves mothers' learning because it uses sight, sound, and motion to present simple clarification of complex topics and issues. Also, it can present information in a manner that verbal descriptions or talking alone, simply can't convey and act as a bridge educational barriers. However, nurses with low reading skills can learn more easily from the video (**Devi et al., 2019**). Besides, video-assisted considered one of the most important emerging technologies that help nurses especially those who have done painful procedures (**Hassan, 2019**). The advantage of video-based education is that the voice of the broadcaster can be heard. Furthermore, the figures, movements, illustrations used and demonstrations presented can be seen (**Rubi & Rani, 2016**).

Nurses play an important role in educating mothers about treatment and prevention of diarrhea, and their role is vital in health promotion, disease prevention, and child care. The prevention practice of mothers is important and can prevent diarrhea-related child morbidity and mortality (**Hashi et al., 2013**).

#### **Significance of the study:**

Diarrhea is considered the third most cause that leads to mortality in India and is responsible for 16% of all deaths every year among children under five years of age. Teaching programs can help in reducing these complications (**WHO, 2019**). Video teaching methods using in education can provide an easy and innovative way to engage today's mothers in the care of their children. Video teaching is considered an essential part of education that links theory with practice (**Devi et al., 2019**).

#### **The study aim:**

To evaluate the effect of video-assisted structured teaching program on mothers' knowledge and practices regarding diarrhea

prevention among children less than five years through:

- Assessing mothers' knowledge and practice regarding diarrhea prevention
- Designing and implementing video-assisted structured teaching programs regarding diarrhea prevention based on the mothers' actual needs.
- Evaluating the effect of video-assisted structured teaching program on mothers' knowledge and practices regarding diarrhea prevention

## Materials and Method

### Research hypothesis:

**H1:** Mothers who will receive a video-assisted structured teaching program will have satisfactory knowledge regarding diarrhea prevention post-program than preprogramming.

**H2:** Mothers who are subjected to video-assisted structured teaching programs will have adequate reported practice regarding diarrhea prevention post-program than preprogram.

**H3:** There will be a significant relationship between the mothers' knowledge, practice, and demographic characteristics

The subjects and methods of the current study were discussed under the following four designs:

- I. Technical Design
- II. Operational Design
- III. Administrative Design
- IV. Statistical Design

### Technical Design:

It included researcher design, setting, subject, and tools for data collection.

### Research design:

A quasi-experimental research design with a pre and post-test was used to achieve the aim of the study. Quasi-experimental research is a prospective or retrospective study in which patients self-select or are selected into one of some different treatment groups to compare the real effectiveness and safety of non-randomized treatments (Maciejewski, 2020).

### Setting:

This study was conducted at the Medical Pediatric Outpatient Clinics at Sohag University Hospital. It consists of one room on the first floor of the hospital. It includes only one bed, table, chairs, and emergency drugs. These settings were selected due to the high

prevalence of children with diarrhea in the selected setting and also, it serves the biggest region of the population from both rural and urban areas

### Subjects:

A convenient sample of (410) mothers was recruited in the study who were available at the previously mentioned setting at the time of the study.

The sample size was calculated using the following assumptions With confidence level 95% and margin of error 5%,  $n = (Z\alpha/2)^2 \frac{p(1 - P)}{d^2}$ , where n is the sample size, P is the population proportion of diarrhea prevalence, d is the margin of error (0.05), and  $\alpha$  is 5%. So using the above formula, the sample size is  $n = z^2 p((1 - p)/d^2) = ((1.96)^2 \times 0.413)/((1 - 0.413)/(0.05)^2) = 373$ . The final sample size with 10% nonresponse rate is 410.

### Data collection tools:

**There were two tools used to collect the data of the current study:**

#### **Tool I: A structured interview questionnaire:**

It was developed by the researchers after reviewing the related literature and research studies (Amare et al., 2014; Shah et al., 2018; and WHO, 2019), it was included six questions related to demographic data of mothers such as age, educational level, occupation, residence and their source of information.

#### **Tool (II): Knowledge assessment tool:**

It was developed to assess mothers' knowledge regarding diarrhea prevention. It included (25) questions in the form of multiple choice and true & false questions related to definition (1), causes (2), signs and symptoms (3), the role of exclusive breastfeeding in diarrhea (3), weaning of child(2), complications of diarrhea (4), treatment(5), and prevention of diarrhea (5).

