

# **ROLE OF PATIENT EDUCATION IN MANAGEMENT OF ASTHMA**

# GOAL FOR SUCCESSFUL MANAGEMENT OF ASTHMA

- ◆ Achieve and maintain control of symptoms.
- ◆ Prevent exacerbations.
- ◆ Maintain pulmonary function as close to normal levels as possible.
- ◆ Maintain normal activity level including exercise.
- ◆ Avoid adverse effect from asthma medication.
- ◆ Prevent development of irreversible air flow limitation.
- ◆ Prevent asthma mortality.

# IS PROPER DIAGNOSIS NEEDED?

- ◆ Delay in diagnosis is common and leads to inappropriate (non Asthma) treatment being given.
- ◆ Under diagnosis of asthma is mainly due to the failure of patients, with bronchial symptoms to visit a health care provider\*. This failure may be due to -  
Poor Perception of Asthma Symptoms\*\*.

\*Levy M, Bell L. *BMJ* 1984; 289: 1115-6

\*\*Van Schayck et al. *Thorax* 2000; 55: 562-5

# UNDERESTIMATION OF PROBLEM

- ◆ Severity of symptoms are under estimated.
- ◆ Regular preventive therapy is under used.\*
- ◆ Only 50% of patients take regular preventive therapy as previously advised by their doctor.\*\*

*\*Br J Gen Pract 1990; 40: 197-201*

*\*\*Respir Med 1989; 83: 67-70*

*\*\*Am Rev Respir Dis 1992; 146: 1559-64*

# AVOIDABLE MORBIDITY AND MORTALITY

- 74% of those admitted with severe asthma could have had admission prevented by more appropriate prior care\*.
- Surveys of death from asthma have shown that nearly 90% of deaths due to asthma could have been avoided\*\*.

\* *Health Trends 1990; 22: 151-3*

\*\* *BMJ 1982; 285: 1251-5*

# RISK FACTORS FOR ASTHMA

- ◆ **Host factors:** Predispose individuals to or protect them from, developing asthma.
- ◆ **Environmental factors:** Influence susceptibility to development of asthma in predisposed individuals precipitate asthma exacerbation, and or cause symptom to persist.

# FACTOR THAT EXACERBATE ASTHMA

- ◆ Allergens.
- ◆ Air pollutants.
- ◆ Respiratory infection.
- ◆ Exercise.
- ◆ Weather change.
- ◆ Sulfur-dioxide.
- ◆ Food,
- ◆ Drugs.

# CONTROL OF ASTHMA

- ◆ The most effective management is to **prevent inflammation** by eliminating the causal factors.
- ◆ Asthma can be **effectively controlled** in most patients, although it **can not be cured**.
- ◆ **The major factors contributing to asthma morbidity and mortality are under-diagnosis and inappropriate treatment.**



# ASTHMA MANAGEMENT HAS SIX INTERRELATED PARTS

- ◆ Educate patients.
- ◆ Assess and monitor asthma severity:symptoms and lung functions
- ◆ Avoid exposure to risk factors.
- ◆ Establish individual medication plans for long-term management in children and adult.
- ◆ Establish individuals plans for managing exacerbation.
- ◆ Provide regular follow up care.



**PATIENT EDUCATION-AN  
ESSENTIAL PART OF  
MANAGEMENT OF ASTHMA**



# QUESTIONS ARISE



- ◆ Why to educate?
- ◆ Who needs education?
- ◆ What topic should be covered in education?
- ◆ How to educate?
- ◆ Where to educate?

# WHY TO EDUCATE?

- ◆ Reduce morbidity and mortality.
- ◆ Keep people at work and service.
- ◆ Reduces health cost and indirect cost (hospitalization, exacerbation).

# WHO NEEDS EDUCATION?

- ◆ Patients, their family and loved ones.
- ◆ Policy maker planners.
- ◆ Health care professionals.
- ◆ The wider public-teachers, employer etc.

# WHAT TOPICS SHOULD BE COVERED IN EDUCATION?

- ◆ Information about **diagnosis**.
- ◆ Information about the content of **practice guidelines**.
- ◆ Information about **prevention of exacerbation** and deterioration.
- ◆ Training in **self management**.
- ◆ Ability to **recognize the deterioration** of Asthma.
- ◆ Knowledge about **treatment modalities**.
- ◆ **Training** in proper use of medication, inhaler and peak flow meters, etc.

# HOW TO EDUCATE?

- ◆ Educate the Health Care Professionals – **Importance of Preventive management.**
- ◆ Good communication between Health care professional and patients.
- ◆ **Monitoring** at different levels: Responsibility of officials and professional organizations

# WHERE TO EDUCATE?

- ◆ Education in schools, colleges, CME for health care professionals.
- ◆ Education of the wider public, articles in newspaper, journals and by programs on television.
- ◆ Education to patients is a continual process involving revision and reinforcement at each meeting with a health care professional.



