การใช้แบบติดตามเพื่อพัฒนาแนวทางการดูแลผู้ป่วยโรคหลอด เลือดหัวใจที่ทำ Percutaneous Coronary Intervention(PCI)

Benefit of Post PCI Medical Checklist to Improve Adhering with Best Practice Guidelines in the Patients with Coronary artery disease undergoing Percutaneous Coronary Intervention (PCI)

Introduction

 Percutaneous Coronary Intervention (PCI) is standard of care for patients with significant CAD

 At Siriraj hospital we performed over 1,200 PCI annually

Introduction

Post PCI care is as important as operation

- According to ACC/AHA recommendation
 - Aspirin/Clopidogrel
 - β-Blocker
- Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin II Receptor Blocker (ARB)
 - Statin
- Health education: Exercise, Smoking cessation, Dietary control

Problem

Clinical Tracer Acute MI

Care team round

Aspirin 100%

Statin 85%

ACE Inhibitor or ARB 76%

β-Blocker 60%



Analyse causes

 Siriraj hospital is tertiary hospital was a lot of patient load

 As medical school, frequency rotate of resident/staff

Communication failure with between staff

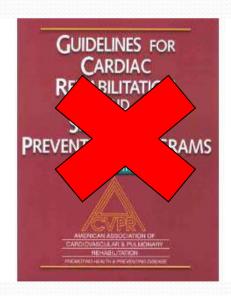
HOW TO?

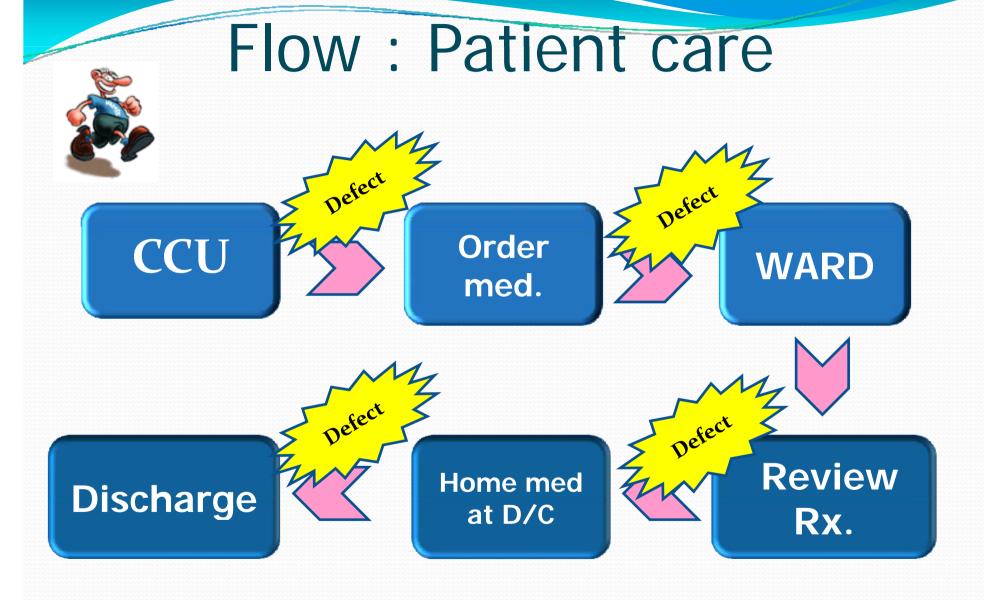




Strategy for change







Literature Review

- Alan M Wolff, Sally A Taylor and Janette F McCabe. Using checklists and reminders in clinical pathways to improve hospital inpatient care. The Medical Journal of Australia 2004 www.mja.com.au ISSN: 0025-729X
 - Smit Vasaiwala, et al. A quality guarantee in acute coronary syndromes: The American College of Cardiology's Guidelines Applied in Practice program taken real-time. Am Heart J 2007; 153:16-21
- Standardized work (Checklist)

