

Effect of Video-Assisted Teaching on Mothers' Knowledge and Practices Regarding Preserved Food and Their Children Health

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Abstract

Background: Improving the mothers' knowledge and practice regarding preserved food is very important and can reduce the effects of preserved food on their children's health. **Aim:** To evaluate the effect of video-assisted teaching on mothers' knowledge and practices regarding preserved food and their children health. **Subjects and Methods: Design:** A quasi-experimental research design was utilized in this study. **Setting:** This study was applied in Pediatric Outpatient Clinics at Sohag University Hospital. **Sample:** A convenient sample of (300) mothers was included in the study. **Tools of data collection:** One tool was used: (I) structured interviewing questionnaire, it consisted of three parts: (I) demographic data of the studied mothers, (II) knowledge assessment tool, and (III) reported practice assessment tool. **Results:** According to the findings of this study, after participating in a video-assisted structured education program mothers' total knowledge and practice about preserved foods improved with statistically significant differences. **Conclusion:** The current study concluded that video-assisted structured teaching was effective in improving mothers' knowledge and practices level regarding the effects of preserved food on their children's health. **Recommendations:** It is very important to provide mothers with a teaching program regarding the effects of preserved food on their children's health to promote and improve their knowledge and practices.

Keywords: Video-assisted structured teaching program, preserved food, mothers' knowledge, and practices, children

Introduction:

A preservative is a material or chemical that is added to foods, beverages, pharmaceutical prescriptions, paints, biological samples, cosmetics, wood, and a variety of other goods to prevent them from deteriorating owing to microbial growth or undesired chemical changes. Chemical and physical preservation are the two main methods of preservation. Chemical preservation is the process of adding chemical components to a product. Physical preservation procedures include refrigeration and drying. Preservatives in food reduce the risk of foodborne illness, minimize microbiological deterioration, and ensure freshness and nutritional quality (Erich et al., 2021)

Preservatives have been used in some physical food preservation procedures since prehistoric times. For example, phenols and other chemicals found in smoked meat aid to protect food from rotting. Food preservation

has come a long way over the centuries, and it now plays a critical role in ensuring food security. Other than oils, salts, paints, and other chemicals, food preservatives were initially utilised in the late 1800s, although they were not commonly used until the twentieth century (Evans et al., 2021)

Depending on the country, food preservatives are employed in a variety of methods. Without strong governments to control food additives, many developing countries face either dangerous levels of preservatives in foods or complete avoidance of goods deemed unnatural or harmful. These countries have also proven useful in case studies using chemical preservatives due to their recent introduction (Ashagrie & Abate, 2017).

Food rotting is caused by the presence of numerous types of microorganisms (bacteria, yeasts, and molds). Manufacturers, distributors, and consumers are all affected financially by this issue. More than 20% of all food produced

on the earth is considered to be contaminated by microorganisms. Controlling physical, chemical, and biological processes, in particular microbial components are required for food preservation (**World Health Organization, 2018**).

People have recently preferred food that is easy to make and of high quality, as well as food that is safe, natural, and minimally processed but has a longer shelf life. Food preservation methods enable the manufacture of meals that endure longer while maintaining their nutritional and sensory qualities (**Barkley & Viveiros, 2016**). Synthetic preservatives have been used in the food industry for a long time, with antimicrobial preservatives being the most frequent, but new research shows that chemical additions can induce allergies, intoxications, cancer, and other degenerative problems (**Hassan et al., 2018**).

Symptoms of toxigenic preserved food usually appear within 24 hours of consuming contaminated food, whereas foodborne diseases may take 2–3 days to manifest. Nausea, vomiting, diarrhea, stomach discomfort (which can be severe in inflammatory diseases), headache, and fever are all possible symptoms. Depending on whatever bacterium is consumed, life-threatening neurologic, hepatic, and renal syndromes might develop several days after digestive symptoms and result in permanent disability or death (**Acheson, 2016**).

An unpleasant reaction is any undesirable reaction to a food or food additive that is not related to the sustenance the food is supposed to provide to the body. Intestinal sensitivity to the meal could have harmful consequences. Food intolerances are typically linked to individual differences in how a person digests, absorbs, or metabolizes food. Another type of unfavorable food reaction is food allergy reactions. When the immune system recognizes a protein in food as foreign, it tries to keep it out of the body, causing allergic reactions (**Lum et al., 2018**).