# AIMS OF PATIENT EDUCATION

- Patient education should aim to -
  - ◆ Increase understanding,
  - ◆ Increase skills,
  - ◆ Increase satisfaction,
  - ◆ Increase confidence and there by
  - ◆ Increase compliance and self management.

# METHOD OF DELIVERY

Patient can acquire information about asthma and its treatment by:

- ◆ Listening to the health care professional.
- ◆ Listening the audio tapes.
- ◆ Attending asthma educational courses.
- ◆ Patient support group to learn from other patients with asthma.
- ◆ Reading articles in magazines/books, watching TV/video programs.
- ◆ Using world wide web.

“Attendance at an ‘asthma class’  
reduced hospitalization and  
emergency visits for at least 12  
months after intervention

*Eur Respir J* 1990; 3: 33-7

# IMPORTANT QUESTION DURING PATIENT'S 1<sup>st</sup> VISIT

- ◆ What **worries** you most about your asthma  
i.e. what is asthma
- ◆ What do you want to **accomplish** at this visit
- ◆ What do you **want to be able to do** that you  
can't do now because of your asthma
- ◆ What **medication** have you tried
- ◆ What other question do you have for me  
today

# EDUCATION AT INITIAL CONSULTATION

- ◆ About **disease, diagnosis** and types of **treatment**.
- ◆ **Inhalation technique** by various inhaler devices
- ◆ **Secondary prevention** measures (avoid cigarette smoking, allergens, occupational sensitizing agents, drugs ).
- ◆ Advising patient to **avoid triggers**: exercise, cold air.
- ◆ **Express their expectation** of asthma and treatment.
- ◆ Tell them **how far** their expectations would be met

# REASONABLE EXPECTATIONS OF PATIENT SHOULD BE

- ◆ Freedom from symptom day and night.
- ◆ No restriction on activities, including sports.
- ◆ Best possible lung function (e.g. peak expiratory flow).

“At the initial consultation, verbal information should be supplemented by provision of written (or pictorial, for low literacy level patients) information about asthma and its treatment”.

*Patient Educ Couns 1998; 35: 83-88*

# IMPORTANT QUESTION DURING PATIENT'S SUBSEQUENT VISIT

- ◆ What medication you are taking
- ◆ How and when are you taking
- ◆ What problems have you had using your medication
- ◆ Please show me how you use your inhaled medicine.



# INDIVIDUALIZING EDUCATION IN A STEPWISE MANNER.

The patient then requires:

- ◆ A guided self management plan.
- ◆ A regular supervision, revision, reward and reinforcement.

# ROLE OF PEAK FLOW MONITORING

- A tool for the patients to help themselves
- For patients with more than mild disease
- Training for Peak Flow monitoring
- Rapid exhalation is a must
- Absolute value as well as the variability is important
- Checks the effectiveness of therapy and early warning of deterioration

# ASTHMA ACTION PLAN

A Your **GREEN ZONE** is \_\_\_\_\_ 80  
to 100% of your personal best. GO!

Breathing is good with no cough, wheeze,  
or chest tightness during work, school,  
exercise, or play.

## **ACTION:**

- Continue with medications listed in your daily treatment plan.



**B.** Your **YELLOW ZONE** is \_\_\_\_\_ 50 to less than 80% of your personal best. **CAUTION!**

Asthma symptoms are present (cough, wheeze, chest tightness).

- Increased need for inhaled quick-relief medicine
  - Increased asthma symptoms upon awakening
  - Awakening at night with asthma symptoms
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# ACTIONS:

- Take \_\_\_\_\_ puffs of your quick-relief (bronchodilator) medicine \_\_\_\_\_.

Repeat \_\_\_\_\_ times.

- Take \_\_\_\_\_ puffs of \_\_\_\_\_ (anti-inflammatory) \_\_\_\_\_ times/day.

- Begin/increase treatment with oral steroids:

Take \_\_\_\_\_ mg of \_\_\_\_\_ every a.m.  
\_\_\_\_\_ p.m. \_\_\_\_\_.

- Call your doctor (phone) \_\_\_\_\_ or emergency room \_\_\_\_\_.



# ACTIONS:

- Take \_\_\_\_\_ puffs of your quick-relief (bronchodilator) medicine \_\_\_\_\_. Repeat \_\_\_\_\_ times.
- Begin/increase treatment with oral steroids. Take \_\_\_\_\_ mg now.
- Call your doctor now (phone \_\_\_\_\_). If you cannot contact your doctor, go directly to the emergency room (phone \_\_\_\_\_).
- Other important phone numbers for transportation \_\_\_\_\_.