**The scoring system for mothers' knowledge:** was evaluated based on completing the interviewing questionnaire as the mothers' knowledge was checked with a model key answer. Therefore, correct answers were scored one point, and incorrect or do not know answers were scored zero. The total score ranged from 0-50 (25 questions  $\times$  2). Mothers' total knowledge was classified into equal or more than 75% was considered a good level of knowledge, a score from 60 and less than 75% was considered an average level of

knowledge, while those who obtained a score less than 60% was considered a poor level of knowledge.

#### **Tool (II): Reported practice assessment tool**

It was developed to assess mothers' reported practice regarding diarrhea prevention. It included (20) questions in the form of multiple-choice related to hygienic measures to prevent diarrhea (3), exclusive breastfeeding (2), ORS use in diarrhea (3), d feeding of children in diarrhea (3), Immunization during diarrhea (4), and handwashing (5).

#### **Scoring system for mothers' practice:**

A score of (1) for correctly done, and a score of (0) for not done. The total score ranged from 0-20. Total practice scores converted into percent score where the score equal to or more than 75% considered adequate practice and a score less than 75% considered inadequate practice.

## **II. Operational Design**

### **Procedures of data collection:**

#### **1- Preparatory phase:**

Books, journals, the internet, periodicals, and magazines were used; it included a study of the literature, different studies, and theoretical knowledge of various aspects of the research subject. This also assisted in the development of the testing tools and designing the videos that were used for the mothers' teaching program. Data were collected from the beginning of February 2019 to the end of March 2019.

#### **Validity of the tools:**

The validity of the tool was ascertained by a Jury of five experts in the pediatric nursing and community health nursing field who reviewed the tool for content validity. They were asked also to judge the items for completeness and clarity. No modifications were added to the tool.

#### **Reliability of the tools**

Reliability was applied by the researchers to test the internal consistency of the tool. The Reliability of the structured interview questionnaire (tool I) through Cronbach's alpha test  $\alpha = 0.92$ , Reliability of the tool II was 0.86, and for tool III was 0.76.

#### **Ethical considerations:**

Approval of the Ethical Research Committee of Sohag Faculty of Nursing was obtained before conducting the study. The aim

of the study was explained to mothers of preterm infants and oral consent was obtained. The researchers informed them that, the study was voluntary, they were allowed to refuse to participate and they had the right to withdraw from the study at any time, without giving any reason. Moreover, they were assured that their information would be confidential and used for research purposes only.

A pilot study was conducted on 10% of the mothers (41 mothers) to test clarity and testing of the feasibility of the research process, no modifications were carried out. Mothers involved in the pilot were excluded from the study.

#### **Fieldwork:**

- Actual data were collected within six months from the beginning of April 2019 till the end of September 2019. Researchers attended the previously mentioned setting for data collection two days per week, from 9 am to 12 pm.
- Implementation of the study included three phases (assessment phase, implementation phase, and evaluation phase).

#### **I- Assessment phase:**

The researchers explained to mothers the objectives and expected outcomes of the study before collecting data, then asked them to complete the questionnaire. The average time required for the completion of each tool was around 25-30 minutes. The tools used for collecting data were used as pre and post-program (tool II, and tool III). By using a pre-testing questionnaire to assess the present mothers' knowledge and reported practices regarding diarrhea prevention among their children less than five years.

#### **II. Implementation Phase:**

Each group consisted of 8-10 mothers throughout three sessions (1<sup>st</sup> session include pretest and applying booklet, 2<sup>nd</sup> session for videos assisted diarrhea prevention and 3<sup>rd</sup> for applying posttest. The theoretical and practical sessions included a demonstration and re-demonstration for each aspect of treatment using available tools such as assisted structured teaching videos and the researchers' laptops. Sessions were performed in Arabic with some visual aids to ensure that all study subjects were understood.

### Evaluating the videos:

The videos were evaluated by five experts in the field of pediatric nursing and community health nursing. The recommendation was suggested by experts were made.