Mothers' knowledge of health, sickness, and preventive services serves as a gauge for measuring the progress of the family, community, and country. Inadequate utilization of accessible health care might result from a lack of awareness. A mother's role in the family

is crucial for their children and family, and if she is educated, she can play an important part in health awareness and duties. Healthy habits undertaken by mothers can improve a child's health and reduce morbidity and death in children under the age of five (**World Health Organization, 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 strategies. 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 is considered one of the most important emerging technologies that help nurses especially those who have done painful procedures. The advantage of video-based education is that the voice of the broadcaster can be heard. (**Hassan, 2019**)

The public's understanding of food preservatives is mixed. Food-borne illnesses are thought to be more common in other nations by Americans. Although this is true, the number of illnesses, hospitalizations, and fatalities continues to rise. The Centers for Disease Control (CDC) estimates that foodborne illness causes 76 million illnesses,

325,000 hospitalizations, and 5,000 deaths each year (Scallan et al., 2016).

Nurses play an important role in educating mothers about treatment and prevention of side effects of persevering food, and their role is vital in health promotion and child care. Improving the mothers' knowledge and practice regarding preserved food is very important and can reduce the effects of preserved food on their children's health. The prevention practice of mothers is important and can prevent side effects of persevering food-related child morbidity and mortality (Theron, & Lues, 2017).

The nurse should educate mothers about the adverse reactions of persevering food and how to avoid an allergic and negative reaction to a food persevering. Carefully read the ingredient lists on all food products. Check to see if there are any additional additives in the same "family" or similar to the ones you can't use, these should also be avoided and look for sulfating agents to avoid (Kumar et al., 2018).

Significance of the study:

Annual losses of \$110 billion in productivity and medical expenses due to unsafe food occur in low- and middle-income countries. Children under the age of five bear 40% of the burden of foodborne diseases from preserved food and 125,000 children die each year (WHO, 2019).

Preserved food is considered one of the leading causes of acute and chronic infections in the stomach and leads to stomach ulcers. Teaching programs can help in reducing these side effects. Preserved (canned) food contains an acidic substance to keep food from mold, which causes acute or chronic infections in the stomach and leads to stomach ulcers. Cans are low in fiber and contain large calories, and this causes colon and rectal cancer, and these cans contain high calories in a small amount of food, which helps to eat large quantities of them, which leads to obesity or obesity with all its complications, such as diabetes and heart and blood vessels. Canned foods lead to the formation of gallstones and cause chronic constipation. Coloring materials and preservatives have great and much harm, some

of which cause cancer, some of which cause skin rashes, and some of them cause health problems (WHO, 2019).

Education by using video teaching methods can provide an easy and innovative way to engage mothers today in the care of their children. Video teaching is considered an effective method of education that links theory with practice (Devi et al., 2019).

The study aim:

To evaluate the effect of video-assisted teaching on mothers' knowledge and practices regarding preserved food and their children health through:

- Assessing mothers' knowledge regarding the effects of preserved food on their children health
- Assessing mothers' practice regarding effects of preserved food on their children health.
- Designing and implementing video-assisted structured teaching programs regarding effects of preserved food on children health
- Evaluating the effect of video-assisted structured teaching program on mothers' knowledge and practices regarding effects of preserved food on their children health.

Research hypothesis:

Mothers who will receive a video-assisted structured teaching program will have satisfactory knowledge and adequate practices regarding effects of preserved food on their children's health after the program than before the program.

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 accomplish the objective of the current study.

Setting:

The current study was applied in 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 because it serves the biggest region of the children.

Subjects:

A convenient sample of (300) mothers was recruited in the study who were available at the time of the study in the previously selected setting.

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 children, d is the margin of error (0.05), and α is 5%. So using the above formula, the sample size is $n = z^2 p \frac{(1 - p)}{d^2} = ((1.96)^2 \times 0.313) \frac{((1 - 0.313)}{(0.05)^2} = 273$. .e final sample size with 10% nonresponse rate is 300.

