

## **Managing Bronchial Asthma in Primary Health Care (PHC) in Syria as Example of Middle Income Developing Country: An Expert Opinion**

**Yousser Mohammad\***

*Department of Pulmonary, Center for Research on Chronic Respiratory Diseases, Tishreen University in Lattakia, Syrian private university in Damascus and Damascus University, Syria.*

**\*Corresponding Author:** Yousser Mohammad, Department of Pulmonary, Center for Research on Chronic Respiratory Diseases, Tishreen University in Lattakia, Syrian private university in Damascus and Damascus University, Syria.

**Received:** December 12, 2015; **Published:** December 21, 2015

### **Abstract**

In Syria, the official primary health care facilities are dispensaries under the governance of Ministry of Health, and hosting WHO programs. But In reel practice, PHC is also part of emergency rooms, outpatient general clinics in public hospitals; school health dispensaries; manufactories' clinics; and Internal and General Clinics of the private sector. Asthma patients present most often for treatment in any of these primary care facilities. A multicenter survey showed that 13% of patients > 6 years old presenting to primary care have asthma. An other showed that 51% of asthma patients are treated only in emergency rooms. There is also over prescription of oral corticosteroids and antibiotics and under-prescription of Inhaled corticosteroids following GINA guidelines. But a Pilot program to test the feasibility of a methodic follow up of uncontrolled asthma patients in a general free of charge hospital showed that it is possible to achieve asthma control following to GINA guidelines even in very deprived areas.

Accordingly we recommend training sessions for the essential on asthma needs for health workers at primary care level. This needs to adapt educational materials. To Audit and evaluate continuously. Collaboration with WHO-GARD is an asset.

### **Introduction**

According to the International Study for Asthma and Allergies in Childhood, 5.2% of children in Syria have asthma [1]. According to the World Health Organization-Global Alliance Against Chronic Respiratory Diseases (WHO – GARD) multicenter survey,13% of patients treated at primary care level have asthma in Syria [2].

In Syria, the official primary health care facilities are dispensaries under the governance of Ministry of Health (MOH), and hosting WHO programs (1465 dispensaries for 23 million inhabitants). But In reel practice, PHC is part of emergency rooms (ER) and outpatient general clinics in public hospitals; school health clinics and dispensaries; manufactories' clinics; Internal and General Clinics of the private sector. Asthma patients present most often for treatment in any of these primary care facilities. As participant in an international survey of the Union in 2006: 9% of asthma patients were treated in PHC dispensaries of MOH, 51% are treated only in ED [3]. Patients who can afford it have the right to directly access specialized private pulmonologists, without referral from primary care. Public health facilities of PHC are free of charge although physicians (But not nurses) working in dispensaries share their time between public and private. Since 2006 programs for asthma and COPD have been adopted at primary care level in Syria [4-7]. We feel it is worthwhile to share our experience from a developing country: Following we will expose first what we learned from surveys; Second National Programs, Third Core messages from health surveys and from our experience in implementing national programs, then we will present the situation of asthma management failure in other countries and regions, and we will end by the conclusion.

---

**Citation:** Yousser Mohammad. "Managing Bronchial Asthma in Primary Health Care (PHC) in Syria as Example of Middle Income Developing Country: An Expert Opinion". *EC Pulmonology and Respiratory Medicine* 1.S1 (2015): S1-S5.

## Discussion

### First: What we learned from field surveys

**Field surveys in Syria have shown that:** Asthma is under-diagnosed in primary care [2,3,8,9]. in part because the patient could appear normal between attacks, or be misdiagnosed as having an infection [2]. Thus, for a positive diagnosis, clinical history of recurrent symptoms (wheezing, cough, difficult breathing, chest tightness) in the early morning & triggers is suggestive; Objective testing : Variability of peak expiratory flow rate(PEFR) between two visits 20% ; reversibility : 20% increase in PEFR ,or 12% increase in Forced Expiratory Volume in one second (FEV1) after Short Acting Beta Agonists(SABA) puffs; or decrease after exercise test confirm diagnosis. However when Spirometry or peak flow meter are not available, or if under 5 years: we should rely on clinical history and treatment trial [4].

**Asthma is under-treated and under-controlled:** In the GARD- WHO multicenter national survey 2010 for chronic respiratory diseases [2]: Prescription of adequate dose of ICS according to GINA guidelines is only in 25%, while 46% are treated with oral corticosteroids which could be avoided if prescription of ICS according to guidelines in PHC was the rule; The same for antibiotics prescribed in 56% of asthma patients while non need at all. Another important issue is 56% of asthma patients surveyed have FEV1 < 80% after bronchodilators, which points to poor control [2].