# INDIVIDUALIZING EDUCATION IN STEPWISE MANNER

GOAL: TO PROVIDE THE PATIENT & HIS  
OR HER FAMILY WITH SUITABLE  
INFORMATION AND TRAINING SO THAT

- THE PATIENT CAN KEEP WELL
- ADJUST TREATMENT ACCORDING TO A  
MEDICATION PLAN DEVELOPED WITH  
THE HEALTH CARE PROFESSIONAL.



# GUIDED SELF MANAGEMENT AND PERSONAL ASTHMA ACTION PLANS

**Concept:** As clinicians realized that delays in recognizing asthma exacerbation and initiating appropriate therapy are important factors contributing to asthma and morbidity and mortality.

- & Majority of **attacks occur in community** and managed without a doctor
- These have been **promoted** in all national and international asthma guidelines.

*BMJ 1982; 285: 1251-5*

*BMJ 1976; 1: 1493-5*

*N Z Med J 1987; 100: 10-3*

# GUIDED SELF MANAGEMENT AND PERSONAL ASTHMA ACTION PLANS

“ In guided self management or asthma self management, individual asthma **patients make changes** to their treatment in response to changes in the severity of their asthma, in accordance with predetermined guidelines”

*Eur Respir J 2000; 16: 15-21*

*BMJ 1988; 297: 207-70*

# GUIDED SELF MANAGEMENT IN ADULT ASTHMA – THE BASIC PRINCIPLES

- ◆ Patients are taught to combine objective assessment of asthma severity (peak flow readings) with educated interpretation of key symptom.
- ◆ Patients are taught which medication to use regular and which on SOS basis.
- ◆ Self assessment and self management are integrated

# ASSESSMENT

- ◆ To **recognize deterioration** in asthma control
- ◆ To **assess the severity** by interpreting key symptoms and performing measurements of peak flow
- ◆ Advice – when to **seek medical attendance** :
  - Night symptoms.
  - Nocturnal wakening
  - If symptoms do not respond to increased use of inhaled  $\beta_2$  agonist.

# ASSESSMENT(PEFR)

- Domiciliary PEFr to be done
- Values interpreted as
  - ✓ %age of normal predicted, or
  - ✓ %age of previous best
- Objective assessment of airflow limitation
- Important because subjective assessment of fall in lung function in asthmatics is not predictable

# FACTORS ASSOCIATED WITH NON COMPLIANCE IN ASTHMA

## Drug Factors:

- ◆ Difficulties with inhaler devices.
- ◆ Awkward regimes(4 times/day or multiple drugs).
- ◆ Side effects.
- ◆ Cost of medication.
- ◆ Dislike of medicine.
- ◆ Distant pharmacies.

# FACTORS ASSOCIATED WITH NON COMPLIANCE IN ASTHMA


## Non drug factors:

- ◆ **Misunderstanding** or lack of instructions.
- ◆ **Fears** about side effects.
- ◆ **Dissatisfaction** with health care professionals.
- ◆ Unexpressed/ undiscussed **fears** or concerns.
- ◆ Inappropriate **expectation**.
- ◆ **Poor supervision**, training, follow up.
- ◆ **Anger** about condition or its treatment.
- ◆ **Underestimation** of severity.
- ◆ **Stigmatization**.
- ◆ **Forgetfulness** or complaining.
- ◆ **Attitudes** towards ill health.

# COMPLIANCE CAN INCREASE - HOW -

- ◆ If the patient **accepts** the diagnosis.
- ◆ If the patient **believes** that he or she is at **risk**.
- ◆ If the patient believes that asthma may be dangerous or **a problem**.
- ◆ If the patient believes that **treatment is safe**.
- ◆ If the patient **feels in control**.
- ◆ If there is a **good communication** between patient & health care professional.





The importance of **Good Communication** as the basis for subsequent good compliance can not be underestimated.

*BMJ 1984; 289: 1115-6*  
*Soc Sci Med 1995; 40: 903-18*

# FOLLOW UP AND SUPERVISION

- ◆ Self management and inhaler skills need **regular reinforcement** by health care worker.
- ◆ On Follow up consultation:
  - ✓ Treatment is reviewed
  - ✓ **Inhaler technique** checked.
  - ✓ Adherence to medical plans
  - ✓ Environmental control recommendation
  - ✓ Symptoms noted in diary should be reviewed
  - ✓ Review of home PEFR

# EFFECTIVENESS AND COST EFFECTIVENESS

- ◆ Guided self management plans, based on above structured principles have been shown to lead to significant **reduction in morbidity** and patients need for medical services.
- ◆ Economic evaluation of asthma self management programs has shown to be **cost effective**, largely because they reduce patients use of health care resources.

