

Knowledge Regarding Home Care Management among Patients Following Cardiac Surgery in Selected Hospitals of Guwahati, Assam: A Cross-Sectional Study

Ms. Gayatri Shil^{1*}, Ms. Manisha Kalita², Dr. Manuj Kumar Saikia³, Dr. Seema Konwar⁴

¹Assistant Clinical Nurse Specialist, Department of Medical Surgical Nursing (CTVS), Apollo Excelcare Hospital, Guwahati, Assam, India

²Assistant Professor, Department of Medical Surgical Nursing (CTVS), Royal Global University, Guwahati, Assam, India

³HOD, Department of CTVS, Apollo Excelcare Hospital, Guwahati, Assam, India

⁴Medical Superintendent, Apollo Excelcare Hospital, Guwahati, Assam, India

*Corresponding author: Ms. Gayatri Shil, gayatri_shil@apollohospitals.com

ABSTRACT

Background: Cardiac surgery is a life-saving intervention that significantly improves survival and quality of life among patients with cardiovascular diseases. However, successful recovery following cardiac surgery depends not only on surgical outcomes but also on effective home care management after hospital discharge. Adequate knowledge regarding wound care, medication adherence, dietary modifications, physical activity, lifestyle changes, follow-up care, and recognition of warning signs is essential for preventing complications and promoting optimal recovery. Inadequate knowledge regarding home care management may result in delayed recovery, increased morbidity, and hospital readmissions.

Objectives: The study aimed to assess the knowledge regarding home care management among patients following cardiac surgery, determine its association with selected demographic variables, and develop an information booklet to enhance patient awareness and promote effective self-care practices.

Methodology: A quantitative research approach with a descriptive cross-sectional survey design was adopted. The study was conducted among 89 patients who had undergone cardiac surgery in selected hospitals of Guwahati, Assam. Participants were selected using a consecutive sampling technique. Data were collected using a structured interview schedule covering various aspects of home care management, including wound care, medication adherence, diet and nutrition, physical activity, lifestyle modifications, follow-up care, and emergency management. Descriptive and inferential statistical methods were used for data analysis.

Results: The findings revealed that 62.92% of patients had moderate knowledge, 21.35% had inadequate knowledge, and only 15.73% had adequate knowledge regarding home care management following cardiac surgery. The mean knowledge score was 5.78 ± 1.70 . A statistically significant association was observed between knowledge level and educational qualification ($\chi^2 = 42.85$, $p < 0.001$). No significant association was found between knowledge level and age, gender, religion, type of family, monthly family income, or source of information.

Conclusion: The study concluded that most patients possessed only moderate knowledge regarding home care management following cardiac surgery. The findings highlight the need for structured discharge education, patient counselling, and educational materials to improve patient knowledge and facilitate successful recovery. An information booklet was developed based on the identified learning needs of patients.

Keywords: Cardiac Surgery, Home Care Management, Knowledge, Postoperative Care, Patient Education, Information Booklet, Recovery Management

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INTRODUCTION

Cardiovascular diseases (CVDs) are the leading cause of morbidity and mortality worldwide and represent a major public

health challenge (1,2). Advances in cardiac surgery, including coronary artery bypass grafting, valve repair, and valve replacement procedures, have significantly improved survival and quality of life among patients with heart diseases (3,4). However, successful recovery following cardiac surgery depends not only on the surgical procedure but also on effective postoperative home care management (5). Home care management includes proper wound care, medication adherence, dietary modifications, physical activity, lifestyle changes, follow-up visits, and early recognition of warning signs (6). Inadequate knowledge regarding these aspects may lead to complications, delayed recovery, and increased hospital readmissions (7).

Therefore, educating patients about home care practices is an essential component of postoperative cardiac care (8).

As the number of cardiac surgeries continues to increase in India, there is a growing need to assess patients' knowledge regarding home care management and identify existing educational gaps (9). Understanding patients' knowledge levels can help healthcare professionals develop appropriate educational interventions and support recovery after discharge (10). Hence, the present study was undertaken to assess the knowledge regarding home care management among patients following cardiac surgery in selected hospitals of Guwahati, Assam, and to develop an information booklet based on their learning needs.

