Post Graduate Diploma in Hospital & Health Management

Dissertation Report

On

Determining the Effect of Post discharge Telephone Call Follow up in Reducing Readmission Rates

By

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr.Gininder Kalia student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at BLK Hospital from 15 February 2020 to 15 May 2020

The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course
requirements.

I wish him all success in all his/her future endeavors.

Dr Pradeep K Panda
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Certificate of Approval

The following dissertation titled “Determining the Effect of Post discharge Telephone Call Follow up in Reducing Readmission Rates“ at “BLK Hospital” is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of Post Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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Nikita Sabherwal	_____
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Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Gininder Kalia** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. He/ She is submitting this dissertation titled "Determining the Effect of Post discharge Telephone Call Follow up in Reducing Readmission Rates" at "BLK Hospital" in partial fulfilment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled Determining the Effect of Post discharge Telephone Call Follow up in Reducing Readmission Rates and submitted by (Name) Dr. Gininder Kalia Enrollment No. PG/18/021

under the supervision of Dr. Pradeep K Panda, Dean, Academics and Student Affairs,

for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 15 February 2020 to 15 May 2020

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Signature

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This acknowledgement is a gesture of gratitude toward all those people who were the driving force in the successful completion of the project.

Indeed the words at my command are inadequate in form and in spirit to express my deep sense of gratitude and overwhelming indebtedness to respected, **Dr. Pradeep K Panda Dean, Academics and Student Affairs, IIHMR, New Delhi** for his exemplary guidance, Monitoring and for providing me with the necessary information and assistance throughout this project. I gratefully acknowledge his kindness, patience, encouragement and understanding towards my research work.

Last but not the least, my heartfelt gratitude to my parents, and my friends for their constant encouragement, support, help and valuable advice to make this project a success.

Thanking you,

Dr. GININDER KALIA

PG/18/021

TABEL OF CONTENTS

ABBREVIATIONS

CMS-Centre for Medicare and Medicaid Services

CNL-Clinical Nurse Leaders

LACE-Length of stay in hospital, Acuity of admission, Co-morbidity, Emergency department visits in six month before admission

ED-Emergency Department

GP-General Practitioner

CCG-Clinical Commissioning Group

COPD-Chronic Obstructive Pulmonary Disease

EMR-Electronic Medical Records

PI-Primary Investigator

UCSFMC-University of California, San Francisco Medical Centre

DESSERTATION PROJECT REPORT

INTRODUCTION

Hospital readmission is defined as patient admission to a hospital within 30 days after being discharged from an earlier hospital stay. Multiple studies have shown that adverse events during the post-hospitalization period occur in approximately one in five patients. (1,2)

Centers for Medicare & Medicaid Services (CMS) define a hospital readmission as "an admission to an acute care hospital within 30 days of discharge from the same or another acute care hospital. It uses an "all-cause" definition, meaning that the cause of the readmission does not need to be related to the cause of the initial hospitalization.

The standard benchmark used by the Centers for Medicare & Medicaid Services (CMS) is the 30-day readmission rate as readmissions during this time can be influenced by the quality of care received at the hospital and depicts well coordinated discharges. Readmissions occurring at a later time may not be related to care provided during the index admission, and might be more related to the outpatient care the person receives, their individual health choices and behaviours, and larger community-level factors beyond the control of the hospital. Patients transferred to another hospital for longer term care won't count as a readmission.

Some of the main causes for readmission would be

- Improper discharge planning
- Deficient post-discharge support
- Medication errors
- Adverse drug events
- Improper handovers
- Procedure complications arising
- Healthcare associated infections
- Improper patients and caregiver education

Readmission can be considered as a measure for quality care provided by the hospital. Certain readmission could be planned rest all are unplanned.

Preventable readmissions are those readmissions that are unplanned and can be avoided with appropriate discharge planning and discharge follow up procedures.

Quality of services provided during the initial stay of the patients at the hospital can be considered as an aid in reducing readmission rates. Quality of care can be improved by reducing the hospital readmission rate. Therefore, a having a perspective of preventable readmission is significant

LITERATURE REVIEW

With an ageing population and pressure on health services, it is important to identify how to avoid unnecessary hospital readmissions. Most preventable readmissions have been reported to occur early, within 1 month of discharge.

