Effect of Video Assisted Self-Care Educational Program for Patients with Chronic Heart Failure on their Health Outcomes

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Abstract

Background: Heart failure is a long-term condition that drastically reduces quality of life and causes numerous difficulties for patients. Self- care program can improve patients' health outcomes and avoid readmission. **Aim:** This study aimed to evaluate the effect of video assisted self-care educational program for patients with chronic heart failure on their health outcomes**. Design:** A quasi-experimental (pre- posttest) design was utilized. **Settings:** The study was conducted at Cardiac Outpatient Clinic of Benha University Hospital in Benha City, Egypt. **Sampling:** Purposive sample was used to carry out this study. The total sample size included 80 patients. **Tools of data collection:** Three tools were used in this study; a structured interviewing questionnaire composed of three parts; socio-demographic characteristics of the studied patients, medical history, and knowledge regarding chronic heart failure II: Self-care Index for Heart Failure Patients. III: World Health Organization Quality of Life. **Results**: Showed a significant difference of total patients' knowledge level between pre and post periods of program, where 65 % of them had poor knowledge level preprogram and improved to a good level among 82.5% & 76.2%, respectively at immediately post and post 2 months of program implementation, there were highly significant statistical differences of patients' self -care between pre and post 2 months of program, where the mean score of total self-care preprogram was 64.45 ± 6.80 then became 118.81 ± 8.19 post 2 months, and 10% of the studied patients had a good total level of quality of life preprogram which improved to 83,8% of them post 2 months. **Conclusion**: Video assisted self-care educational program was effective in improving patients` knowledge, self-care and quality of life between pre and post periods of program **Recommendations**: Continuing application of Video assisted self-care educational program for increasing knowledge and improving self-care and quality of life of patients with chronic heart failure

Keywords: Chronic heart failure, health outcome, video assisted self-care educational program

Introduction:

Heart Failure (HF) is a chronic illness marked by symptoms based on structural or functional cardiac abnormality, supported by objective evidence of systemic or pulmonary congestion and increased natriuretic peptides. It continues to be a major cause of death, illness, and low quality of life worldwide, resulting in significant resource consumption and healthcare costs. Chronic Heart Failure (CHF) is one of the primary causes of morbidity, mortality and hospital readmissions. As a progressive clinical syndrome characterized by the heart's inability to pump enough blood to meet the body's metabolic demand, CHF severely lowers the quality of life for those who have it and places a heavy strain on healthcare services (**Bragazzi et al., 2021).**

Heart failure is a clinical syndrome that includes the cardinal symptoms of exhaustion, pulmonary crackles, and peripheral oedema, as

well as symptoms including weariness, ankle swelling, and dyspnea. It is not a single pathological diagnosis that results in inadequate cardiac output and elevated intracardiac pressures during both rest and exercise. Since the pathology might dictate the course of treatment, determining the etiology of the underlying cardiac dysfunction is essential for diagnosis of heart failure. The most frequent cause of HF is myocardial dysfunction, either systolic, diastolic, or both, it can also be caused or exacerbated by abnormalities of cardiac rhythm and conduction, as well as disease of the valves, pericardium, and endocardium **(Al-Sutari, & Ahmad, 2022).**

Effective management of CHF necessitates both pharmaceutical treatment and a high degree of patient self-care participation. Low levels of self-care are associated with high rates of mortality and morbidity in HF patients. Heart failure is a chronic disease that can affect the patient's life every day. The American Heart Association states that self-care is essential to the long-term management of CHF since it lowers readmission rates, prevents the advancement of the disease, and enhances quality of life in general. Daily weight monitoring, sodium restriction in the diet, medication adherence, physical exercise, symptom identification, prompt health-seeking behavior, and implementing lifestyle modifications that promote heart health are all examples of self-care **(Vatmasari et al., 2025).**

Patients with heart failure still have relatively low levels of self-care, which includes activities of daily living to control the symptoms, regulate the diet, control medications and adopt lifestyle modifications that promote heart health. Self-care is an active cognitive process in which the patient takes responsibility for preserving health. An indicator of self-care behaviors is the acceptance of suggested healthy habits, such as eating a balanced diet, exercising, and adhering to dietary guidelines. Three components of quality of life; the functional ability of symptoms, the patient's psychosocial condition, and treatment are positively impacted by self-care behaviors and abilities. Awareness of self-care and the variables that interfere with heart failure patients' health can help those who are involved in the treatment and self-care to come up with strategies that address the needs (**Longhini et al., 2025).**

Self-care education is an essential way to empower heart failure patients and promote active involvement in incorporating and adjusting the care. Both traditional and technologically advanced methods could be used to educate patients. Traditional education is commonly delivered face-to-face using posters or pamphlets, while technology-based education could be delivered remotely using mobile applications or websites **(Vatmasari et al., 2025).**

Examples of modern technologies that support educators and encourage learning include computer simulations, podcasts, videos, and basic virtual reality. In addition to being easily accessible through handheld multimedia technologies, videos may be helpful for a range of learning styles. When paired with fundamental clinical skill training, these resources may help sustain high competency. Additionally, by integrating theory and practice and encouraging critical thinking, engagement, and deep learning, this could enhance knowledge acquisition **(Yaqinuddin et al., 2020).** Around the world, video technology is frequently serving as a teaching tool to satisfy the growing demands of education. Video technology has a variety

of effects on knowledge visualization, psychological benefits (like learning attitude and motivation), and cognitive benefits (like learning and memorization) **(Mohamed et al., 2022).**

