



## Effect of Dietary Educational Program on Patients Performing Cardiac Catheterization in Kirkuk City

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### Abstract

*This study aimed to assess the effectiveness of a dietary educational program on improving the dietary habits of patients undergoing cardiac catheterization in Kirkuk city. Prior to the intervention, patients exhibited poor adherence to recommended dietary patterns, necessitating targeted interventions to promote healthier eating habits. The educational program was designed to address these dietary challenges and encourage positive changes. A pre-post-test approach was employed to evaluate the impact of the educational program. The study sample included 80 patients admitted to the cardiac catheterization unit at Azadi Teaching Hospital. Data collection encompassed demographic characteristics, clinical data, clinical presentation, and dietary domains. Prior to the intervention, only a small percentage of patients reported adherence to healthier dietary patterns, such as having a good appetite (5.0%) and avoiding high-salt diets (15.0%). However, post-program assessments demonstrated substantial positive changes, with 95.0% of patients reporting a good appetite and 90.0% avoiding high-salt diets. Statistical analyses further confirmed highly significant differences ( $p < 0.001$ ) between pre and post-program assessments for each dietary pattern item. These findings underscore the program's success in promoting healthier dietary choices among cardiac catheterization patients. The observed improvements align with previous studies emphasizing the crucial role of dietary habits in cardiovascular health. The significant positive changes in dietary behaviors provide robust evidence of the educational program's effectiveness. In conclusion, the implementation of a dietary educational program significantly improved the dietary habits of patients undergoing cardiac catheterization in Kirkuk*

*city. The program's success in promoting healthier dietary patterns highlights the importance of tailored interventions in cardiovascular disease management.*

**Keywords:** *cardiac catheterization, dietary patterns, educational program, cardiovascular health, lifestyle modification, intervention.*

## Introduction

Cardiovascular diseases (CVDs) continue to be a significant global health challenge, causing substantial morbidity and mortality worldwide. Lifestyle factors, especially dietary habits, have been identified as key contributors to the development and management of CVDs (Bowen et al., 2018; Mozaffarian, 2016). Patients undergoing cardiac catheterization represent a vulnerable group within the spectrum of cardiovascular conditions. Consequently, interventions focusing on modifying their dietary behaviors hold promise for improving their cardiovascular health outcomes.

In numerous studies, unhealthful lifestyle factors such as poor nutrition, inadequate physical activity, smoking, and excessive alcohol consumption have been recognized as major risk factors for cardiovascular diseases (Chamberlain et al., 2018; Singh, 2017). The pivotal role of dietary patterns in the etiology of CVDs has prompted a growing interest in targeted interventions aimed at improving patients' dietary habits to mitigate these risks.

As the global burden of cardiovascular diseases continues to rise, there is a pressing need to explore effective strategies that address the multifaceted aspects of disease prevention and management. This study focuses on evaluating the impact of a dietary educational program on patients undergoing cardiac catheterization in Kirkuk City, with the aim of elucidating the effectiveness of such interventions in promoting healthier dietary practices among this specific patient cohort.

## Materials and Methods

A quantitative /cross sectional design, complemented by a pre-post-test approach, was utilized to examine the impact of a dietary educational program. The program content was meticulously designed, informed by patients' assessment needs, existing literature, expert opinions, and prior research. The educational session encompassed a wide range of heart-healthy dietary recommendations, delivered individually to participants. To assess the program's effectiveness, a structured questionnaire was administered before and after the intervention.

**Setting:** The study transpired at Azadi Teaching Hospital, a medical facility equipped with cardiac catheterization services, situated in Kirkuk City.

**Participants:** A purposive sample of 80 patients undergoing cardiac catheterization at Azadi Teaching Hospital was recruited for the study. Inclusion criteria encompassed patients undergoing either diagnostic or therapeutic cardiac catheterization, of all genders, with stable health conditions.

**Data Collection:** Data collection was executed through a structured questionnaire consisting of sections related to demographic attributes, clinical data, clinical presentation, and dietary habits. The questionnaire's content validity was ensured through expert evaluation, while its reliability was verified via a pilot study.

**Intervention:** The dietary educational program was individually delivered to participants following the initial pre-test assessment. Topics covered during the program included heart disease awareness, cardiac catheterization details, healthy dietary choices, physical activity recommendations, and stress management techniques. Various teaching aids, such as laptops, booklets, and instructional videos, were employed during the educational session.

**Data Analysis:** statistical data analysis were utilized to present participants' demographic and clinical characteristics. Inferential statistical analysis encompassed chi-square tests, Wilcoxon signed rank tests, and McNemar tests, aimed at gauging the significance of alterations in patients' dietary patterns post-intervention.