A study published in 2019 in England in Future Healthcare Journal on Reducing readmission rates through a discharge follow-up service by Duncan Vemon, James E Brown, Eliza Griffiths, Alan M Nevill and Martha Pinkey found that approximately 15% of elderly patients are readmitted within 28 days of discharge. Their service evaluation used a cohort design and compared 30-day emergency readmission rate in patients This service evaluation shows that a simple intervention where community nurses attempt to contact and visit geriatric patients after discharge causes a significant reduction in 30-day hospital readmissions

A study on Implementation of a Follow-up Telephone Call Process for Patients at High Risk for Readmission by Danielle A. Miller, Ana M. Schaper published in 2015 USA in Journal of Nursing Care Quality included the development and implementation of a follow-up telephone call within 72 hours of discharge, targeting patients at high risk for readmission. The goal was to improve understanding of aftercare instructions and decrease readmissions. This study suggests that readmission rates of high-risk patients might be reduced through use of follow-up telephone calls conducted by CNLs using a structured questionnaire designed to address the most common reasons for readmission.

A study from Society for Vascular Surgery published in 2016 in USA by John R.Hornick, Joshua A.Balderman, Ronnie Eugea, Luis A.Sanches and Mohamed A. Zayed in their study a telephone call 1 week after hospitalization can identify risk factors for vascular surgery readmission stated that patients who undergo vascular surgery operations are at high risk of 30-day readmission. They implemented a 1-week post hospitalization discharge telephone call for short-term follow-up evaluation of vascular surgery patients and to identify potential risk factors for hospital readmission within 30 days. They stated that the readmission risk of vascular surgery patients was 23.9% in comparison to other surgeries 15.6%. This suggests that the telephone evaluation may have led to earlier readmissions once postoperative complications were identified.

A study published in 2014 in USA ,Journal of General Internal Medicine by James D. Harrison, Andrew D. Auerbach, , Kathryn Quinn, Ellen Kynoch, and Michelle Mourad, assessing the Impact of Nurse Post-Discharge Telephone Calls on 30-Day Hospital Readmission Rates found that several care transition interventions propose that post-discharge phone calls can reduce adverse events and decrease costly return visits to the hospital. This study would benefit from improving their ability to perform phone outreach while simultaneously improving on the care delivered during the calls.

A study from Georgia USA published in 2015 in Journal of Paediatric Healthcare on reduction of 30-Day Preventable Paediatric Readmission Rates With Post discharge Phone Calls Utilizing a Patient- and Family-Centered Care Approach by Renee Flippo,, Elizabeth NeSmith,, Nancy Stark, Thomas Joshua, & Michelle Hoehn aims to evaluate the effectiveness of post-discharge phone calls on 30-day preventable readmission rates within the paediatric hospital setting. The study concluded that the sample size was not large enough to show statistical significance.

A study from USA published in 2013 in American Heart Association by Gene F Kwan, Lana Kwong, Yun Hong, Abhishek Khemka, Gary Huang, Deborah Whalen, and George J Philippides on A Simplified Post-Discharge Telephone Intervention To Reduce Hospital Readmission for Patients with Cardiovascular Disease aims to evaluate the degree of implementation and the effect of a quality improvement initiative using a simplified post-discharge phone call by administrative assistants. This study shows that the readmission rates have decreased but were not statistically significant.

Journal of the American Geriatric Society USA in 2019 published a study by Kevin J. Biese , Jan Busby-Whitehead, Jianwen Cai, Sally C. Stearns, Ellen Roberts , Paul Mihas , Doug Emmett , Franklin Farmer , John S. Kizer on Telephone Follow-Up for Older Adults Discharged to Home from the Emergency Department to determine whether a scripted telephone intervention by registered nurses from a hospital-based call center would decrease 30-day rates of return to the ED or hospital or of death. This study concluded the a

scripted telephone call from a trained nurse to an older adult after discharge from the ED did not reduce ED or hospital return rates or death within 30 days.