Video-assisted self-care educational programs are especially beneficial when it comes to CHF because of the disease's intricacy and the multifaceted nature of its treatment. These programs can be easily accessible in a variety of locations, including at home, and offer standardized, repeated content that accommodates a range of learning styles. Multimedia education can lower hospitalization rates among patients with chronic illnesses, promote behavior change, and increase health literacy **(Purnomo et al., 2025).** Nurses play a vital role in promoting self-care through educating patients with HF about the possible complications to prevent it and decrease the hospital readmission. Self-care skills are taught to chronic heart failure patients to maintain safety, prevent further exacerbations, improve their outcomes and quality of life through symptoms control which considerably lowers mortality, length of hospital stays, hospital expenses and the number of unscheduled readmissions **(Dessie et al., 2021)**

Significance of Study:

Globally, around 64.3 million people are estimated to have heart failure with a prevalence of 1% to 2% among adults in developed countries. Over the past 20 years, heart failure has become one of the most common chronic illnesses. Higher mortality and rehospitalization rates, together with a reduction in the patient's quality of life, are linked to heart failure **(Deshpande et al., 2023).**

Cardiovascular Disease (CVD) has been the primary cause of the premature death since 1990s in Egypt and it counted 46.2% of the total mortality in 2017. Ischemic heart disease was the most prevalent cause of heart failure in general; the frequency varied greatly from 40.9% in Upper Egypt to 72.5% in Alexandria. Valvular heart disease ranked second in Cairo, whereas it was the second most common cause in Upper Egypt, accounting for 25% of cases **(Hassanin et al., 2020).** Furthermore, the primary causes of heart failure were valvular heart disease (5.2%), hypertension (23%), and ischemic heart disease (68.8%) **(Ebaid et al., 2025).**

Given the extensive advantages of video-assisted self-care in enhancing patient education, despite time and space constraints, the nurse applies video-assisted self-care educational programs to empower patients with accessible and standardized knowledge. This strategy is expected to improve self-care routines, lessen the burden of the symptoms, complications and eventually result in better clinical outcomes and lower healthcare utilization **(Dessie et al., 2021).**

Aim of study:

The aim of the study was to evaluate the effect of video assisted self-care educational program for patients with chronic heart failure on their health outcomes.

Research Hypotheses:

The following hypotheses were developed to achieve the aim of study:

H1 –Knowledge among patients with chronic heart failure could be significantly improved post-program implementation compared to pre-program.

H2 –Self-care among patients with chronic heart failure could be significantly improved post-program implementation compared to pre-program.

H3- Quality of life among patients with chronic heart failure could be significantly improved post-program implementation compared to pre-program.

Subjects and Method:

Study design:

A quasi-experimental design (pre-posttest) was utilized in this study.

The design used for researching if there is causal correlation between the dependent variables and independent variables. The independent variable manipulated before measuring the dependent variable and the participators were not assigned randomly **(Maciejewski, 2020)**

Settings:

This study was conducted at Cardiac Out-Patients Clinic in Benha University Hospital, Benha City, Egypt. This Clinic receives and serves great numbers of chronic heart failure patients for follow up in three days a week. This clinic is located on the ground floor, in the Outpatient Department, opposite the Gynecology and Obstetric Clinic at the second corridor on the left.

Subjects

Type: Purposive sample used to select patients with chronic heart failure.

Exclusion criteria included patients with kidney damage or failure, patients with liver damage, if he has psychological problems or was uncooperative.

Size: The sample size was calculated according to the annual census report of patients at Cardiac Outpatient's Clinic in Benha University Hospital, Benha City, 2023. The total number of patients included in the study was 80 patients who attended the setting of the study. The subject size was calculated according to the following formula: Stephen Thampson's equation **(Thampson, 2012):**

$$n = \frac{N \times p\,(1-p)}{\left((N-1 \times (d^2 \div z^2)) + p\,(1-p)\right)} = 80$$

N = Patients' size is 220

p = Rate provides unbiased property equate to 0.12

d = The rate of error is equated to 0.05

z = Class standard responding to the significance level equate to 1.96

Tools for data collection:

Three tools were utilized to collect the data:

Tool I: A structured interview questionnaire:

It was created by researchers utilizing a literature review **(Al-Sutari, & Ahmad, 2022)** and written in three easily comprehensible parts in Arabic language

First part: Socio-demographic characteristics of studied patients included age, sex, marital status, level of education, occupation, living with and monthly income.

Second part: Included medical history of studied patients; time since of diagnosis, patients` complaints, stage of heart failure, times of hospitalization, presence of co-morbid disease, and treatment.

Third part: Included knowledge of studied patients regarding chronic heart failure adopted from **Chopra et al. (2020) and** modified by the researchers according to jury comments. This part contained 10 multiple-choice questions related to meaning, types, causes and risk factors, manifestations, classifications, stages, diagnosis, complication, treatment, and prevention of chronic heart failure.

Scoring system:

The scoring system of the patients' knowledge calculated; 1 score for correct answer and zero score for incorrect answer. Total score was calculated by combining all the items scores

and dividing the result by the total number of items, then the scores were changed into percentage. The total score of knowledge divided into; good if the score were >75% (> 8 scores), average if it was from 50% to 75% as 5- 8 scores and poor knowledge in case of the score <50% (<5 scores).

Tool II: Self-care Index for Heart Failure Patients (SCIHF) regarding chronic heart failure, adopted from **Riegel, (2016)**, and modified by the researchers, included 29 items distributed in 3 scales for measuring self-care; maintenance, symptoms perception and management.