MATERIALS AND METHODS

Study Design and Setting

A hospital-based cross-sectional study was conducted among patients who had undergone cardiac surgery in selected tertiary care hospitals of Guwahati, Assam. The study was carried out during June 2025 following approval from the Institutional Ethics Committee and the concerned hospital authorities.

Study Population and Sample Size

The study population comprised patients who had undergone cardiac surgery and were admitted to the postoperative cardiac wards of selected hospitals. The sample size was calculated using the Raosoft Sample Size Calculator based on an accessible population of 114 postoperative cardiac surgery patients. Considering a confidence level of 95%, margin of error of 5%, and response distribution of 50%, the required sample size was determined to be 89 participants.

Sampling Technique

A consecutive sampling technique was employed to recruit eligible participants. Every patient who met the inclusion criteria during the data collection period was approached and enrolled until the required sample size was achieved.

Statistical Analysis

Data were entered and analyzed using appropriate statistical software. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize demographic characteristics and knowledge scores. Inferential statistics, specifically the Chi-square test, were applied to determine the association between knowledge regarding home care management and selected demographic variables. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Participant Characteristics

A total of 89 patients who had undergone cardiac surgery participated in the study. The majority of participants were aged 49–58 years (44.95%), male (77.53%), Hindu (67.42%), belonged to nuclear families (61.80%), and had graduate-level education or above (49.44%). Most participants reported hospitals as their primary source of information regarding home care management following cardiac surgery (41.57%).

Table 1. Demographic Characteristics of Participants (N = 89)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	19–28	6	6.74
Age (years)	29–38	9	10.11
Age (years)	39–48	22	24.72
Age (years)	49–58	40	44.95
Age (years)	≥59	12	13.48
Gender	Male	69	77.53
Gender	Female	20	22.47
Religion	Hindu	60	67.42
Religion	Muslim	21	23.59
Religion	Christian	6	6.74
Religion	Buddhist	2	2.25
Type of Family	Nuclear	55	61.80
Type of Family	Joint	29	32.58
Type of Family	Extended	5	5.62
Educational Qualification	Informal Education	11	12.36
Educational Qualification	Primary Education	11	12.36
Educational Qualification	Secondary Education	23	25.84
Educational Qualification	Graduate and Above	44	49.44
Monthly Family Income	₹2,13,814 and above	63	70.79
Monthly Family Income	₹1,06,850–₹2,13,813	22	24.72
Monthly Family Income	₹80,110–₹1,06,849	4	4.49
Source of Information	Mass Media	16	17.98
Source of Information	Social Media	17	19.10
Source of Information	Hospital	37	41.57
Source of Information	Family Members/Others	19	21.35

Table 2. Distribution of Participants According to Knowledge Level (N = 89)

Knowledge Level	Frequency (n)	Percentage (%)
Inadequate Knowledge	19	21.35
Moderate Knowledge	56	62.92
Adequate Knowledge	14	15.73