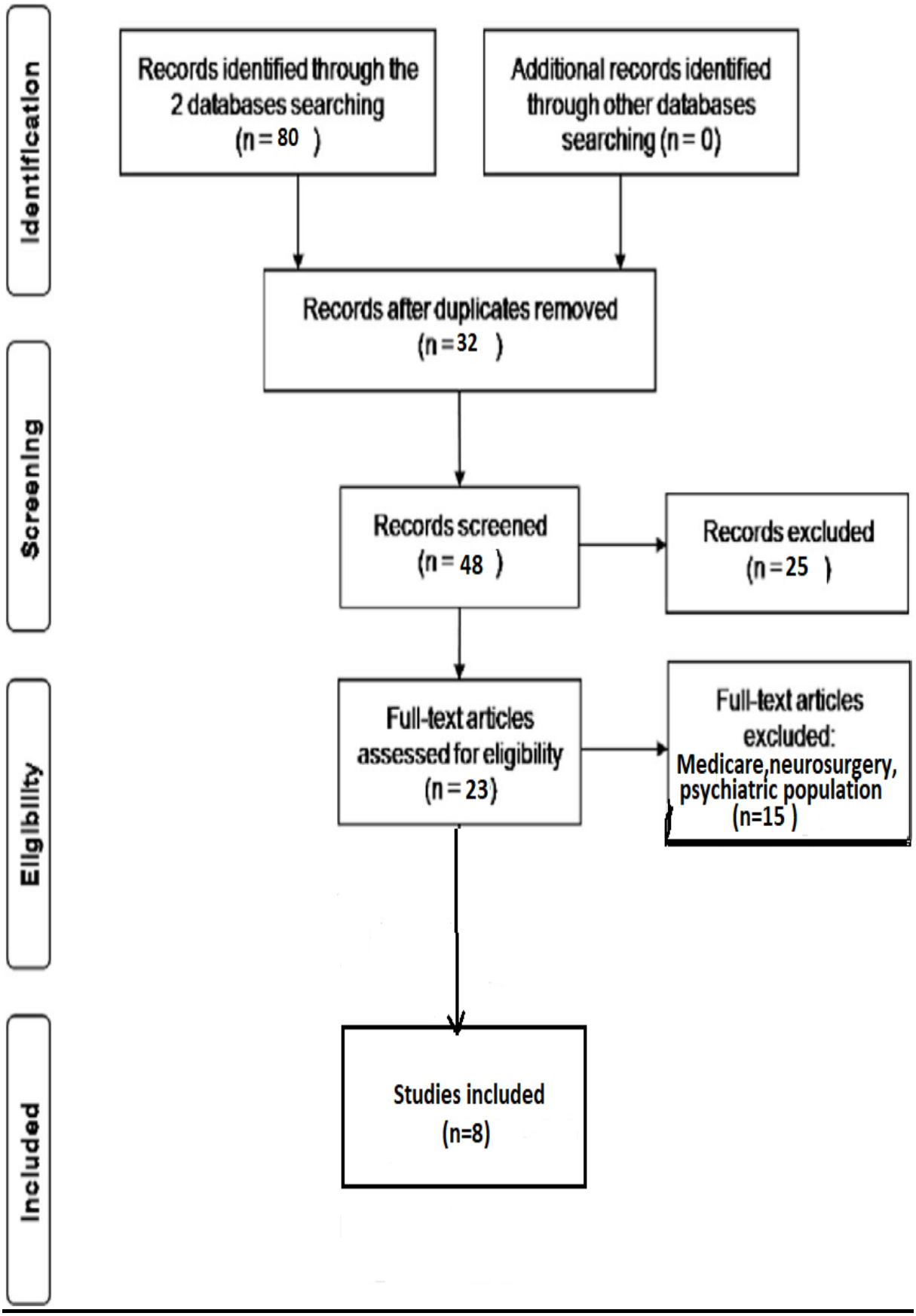
Danish Medical Journal Denmark in 2016 published a study on Nurse-initiated telephone follow-up on patients with chronic obstructive pulmonary disease improves patient empowerment, but cannot prevent readmissions by Marie Lavesen , Steen Ladelund, Addie J. Frederiksen , Bjarne Lindhardt & Dorthe Overgaard aims to explore whether telephone follow-up after discharge may reduce readmission rates, lower mortality and improve disease management in patients with chronic obstructive pulmonary disease (COPD). They concluded that nurse-initiated telephone follow-up does not reduce readmission rates, but does empower patients with COPD.

OBJECTIVE

To determine the effect of post discharge telephone call follow up on reducing preventable hospital readmission rates.