Data collection tool:**Tool: A structured interview questionnaire:**

It was developed by the researchers after reviewing the related literature and research studies (**World Health Organization, 2019 and World Health Organization, 2018**), it consisted of three parts as follow:

Part (1): It included five items related to demographic data of the studied mothers such as age, educational level, occupation, residence, and their source of information.

Part (2): Knowledge assessment tool: It was developed by the researchers to assess mothers' knowledge regarding the effects of preserved food on their children's health. It included (20) questions in the form of multiple-choice related to the definition of preserved food, signs and symptoms of preserved food toxicity, the

role of mothers when using preserved food, complications and side effects of preserved food, and how to overcome these complications.

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 0-40 (20 questions \times 2). Mothers' total knowledge was classified into equal or more than 60% was considered a satisfactory level of knowledge, while those who obtained a score less than 60% were considered the unsatisfactory level of knowledge.

Tool (II): Reported practice assessment tool

(Lum et al., 2018): It was developed to assess mothers' reported practice regarding preserved food. It included (20) questions in the form of multiple-choice related to keeping preserved food, proper storage conditions of food, checking the expiry date label, ensuring can of preserved food closed effectively, and try to use the fresh alternative of foods.

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.

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 (30 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 February 2019 till the end of March 2019. Researchers attended the previously mentioned setting for data collection two days per week, from 9 am to 2 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 40-50 minutes. The tools used for collecting data were used as pre and post-program (a tool I, and tool II). By using a pre-testing questionnaire to assess the present mothers' knowledge and reported practices regarding the effects of preserved food on their children's health.

II. Implementation Phase:

Each group consisted of 8-10 mothers throughout three sessions (1st session include pretest and applying booklet, 2nd session for videos assisted preserved food and 3rd for applying posttest. The theoretical and practical sessions included a demonstration and re-demonstration for each aspect of program 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 the effects of preserved food

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

- Define preserved food
- List signs and symptoms of preserved food toxicity
- Discuss the role of mothers when using preserved food.
- List complications and side effects of preserved food.

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 preserved food, signs and symptoms of preserved food toxicity, the role of mothers when using preserved food, complications, and side effects of preserved

food. The practical video sessions were started from 11:00 AM to 12.00 PM. The practical video sessions focused on keeping preserved food, proper storage conditions of food, checking the expiry date label, ensuring the can of preserved food closed effectively, and try to use the fresh alternative of foods. The videos were introduced to the mothers using a laptop and data show.

III. Evaluation phase:

Evaluation of mothers' knowledge and practice regarding the effects of preserved food was done by using the same tools used in the pretest.

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): Showed that 73% of the studied mothers their age ranged between $18 < 30$ years and their mean age 22.24 ± 5.49 , (48%) of them were in secondary education, meanwhile, and also, it is demonstrated that 85% of mothers were not working. Also, the table pointed out that (63%) of mothers were from rural areas.

Figure (1) illustrated that the main source of information among the studied mothers was mass media (44%)

It was observed from **table (2)** that the majority of mothers have a knowledge deficit

about preserved food. Most of the mothers had unsatisfactory knowledge' scores in pre-video-assisted structured teaching programs. After Pre video-assisted structured teaching program, highly statistically significant improvements were noticed in mothers' knowledge about preserved food in all tested areas ($P < 0.001$).

Table (3) revealed that (66%) of the studied mothers had unsatisfactory knowledge level pre-video-assisted structured teaching program; while (75%) of mothers had a satisfactory knowledge level post-video-assisted structured teaching program with statistically significant differences ($P < 0.05^*$) was detected between mothers' total knowledge level pre and post-video-assisted structured teaching program.

It was observed from **table (4)** that the high percentage of mothers had inadequate practice' scores in pre-video-assisted structured teaching programs. After pre video-assisted structured teaching program, highly statistically significant improvements were noticed in mothers' practice about preserved food in all items ($P < 0.001$).

Table (5) clarified that (85%) 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.