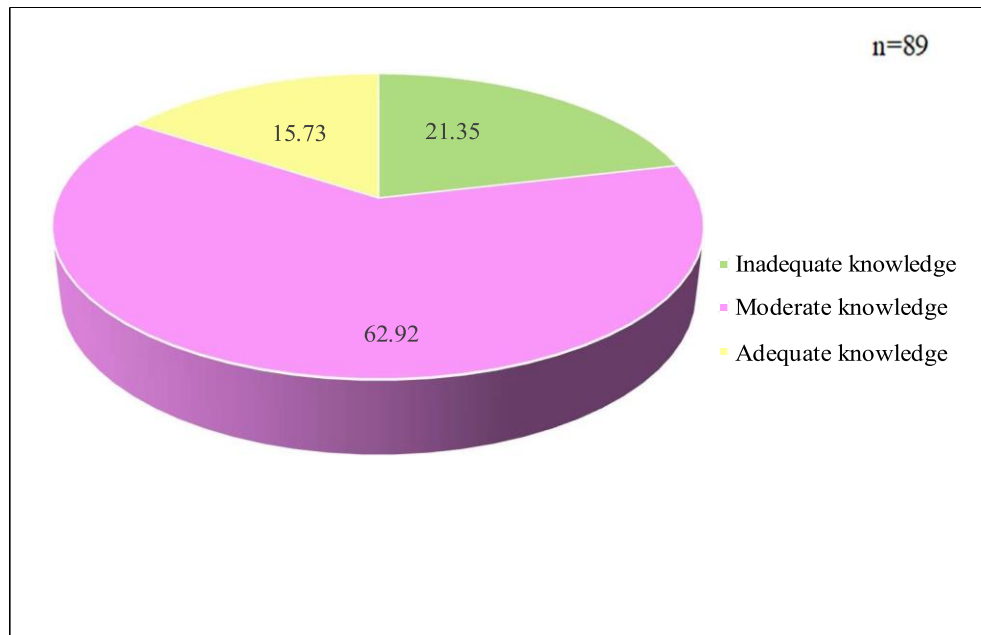


Figure 1: Level of Knowledge

Association Between Knowledge Level and Selected Demographic Variable

Educational qualification demonstrated a statistically significant association with knowledge regarding home care management ($\chi^2 = 42.85, p < 0.001$). No statistically significant association was observed between knowledge level and age, gender, religion, type of family, monthly family income, or source of information.

DISCUSSION

The present study assessed knowledge regarding home care management among patients following cardiac surgery in selected hospitals of Guwahati, Assam. The findings revealed that the majority of participants (62.92%) had moderate knowledge regarding home care management, while 21.35% demonstrated inadequate knowledge and only 15.73% had adequate knowledge. These findings indicate that although patients possess some awareness regarding postoperative self-care, significant knowledge gaps still exist that may adversely affect recovery outcomes following discharge (8).

Adequate knowledge regarding home care management is essential for ensuring adherence to medications, maintaining wound hygiene, adopting appropriate dietary practices, engaging in recommended physical activities, and recognizing early warning signs of complications (6). Lack of adequate knowledge may contribute to poor self-care practices, delayed recovery, postoperative complications, and increased hospital readmissions (8). Therefore, assessment of patients' knowledge is crucial for identifying educational needs and developing targeted interventions (10).

The findings of the present study are consistent with those reported by Pramila et al. (11), who found that most post-CABG patients possessed only moderate knowledge regarding home care management. Similarly, Vaidya (12) reported that a considerable proportion of cardiac surgery patients lacked adequate knowledge concerning postoperative care and highlighted the importance of educational interventions in improving patient outcomes. These findings collectively suggest that knowledge deficits remain a common challenge among postoperative cardiac patients.

The present study further demonstrated a statistically significant association between educational qualification and knowledge regarding home care management ($\chi^2 = 42.85, p < 0.001$).

Participants with higher educational attainment exhibited better knowledge levels than those with lower educational qualifications. This finding may be attributed to higher health literacy, improved comprehension of healthcare information, and greater access to educational resources among educated individuals (13). Similar associations between educational status and knowledge levels have been reported in previous studies evaluating patient education and self-care practices among cardiac patients (14).

No statistically significant association was found between knowledge level and age, gender, religion, type of family, monthly family income, or source of information. These findings suggest that educational status may play a more important role in influencing knowledge than other demographic characteristics. Consequently, patient education programmes should be tailored according to literacy levels and individual learning needs to maximize understanding and retention of information (8).

The findings underscore the importance of structured discharge planning and patient-centred educational interventions in cardiac surgical care (5). Provision of educational booklets, individualized counselling sessions, and follow-up education may significantly improve patients' knowledge and confidence in managing postoperative care at home (15). Strengthening patient education strategies may ultimately contribute to improved recovery, reduced complications, and enhanced quality of life following cardiac surgery (8,15).

CONCLUSION

The present study concluded that the majority of patients following cardiac surgery possessed moderate knowledge

regarding home care management. Educational qualification was significantly associated with knowledge level, indicating that patients with higher educational attainment demonstrated better understanding of postoperative care requirements. No significant association was observed between knowledge level and age, gender, religion, type of family, monthly family income, or source of information. The findings highlight the need for comprehensive discharge education and structured patient teaching programmes to address existing knowledge gaps.

Healthcare professionals should emphasize individualized counselling and provide appropriate educational materials to enhance patients' understanding of postoperative self-care practices. Improving patients' knowledge regarding home care management may contribute to better adherence to treatment recommendations, prevention of complications, reduced hospital readmissions, and improved quality of life following cardiac surgery.

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