Response choices on every SCIHF scale are the Likert kind. Ten behaviors—ranging from 1 (never) to 5 (always) are measured in terms of frequency on the self-care maintenance scale. The symptom perception scale comprises two items on how quickly at which symptoms were diagnosed as being connected to heart failure and nine items measuring the frequency of behaviors. Response options for the two recognizing items range between 0 (didn't recognize symptom) or "not applicable" (no symptoms) to 5 (very quickly). There are eight items for self-care management scale. The possibility that the respondent would attempt practices typically used to control heart failure symptoms is asked in seven of these items (1 being not likely to 5 being very likely).

The question in self-care management scale was asked about how the patient was sure that the treatment used to manage symptoms helped feeling better, the response options for this question ranged from 0 score which meant the patient didn't do anything or 1 score which meant not sure to 5 scores (very sure). Every scale of the three; self-care maintenance, symptom perception, and self-care management were separately scored. The patients' responses were summed and organized the possible scores which were from 0 to 145 score, the higher mean scores indicated better self-care. According to the earlier version of the SCIHF the researchers considered scores of 70 or more as an adequate level of HF self-care and scores lower than 70 as an inadequate level of HF self-care.

Tool III: The World Health Organization Quality of Life (WHOQOL) – BREF. It was adopted from **World Health Organization (WHO), (2004).** The questionnaire included 34 items, which were categorized into 4 domains: Physical health which contained fifteen items, psychological health contained seven items, social relationship included four items, and environment domain included eight items.

The scoring system was measured on a 5-points Likert scale form. All subscales' scores ranged from 1 point for the response not at all, 2 points for the response a little, 3 for a moderate amount, 4 for very much and 5 for extremely. The total Quality Of life was considered good if the score of total QOL was >75% the scores were > 127, while it was average if the scores from 50% - 75% which the scores were 85-127 and considered poor if it was <50% and the scores <85.

Administrative process:

The Director of Outpatient Clinics at Benha University Hospital received a formal letter from the Dean of the Faculty of Nursing at Benha University requesting written consent and official authority to conduct the study. Following an explanation of the study's goal and the acquisition of data regarding the number of patients who visit the Cardiac Outpatient Clinic, this was done to secure consent to carry it out.

Ethical consideration:

This study has been approved by the scientific research ethical committee of the

Nursing Faculty at Benha University **(REC.CHN.P48)**. The researchers gave each patient an explanation of the study's goals to get their informed consent to participate in the research. The patient had the freedom to leave the study at any time. The researchers also informed the participants that all data was utilized only for study.

Content Validity:

Five specialists from Benha University's Community Health & Medical Surgical Nursing expertise reviewed the materials to ensure that the content was accurate and that it was comprehensive, pertinent, and applicable.

Reliability:

Cronbach's alpha coefficients were used to evaluate the internal consistency and reliability of each tool. Knowledge reliability was 0.788. Test and retest reliability were used with the correlation coefficient which found to be 0.802, 0.734, and 0.916 for the scales of self-care maintenance, symptoms perception, and self-care management, respectively. When analyzed separately, the reliability of the WHO quality of life was 0.83, 0.72, 0.67, and 0.76 for the physical health, psychological, social relationships, and environmental domains, respectively. Cronbach's alpha coefficient test value of 0.91 was satisfactory and included all item scores.

Pilot study:

Ten percent (N=8) of the patients took part in a pilot study to assess the study tools' applicability and clarity for completing the questionnaires and feasibility of the study process. Based on the pilot study's results, the required modifications were made before data collection began by eliminating items that were unnecessary or duplicated. Patients who joined in the pilot test were excluded from the main study subjects.

Video assisted self-care educational program:

Assessment phase:

During the assessment phase, baseline data was collected by interviewing patients. During this pretest phase, which lasted roughly six weeks, the researchers were on site three- days a week from 9:00 am to 1:00 pm on Saturday, Monday, and Tuesday. The interview began with the researchers welcoming each patient, explaining the study's goals, schedule, and activities, and obtaining their oral agreement. The researchers interviewed patients to assess their sociodemographic and medical data and knowledge by using tool I, self-care by using tool II, and QOL by using tool III as a base line data. Fifteen to thirty minutes were needed.

Planning phase:

Based on the identified needs after the patient assessment and the relevant literature, the researchers designed the video-assisted self-care educational program. The number of sessions and contents determined by the researchers based on the patients' level of knowledge utilizing simple Arabic language. Objectives of the program were formulated as follows:

The general objective of video assisted self-care educational program: Was to improve the level of knowledge, self-care and quality of life among patients with chronic heart failure.

Specific objectives of video assisted self-care educational program:

At the end of the video assisted self-care educational program the studied patients were able to:

- Define heart failure
- Explain the types, and causes
- List of risk factors
- Enumerate manifestation
- Discuss classification, and stages

- Explain diagnosis, and complication
- Discuss treatment, and prevention of chronic heart failure
- Apply self-care regarding chronic heart failure
- Improve quality of life

Phases of video production:

I- Pre videos production phase:

a) Review of the relevant literature.

b) Content preparation and organization.

c) The video script mapping is prepared using a step-by-step process and formatting.

d) Examine and assign the video contents.

II. Phase of video production:

e) Recording the videos after their components were ready

III. Post videos production phase:

f) Editing the videos contents.

g) Videos illuminative evaluation.

Explanation of phases of video production:

a) Review of the relevant literature

The researchers review the body of existing literature. A literature review offers a useful overview of the topic of current research. To create the videos, a thorough examination of the literature on chronic heart failure was done utilizing textbooks, journals, and internet resources. To be sure that the contents were revised in a way that was correct, clear, precise, updated, methodically arranged, and simple.

b) Preparing and organizing the content: Based on the objectives of the study, the content of the videos was collected and arranged under subheadings.

c) Preparing of the video script mapping by sequential manner and formatting: The prepared content served as the basis for the development of a script, contained all the videos scenes, including purpose, objective, guiding principles, and information related to chronic heart failure.

d) Recording the videos after preparing its parts:

The researchers produced a power point video recording for the theoretical part and a video for the practical part. To achieve the goals of the study, the theoretical and practical videos begin by motivating the patients and gaining their attention. By the end of the video, the most important elements had been arranged and condensed. There are breaks and title sections throughout the video. The technical quality of the video seems appropriate. Each video length and level of intensity matched the topic. The video is thoughtfully designed to achieve the objective of the study.

f) Editing the videos contents.