How to create checklist

 Meeting team and discussion : Cardiologist Research team Head nurse

Create checklist

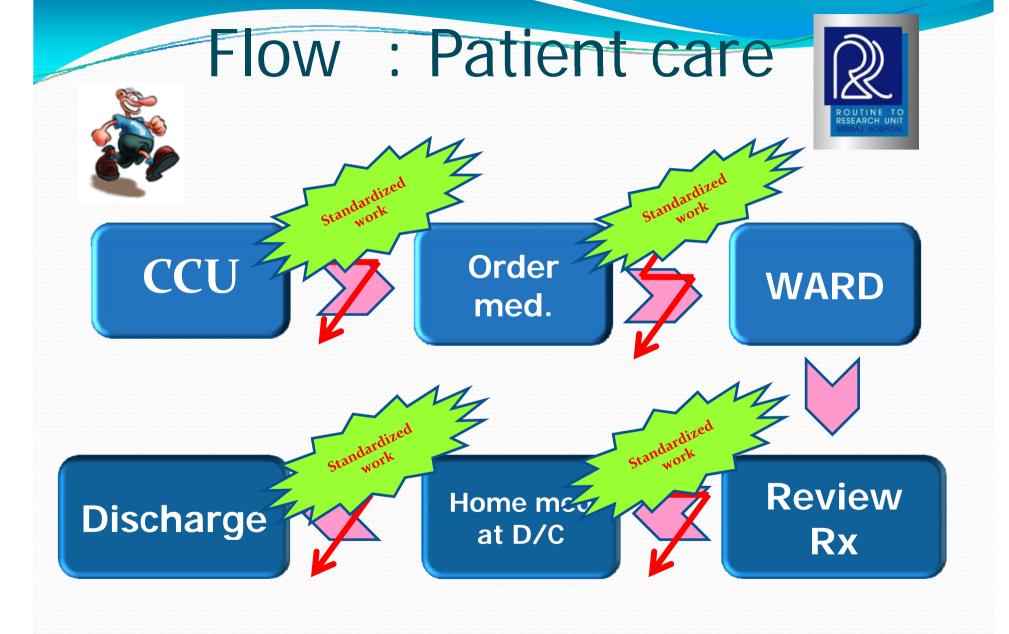
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Apply checklist to practice

Collaboration

Fellow Resident Nurse

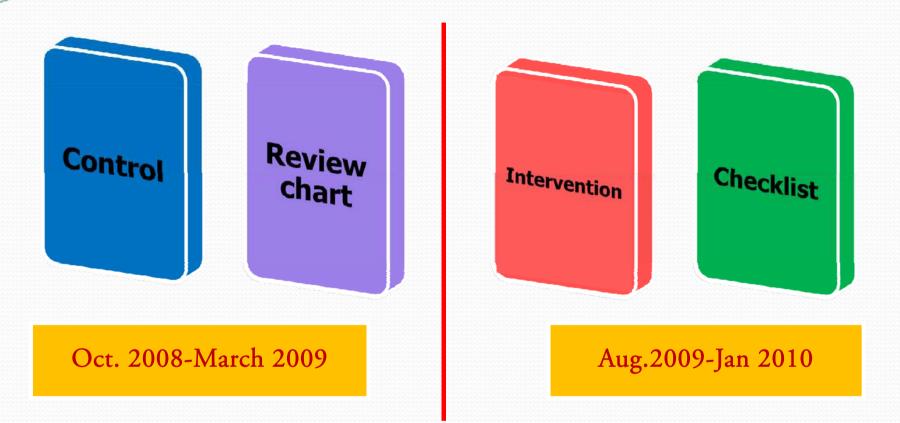
- Training
- Policy
- Audit



Objective

To investigate whether an applied medical checklist which included medications (aspirin, clopidogrel, β -blocker, statin), health education(smoking cessation, dietary control and physical activity) as recommended by ACC/AHA guidelines

