Effectiveness of Information Booklet on Knowledge, Attitude and Practice on Cardiac Rehabilitation among Myocardial Infarction Patients

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Abstract

Background: Myocardial infarction is a dynamic process where region of heart muscle have severe and prolonged decrease in O_2 supply due to inadequate blood flow lead to necrosis of myocardium. MI leads to physical, social and mental impairment, and contributes to considerable impairment in quality of life of patient and family. The impairment may coped well with help of cardiac rehabilitation, which is sum of activity required to ensure the physical, psychological, social and mental condition of patient. Thus present study was carried out to assess the effectiveness of information booklet on knowledge, attitude and practice regarding cardiac rehabilitation among MI patients. *Material and Methods:* A quasi experimental study where pre test post test design without control group approach was undertaken in medical wards of Pravara Rural Hospital. A total of 30 MI patients were selected with help of systematic random sampling technique. The structured interview schedule was used to collect the data (where dichotomous questionnaire, rating scale and check list was used to assess the knowledge, attitude and practice on cardiac rehabilitation respectively). The information booklet was distributed to myocardial infarction patients immediately after the pre test. Effectiveness of booklet was done by conducting post test on the first follow up visit of patient to hospital after discharge. The data was analyzed with descriptive and inferential statistic wherever required. *Result:* The result of the study revealed that information booklet was effective as the knowledge score shows improvement from 'average' (40%) to 'good' (74%) from pre test to post test respectively. In relation to attitude of patient towards cardiac rehabilitation was found to be neutral after administration of booklet as attitude score was increased from pre test (35%) to post test (62%); practice regarding cardiac rehabilitation found to be significantly increased from pre test (39%) to post test (62%). There was a significant difference found between pre test and post test knowledge, attitude and practice scores at p<0.05 level. A significant association found between knowledge and demographic variable like age ($\eth^2$ = 16.75) at p<0.05 level. *Conclusion:* Majority of myocardial infarction patients had significant improvement in knowledge, attitude and practice regarding cardiac rehabilitation after implementation of information booklet. Hence the information booklet is considered to be an effective tool in order to bring a positive health out come in myocardial infarction patients.

Keywords: Effectiveness; Knowledge; Attitude; Practice and Information Booklet.

Introduction

Heart is a nonstop pump which maintains circulation of fluid i.e. 'blood' to circulate every part of body, and the heart beat represents life and lack of it pronounces death. Amongst the common heart diseases coronary heart disease especially myocardial infarction does have greater impact on health and quality of life of individual and family. It is a sudden occlusion of coronary artery and abrupt cessation of blood and oxygen flow to heart muscles which leads to angina pectoris and other manifestations of ischemic heart disease [1].

World Health Organization reported that 16.7 million people around the globe die of cardiovascular disease (CVD) each year. This is over 29% of all deaths

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globally and it is reported that coronary artery disease is an emerging health problem in India [2]. In India 31.7% of deaths occur due to MI, and 17.3 million deaths in 2008 were attributable to cardiovascular disease, with 7.3 million (42% of all cardiovascular deaths) being due to the result of a myocardial infarction [3].

It was also noted that the incidence of myocardial infarction is alarmingly high in rural population because of poor dietary habits, smoking and tobacco chewing. Myocardial infarction has a negative impact on patient's quality of life and does have severe problems such as chest pain, discomfort, anxiety, depression, self care and activity of daily living problems [4,5].

Studies on patient's knowledge and understanding regarding cardiac rehabilitation revealed that patients had limited understanding and neutral concern regarding cardiac rehabilitation measures [6]. The cardiac rehabilitation is proven to be effective tool in the care of patient with coronary artery disease and reducing the cardio vascular morality. However it remains considerably underutilized mainly because of poor enrollment and poor attitude towards cardiac rehabilitation [7].

Education is a process of importing the instructions, and there are varieties of ways to educate patients in hospital and community settings. The information booklet and modules are proven to be one of the most important tools to educate the patient, and evidence shows that the information booklet found to be effective in improving the knowledge and attitude on cardiac rehabilitation of MI patients [8]. Thus the information booklet was devised and tested the effectiveness regarding knowledge, attitude and practice regarding cardiac rehabilitation among MI patients.