Video slides were changed and rearranged to edit the videos. The editing objectives were to eliminate the unwanted slides, select the best slide, establish an orderly sequence of ideas, add graphics and effects, and pace the video notes. Effects, color grading, sound editing, and titles were added.

g) Videos illuminative evaluation:

The videos were evaluated by three community and medical surgery nursing specialists. The researchers made changes to the videos in response to their critiques, comments, and points of view about the technical, presentational, and content elements.

The implementation phase: The study began at the start of June 2024 and ran through the end of November 2024, was completed in six video sessions containing the study objective. There are four videos for the practical part and two for the theoretical part. The implementation schedule for each video session was designed to accommodate the patient preferred date, time, location, subjects, and duration. For video session, the researchers collected three to four patients

each day. The theoretical and practical parts lasted between thirty and forty-five minutes, and it took place three days a week (Saturday, Monday, and Tuesday) from 9:00 am to 1:00 pm. The theoretical part of the video sessions concentrated on knowledge about chronic heart failure. The practical sessions cover the implementation of self-care and how to improve quality of life. Video sessions help to explain information in a way that is easy for patients to understand. In the current study, encouragement during video sessions was used to enhance sharing. At the conclusion of the session, the researcher addressed any questions that the patients wanted. A laptop and data show were used to present videos to the patients.

Contents of educational videos sessions:

-First theoretical video session included: definition of heart failure, causes, types and risk factors, manifestation, classification, and stages of heart failure.

-Second theoretical video session included: complication, diagnosis, treatment and prevention of chronic heart failure.

-Third theoretical video session included how to apply self-care maintenance and symptoms perception.

-Fourth practical video session includes how to apply self-care.

-Fifth practical video session includes how to improve physical and psychological domains of quality of life.

The sixth practical video session includes how to improve social relationships and environmental domain of quality of life.

After watching the practical video sessions, recalling and feedback strengthen the learned activities. Also, the researchers encourage patients in these sessions. Furthermore, all videos were formally advertised through WhatsApp to each patient.

Evaluation phase: The researchers evaluated knowledge of the patients immediately and after two months from implementation of video assisted self-care educational program and related to self-care and quality of life, it done after 2 months by using the same study tools.

Statistical analysis:

The Statistical Package for Social Science (SPSS), version 25, was used for data analysis. Mean, standard deviation (SD) and range were used for expressing the numerical data. Frequency and percentage were used for expressing qualitative data. Chi-square test was used to examine the differences between qualitative variables, and the paired t-tests for comparing the mean scores between two different periods within the same group. Pearson product-moment correlation coefficient was used to test correlation between different numerical variables and spearman correlation for categorical of the variables. p-value < 0.05 was considered significant.

p-value <0.001 was considered highly significant.

Results:

Table (1) shows sociodemographic characteristics among the studied patients. Related to age, 40.0% were within the age group of 40- <50 years with a mean age of 45.40 ± 0.86 years. Concerning sex, 60.0 % of the studied group were females and a 40.0% were married. As for education, 65 % of the studied patients had intermediate education. 35.0% were employed, moreover 55.0% were living with family and 60.0% of patients reported that they had an insufficient monthly income.

Table (2) reveals the studied patients' medical history where 45.0% of the patients studied had been diagnosed with heart failure

since > 10 years with a major complaint of joint pain among 35.0%. 50.0% of them within the third stage of disease and were hospitalized twice, moreover 35% of them had hypertension as a comorbid disease and were receiving diuretics as a line of treatment for heart failure.

Table (3) reveals the difference in knowledge regarding chronic heart failure among studied patients, a significant difference between pre and post periods of program in all items of knowledge was noted, where causes and risk factors for chronic heart failure as well as manifestations of chronic heart failure was of the highest correct knowledge among 93.8% immediately post program and among (88.8% & 87.5%, respectively) post 2 months of program compared to (46.2% & 42.5%, respectively) preprogram implementation.

Figure (1) reveals a significant difference of total patients' knowledge level regarding chronic heart failure between pre and post periods of program, where 65 % of them had poor level preprogram to be improved to a good level among (82.5% & 76.2%, respectively) at immediately post and post 2 months of program implementation.

Table (4) shows there were highly statistically significant differences between pre and post 2 months of program. Where the symptoms perception was of the highest percentage of mean score post 2 months of program constituting 83.9% followed by self-care maintenance as well as self-care management constituting 80.7%

Table (5) shows there was a highly statistically significant difference between pre and post 2 months of program. Where the physical health was of the highest percent of mean score post 2 months of program constituting 87.2 % followed by psychological dimension constituting 87.0 %.

Figure (2) illustrates that 10% of the studied patients had a good total level of quality of life preprogram which improved to 83,8% of them post 2 months and 46,2 % of them had average level preprogram then became 16,2% post 2 months regarding total QOL.

Table (6) displays a highly positive significant correlation between total knowledge score with total self-care, pre and post 2 months of program implementation $p< 0.001^{**}$, also positive significant correlation with total quality of life preprogram $p= 0.023^{*}$ and a highly significant correlation post 2 months $p< 0.001^{**}$

Table 1. Distribution of studied patients' socio demographic characteristics (n= 80).