Study protocal



Health education and Medication

- 24 hours after admit
 - Before D/C
- six months after D/C

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Sample size

The study consisted of 160 cases

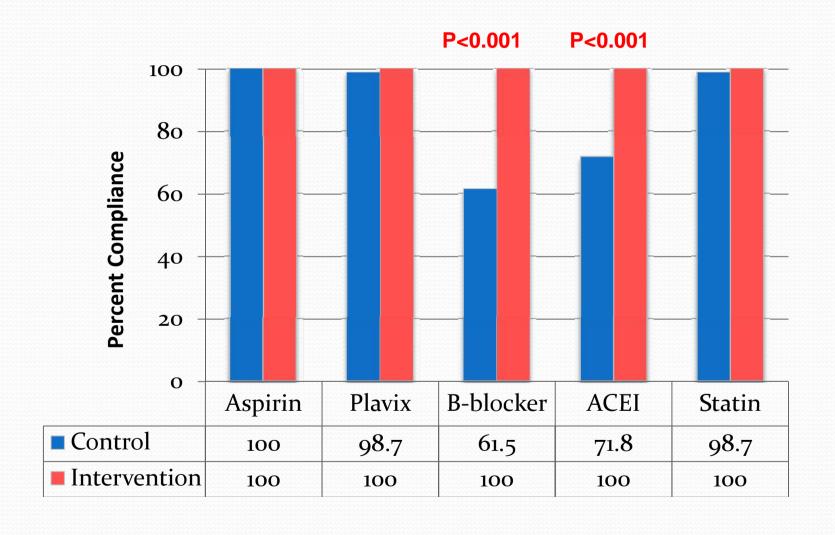
- o 79 cases in Control group
- o 81 cases in Intervention group

Result

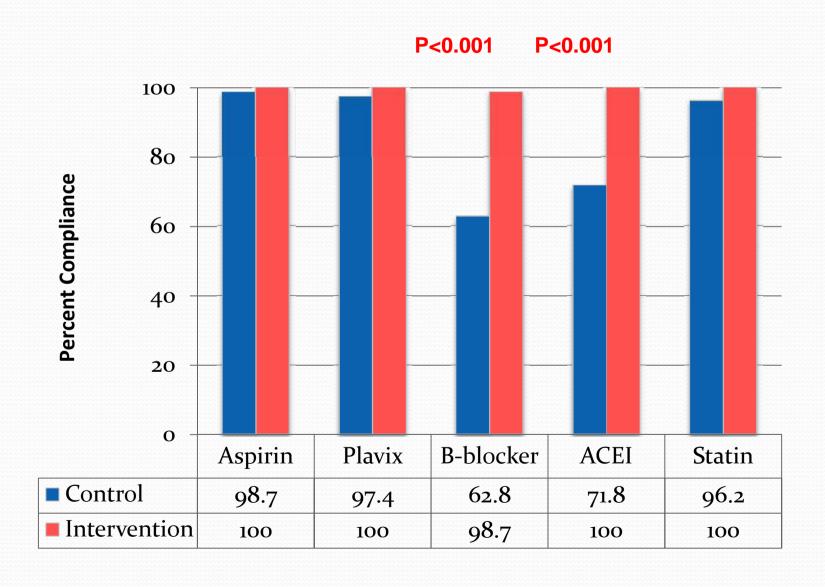
Baseline demographics between two groups (n = 160)

Characteristics	Control	Intervention	
	n=79 (%)	n=81 (%)	P value
Sex			0.302
Male	56 (70.8)	55 (67.9)	
Female	23 (29.2)	26 (32.1)	
Age (mean <u>+</u> SD)	62.3 <u>+</u> 12.3	61.2 <u>+</u> 13.1	0.492
Inderlying Disease, n (%)			
Diabetes mellitus	38 (48.7)	42 (53.9)	0.219
Hypertension	62 (79.5)	54 (69.2)	0.394
Dyslipidemia	59 (75.6)	53 (67.9)	0.364
CAD	65 (83.3)	67 (85.9)	0.241
Stroke	5 (6.4)	5 (6.4)	1.000
Smoking	36 (46.2)	42 (53.8)	0.477
Previous PCI	36 (46.2)	29 (37.2)	0.330
Result CAG			0.849
Single vessel disease	19 (24.1)	17 (21.0)	
Multiple vessel disease	60 (75.9)	64 (79.0)	