Materials and Methods

A quasi experimental study, pre test post test design without control group approach was undertaken in the medical wards of Pravara Rural Hospital, Loni (Bk), Maharashtra. A total of 30 myocardial infarction patients were selected with help of probability method, systematic random sampling technique. MI patients above 35 years of age, and willing to participate in the study were enrolled whereas the patients admitted in ICU, CCU and acutely ill, unable to respond to tool were excluded from the study. The study was approved by institutional ethics and research committee of PIMS (DU), and written permission from Medical

Superintendent and informed consent was obtained from the MI patients before enrollment.

The pre tested structured interview schedule was used to collect data, it consists of a) dichotomous questionnaire (34 items) each item has two alternatives, and correct response carries 1 and wrong response carries 0 score respectively. The maximum score was 34 and based on score the knowledge was categorized as poor, average, good, very good; b) rating scale (10 items) each item has 5 options like never, rarely, sometimes, frequently, always and the maximum obtained score was 40. Based on scores the attitude was grouped into category like negative, neutral and positive attitude; and c) checklist (28 items) each item has two alternatives, and the correct response carries 1 and wrong response carries 0 score respectively. The maximum score was 28 and based on score the practice was categorized as not adoptive, partially adoptive, completely adoptive practice.

A simple, comprehensive and easy to understand information booklet was prepared in local language (Marathi) with illustrations. It comprised of a) Heart and its function b) Etiopathogenesis of MI c) Diagnostic tests d) Management e) Cardiac rehabilitation such as physical, nutritional, psychological, sexual, social rehabilitation and lifestyle modification and f) Follow up care. A pre tested structured interview schedule was used for conducting the pre test, followed by the information booklet was distributed to the MI patients, and instructed to read, understand and follow the instructions provided for betterment of knowledge and practice on cardiac rehabilitation. Effectiveness of information booklet was done by conducting post test on the first follow up visit of patient to hospital. The collected data were complied, tabulated and analyzed based on objectives with help of descriptive (mean, SD and mean %) and inferential (t test, chi square test and coefficient of co relation test) statistical methods wherever required.

Results

Socio Demographic Profile of MI Patients

Half (50%) of patients were >55 years of age followed by 37% of them were 36 to 45 years, majority (73%) were male patients. Higher percent (47%) had primary education and (33%) had secondary school education, one third (33%) of patients under study were daily wagers, and (40%) had monthly income of Rs. 6001 to 9000, and significantly (27%) had <3000 Rs of income. Most (83%) of them were residing in rural areas.

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Clinical Characteristics of MI Patients

Higher percent (37%) had anterior wall and posterior wall MI respectively followed by (16%) had inferior wall MI, majority (73%) of patients had first episode of heart attack, and remaining (27%) had repeated attacks. One third (33%) of patients had diabetes as co morbid illness and (23%) had hypertension. Half (50%) of them had habit of tobacco consumption, and significant proportion (37%) had alcohol consumption.

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Findings revealed that in pre test the overall mean knowledge score was (13.63 ± 3.34) i.e. 40%, mean attitude score was (14.2 ± 4.53) i.e. 35%, and the mean practice score was (10.8 ± 2.55) i.e. 39% of the total score. It was noted that during post test, the knowledge, attitude and practice scores was significantly higher than the pre test scores i.e. (25.1 ± 1.83), (25 ± 2.34) and (17.1 ± 2.13) respectively. The effectiveness for knowledge was (33%), attitude (27%) and the practice area was (23%). It interprets that the information booklet was effective in improving the various knowledge, attitude and practice areas on cardiac rehabilitation at $p<0.05$ level (Table 1, 2 and 3). A significant association was found between the knowledge score and demographic variable such as age ($\delta^2 = 16.75$) at $p<0.05$ level.

Table 1: Mean scores of pre and post test knowledge of MI patients regarding cardiac rehabilitation (N=30)

S. No	Knowledge Areas	Max score	Pre test			Post test			't' value
			Mean	SD	Mean%	Mean	SD	Mean%	
1	Introduction of MI	5	1.96	0.71	39	3.91	0.42	78	4.5*
2	Physical rehabilitation	5	2.16	1.36	43	3.45	1.07	68	6.5*
3	Nutritional rehabilitation	4	2.16	0.87	54	3.32	0.53	82	8.3*
4	Psychological rehabilitation	4	1.13	1.12	27	3.39	0.53	82	9.5*
5	Lifestyle modification	7	2.61	1.49	37	5.33	0.85	75	5.3*
6	Sexual rehabilitation	4	1.27	1.03	30	2.71	0.79	67	7.2*
7	Social rehabilitation	5	2.49	1.06	48	3.28	0.86	64	4.9*
	Overall	**34**	**13.6**	**3.34**	**40**	**25.1**	**1.83**	**73**	**7.4***

df – 29 * Significant p<0.05 level

Table 2: Mean scores of pre and post test attitude of MI patients regarding cardiac rehabilitation (N=30)