Socio Demographic characteristics	No.=80	
	No.	%
Age/years		
- 20-<30	8	10.0
- 30- < 40	28	35.0
- 40-<50	32	40.0
- 50-60	12	15.0
Mean ± SD	45.40 ± 0.86	
Sex		
-Male	32	40.0
-Female	48	60.0
Marital status		
-Single	20	25.0
-Married	32	40.0
- Widowed	16	20.0
- Divorced	12	15.0
Level of education		
- Intermediate education	52	65.0
- University education	28	35.0
Occupation		
- Employed	28	35.0
-Housewife	20	25.0
- free work	22	27.5
- not working	10	12.5
Living with		
-Alone	36	45.0
- Family	44	55.0
Monthly income (reported by patient)		
-Sufficient	32	40.0
-Insufficient	48	60.0

Table 2. Distribution of studied patients regarding their medical history (n=80).

Patients' health status	No.=80	
	No.	%
Time since diagnosis		
≤ 5 years	20	25.0
5- 10 years	24	30.0
≥ 10 years	36	45.0
Patients' complaints		
- Joint pain	28	35.0
- Swelling	8	10.0
- Movement restriction	20	25.0
- Stiffness	8	10.0
- Crepitus	16	20.0
Stage of heart failure		
- First	0	0.0
- Second	12	15.0
- Third	40	50.0
- Fourth	28	35.0
Times of hospitalization		
-One time	12	15.0
-Twice	40	50.0
-Three times and more	28	35.0
Presence of comorbid diseases		
- Hypertension	28	35.0
- Diabetes	8	10.0
- High cholesterol level	20	25.0
- Heart disease	8	10.0
- Asthma	16	20.0
***Treatment**		
- Diuretics	28	35.0
- Beta-blockers	25	31.2
- ACE inhibitors/ARB	16	20.0
- Digoxin	12	15.0

*The answers are nonmutual exclusive

Table (3): Statistical Difference of knowledge regarding chronic heart failure among studied patients pre and post periods of program(n=80).

Knowledge items	Pre- program		Immediate post Program		Post 2 months of program		χ^2 (p value) (1)	χ^2 (p value) (2)
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect		
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)		
Meaning of chronic heart failure	23(28.7)	57(71.3)	71(88.8)	9(11.2)	68(85.0)	12(15.0)	5.697 0.017*	4.092 0.043*
Types of chronic heart failure	28(35.0)	52(65.0)	73(91.2)	7(8.8)	70(87.5)	10(12.5)	6.154 0.013*	4.131 0.042*
Causes and risk factors for chronic heart failure	37(46.2)	43(53.8)	75(93.8)	5(6.2)	71(88.8)	9(11.2)	8.726 0.003*	4.589 0.032*
Manifestations of chronic heart failure	34(42.5)	46(57.5)	75(93.8)	5(6.2)	70(87.5)	10(12.5)	8.447 0.004*	3.942 0.047*
Classifications of chronic heart failure	32(40.0)	48(60.0)	74(92.5)	6(7.5)	70(87.5)	10(12.5)	7.619 0.006*	4.324 0.038*
Stages of chronic heart failure	31(38.8)	49(61.2)	73(91.2)	7(8.8)	70(87.5)	10(12.5)	7.230 0.007*	4.853 0.028*
Diagnosis of chronic heart failure	28(35.0)	52(65.0)	72(90.0)	8(10.0)	69(86.3)	11(13.7)	6.867 0.009*	4.786 0.029*
Complications of chronic heart failure	31(38.8)	49(61.2)	72(90.0)	8(10.0)	70(87.5)	10(12.5)	7.230 0.007*	5.624 0.018*
Treatment of chronic heart failure	28(35.0)	52(65.0)	70(87.5)	10(12.5)	65(81.3)	15(18.7)	9.941 0.002*	6.154 0.013*
Prevention of chronic heart failure	28(35.0)	52(65.0)	72(90.0)	8(10.0)	68(85.0)	12(15.0)	7.602 0.006*	4.786 0.029*

(1) Difference between pre and immediate post periods of program
(2) Difference between pre and post 2 months periods of program