**The general objectives of the video-assisted structured teaching program** were to improve mothers' knowledge and practice regarding diarrhea prevention among their children

**Specific objectives:** At the end of the video-assisted structured teaching program the studied mothers were able to:

- Define diarrhea
- Enumerate causes of diarrhea
- List signs and symptoms of diarrhea
- Discuss the role of exclusive breastfeeding in diarrhea
- Explain weaning of child during diarrhea
- List complications of diarrhea, treatment of diarrhea
- Mention prevention of diarrhea

The duration of video sessions for each theoretical and practical session ranged from 50-65 minutes for three days per week. The theoretical video sessions were started from 10:00 AM to 11:00 PM. The theoretical video sessions focused on knowledge about the definition of diarrhea, causes of diarrhea, signs, and symptoms of diarrhea, the role of exclusive breastfeeding in diarrhea, weaning of child during diarrhea, complications of diarrhea, treatment of diarrhea, and prevention of diarrhea. The practical video sessions were started from 11:00 AM to 12:00 PM. The practical video sessions focused on hygienic measures to prevent diarrhea, exclusive breastfeeding, ORS use in diarrhea, d feeding children in diarrhea, Immunization during diarrhea, and hand washing. The videos were introduced to the mothers using a laptop and data show.

### III. Evaluation phase:

Evaluation of mothers' knowledge and practice regarding diarrhea prevention was done by using the same tools used in the pretest (tools II and III as post-test).

### III. Administrative Design:

Official permission was obtained through an issued letter from the Dean of Faculty of Nursing, Sohag University, to

conduct this study and the directors of the Medical outpatient Clinics at Sohag University Hospital. The aim of the study was explained to obtain permission to collect the research data from the hospital.

### Statistical design:

The collected data were categorized, organized, analyzed, and tabulated using The Statistical Package for Social Sciences (SPSS version 21). Descriptive statistics were applied (e.g., mean, standard deviation, frequency, and percentages). Chi-square is used to test the study hypothesis. Pearson correlation coefficients were used for correlation analysis and the degree of significance was identified. A highly statistical difference was considered at  $p$ -value  $< 0.001$ , a statistical significant difference was considered at  $p$ -value  $< 0.05$ , and no statistically significant difference was considered at  $P$ -value  $> 0.05$ .

### Results:

**Table (1):** Represented that 71% of the studied mothers their age ranged between 18 < 30 years and their mean age  $22.13 \pm 6.47$ , (37%) of them had secondary education, meanwhile, and also, it is pointed out that 75% of mothers were not working. Also, the table demonstrated that (70%) of mothers lived in rural areas and 30% of them were from urban areas.

**Figure (1)** illustrated that the main source of information among the studied mothers was doctors (67%)

**Table (2)** revealed that less than half (47%) of the studied mothers had a poor knowledge level pre-video-assisted structured teaching program; while (69%) of mothers had a good knowledge level post-video-assisted structured teaching program. There were statistically significant differences ( $P < 0.05^*$ ) between mothers' total knowledge level pre and post-video-assisted structured teaching program

**Table (3)** clarified that (87%) of the studied mothers had inadequate practice level pre-video-assisted structured teaching programs while (90%) of them had adequate practice level post-video-assisted structured teaching programs.

**Table (4)** illustrated that there was a statistically significant relationship between the studied mothers' total knowledge scores and

their age, education, occupation, and residence (P <0.05\*)

Table (5) showed that there was a highly statistically significant relation between the studied mothers' total practice scores and their age, education, occupation, and residence (P<0.05\*).

Table (6) portrayed the correlation between the total knowledge score and total

practice score of the studied mothers at pre and post-video-assisted structured teaching programs. It is noticed that there was a statistically significant positive correlation between studied mothers' total knowledge scores and total practice scores at the post-video-assisted structured teaching program (p<0.001\*\*).

Table (1): Distribution of studied mothers according to their demographic characteristics (n=410)

| Item                           | Mothers (410) |    |
|--------------------------------|---------------|----|
|                                | No.           | %  |
| <b>Mothers ' age in years</b>  |               |    |
| 18 < 30                        | 291           | 71 |
| 30 < 40                        | 119           | 29 |
| <b>Mean ±Stander deviation</b> | 22.13 ± 6.47  |    |
| <b>- Mothers ' education</b>   |               |    |
| - Illiterate                   | 53            | 13 |
| -Basic education               | 90            | 22 |
| -Secondary education           | 152           | 37 |
| -University education          | 115           | 28 |
| <b>Occupation</b>              |               |    |
| - Working                      | 103           | 25 |
| - Not working                  | 307           | 75 |
| <b>Residence</b>               |               |    |
| - Rural                        | 287           | 70 |
| - Urban                        | 123           | 30 |