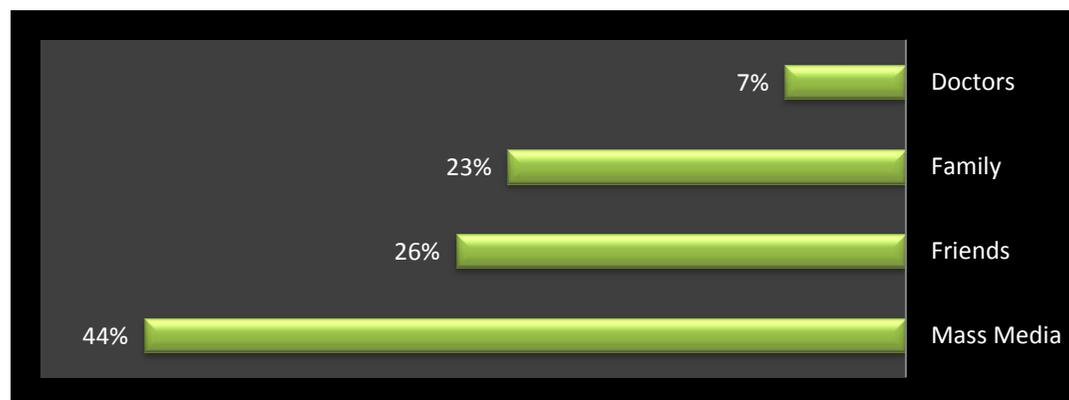
Table (6) and **Figure (2, 3)** illustrated that there was a statistically significant relationship between the studied mothers' total knowledge scores and their age, education, occupation, and residence ($P < 0.05^*$)

Table (7) and **Figure (4, 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 (8) showed 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=300)

Item	Mothers (300)	
	No.	%
Mothers' age in years		
18 < 30	219	73
30 < 40	81	27
Mean ± Stander deviation	22.24 ± 5.49	
- Mothers' education		
-Basic education	69	23
-Secondary education	144	48
-University education	87	29
Occupation		
Working	45	15
Not working	255	85
Residence		
Rural	189	63
Urban	111	37

**Figure (1): Percentage distribution of studied mothers regarding their source of information about preserved food (n=300)****Table (2): Distribution of the studied mothers regarding their knowledge about preserved food pre and post-video-assisted structured teaching program (n=300).**

Items	Pre video-assisted structured teaching program (n=300)		Post-video-assisted structured teaching program (n=300)		P-value
	No	%	No	%	
Definition of preserved food	24	8	285	95	
Signs and symptoms of preserved food toxicity	102	34	288	96	<0.001*
Role of mothers when using preserved food	42	14	210	70	<0.001*
Complications and side effects of preserved food	27	9	150	50	<0.001*
How to overcome these complications	48	16	291	97	<0.001*

Table (3): Distribution of the studied mothers' total knowledge regarding preserved food pre and post-video-assisted structured teaching program (n=300).

Knowledge level	Pre video-assisted structured teaching program (n=300)		Post video-assisted structured teaching program (n=300)		X2	P-value
	No.	%	No.	%		
Satisfactory	102	34	225	75	31.56	P<0.05*
Unsatisfactory	198	66	75	25		

*A statistical significant at P value P < 0.05.

Table (4): Distribution of the studied mothers regarding their practice about preserved food pre and post-video-assisted structured teaching program (n=300).

Items of practice	Pre video-assisted structured teaching program (n=300)		Post-video-assisted structured teaching program (n=300)		P-value
	No	%	No	%	
Keeping preserved food	48	16	291	97	
Proper storage conditions of food	102	34	285	95	<0.001*
Checking the expiry date label	45	15	300	100	<0.001*
Ensuring the can of preserved food closed effectively	150	50	150	50	<0.001*
Using the fresh alternative of foods	150	50	261	87	<0.001*

Table (5): Percentage distribution of the studied mothers' total practice regarding preserved food pre and post-video-assisted structured teaching program (n=300).

Practice level	Pre video-assisted structured teaching program(n=300)		Post video-assisted structured teaching program(n=300)		X2	P-value
	No.	%	No.	%		
Adequate practice (≥ 75)	45	15	270	90	42.12	0.000**
Inadequate practice (< 75)	225	85	30	10		

**Highly statistically significant at P value < 0.001.

Table (6) Relation between mothers' total knowledge scores and their demographic characteristics pre and post-video-assisted structured teaching program (n=300).