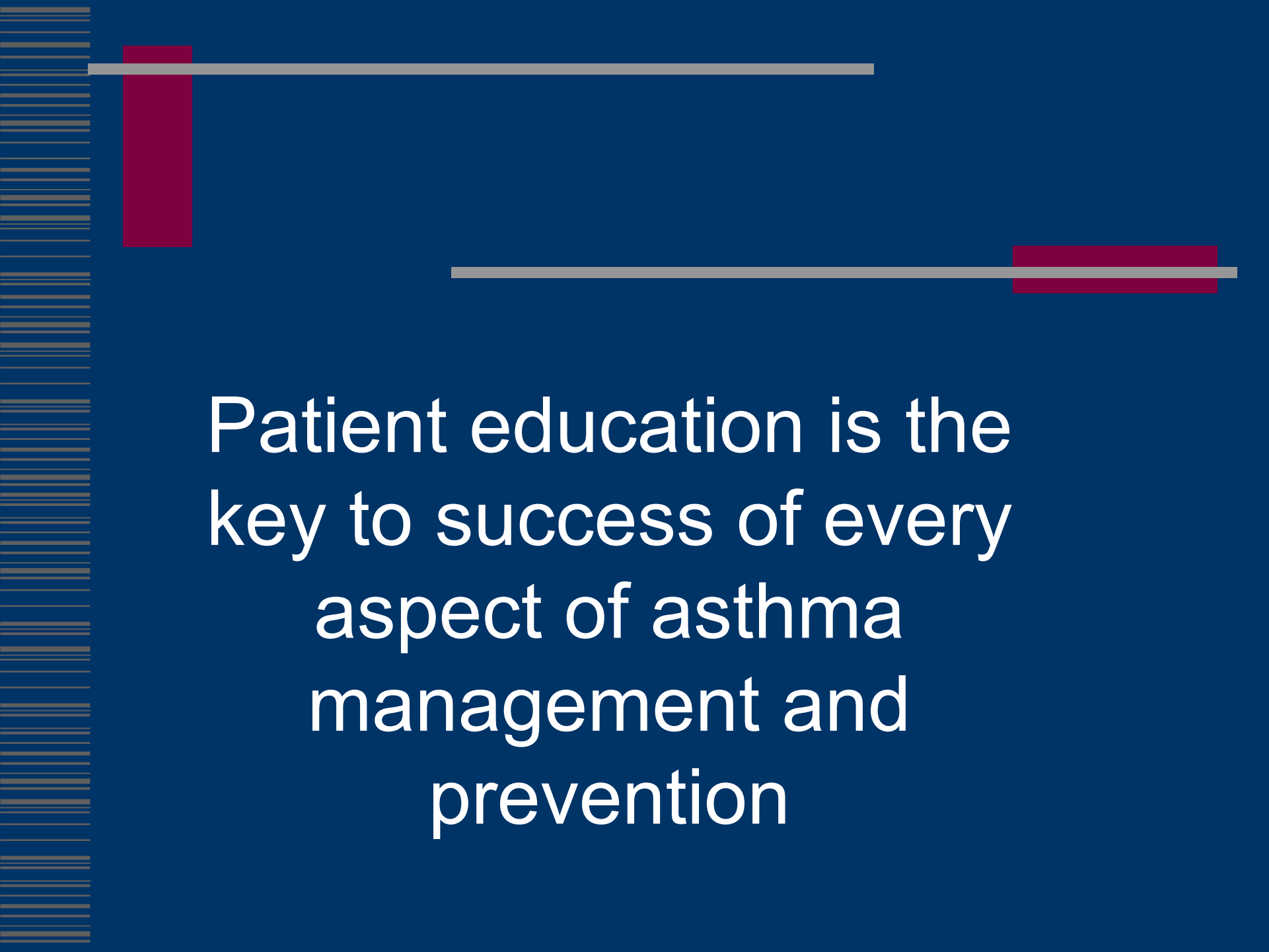
*BMJ 1990; 301: 1355-9*

*Am J Respir Crit Care Med 1997; 155: 1509-14*

*Thorax 1995; 50: 851-7*

# BENEFIT OF EDUCATION

- A recent cochrane analysis # of 22 studies involving patient education compared with usual care showed significant benefits in the intervention groups in terms of:
  - Reduced morbidity
  - Reduced use of health services
  - Greatest effect with the use of written self management plans
- *# Cochrane Database Syst Rev 2000;(2) CD001117*



Patient education is the  
key to success of every  
aspect of asthma  
management and  
prevention



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All the best..

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