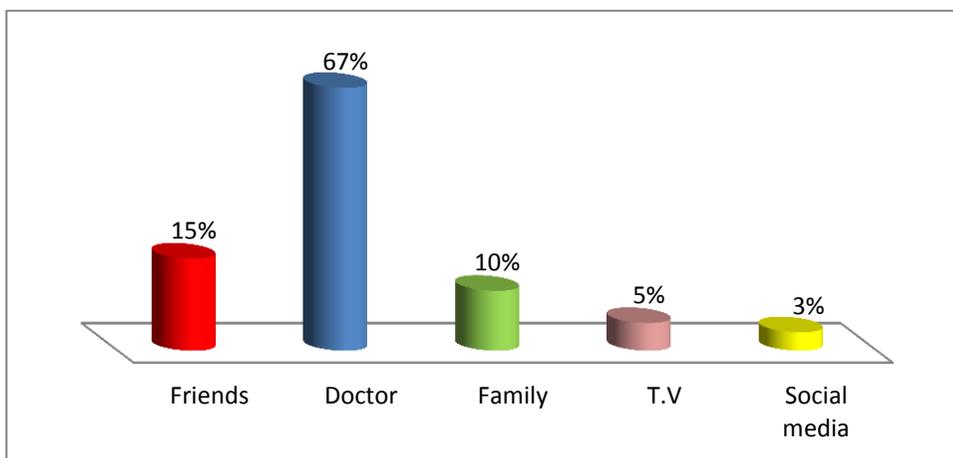


Figure (1): Percentage distribution of studied mothers regarding their source of information about diarrhea prevention (n=410)

**Table (2):** Percentage distribution of the studied mothers' total knowledge regarding diarrhea prevention pre and post-video-assisted structured teaching program (n=410).

| Knowledge level | Pre video-assisted structured teaching program(n=410) |    | Post video-assisted structured teaching program (n=410) |    | X2    | P-value |
|-----------------|-------------------------------------------------------|----|---------------------------------------------------------|----|-------|---------|
|                 | No.                                                   | %  | No.                                                     | %  |       |         |
| Poor            | 193                                                   | 47 | 25                                                      | 6  | 33.84 | P<0.05* |
| Average         | 139                                                   | 34 | 102                                                     | 25 |       |         |
| Good            | 78                                                    | 19 | 283                                                     | 69 |       |         |

\*A statistical significant at P value P < 0.05.

**Table (3):** Percentage distribution of the studied mothers' total practice regarding diarrhea prevention pre and post-video-assisted structured teaching program (n=410).

| Practice level                  | Pre video-assisted structured teaching program(n=410) |    | Post video-assisted structured teaching program(n=410) |    | X2    | P-value |
|---------------------------------|-------------------------------------------------------|----|--------------------------------------------------------|----|-------|---------|
|                                 | No.                                                   | %  | No.                                                    | %  |       |         |
| Adequate practice ( $\geq 75$ ) | 54                                                    | 13 | 41                                                     | 10 | 43.11 | 0.000** |
| Inadequate practice (< 75)      | 356                                                   | 87 | 369                                                    | 90 |       |         |

\*\*Highly statistically significant at P value < 0.001.

**Table (4):** Relation between mothers' total knowledge scores and their demographic characteristics pre and post-video-assisted structured teaching program (n=410).

