What proportion of cardiovascular patients meet BP and lipid goals following cardiac rehabilitation?

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ESC COUNCIL
Cardiovascular Nursing and Allied Professions

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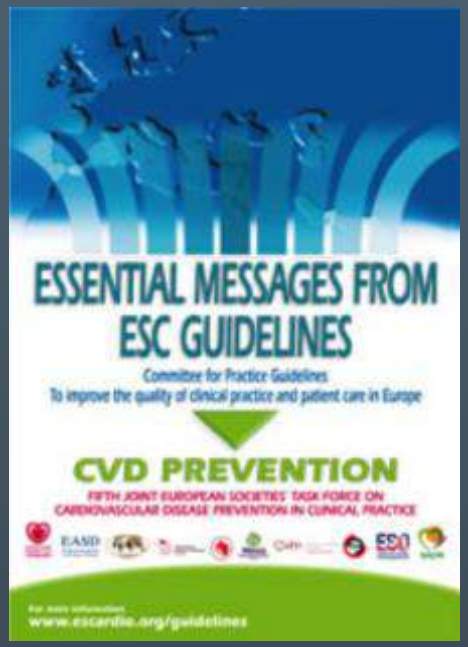
EuroPRevent 2012

3-5 May 2012 - Dublin, Ireland

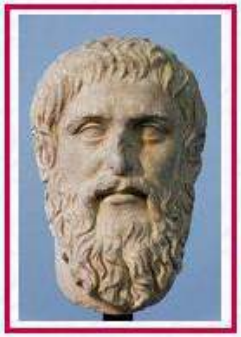
The new European Guidelines on CVD Prevention 2012
Session number 103 Friday 4th May 2012

European Guidelines on CVD Prevention 2012

- 5th Joint Task Force of ESC and other Societies on cardiovascular Disease Prevention in Clinical Practice
- Evidence based GRADE
- Aim – is to give an update of the present knowledge in preventive cardiology
- Good Guidelines improve healthcare delivery and patient outcomes



Guidelines based upon the five principles of teaching



Plato, 424-347 b. C.

1. **What** is CVD prevention.
2. **Why** is CVD prevention needed.
3. **Who** needs CVD prevention.
4. **How** is CVD prevention applied.
5. **Where** should CVD prevention be offered.

www.escardio.org/guidelines

European Heart Journal 2012:33;1635–1701
European Journal of Preventive Cardiology 2012;19: 4:585-667

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Who needs CVD prevention?


EVERYBODY

How?

"Nurses are ideal health care professionals to direct the risk reduction team, and to deliver multifactorial risk reduction in hospital settings, outpatients clinics and community based facilities. Most importantly a skilled nurse case manager must have an interest in and commitment to the unique difference in patient populations based on age, race, ethnicity, culture, sociodemographs and literacy"

(Berra et al 2011)

How?

- The Stanford Coronary Risk Intervention Study 1994 (SCRIP)
- MULTIFIT 1994 study
- Cardiac Hospitalization Atherosclerosis Management Programme 2004
- EuroAction 2008
- Consensus Document: Global Cardiovascular Disease Prevention A Call to Action for Nursing 2011

How?

- Involve the patient in Implementation
- Individualized assessment
- Risk score
- Motivational interviewing
- Inclusion of family
- Goal setting
- Shared decision making
- Sustained contact

Programme provision

	Class	Level	GRADE
Actions to prevent CVD should be incorporated into everyone's daily lives, starting in early childhood and continuing throughout adulthood and senescence.	IIa	B	Strong
Nurse-coordinated prevention programmes should be well integrated into healthcare systems.	IIa	B	Strong
All patients with CVD must be discharged from hospital with clear guideline-orientated treatment recommendations to minimize adverse events.	I	B	Strong
All patients requiring hospitalization or invasive intervention after an acute ischaemic event should participate in a cardiac rehabilitation programme to improve prognosis by modifying lifestyle habits and increasing treatment adherence.	IIa	B	Strong

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Where?