The total score of mothers' knowledge and their characteristics	Pre video-assisted structured teaching program(n=300)				Post video-assisted structured teaching program(n=300)				X 2	P-Value
	Satisfactory (n=102)		Unsatisfactory (n=198)		Satisfactory (n=225)		Unsatisfactory (n=75)			
	No	%	No	%	No	%	No	%		
Mothers' age in years										
18 < 30	87	85	182	92	151	67	67	89	36.2	<0.05*
30 < 40	15	15	16	8	74	33	8	11		
Occupation										
Working	81	79	152	77	214	95	26	34	35.6	<0.05*
Not working	21	21	46	23	11	5	49	66		

*A statistical significant at P value P<0.05

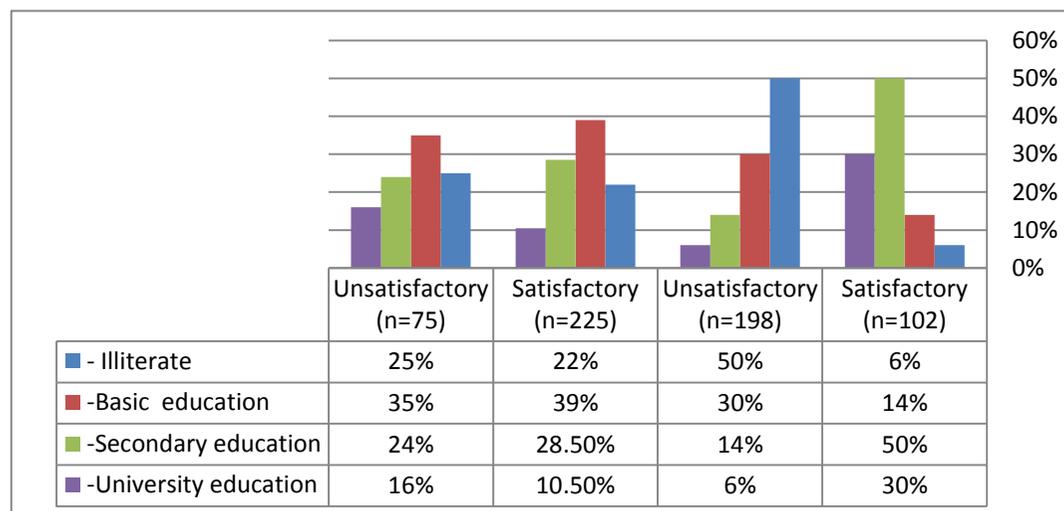
Figure (2) Relation between mothers' total knowledge scores and their education pre and post-video-assisted structured teaching program (n=300).

Figure (3) Relation between mothers' total knowledge scores and their residence pre and post-video-assisted structured teaching program (n=300)

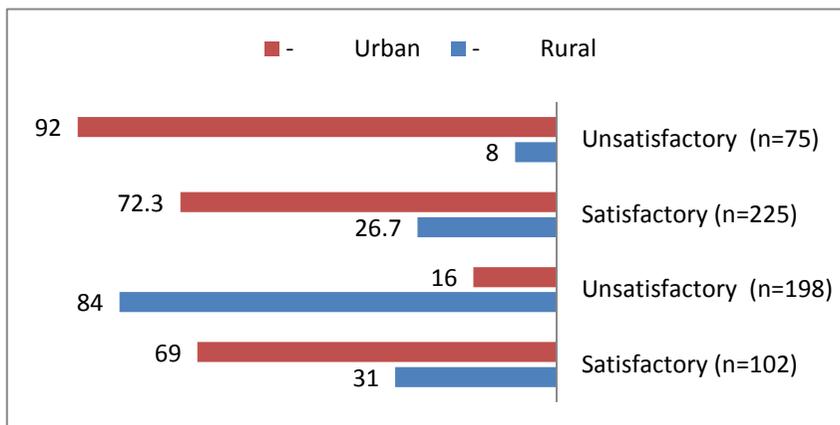


Table (7) Relation between mothers' total practice scores and their demographic characteristics pre and post-video-assisted structured teaching program (n=300).