| The total score of mothers' knowledge and their characteristics | Pre video-assisted structured teaching program(n=410) |    |                |    |            |    | Post video-assisted structured teaching program(n=410) |      |                |      |             |    | X 2  | P-Value |
|-----------------------------------------------------------------|-------------------------------------------------------|----|----------------|----|------------|----|--------------------------------------------------------|------|----------------|------|-------------|----|------|---------|
|                                                                 | Poor<br>193                                           |    | Average<br>139 |    | Good<br>87 |    | Poor<br>25                                             |      | Average<br>102 |      | Good<br>283 |    |      |         |
|                                                                 | No                                                    | %  | No             | %  | No         | %  | No                                                     | %    | No             | %    | No          | %  |      |         |
| <b>Mothers' age in years</b>                                    |                                                       |    |                |    |            |    |                                                        |      |                |      |             |    |      |         |
| 18 < 30                                                         | 164                                                   | 85 | 32             | 23 | 80         | 92 | 17                                                     | 67   | 27             | 26   | 252         | 89 | 36.2 | <0.05*  |
| 30 < 40                                                         | 29                                                    | 15 | 107            | 77 | 7          | 8  | 8                                                      | 33   | 75             | 74   | 31          | 11 |      |         |
| <b>Mothers' education</b>                                       |                                                       |    |                |    |            |    |                                                        |      |                |      |             |    |      |         |
| - Illiterate                                                    | 11                                                    | 6  | 13             | 9  | 44         | 50 | 5                                                      | 22   | 17             | 16.7 | 71          | 25 | 34.3 | <0.05*  |
| -Basic education                                                | 27                                                    | 14 | 40             | 29 | 26         | 30 | 10                                                     | 39   | 24             | 23.3 | 99          | 35 |      |         |
| -Secondary education                                            | 97                                                    | 50 | 54             | 39 | 12         | 14 | 7                                                      | 28.5 | 25             | 25   | 68          | 24 |      |         |
| -University education                                           | 58                                                    | 30 | 32             | 23 | 5          | 6  | 3                                                      | 10.5 | 36             | 35   | 45          | 16 |      |         |
| <b>Occupation</b>                                               |                                                       |    |                |    |            |    |                                                        |      |                |      |             |    |      |         |
| - Working                                                       | 152                                                   | 79 | 24             | 17 | 67         | 77 | 24                                                     | 95   | 88             | 86   | 96          | 34 | 35.6 | <0.05*  |
| - Not working                                                   | 41                                                    | 21 | 115            | 83 | 20         | 23 | 1                                                      | 5    | 14             | 14   | 187         | 66 |      |         |
| <b>Residence</b>                                                |                                                       |    |                |    |            |    |                                                        |      |                |      |             |    |      |         |
| - Rural                                                         | 60                                                    | 31 | 49             | 35 | 73         | 84 | 7                                                      | 26.7 | 68             | 67   | 23          | 8  | 33.7 | <0.05*  |
| - Urban                                                         | 133                                                   | 69 | 90             | 65 | 14         | 16 | 18                                                     | 72.3 | 34             | 33   | 260         | 92 |      |         |

\*A statistical significant at P value P<0.05

**Table (5):** Relation between mothers' total practice scores and their demographic characteristics pre and post-video-assisted structured teaching program (n=410).

| The total score of mothers' practice and their characteristics | Pre video-assisted structured teaching program(n=410) |    |                  |    | Post video-assisted structured teaching program(n=410) |    |                  |      | X 2   | P-Value |
|----------------------------------------------------------------|-------------------------------------------------------|----|------------------|----|--------------------------------------------------------|----|------------------|------|-------|---------|
|                                                                | Adequate<br>356                                       |    | inadequate<br>54 |    | Adequate<br>369                                        |    | inadequate<br>41 |      |       |         |
|                                                                | No                                                    | %  | No               | %  | No                                                     | %  | No               | %    |       |         |
| <b>Mothers' age in years</b>                                   |                                                       |    |                  |    |                                                        |    |                  |      |       |         |
| 18 < 30                                                        | 100                                                   | 28 | 42               | 78 | 125                                                    | 34 | 33               | 81.5 | 46.32 | <0.05*  |
| 30 < 40                                                        | 256                                                   | 72 | 12               | 22 | 236                                                    | 64 | 8                | 18.5 |       |         |
| <b>Mothers' education</b>                                      |                                                       |    |                  |    |                                                        |    |                  |      |       |         |
| - Illiterate                                                   | 71                                                    | 20 | 7                | 13 | 55                                                     | 15 | 10               | 25   | 44.93 | <0.05*  |
| -Basic education                                               | 142                                                   | 40 | 18               | 34 | 166                                                    | 45 | 14               | 35   |       |         |
| -Secondary education                                           | 107                                                   | 30 | 24               | 44 | 85                                                     | 23 | 9                | 21   |       |         |
| -University education                                          | 36                                                    | 10 | 5                | 9  | 63                                                     | 17 | 8                | 19   |       |         |
| <b>Occupation</b>                                              |                                                       |    |                  |    |                                                        |    |                  |      |       |         |
| - Working                                                      | 85                                                    | 24 | 40               | 75 | 343                                                    | 93 | 23               | 56   | 24.46 | <0.05*  |
| - Not working                                                  | 271                                                   | 76 | 14               | 25 | 26                                                     | 7  | 18               | 44   |       |         |
| <b>Residence</b>                                               |                                                       |    |                  |    |                                                        |    |                  |      |       |         |
| - Rural                                                        | 214                                                   | 60 | 34               | 63 | 269                                                    | 73 | 38               | 92   | 27.35 | <0.05*  |
| - Urban                                                        | 142                                                   | 40 | 20               | 37 | 100                                                    | 27 | 3                | 8    |       |         |