S. No	Area	Max score	Pre test			Post test			't' value
			Mean	SD	Mean %	Mean	SD	Mean%	
1	Attitude	40	14.2	4.53	35	25	2.34	62	9.2*

df – 29 * Significant p<0.05 level

Table 3: Mean scores of pre and post test practice of MI patients regarding cardiac rehabilitation (N=30)

S. No	Practice Areas	Max score	Pre test			Post test			't' value
			Mean	SD	Mean%	Mean	SD	Mean%	
1	Physical rehabilitation	5	1.16	1.14	23	3.1	0.79	62	8.3*
2	Nutritional rehabilitation	5	2.73	1.20	24	3.26	0.90	65	3.1
3	Psychological rehabilitation	5	1.37	0.98	26	2.9	0.71	58	7.2*
4	Life style modification	5	2.39	0.79	46	2.99	0.69	60	5.7*
5	Sexual rehabilitation	4	1.66	0.80	41	2.43	0.67	60	6.1*
6	Social rehabilitation	4	1.73	1.25	43	2.56	0.85	64	5.6*
	Overall	**28**	**10.8**	**2.55**	**38**	**17.1**	**2.13**	**61**	**4.9***

df – 29 * Significant p<0.05 level

Discussion

Study result revealed that half of MI patients under study were above 55 years of age and significant percent of them were middle adults. This fact was consistent with the study conducted by Kato N, Kinugawa K, Sano M, Seki S, Kogure A and Kobukata K who also observed that highest percentage of patients mean age was 63 years [9]. A significantly equal proportion of MI patients had anterior and posterior wall MI respectively. It was well supported by Pandey S, Pandey S, Jhanwar P and Jhanwar A that the location wise most common type of MI encountered was anterior wall MI [10].

Half of MI patients under study consume tobacco; it was in congruence with Camila S, Hans L and Beng F findings that the most common type of risk factor was chewing tobacco and smoking [11]. One third of MI patients had diabetes mellitus as co morbid illness. This result was in line with Richard W, Christopher P, David M and Gordon M that diabetes is associated with an increased risk of myocardial infarction [12].

The results showed that the MI patients had significant gain in the knowledge on cardiac rehabilitation. It was consistent with the study done by Shalet A, Ancy R and Vidya S who also found that education through information booklet significantly enhances the knowledge on cardiac rehabilitation of MI patient [13]. Similarly there was a enhancement in the attitude of MI patients which is incremental in direction. This finding was coincide with the study of Gallagher R, Roach K, Belshaw J, Kirkness A, Sadler L and Warrington D that there is a significant improvement in appropriate responses regarding cardiac rehabilitation after educational intervention on cardiac rehabilitation [14].

It was recorded that the information booklet was effective in improving the practice on cardiac rehabilitation i.e. statistically significant. Alongside it was consistently noted by Sumathy B that the self management skills were significantly developed after implementation of education [15]. The study offers substantial evidence to prove that information booklet on cardiac rehabilitation would increase knowledge, attitude and practice among MI patients, leading to optimal activity of daily living and quality of life.

Conclusion

The major conclusion drawn from this study is that the information booklet was found to be effective in improving the knowledge, attitude and practice of MI patients on various aspects of cardiac rehabilitation. It should be emphasized that having educational sessions with the patients with family members regarding cardiac rehabilitation of MI enhances their understanding, knowledge, attitude and practice. This helps to have an appropriate management, timely preventive measures and regular medical care etc. Thus reduces the lack of awareness, negative attitude and less chance of health problems and complications thereby leading a complete cure, optimal quality of life and longer survival. The nursing professionals working in the multi centric areas and specialty hospitals should emphasize the need for creating awareness on cardiac rehabilitation and its significance on health and quality of life. The nurses plays pivotal role in improving the patients compliance towards cardiac rehabilitation, follow up care and timely identification and treatment of complications.

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