The total score of mothers' practice and their characteristics	Pre video-assisted structured teaching program(n=300)				Post video-assisted structured teaching program(n=300)				X 2	P-Value
	Adequate 45		inadequate 225		Adequate 270		inadequate 30			
	No	%	No	%	No	%	No	%		
Mothers' age in years										
18 < 30	13	28	175	78	92	34	24	81	44.23	<0.05*
30 < 40	32	72	50	22	178	66	6	19		
Residence										
Rural	27	60	142	63	197	73	28	92	24.23	<0.05*
Urban	18	40	83	37	73	27	2	8		

*A statistical significant at P value P<0.05

Figure (4) Relation between mothers' total practice scores and their education pre and post-video-assisted structured teaching program (n=300).

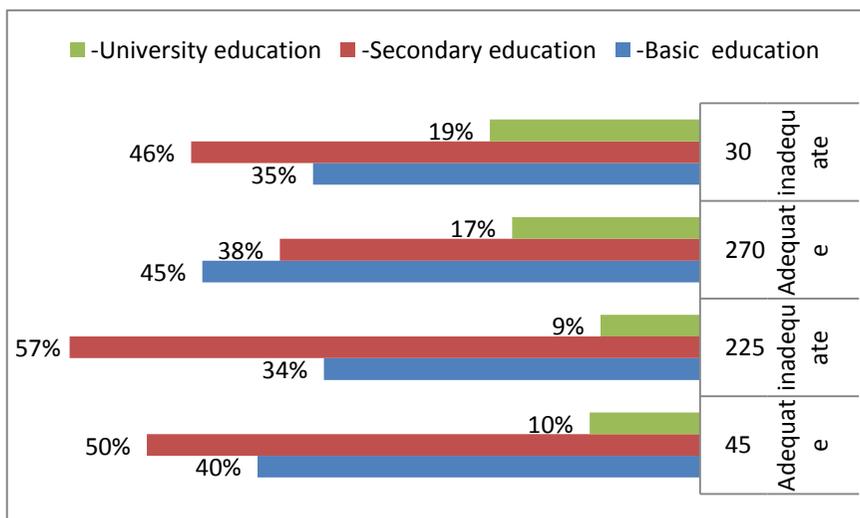


Figure (5) Relation between mothers' total practice scores and their occupation pre and post-video-assisted structured teaching program (n=300).

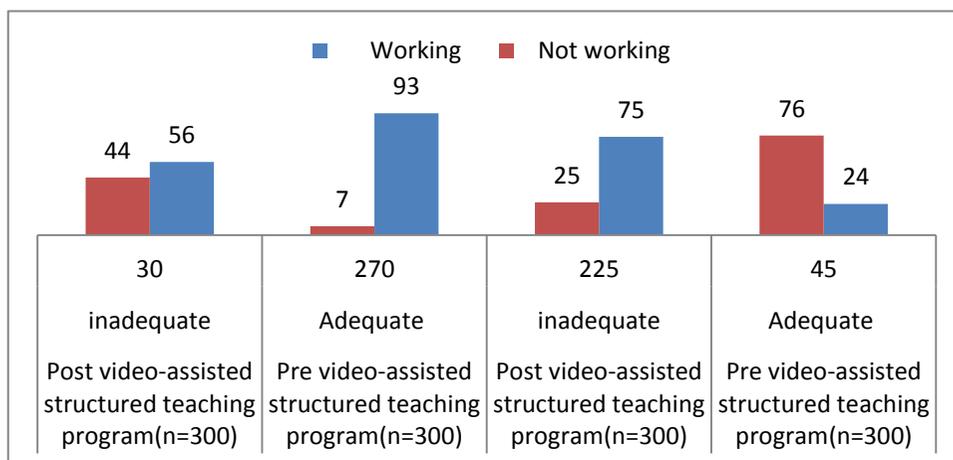


Table (8) Correlation between total knowledge score and total practice score of the studied mothers pre and post video-assisted structured teaching program (n=300).

Variables	Pearson correlation coefficient			
	Total knowledge score			
	Pre video-assisted structured teaching program (n=300)		Post video-assisted structured teaching program (n=300)	
	R	P	R	P
Total practice score	.456	.000**	.623	.000**

** Correlation is significant at the 0.01 level

Discussion:

Mothers play an important role in the care of their children, World Health Organization focused on the need to understand their present knowledge, attitude, and practices regarding preserved food (WHO, 2018).

In nursing, video teaching technology is widely employed as an educational tool because it gives continuous multi-media, multisensory information about the topic and its context (Balasubramanian et al., 2018).