METHODOLOGY

- A systematic secondary data literature search was conducted
- Database searched- PUBMED and Google scholar
- Keywords used- “Reducing readmissions” and “telephone call follow up” to identify relevant original studies
- Inclusion criteria- original research papers published between 2013-19. Language of paper- English
- Exclusion criteria- paper published before 2013 which are not in English and full text not available.



(PRISMA diagram showing the screening of the studies)

OBSERVATIONS

- Study 1- aims to understand whether the telephonic contact from a community nurse following discharge, and resulting decisions about what support the patient needed, could be effective in reducing readmissions among all elderly medical patients. According to this study 15% of all the elderly patients above the age of 65 years were are readmitted to the hospital within 28 days of discharge. Patients having history of longer stay are most likely to be readmitted to the hospital. There are various provisions to reduce readmission such as post discharge follow ups telephone calls, medical patients contact within community health professionals. The service evaluation used a cohort study design and compared 30 day readmission rate of the patients. Patients over the age of 65 years registered at a GP that was the member of solihul clinical commissioning group (CCG) were selected to receive intervention. Seven hospital wards which contain a mixture of elderly and other medical speciality took part in the trail in two cities. Intervention and comparison group were identified. Patients in both groups were identified on daily basis by referring to the discharge lists wherein patient in the comparison group were registered at a GP member of a Burmingham CCG. Multiple attempts were made to contact the patients for 48 hours by 2 groups of 6 nurses. When contact was made the patients was consulted regarding the issues after discharge and home visits were also made by two nurses. Data was collected between 01/01/2016 and 30/05/2016. Dead patients were excluded. 775 patients over 65 years of age are enrolled. Multiple attempts were made to contact the patients for 48 hours by the nurses in the Intervention group consisting of 303 patients and 453 for comparison group. The readmission rate of patients within 30 day notably less in the intervention group where attempt was made to contact the patient 9.24% compared to the comparison group where no contact was made 15.67%

- Study 2- The primary purpose was to improve transitions by improving understanding of and adherence to aftercare instructions and avoiding deterioration during the vulnerable period from 0 to 7 days after discharge. The secondary purpose was to decrease the 0- to 7-day unplanned readmission rate. During the 1-year period of this project, 5788 patients were discharged to home, and 1806 patients had LACE scores of 10 or higher. According to the study patients with a LACE score

of 10 or higher were nearly 2.5 times more likely to experience an unplanned readmission within 30 days than patients with a LACE score under 10. Data analysis comparing the 30-day readmission rate of high-risk patients receiving the CNL telephone intervention (10.7%) compared with the readmission rate of patients with no contact with a health professional (14.5%). This study suggests that readmission rates of high-risk patients might be reduced through use of follow-up telephone calls conducted by CNLs using a structured questionnaire designed to address the most common reasons for readmission.

- Study 3- Patients who undergo vascular surgery have higher 30-day hospital readmission rates of up to 25%. Post discharge telephone call assessments have shown patients with significant medical co-morbidities and traditionally high readmission rates. They hypothesized that a 1-week post discharge telephone call evaluation can identify risk factors for readmission among vascular surgery patients. Vascular surgery patients are at high risk of as compared to other surgery patients. Patients who have received vascular surgery from Washington University School of Medicine-affiliated Barnes-Jewish Hospital were included for over a period of 1 year by same surgeon. Dedicated medical assistant was employed make telephone to the patients for 1 week. A standard questionnaire was made and clinical relevant information was communicated to the primary surgeon. The frequency of readmission was evaluated in both the contacted and non contacted patients.167 patients received vascular surgery, 131 patients were contacted by a dedicated medical assistant to make telephone to the patients for 1 week and 36 patients not contacted. The readmission rate was 8% in contacted compared to the non contacted patients which was 17%.

- Study 4-Objective was to determine the effect of receiving a post discharge telephone call on all-cause 30-day readmission in a general medicine population. This retrospective observational study was carried in Medicine Science at the UCSFMC, a 600 bed academic medical center, the duration of the study was from july2009 to June 2010. The patients who were admitted between November 2010 and May 2012 are included, with the purpose of addressing possible issues a telephone call

was made to the discharge patients within 72 hours of discharge. 5507 patients were enrolled, 4115 patients contact was made among them 2680 were successfully contacted where 1435 are unable to reach and no contact was made in 1392 patients. Among the contacted patients 115 patients were readmitted (5.8%) in comparison to the non contacted patients 123 (8.6%) and readmission of patients who were unable to contact were 116(8.3%).