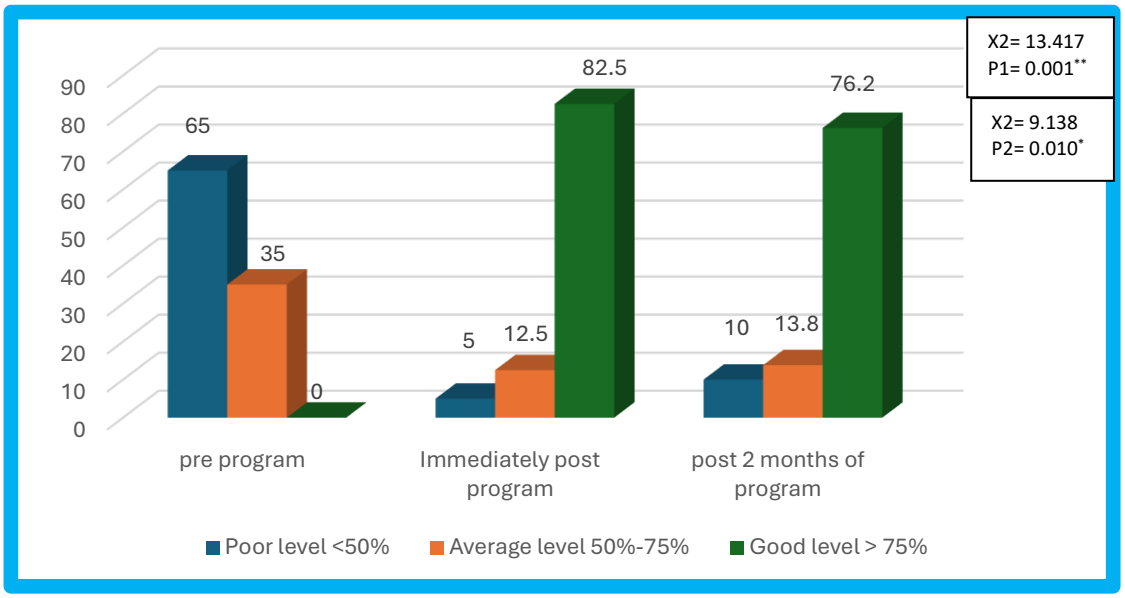

Figure 1. Percentage distribution of total patients' knowledge level regarding chronic heart failure at pre and post periods of program (n=80).

(1) Difference between pre and immediate post periods of program
(2) Difference between pre and post 2 months periods of program

Table (4): Statistical Difference of self-care mean scores among the studied patients regarding chronic heart failure pre and post 2 months of program (n=80).

Self-care of chronic heart failure	Max score	Pre- program	Post 2 months of program	% of mean post 2 months of program	T test P value
		Mean ± SD	Mean ± SD		
Self-care maintenance	50	22.42 ± 04.44	40.36 ± 5.03	80.7%	-24.446 (<0.001)**
Symptoms perception	55	27.57 ± 3.95	46.15 ± 2.65	83.9%	-34.226 (<0.001)**
Self-care management	40	14.45 ± 2.69	32.30 ± 4.25	80.7%	-39.055 (<0.001)**
Total	**145**	**64.45 ± 6.80**	**118.81 ± 8.19**	**-**	**-54.778 (<0.001)****

(t) paired t test (**) Highly statistically Significant at ≤0.001

Table (5): Difference of quality-of-life mean scores among the studied patients regarding chronic heart failure pre and post 2 months of program (n=80).

Quality of life	Max score	Pre-program	Post 2 months of program	% of mean post 2 months of program	T test P value
		Mean ± SD	Mean ± SD		
Physical health	75	33.36 ± 6.94	65.42 ± 5.11	87.2%	-35.606 (<0.001) **
Psychological	35	16.28 ± 2.88	30.48 ± 1.07	87.0%	-42.951 (<0.001) **
Social Relationships	20	9.57 ± 1.20	16.40 ± 1.10	82.0%	-36.452 (<0.001) **
Environment	40	22.13 ± 2.04	34.31 ± 2.89	85.7%	-29.848 (<0.001) **

(t) paired t test (**) Highly statistically Significant at ≤0.001

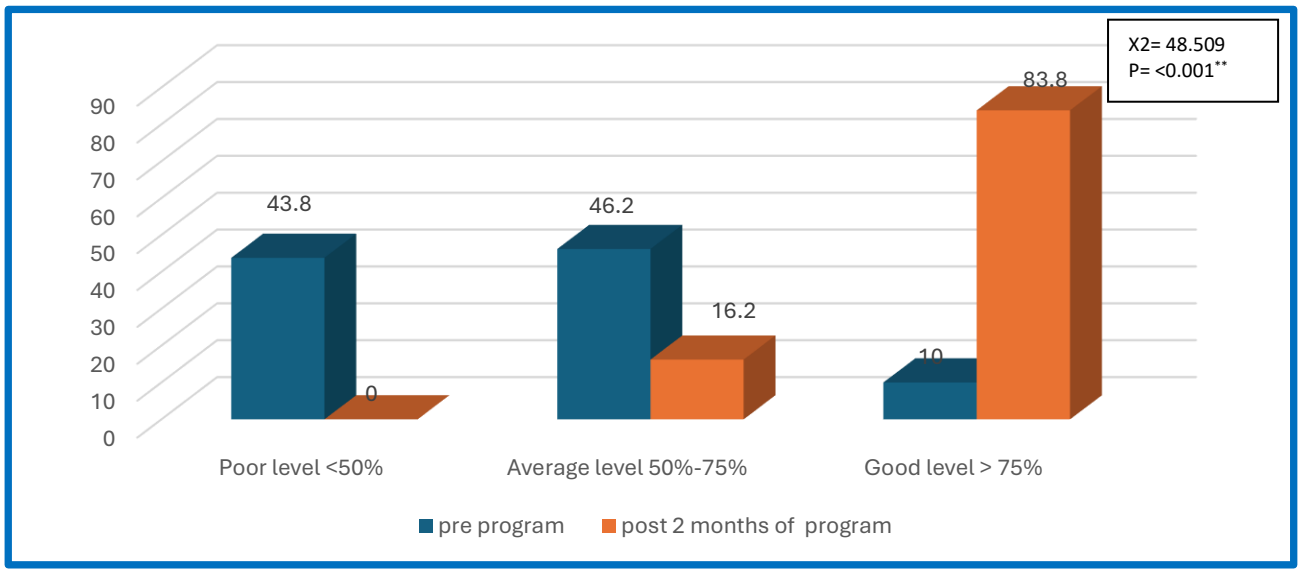

Figure 2. Percentage distribution of total quality of life level regarding chromic heart failure among studied patients pre and post periods of program (n=80).

Table (6): Correlation between patients' total knowledge with total self-care and quality of life scores pre and post 2 months of program implementation(n=80).