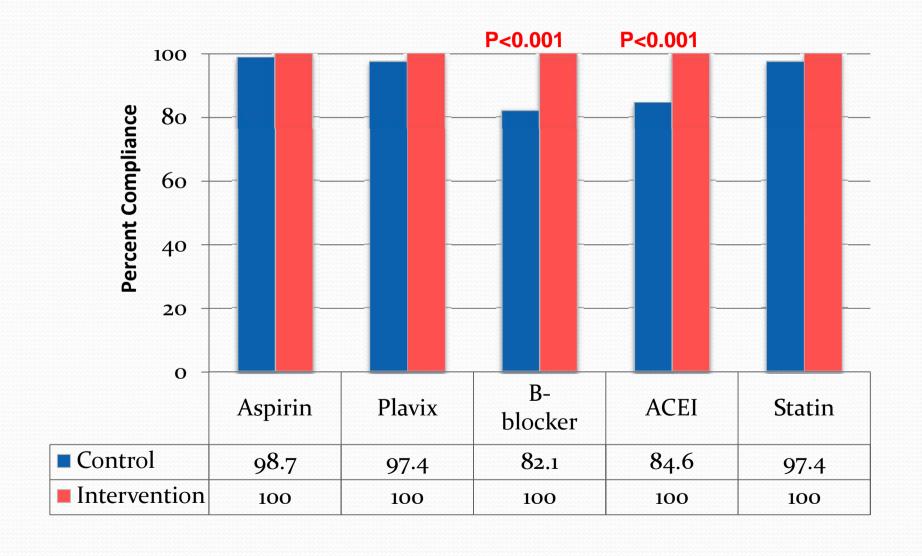
24 Hours after PCI



Before discharge



Six month after discharge



Effects of changes

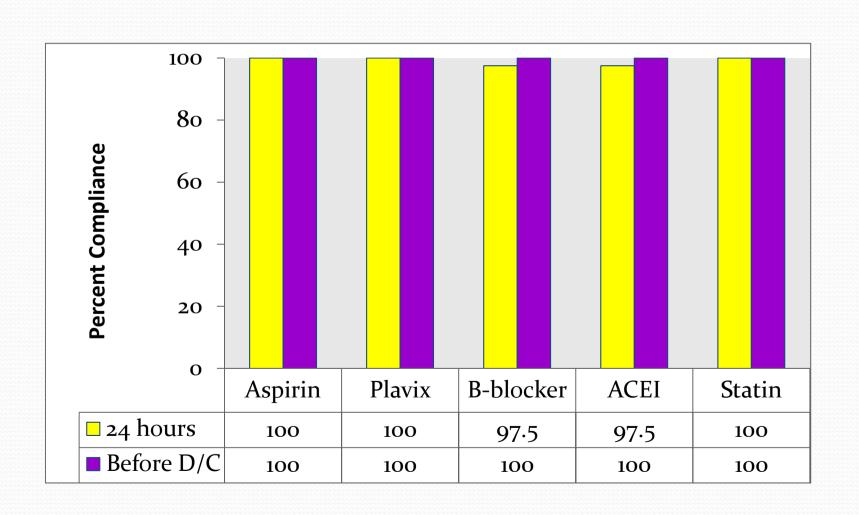
Six month follow-up clinical outcome between two groups