- Individualized assessment
- Risk score
- Motivational interviewing
- Inclusion of family
- Goal setting
- Shared decision making
- Sustained contact

Where?

- Hospitals
- Nurse led clinics
- Cardiac Rehabilitation
- Outpatients clinics
- GP surgeries
- Schools
- Community
- Croí My Action

Strategies

- Smoking
- Nutrition
- Physical Activity

Treatment

- Hypertension
- Diabetes
- Lipids

Strategies

- **Smoking**
- **Nutrition**
- **Physical Activity**

Treatment

- **Hypertension**
- **Diabetes**
- **Lipids**

Risk Categories

- **Very High Risk: Documented CVD, Diabetes Type 2 or Type 1 with target organ damage.** CKD with GF >60%. Score >10% or more
- **High Risk:** Marked elevated single risk factor. Score 5-10
- **Moderate Risk:** Score of 1-5% with family history, abdominal obesity, reduced activity and other risk factor
- **Low Risk:** Score <1%

Risk Categories

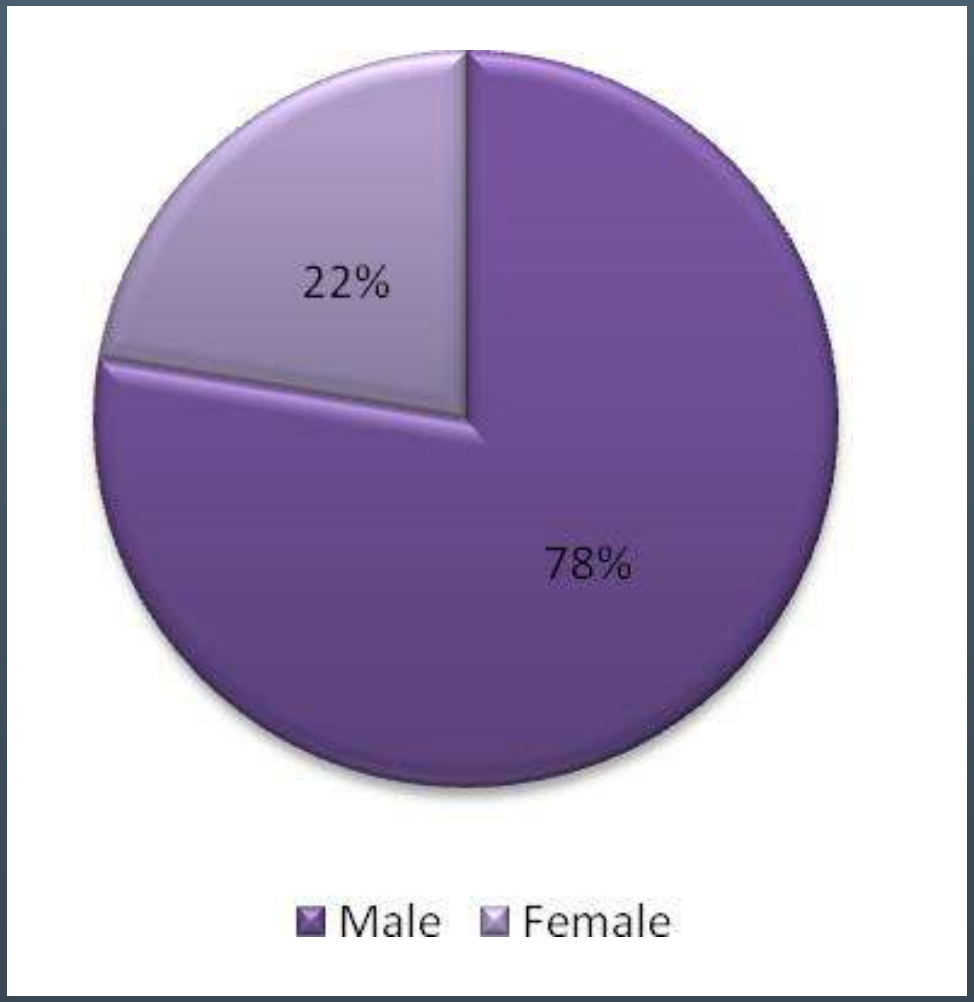
LDL - C Target

- **Very High Risk:** <1.8 mmol/L (~70 mg/dL) or a ≥ 50% reduction from baseline LDL-C when target level cannot be reached
- **High Risk:** <2.5 mmol/L (~100 mg/dL)
- **Moderate Risk:** <3.0 mmol/L (~115 mg/dL)
- **Low Risk:** Score <3.0 mmol/L (~115 mg/dL)
- **Blood Pressure:** </ 140/90