Variables		Total knowledge	
		r	P value
Total self-care	**Preprogram**	0.489	<0.001**
	Post 2 months of program	0.461	<0.001**
Total quality of life	**Preprogram**	0.254	0.023*
	Post 2 months of program	0.465	<0.001**

*** Statistically significant p ≤ 0.05** **** Highly statistically significant p ≤ 0.001**

Discussion:

Chronic heart failure is a progressive disease. The patients have increased hospital readmission rates due to aggravation of the symptoms, to prevent or decrease these symptoms, the patients' adherence to lifestyle modifications is an important step in addition to self-care choices related to diet, medications, exercise, regular medical care and checkup. Moreover, the self-care index of heart failure (SCIHF) ratings of patients can be linked to readmissions and general patient health (**Chamberlain, 2017).** Enhancing heart failure patients requires ongoing education. Effective self-care strategies that nurses can implement to support patients and enhance health outcomes **(Whitmore et al., 2020).**

Regarding sociodemographic characteristics, the result of current study reported that more than one third of the studied patients were within age group of 40- <50 years old with a mean age of 45.40 ± 0.86 years and more than half of them were females, this result may attribute to those patients within this age group are more predisposing to heart disease as age is one of common risk factors for heart disease. The current study supported by **Solela & Seid (2024),** who investigated the outcomes of acute heart failure patients in central Ethiopian hospitals, reported that the mean age was 52.3 years, SD: 18.3 and 50.8% were females.

Regarding educational level, the current study found that more than half of the patients under investigation had an intermediate level of education. It is related to the study setting was located in rural areas where there is prevalence of non or intermediate education, this result agreed with **Eltohamy (2018),** who assessed myocardial infraction patients' quality of life and reported that majority of the patients had intermediate school and the result disagreed with **Sulastri et al.(2023),** who studied effect of a structured education and tele monitoring on self-efficacy, self-care and QOL in heart failure patients, who reported the most of the patient had high school.

Related to the monthly income of patients under the study, the result revealed that more than half of them reported had insufficient monthly income, this might be due to the increasingly high social and financial burden of heart failure patients has resulted in repeated readmissions. This finding supported by **Huynh et al. (2025),** reported that patients with lower income had increased rates of heart disease.

As regard to medical history of the studied patients, approximately half of them had been diagnosed with heart failure since > 10 years with a major complaint of joint pain among more than one third and half of them within the third stage of the disease and hospitalized twice, moreover more than one third had hypertension as a comorbid disease and receiving diuretics as a line of treatment for heart failure. From the researchers' view these findings indicated that the studied patients were in the symptomatic stage and had minimal activity which required improving their self -care and quality of life.

Study conducted by **Alaa Eldein et al. (2017),** provided support for this result, which revealed that all studied patients and control group had hypertension. The study also agreed with **George et al. (2024),** who studied educational program effect on coronary artery disease patients and reported that more than one third of them had hypertension and diabetes mellitus for more than 6 years. Moreover, **Meijers & de Boer (2 017),** stated that age, coronary artery disease, rheumatic heart disease, hypertension, and diabetes

mellitus were among the risk factors for heart disease.

As regard to patients knowledge about chronic heart failure: The present study revealed that there was significant difference between pre and post periods of program in all items of knowledge regarding chronic heart failure among the studied patients, where its causes and risk factors as well as the manifestations were the items of highest correct knowledge among most of patients at immediately post program and among the majority of them post 2 months of program compared to less half of them at preprogram implementation had correct knowledge, these results support the first hypothesis. Chronic heart failure patients' knowledge significantly improved post-program.

The increased level of the patient's knowledge indicated that video assisted self-care educational program was effective in increasing the patients' knowledge and awareness regarding HF. Patients who understand their disease are more interested in participating in self- care that lead to behavior modification and improve QOL.

The study findings supported by **Luktasari & Nafista (2023)** who studied patient's knowledge and physical activity level as indicators of self-care in heart failure disease and showed adequate knowledge of heart failure patients post program. In addition to **Shropshire et al. (2022),** who studied awareness of heart failure patients about diagnosis, and reported that improving heart failure patients' self-care behaviors and outcomes need implementing strategies to improve patients' awareness about their diagnosis.

Related to difference of self-care mean scores among the studied patients with chronic heart failure, the results pointed out that there were highly statistically significant differences between pre and post 2 months of program. Where the perception symptoms were the highest percentage score post 2 months of program followed by patients' self-care maintenance as well as self-care management. This could be the result of chronic heart failure, which necessitates a high level of self-care. These results support the second hypothesis: Self-care among patients with chronic heart failure was significantly improved post-program.

The current study findings agreed with **Chen & Hsu (2015),** who studied the effect of self-care program on patients with heart failure and reported self-care significantly improved post program implementation. The study was consistent with **Tung and Seid (2020),** who examined self-care practice and health-related quality of life and found that heart failure patients had high levels of self-care confidence and management. Also, **Liljeroos et al. (2024)**, which reported that self-care behavior improved among patients with heart failure after 3 months of intervention. Also, **Sau-fung et al. (2022),** who studied heart failure patients' health outcomes reported improved symptoms perception and self-care management

The study disagreed with **Jaarsma et al. (2021),** who studied heart failure patients' self-care showed a poor degree of self-care maintenance and management, while self-care confidence was adequate and **Seid et al. (2023),** who studied self-care and quality of life among adult patients with heart failure and reported; Patients with heart failure did not conduct self-care to a sufficient degree.

Related to difference quality of life among patients with chronic heart failure, the results revealed that there were highly significant statistical differences between pre and post 2 months of program. Where the physical health was of the highest percentage score post 2 months of program followed by psychological dimension. It might be due to physical health is the first affected symptoms in heart failure patients than psychological health and these results showed that the patients' adherence to the video assisted self-care educational program positively affected their all-health status. And these findings support the third hypothesis that quality of life among patients with chronic heart failure significantly improved post-program.