- Study 5- This study demonstrates that readmission rates are high for patients with cardiovascular disease, particularly heart failure and acute coronary syndrome. The study aims to evaluate the degree of implementation and the effect of a quality improvement initiative using a simplified post-discharge phone call by administrative assistants. Retrospective review of clinical data of all discharge inpatient cardiology services was done from January through October 2012.Intervention group consists of 1034 discharge patients to which call were made by the administrative assistants. 620 patients received phone calls and 419 were directly contacted. Patients had queries regarding medication compliance, follow-up appointments and clinician visits. The comparison group consists of 746 patients discharged from January through October 2010 of the same single urban public hospital. In intervention group the readmission rate were 17.7% in contrast with the comparison group having readmission rate of 21.0%. This study shows that the readmission rates have decreased but were not statistically significant.

- Study 6- The study aims to evaluate the effectiveness of post-discharge phone calls on 30-day preventable readmission rates within the paediatric hospital setting. This study used an exploratory study design, conducted in 154 bed paediatric hospital. 30 patients were enrolled for pre-intervention and post-intervention phase, calls were made within 48 to 72 hours of discharge. Medical record review revealed four pre-intervention readmissions, providing an overall pre-intervention readmission rate of 26%. Only one readmission was discovered after the intervention, overall post-intervention readmission rate of 6%.

- Study-7- The objective was to determine whether a scripted telephone intervention by registered nurses from a hospital-based call center would decrease 30-day rates of return to the ED or hospital or of death. Randomised control trails were carried in 2013 to 2016 in academic medical center in southeast United States. Individuals aged 65 and older discharged from the ED were enrolled and randomized into intervention and control groups. A telephone was performed by the nurse using a scripted questionnaire including medication management, post-discharge instructions and clinician follow up in the intervention group and for the control group a satisfaction survey was done. The readmission rate for the intervention group is 15.5% and for controls it is 15.2%.Death was uncommon in both the groups.

- Study 8- The study aims to explore whether telephone follow-up after discharge may reduce readmission rates, lower mortality and improve disease management in patients with chronic obstructive pulmonary disease (COPD). A randomised Control trails was conducted in which 335 calls were made by the nurses in the intervention group. 224 patients enrolled and randomised in two groups based on odd or even timings of their admission, intervention and control group consists of 122 patients each. In total nurses spent 30 minutes per call-for preparation 6 minutes, for conversation 11 minutes and 12 minutes for documentation. Patients were enrolled by the primary investigator (PI) from December 2010 to May 2012 either from Emergency department or Department of Pulmonary and Infectious Diseases at a university hospital in Denmark. For the study informed consent was taken from the patient, after the accepted to participate in the study. This study concluded that there was no significant difference in readmission rates. Whereas, quality of patient care was increased and several errors and ambiguities were identified and resolved.

RESULT

Table I

Studies	Readmission Rate	
	Contacted	Non-contacted
Study 1	9.24%	15.67%
Study 2	10.70%	14.50%
Study 3	8%	17%
Study 4	5.80%	8.60%
Study 5	17.7%	21%
Study7	15.5%	15.2%
Study 8	33%	34%