	Control (n=79)	Intervention (n=81)	P value
Unplanned Readmission	11 (14.2)	4 (5.2)	0.05
Cause of unplanned readmission			
- Congestive Heart Failure	4 (5.3)	1(1.4)	
- Acute Coronary Syndrome	7 (8.9)	3 (3.8)	

Key quality of care indicators between the case group and control group at 6 month follow-up

Control		Intervention	m valua
	n=79 (%)	n = 81 (%)	p value
Percentage of patients that have LDL < 100	20 (71.4)	34 (72.3)	1.000
Percentage of patients that have HbA1c < 7	8 (47.1)	16 (72.7)	0.184
Percentage of patients that have			
- BP < 140/90 mmHg	35 (49.3)	36 (50.7)	0.05
- BP < 130/80 mmHg (patients with DM or CKD)	20.25.1	37 <i>64</i> 0	
- DF < 130/00 Hilling (patients with DIVI OF CKD)	20 (35.1)	37 (64.9)	0.001

Quality control after the study completed 6 months



Benefit of Post PCI Medical Checklist to Improve Adhering with Best Practice Guidelines in the Patients with Coronary artery disease undergoing Percutaneous Coronary Intervention (PCI)

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* Division of Cardiology, Department of Medicine, Faculty of Medicine, Siriraj Hospital, Bangkok, Thailand

Objective: To evaluate the effectiveness of medical and health education checklist according to ACC/AHA guidelines for improving compliance in the patients with coronary heart disease who underwent percutanoeus coronary intervention (PCI). Material and Method: This study was a prospective cohort study between control group (historical coronary artery disease (CAD) cases who underwent PCI between October 2008 and May 2009) and a case group (CAD cases whom underwent PCI between May 2009 and January 2010) at Her Majesty Cardiac Center floor 8th and Cardiac Care Unit, Faculty of Medicine, Siriraj Hospital, Mahidol University. In the control group, basic care proceed. In the case group, usual cares plus medical and health educational checklists proceed at 24 hours Post PCI, before discharge and at 6 months follow-up at PCI clinic. Results: The study consisted of 160 patients, 79 patients in the control group and 81 patients in the case group. In the case group, patient received more frequent use of in-hospital ACE-I (100% vs. 72%, p < 0.001), β blockers (100% vs. 61.5%, p < 0.001) < 0.001). At 6 month follow-up, the use of ACE-I (100% vs. 84.6%, p < 0.001) and β blockers (100% vs. 82.1%, p < 0.001), remain higher in the case group. Comparing case group and control group, using the applied post PCI medical checklist correlated with more frequent use of in hospital angiotensin-converting enzyme inhibitors (100% vs. 71.8%, p < 0.001), β blockers (100% vs. 61.5%, p < 0.001). When looking at the auglity of care indicators between two groups at 6 month followup, the patients with DM, CKD in the case group have better blood pressure control according to the guidelines (64.5% vs. 35.1%, p < 0.001). Six-month readmission rates were higher in control group as compared to case group (12.7% versus 5.2%, $p \le 0.005$).

Conclusion: We found that applied medical and health educational checklists improve both adhering to the best practice guideline and clinical outcome in the patients with CAD underwent PCI.

Keywords: Checklist, Adhering to guideline, Quality of care, Coronary artery disease

J Med Assoc Thai 2011; 94 (Suppl. 1):

Full text. e-Journal: http://www.mat.or.th/journal

International Forum on

QUALITY & SAFETY in HEALTHCARE

Amsterdam 2011













Implementation

 Currently PCI checklist applied to all patients admit at Siriraj hospital for PCI

Current use of ASA Clopidogrel Statin
 ACEI / ARB Beta-blocker 100%

Lessons learnt

 PCI medical checklist for secondary prevention of atherosclerosis will create a feedback loop among health care staffs

 opportunity for the patient to get the key message that adhering to medication, life style modification could reduce their longterm event

Success factors

- •Team work
- Change crisis to opportunity
- •Team support



R2R Executives CCU. STAFF

Thank you Thank you