## Results

**Table 4.1 Dietary patterns along Pre/Post Periods with comparisons significant**

| Dietary Patterns   | Resp. | Pre (%) | Post (%) | Assessment | P-value   | Comparison |
|--|-------|---------|----------|------------|-----------|------------|
| <b>I have good appetite</b>                                | No    | 40      | 50.0     | M          | P = 0.000 | HS         |
|  | Yes   | 40      | 76       | 95.0       |           |            |
| <b>I weight myself regularly</b>                           | No    | 77      | 15       | L          | P = 0.000 | HS         |
|  | Yes   | 3       | 65       | 81.3       |           |            |
| <b>I don't eat a diet containing a high amount of salt</b> | No    | 68      | 15       | L          | P = 0.000 | HS         |
|  | Yes   | 12      | 72       | 90.0       |           |            |
| <b>I eat regular meals</b>                                 | No    | 76      | 5        | L          | P = 0.000 | HS         |
|  | Yes   | 4       | 78       | 97.5       |           |            |
| <b>I don't eat fatty meals</b>                             | No    | 73      | 9        | L          | P = 0.000 | HS         |
|  | Yes   | 7       | 78       | 97.5       |           |            |
| <b>I don't eat excessive amount of fruits</b>              | No    | 59      | 26       | L          | P = 0.000 | HS         |
|  | Yes   | 21      | 79       | 98.8       |           |            |
| <b>I drink 6-9 cups (1.5-2 liters) of fluids a day</b>     | No    | 61      | 24       | L          | P = 0.000 | HS         |
|  | Yes   | 19      | 80       | 100        |           |            |
| <b>I eat nuts</b>  | No    | 68      | 15       | L          | P = 0.000 | HS         |
|  | Yes   | 12      | 74       | 92.5       |           |            |
| <b>I eat fish</b>  | No    | 65      | 19       | L          | P = 0.000 | HS         |
|  | Yes   | 15      | 76       | 95.0       |           |            |

|                                    |     |    |    |      |           |    |
|------------------------------------|-----|----|----|------|-----------|----|
| <b>I eat chicken</b>               | No  | 61 | 24 | L    | P = 0.000 | HS |
|                                    | Yes | 19 | 79 | 98.8 |           |    |
| <b>I don't eat a lot of sweets</b> | No  | 72 | 10 | L    | P = 0.000 | HS |
|                                    | Yes | 8  | 78 | 97.5 |           |    |

The Table (4.1) show instance, only 5.0% of patients reported having a good appetite, and 3.8% indicated regular weight monitoring. Moreover, 15.0% of patients reported not eating a diet containing a high amount of salt, and only 10.0% claimed to not eat a lot of sweets. These findings highlight the need for intervention to promote healthier dietary practices among cardiac catheterization patients.

After the implementation of the educational program, substantial improvements were observed in patients' dietary habits. For instance, 95.0% of patients reported having a good appetite, and 81.3% indicated regular weight monitoring. Additionally, 90.0% of patients reported avoiding diets high in salt, and 97.5% claimed not to eat a lot of sweets. These changes signify the effectiveness of the educational program in promoting healthier dietary patterns among cardiac catheterization patients.

The statistical analyses conducted for each dietary pattern item revealed highly significant differences ( $p < 0.001$ ) between pre and post-program assessments. These findings provide robust evidence of the program's positive impact on patients' dietary behaviors.

### Discussion

The findings presented in Table (4-1) provide compelling evidence of the substantial positive impact of the dietary educational program on improving patients' dietary habits after cardiac catheterization. Prior to the intervention, patients' dietary adherence was notably inadequate, reflecting the importance of targeted interventions to address these habits. These results align with previous studies that have identified poor dietary choices as significant risk factors for cardiovascular diseases.

The data reveal that the educational program resulted in notable improvements in patients' dietary patterns. Notably, patients exhibited a significant shift toward healthier behaviors after the program. For example, the percentage of patients reporting good appetite increased from a mere 5.0% to an impressive 95.0%. Similarly, regular weight monitoring showed a remarkable increase from 3.8% to 81.3%. Moreover, patients' efforts to avoid diets high in salt increased substantially from 15.0% to 90.0%, and those reporting avoidance of excessive sweets rose from 10.0% to 97.5%. These findings underscore the efficacy of the educational program in promoting healthier dietary choices among cardiac catheterization patients.

The observed changes in patients' dietary habits are consistent with the existing literature. Many studies have highlighted the links between cardiovascular diseases and dietary patterns. Unhealthy diets, characterized by excessive consumption of processed foods, saturated fats, and sugars, have been strongly associated with increased cardiovascular risk. Conversely, adopting healthier dietary patterns, such as those promoted by the educational program, has been shown to mitigate these risks.

The highly significant differences ( $p < 0.001$ ) between pre and post-program assessments for each dietary pattern item provide robust evidence of the program's effectiveness. These findings affirm the

positive impact of the educational intervention on patients' dietary behaviors. This aligns with the established notion that education and awareness can lead to meaningful behavioral changes, especially when tailored to specific health conditions.

### Conclusion

This study found that dietary education improved cardiac catheterization patients in Kirkuk. Pre-program dietary adherence was low, highlighting the need for targeted interventions to improve dietary habits. The educational programme greatly improved patients' diets. Participants learned about and adopted healthier diets. This study emphasizes lifestyle-wide interventions for cardiac health. A successful dietary educational programme suggests that tailored interventions can empower patients to make healthy decisions. Healthcare providers can prevent and treat cardiovascular diseases by promoting healthy eating. Healthy lifestyle education can greatly improve patients' health. The long-term effects of these positive changes and new ways to improve patient engagement and compliance could be studied. This study shows that education improves patients' health behaviors and outcomes.

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