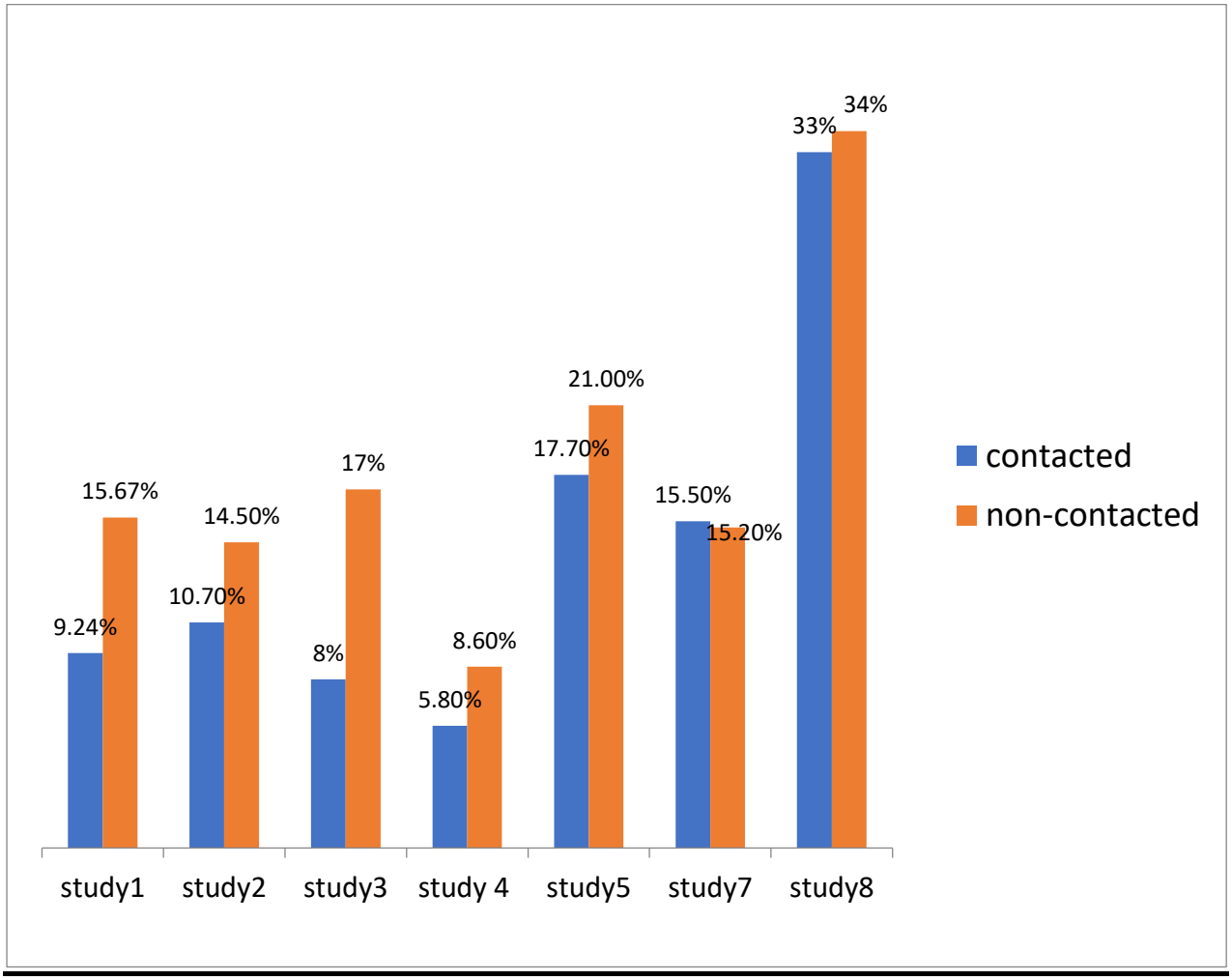
(Table 1- Depicts the readmission rates of contacted patients though telephone call follow up and non- contacted)