Results of the present study indicated that that nearly half of the studied mothers were in secondary education. These findings disagree with Wafa et al., (2018) conducted a study about "Food Safety Knowledge and Practices among Saudi Mothers" and found that the highest educational level of the respondents was University level.

Results of the present study revealed that the main source of information among nearly half of the studied mothers was mass media. From the researchers' point of view, this

suggests that health personnel play a minimal role, as well as the area's substandard health services. These findings are supported by Abd El Aal & Bayoumi (2013) conducted a study about "Improving mothers' hygienic practices to prevent food poisoning among their children" and reported that the same percentage of mothers gained their knowledge from mass media.

Results of the present study revealed that that, the majority of mothers have a knowledge deficit about preserved food, while after pre-video-assisted structured teaching program, highly statistically significant improvements were noticed in mothers' knowledge about preserved food in all tested areas ($P < 0.001$). From the researchers' point of view, this reflects that introduction of the video-assisted structured teaching program was very effective.

These results are in the same line with Farahat et al., (2015) conducted a study about "Food safety knowledge and practices among Saudi women "and highlighted the unsatisfactory level of knowledge about preserved food were in women in Saudi Arabia.

Also, this result not matched with the cross-sectional study conducted in the Chittoor district of Andhra Pradesh, India by **Wasim, 2014** and found the same results.

Results of the current study highlighted that had a satisfactory knowledge level post-video-assisted structured teaching program with statistically significant differences ($P < 0.05^*$). From the researchers' point of view, this reflected the positive effect of using video-assisted structured teaching programs in improving knowledge among the studied mothers.

The findings of the present study revealed that a statistically significant relationship was found between the studied mothers' total knowledge scores and their age, education, occupation, and residence ($P < 0.05^*$). This result agrees with the study conducted about "Awareness and use of nutrition information on food packages among consumers" in Lesotho by **Mahgoub et al., (2017)** which observed a direct relationship between age and level of education with the level of knowledge and use of food labeling information in purchasing foods.

These results are parallel with the study published by **Gwantwa (2017)**, in Dar Essakaam about "Awareness of Food Labelling and Use of the Information in Purchasing Prepackaged Food Products" which concluded that consumers' checking expiry date of food and drug products is associated with different demographic characteristics such as age, sex, education level, and health status.

Results of the current study highlighted that a highly statistically significant improvements were noticed in mothers' practice about preserved food in all items ($P < 0.001$) pre and post video-assisted structured teaching program. From the researchers' point of view, it reflected the effectiveness of the program in improving mothers' practice.

Results of the current study highlighted that majority of the studied mothers had inadequate practice level pre-video-assisted structured teaching program while the majority of them had adequate practice level and improved post-video-assisted structured

teaching programs. The current study results are supported by the study done by **Ricardo et al., (2018)** who published a study named "Knowledge, attitudes, and practices (KAP) addressing leptospirosis among residents of riverbank villages of Santa Fe, Argentina," which found that a lack of knowledge is linked to poor health and maladaptive disease prevention behavior.

Results of the current study highlighted that there was a highly statistically significant relation between the studied mothers' total practice scores and their age, education, occupation, and residence ($P < 0.05^*$). From the researchers' point of view, this association is explained by that improvement in knowledge is reflected in an improvement in practice. Also, mean when the studied mothers had sufficient knowledge they can practice well. Also, this reflected the success of the video-assisted structured teaching programs and their positive effect.

Results of the current study highlighted that there was a positive correlation between the total knowledge score and total practice score of the studied mothers at pre and post-video-assisted structured teaching programs. From the researchers' point of view, this is reflected in the relationship between knowledge and practice, which implies that better information leads to better practice.

Conclusions:

Based on the current study's findings and hypotheses, it was concluded that about two-thirds of the studied mothers had unsatisfactory knowledge level pre-video-assisted structured teaching program; while three-quarters of mothers had a satisfactory knowledge after the program. The majority of them had inadequate practice level pre-video-assisted structured teaching programs while most of them had adequate practice level post-video-assisted structured teaching programs. The video-assisted structured teaching program has a positive effect on increasing mothers' knowledge and practices level about preserved food.

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

- It is very important to apply a teaching program for mothers regarding preserved food 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.

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