\*A statistical significant at P value P<0.05

**Table (6):** Correlation between total knowledge score and total practice score of the studied mothers pre and post video-assisted structured teaching program (n=410).

| Variables            | Pearson correlation coefficient                        |        |                                                        |        |
|----------------------|--------------------------------------------------------|--------|--------------------------------------------------------|--------|
|                      | Total knowledge score                                  |        |                                                        |        |
|                      | Pre video-assisted structured teaching program (n=410) |        | Post video-assisted structured teaching program(n=410) |        |
|                      | r                                                      | P      | R                                                      | P      |
| Total practice score | .458                                                   | .000** | .634                                                   | .000** |

\*\* Correlation is significant at the 0.01 level

## Discussion:

Mothers play a vital role in the management of diarrhea for their children, World Health Organization / UNICEF focused on the need to understand their present knowledge, attitude, and practices regarding diarrhea (Rokkappanavar et al., 2016).

Video teaching technology is used extensively in nursing as an educational tool that is useful because it provides continuous multi-media, multisensory information about the topic and its context (Balasubramanian et al., 2018).

Results of the present study indicated that more than two-thirds of the studied mothers their ages ranged between 18 < 30 years and three-quarters of them were not working. These findings are supported by Gopi & Rahul,

(2020) conducted a study about Study in Bhubaneswar to assess " the knowledge regarding Prevention of Diarrhea among mothers of under-five children at selected Hospital" and found that most of the mothers' age group were 18-25 years and the majority of them were housewife.

Results of the present study revealed that less than half of the studied mothers had a poor knowledge level pre-video-assisted structured teaching program; while more than two-thirds of mothers had a good knowledge level post-video-assisted structured teaching program. This reflects that introduction of the program was very effective.

These results are in the same line with Guddeti et al., (2016) conducted a study about "Impact of Structured Educational Program on Maternal Knowledge, Attitude, and Practice

toward Diarrhea Management in Children" and found that most of the mothers are unaware of diarrhea and have poor skills preprogram which improved post-program.

These results are similar to results of **Shah et al. (2017)** done study in India titled with home-based management of acute diarrheal disease in an urban slum of Aligarh and found post providing structured education program to population, KAP toward diarrhea were significantly improved with  $P < 0.05$  which are matched with results of **Haroun et al., (2017)** conducted a study in Al Maki area, Gezira state to assess of the impact of health education on mothers and reported that program improved home care for children under five with diarrhea.

Results of the current study highlighted that, there were significant improvements and differences between the studied mothers' practice level pre-video-assisted structured teaching program and post-video-assisted structured teaching program.

These results are parallel with the study published by **Rehan et al., (2013)** in Indian titled mothers need to know more regarding the management of childhood acute diarrhea. with and stated that after providing the structured educational program with KAP toward practice during diarrhea was significantly improved with  $P < 0.05$ , which are similar to study results published by (**Gloria et al. 2014**).

Also, the results are in the same line with **Manju & Prasad, (2013)** who conducted a comparative study to assess the effectiveness of video-assisted structured program versus lecture at Mangalore as a method of teaching on bag technique among second-year BSc nursing students in a selected nursing colleague and found that video-assisted teaching program was a more effective education method.

Results of the current study highlighted that there was a statistically significant positive correlation between studied mothers' total knowledge scores and total practice scores at the post-video-assisted structured teaching program ( $p < 0.001^{**}$ ). This is reflected in the association between knowledge and practice which means that improving knowledge is linked with improved practice.

These results are supported by a study conducted by **Shah et al., (2018)** on newborn and child health, in India about promoting appropriate management of diarrhea and that repeated education of the mothers will improve the skills and practices toward the management of childhood diarrhea. Also, similar to the study conducted by **Pahwa et al., (2018)** in a slum of Delhi titled with the performance of a community-based health and nutrition-education intervention in the management of diarrhea and found the same results.

### Conclusions:

Based on the findings and hypotheses of the current study, it was concluded that video-assisted structured teaching program has found to be positively affected on improving mothers' knowledge and practices level regarding diarrhea prevention among children less than five years.

### Recommendations:

**In light of the current study results, the following recommendations are proposed:**

- It is very important to apply a video-assisted structured teaching program for mothers of children less than five years concerning diarrhea prevention to promote and improve their knowledge and practices.
- Future research includes replication of the current study on a large group and another setting for generalization.

### References:

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