Table-II

Studies	Readmission Rate	
	Pre-intervention	Post-intervention
Study 6	26%	6%

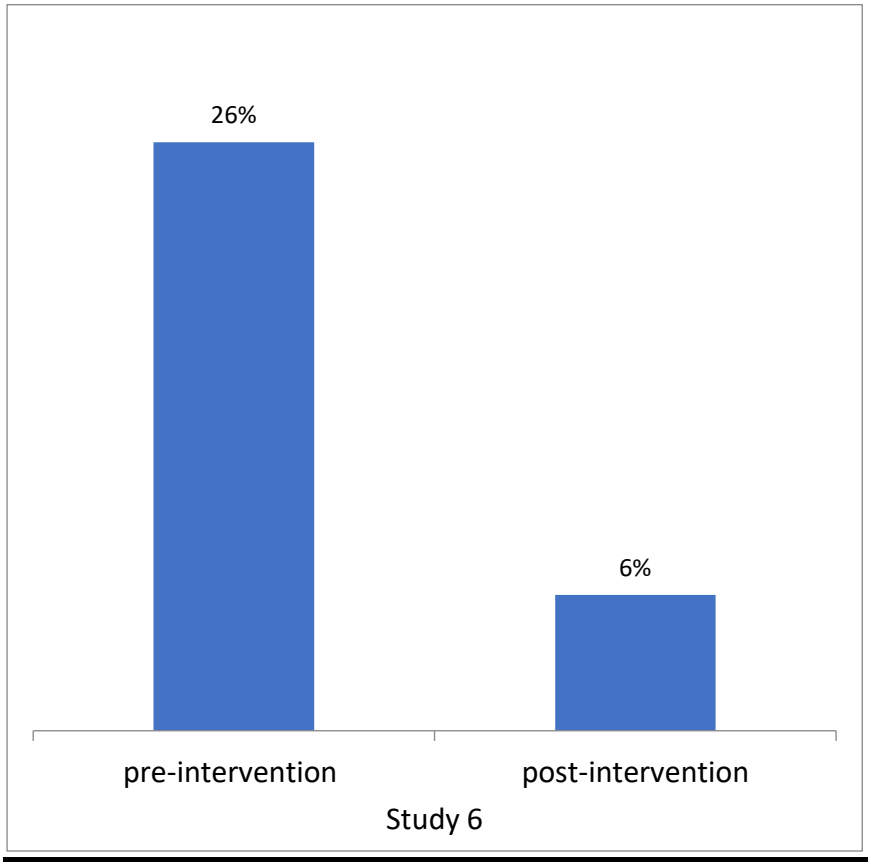
(Table –II Depicts the readmission rates of pre-intervention and post-intervention patients in study 6)

Graph-I



(The graph shows the readmission rates of contacted patients and non contacted paitents of seven studies)

Graph-II



(Showing the readmission rate of study 6 in which the patients are divided in to two groups- pre-intervention and post-intervention)

DISCUSSION & CONCLUSION

The key findings of this study is that preventable readmission could be reduced to an extent by providing post discharge telephone calls to the patients. Of all the eight studies reviewed, two studies demonstrate that there is no significant difference in the readmission rates where post discharge telephone call were performed.

Whereas other studies, shows that preventable readmission can be reduced by providing telephone call follow up by medical professionals using a structured questionnaire to the discharged patients.

Through these phone calls, we can also identify the risk factors for readmission and effectiveness of this intervention is dependent on whether the patients were able to answer the calls or not.

The patients whom telephone call are provided were able to resolve their queries relating to medication use and also the hospital facilities were able to know about the condition of the patients and work accordingly to provide any care needed to the patients. Some patients were also provided home visits. The hospitals are being financially penalized under HRRP (Hospital Readmission Reduction Programme) for having high readmission rates, organizations have become more aggressive in managing clinical practices related with conditions that usually end up in readmissions. HRRP also provides incentives to the hospitals for better communication and coordinated care provided to the post-discharge patients.

Readmission are also related to the quality of care provided to the patient during their stay. Higher readmission rate are the outcome of poor hospital quality care services. Hospital readmissions have considerable potential as an important indicator of quality of care.

Readmission could be a result of failure to address the cause of initial hospitalisation or could be after effect of treatment provided or infections that are acquired during the stay or any other cause which was not related to the previous one. However, some readmissions are preventable by providing quality care services during initial admission, proper discharge planning, and post discharge follow up telephone call addressing the patient's queries regarding medications use, level of pain in surgery patients. The cause for Preventable

readmissions could be due to any therapeutic error or poor discharge follow- up. All the readmissions are considered as a threat to patient safety.

Patients may not likely to receive treatment from the Hospitals having high readmission rate. As a consequence of low patient flow the hospital revenue decreases and the brand name of the hospital also get damaged. Hospitals that have high readmission rates might deter future patients from choosing them.

LIMITATIONS

As for limitation of this study-

- a definite conclusion on studying the effect of post discharge telephonic calls follow up can only be achieved after reviewing more studies.
- Though post discharge telephone calls has shown a positive effect in reducing readmission of discharge patients but this is not the solely method to reduce the readmission rates other methods such as-
  - proper discharge procedure,
  - providing quality care during the initial hospitalisation,
  - educating the patients about the discharge instructions,
  - medication reconciliation,
  - follow up appointments are other measures to reduce preventable hospital readmissions.

RECCOMENDATIONS

- Proper discharge procedure required to follow while discharging the patients.
- Hospitals need to focus more on patient engagement and education on follow up care.
- Patients should adhere to post discharge instructions.
- Hospitals required to provide quality care services during initial hospitalisation

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