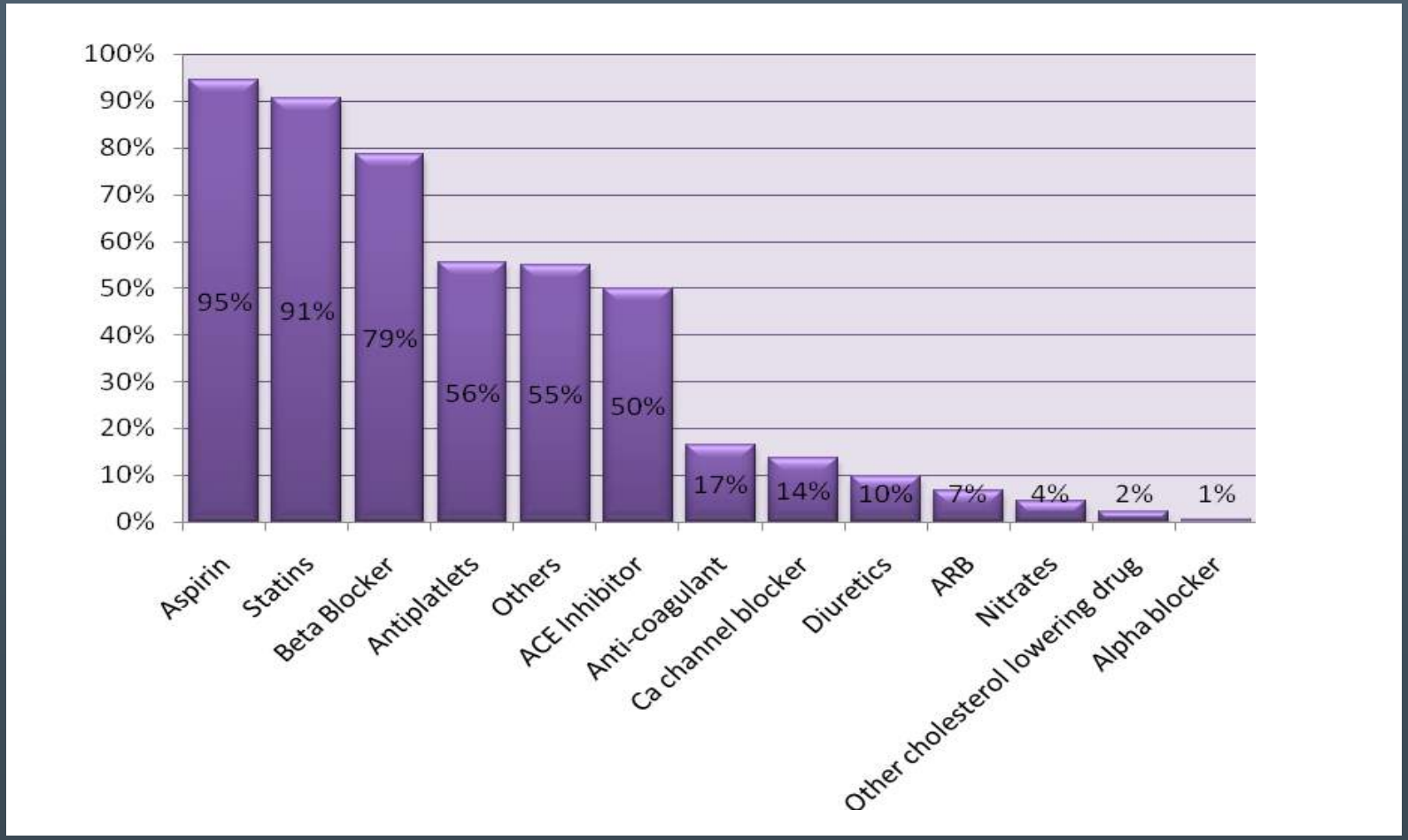
Method

- A retrospective review on recorded data of 188 cardiac rehabilitation patients between July 2012 and August 2013
- Data on systolic and diastolic blood pressure on commencing and completing cardiac rehabilitation;
- Total Cholesterol, High Density Lipoprotein (HDL), Low Density Lipoprotein (LDL), and Triglyceride (TAGS) levels on completion of cardiac rehabilitation were recorded
- Current medication taken by the patients was also recorded
- Patient Analyses and Tracking System (PATS)
- Outcomes measured were BP and lipid levels

