

# **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.

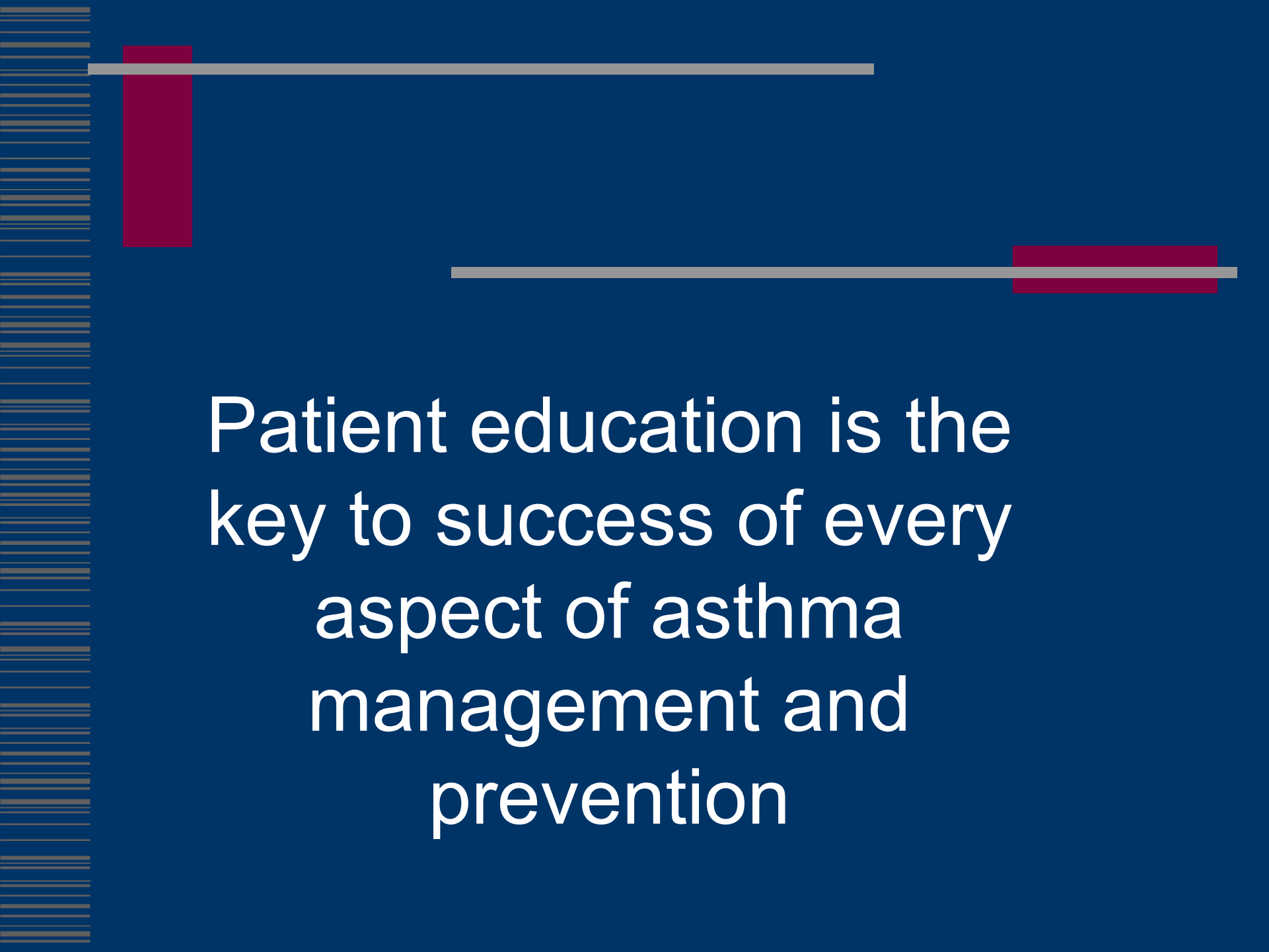
*BMJ 1990; 301: 1355-9*

*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*

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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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