The study results agreed with **Islam & Anwar (2020),** who studied chronic heart failure patients' quality of life and reported a significant positive relation between health-related quality of life and general life for patients with chronic heart failure. The study also consistent with **Seid (2022),** who studied heart failure patients' self-care and health-related quality of life and observed a significant correlation between self-care management and physical health and between self-care maintenance and emotional health.

On the other hand, the current results were in contrast with **Province (2020),** who reported that poor quality of life among chronic heart failure patients, and it positively related to the physical dimension. The study disagreed with **Hudiyawati, (2021),** who studied self-care and the related factors among congestive heart failure patients and revealed that there was a positive correlation with total physical and psychological condition. Moreover, **Seid et al., 2022** reported physical health were positive and significant correlation with total physical dimension.

The current study revealed that a minority of the studied patients had a good total quality of life preprogram which improved to majority of them in the post 2 months. This might be due to the positive effect of video assisted educational program on patients` quality of life. This finding disagreed with **Moradi, (2020),** who study Quality of life of chronic heart failure patients reported the majority (89.9%) of patients had a poor QoL preintervention, the few patients who remained (10.1%) was moderate. After intervention, no one enjoyed a high quality of life. The current results showed a highly positive significant correlation between total knowledge score with total self-care, pre and post 2 months of program implementation $p< 0.001^{**}$ and r=0.48, 0.46 respectively, also positive significant correlation with total quality of life preprogram $p= 0.023^{*}$ and a highly significant correlation post 2 months $p< 0.001^{*}$ and r=0.46. These results might be due to the video assisted self-care educational program positively affected on increasing patients' knowledge which in turn affected on increasing their self- care and quality of life. The study disagreed with **Wiśnicka (2022),** who studied chronic heart failure males patients; self-care and quality of life, and revealed no significant correlation between self-care and quality of life ($p > 0.05$). The study also disagreed with **D'Souza et al. (2024),** who reported no correlation between knowledge of heart failure patients and their self-care behavior.

Conclusion:

Video assisted self-care educational program was effective in improving chronic heart failure patients` knowledge, self-care and quality of life that confirmed the study hypothesis. In addition, a significant highly positive correlation was found between total knowledge score and total self-care, pre and

post 2 months of program implementation p< 0.001**, also positive significant correlation with total quality of life preprogram p= 0.023* and a highly significant correlation post 2 months p< 0.001**.

Recommendations:

- Continuing application video assisted self-care educational program for increasing knowledge and improving self-care and QOL of patients regarding chronic heart failure
- Regular follow up and checkup for patients at Outpatient Clinic.
- Further studies are needed on large probability subjects regarding chronic heart failure to prevent complication.

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تأثير برنامج تعليمي للرعاية الذاتية بمساعدة الفيديو للمرضى الذين يعانون من قصور القلب المزمن على نتائجهم الصحية

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مقدمة: قصور القلب هو حالة طويلة الأمد تقلل بشكل كبير من جودة الحياة وتسبب العديد من الصعوبات للمرضى. يمكن لبرنامج الرعاية الذاتية تحسين النتائج الصحية للمرضى وتجنب إعادة الدخول إلى المستشفى. الهدف: هدفت هذه الدراسة إلى تقييم تأثير برنامج الرعاية الذاتية التعليمي بمساعدة الفيديو للمرضى الذين يعانون من قصور القلب المزمن على نتائجهم الصحية. التصميم: تم استخدام تصميم شبه تجريبي المكان: أجريت الدراسة في العيادة الخارجية للقلب في مستشفى بنها الجامعي في مدينة بنها، مصر. العينة: تم استخدام عينة غرضية لإجراء هذه الدراسة. وشمل حجم العينة الإجمالي ٨٠ مريضًا. أدوات جمع البيانات: تم استخدام ثلاث أدوات في هذه الدراسة؛ استبيان مقابلة منظم يتكون من ثلاثة أجزاء مثل الخصائص الاجتماعية والديموغرافية للمرضى المدروسين والتاريخ الطبي و المعلومات II: مقياس الرعاية الذاتية لمرضى قصور القلب. III: مقياس جودة الحياة لمنظمة الصحة العالمية. النتائج: ظهرت الدراسة فروقًا إحصائية كبيرة في مستوى معلومات المرضى الإجمالي بين فترة ما قبل البرنامج وما بعده، حيث كان لدى ٦٥٪ منهم مستوى معلومات ضعيف قبل البرنامج وتحسن إلى مستوى جيد بين ٨٢,٥٪ و ٧٦,٢٪ على التوالي من تنفيذ البرنامج مباشرة وبعد شهرين، وكانت هناك فروق إحصائية كبيرة في رعاية المرضى الذاتية بين فترة ما قبل البرنامج وما بعده، حيث كان متوسط درجة الرعاية الذاتية الإجمالية قبل البرنامج ٦٤,٤٥ ± ٦,٨٠ ثم أصبح ١١٨,٨١ ± ٨,١٩ بعد شهرين، وكان لدى ١٠٪ من المرضى المدروسين مستوى إجمالي جيد لجودة الحياة قبل البرنامج والذي تحسن إلى ٨٣,٨٪ منهم بعد شهرين. الاستنتاج: كان برنامج الرعاية الذاتية التعليمي بمساعدة الفيديو فعالاً في تحسين معلومات المرضى الرعايه الذاتية وجودة الحياة بين فترة ما قبل وبعد البرنامج التوصيات: الاستمرار في تطبيق برنامج الرعاية الذاتية التعليمي بمساعدة الفيديو لزيادة المعلومات وتحسين الرعاية الذاتية وجودة الحياة لدى المرضى الذين يعانون من قصور القلب المزمن