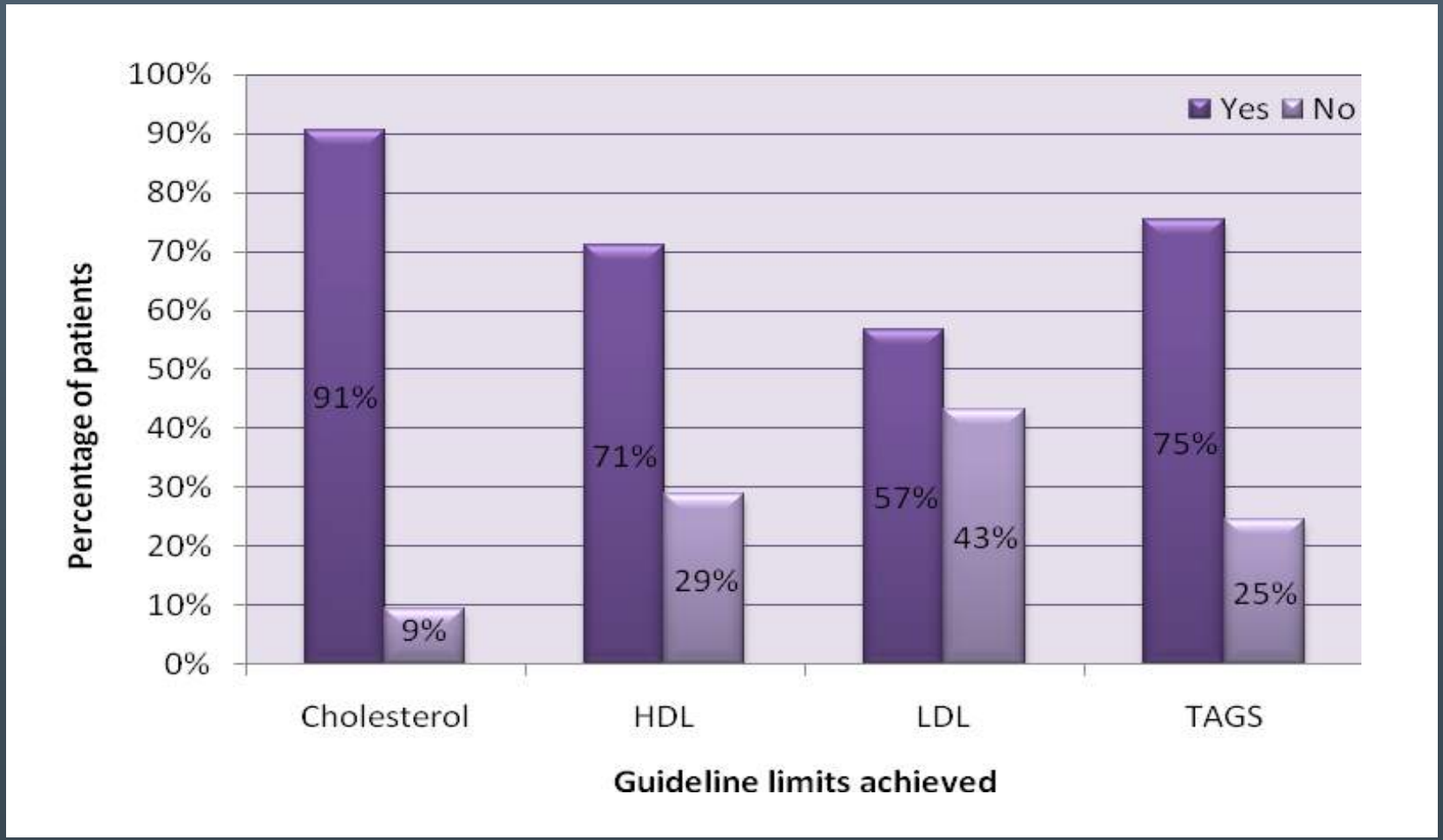
Gender Percentage



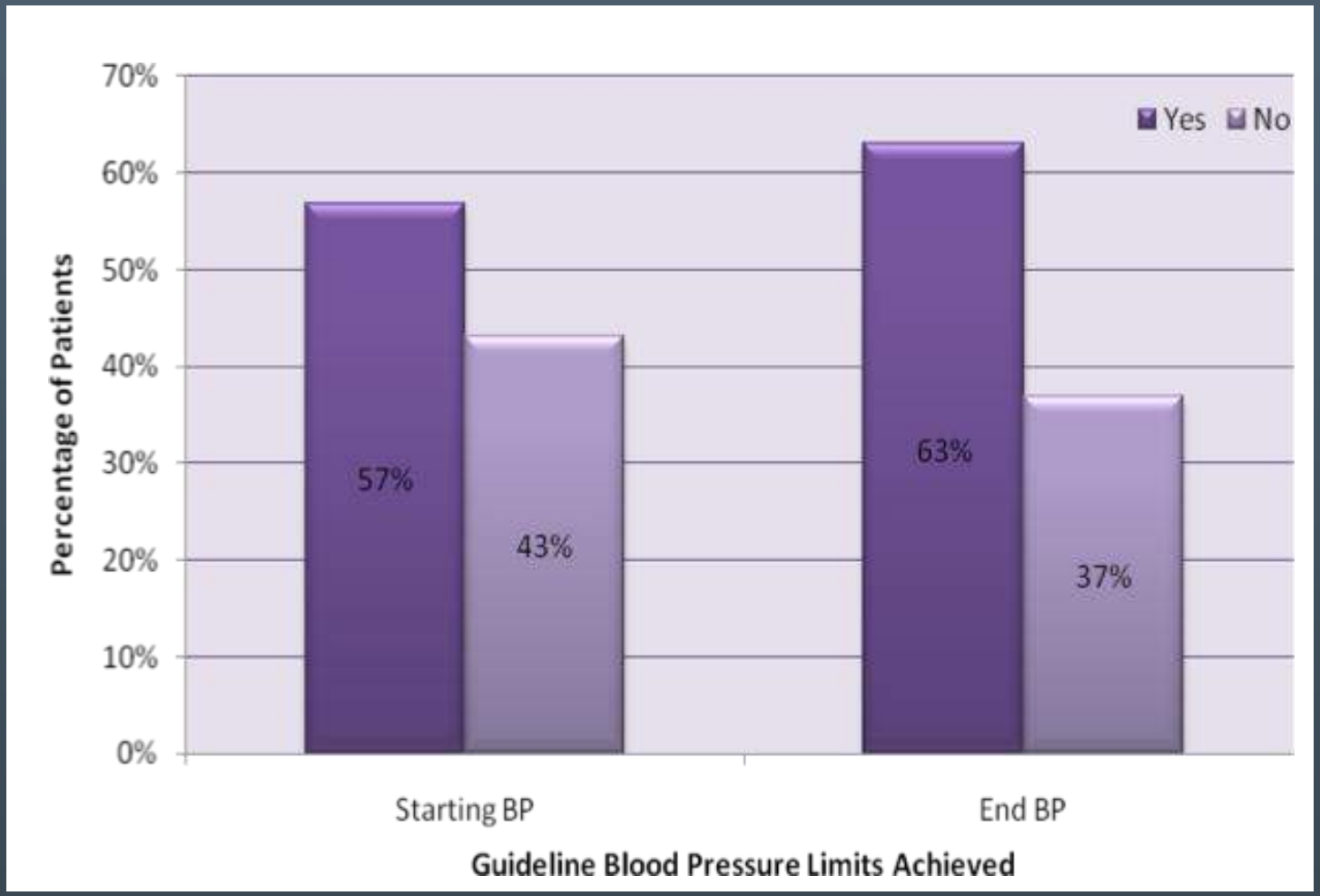
Medications



Lipid Results



Blood Pressure Results



Analysis

- PASW Statistics 18 was used to analysis the data
- Data was analysed to produce frequencies and descriptive statistics
- A Chi-square goodness-of-fit test was used to compare the proportion of patients who achieved blood pressure levels within the European Guidelines on completion of cardiac rehabilitation compared to those who had achieved the BP within the guideline limits on commencing cardiac rehabilitation

Results

- Data was collected from the recordings of 188 patients who completed a cardiac rehabilitation programme at a Dublin University Teaching Hospital.
- Males accounted for 78% of patients (n=146) participating in the cardiac rehabilitation programme.
- The average age of patients at referral to cardiac rehabilitation was 61.7 years (median=62.5).
- Over half of the 188 patients (57%, n=107) had blood pressure levels within the European guideline levels when commencing the cardiac rehabilitation programme. Of the 178 patients who had BP measurements recorded on completion of the programme; 63% (n=113) had blood pressure levels within the European guideline levels (Figure 3).

Results

- A Chi-square goodness-of-fit test indicated there was no significant difference in the proportion of patients with BP levels within the European guidelines levels on completion of cardiac rehabilitation (63%) as compared with the value of 57% that was achieved before commencing the cardiac rehabilitation programme, X2(1, n=178)=3.146, p=0.076.
- The majority of patients (n=166, 91%) had cholesterol levels of 5.0mmol/L or below.
- Guideline HDL levels of >1.0 mmol/L were achieved for 71% of patients (n=130).
- Over half of the patients (n=104) 60% achieved the guideline LDL level of <1.8 mmol/L (VHR) <2.5 (HR) .
- Seventy-six percent of patients TAGS were within the European Guidelines of <1.7 mmol/L on completion of their cardiac rehabilitation programme.

Conclusion

- From our study it emerges that the majority of patients are been treated with statins and achieving the target goal of cholesterol at < 5.0mmol/l.
- There was no significant difference in the proportion of patients with BP levels within the European guidelines levels on completion of cardiac rehabilitation (63%) as compared with the value of 57% that was achieved before commencing the cardiac rehabilitation programme.
- This cardiac rehabilitation nurse led secondary prevention service promotes lifestyle changes, adherence to medications and awareness of lipid and BP for the cardiac patient.

Outcomes

- Discussion with cardiologists
- Awareness
- Further research and audit
- 24 hour BP monitor

Barriers to implementation

- Time
- Money
- Inexperience
- lack of confidence
- not informed
- ?????

Together we can do it!

“We need to create healthy communities and incorporate prevention into our daily lives as health care providers and citizens”

Brown and O’Connor 2010

Thank you

References

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