### Pilot program to test a methodic follow up of uncontrolled asthma patients in a general free of charge hospital 2006- 2007[10]:

A trained post graduate medical student asked every patient in a deprived population the questions about the parameters of asthma control, PEFR measured, prescription of ICS at their first presentation, taught about inhaler technique, asked to avoid risk factors .A Follow up form for this purpose was filled by the GP every week.

44/66 were controlled after three month. While non of them had follow up before, we conclude that GINA guidelines could be realistic even in deprived settings. The Global Initiative for asthma guidelines are based on level of control, [4] Which means for each asthmatic presenting to a primary health care facility, the general practitioner(GP) should ask standard questions about the clinical control of asthma:

- a. Frequency of symptoms
- b. Need for inhaled ventolin
- c. Awakening at night
- d. limitation of activities and
- e. Exacerbations.
- f. Then, PEFR or FEV1 should be measured in order to classify asthma as controlled, partly controlled or uncontrolled. Subsequently, every not totally controlled asthmatic needs to be given low-dose or medium dose inhaled cortico-steroids, educated on inhaler technique and referred to higher level of care for further assessment , then referred back for follow up and education

### Second: National programs

WHO- MOH programs: Three programs have been introduced for Chronic Respiratory Diseases (CRD) in Syria since 2006:

- a. Practical Approach to Lung Health (PAL) program, integrating asthma and COPD care in the National Tuberculosis program, adopting a referral policy and initiating a respiratory disease dispensary at central level equipped with peak flow, oxymetry, and spirometry.
- b. The Package for the essential needs for Non Communicable Diseases (NCD) at primary care level: WHO-PEN program . Integrating all major NCD including CRD at primary care level.
- c. GARD program

### Other programs:

- a. The GINA world Asthma day program: Conferences in World Asthma Days , are improving asthma care: Make health workers in PHC familiar with peak flow meter and corticoid inhalers

- b. Newly approved civil society, collaborating with the International COPD Coalition: Helping patients with CRD and allergy is wide spreading patient education for asthma and COPD, and health education. And giving inhalers for free [11]
- c. Also of notice is: The Recent national center for research in CRD in Tishreen University is prioritizing primary care and humanitarian crisis needs. [www.tishreen.edu.sy](http://www.tishreen.edu.sy)

**Third: The core messages from the field surveys and national programs**

To empower the role of PHC in controlling asthma and lessen related mortality. Core messages are:

1. The first contact with the uncontrolled patient is crucial: this is when to prescribe a low dose of inhaled corticosteroid, teach inhaler technique, and refer [12]
2. Prescription of oral corticosteroids on discharge from Emergency Room is recommended ; by contrast, expectorants and antibiotics are often unnecessarily prescribed [4,12]
3. Methodical follow-up lead to control and is feasible even in poor settings by using standard guidelines based protocols and follow up records.
4. The core equipment and medicines that health facilities should have include: Peak flow metter, oxymeter, ventolin inhalers, spacers (which could be built up in very poor settings /plastic bottle), nebulisers and solution of SABA and ipratropium bromide, oxygen extractor and systemic corticosteroids.
5. SABA via spacer or plastic bottle is as effective as nebulizer to relieve symptoms [13].
6. Part of the role of nurses and community health-care workers is to educate patients, particularly in inhaler technique and self-management. [14]
7. Every staying uncontrolled asthma patient after few follow up visits at primary care should be referred to a specialist or well trained physician on asthma, to be put on an asthma management plan and then referred back to the PHC for follow-up.
8. A toolbox for general practitioners and nurses should consist of
  - A. Questions related to symptoms suggestive of asthma diagnosis.
  - B. Parameters of asthma control;
  - C. Use of peak flow and table of values;
  - D. Educational photos about inhaler and spacer use; how inhaled corticosteroids reverse inflammation.
  - E. A patient self-management plan and
  - F. Photos of all available inhalers on the local market to educate.
9. Every follow up visit should be the occasion to improve partnership with patients according to their literacy, level of education and cultural believes: a follow-up record to monitor for clinical control, PEFr , compliance and trigger avoidance should be filled at every visit. Education for inhaler technique should be part of every follow up visit
10. Including these core elements on the role of primary care in curriculum of medical schools, nursing schools and pharmacies is recommended
11. WHO programs of NCD, and PAL have been introduces in PHC dispensaries in Syria, and could be the vector of the above change.
12. Conferences and World Asthma Days , are improving asthma care: Make health workers in PHC familiar with peak flow meter and corticoid inhalers
13. Patient organizations are playing a role on patient education and free medications
14. The Syrian humanitarian crisis for these last three years needs additional assessment of asthma care in displaced and refugees. The destruction of many dispensaries of PHC , and of referral hospitals caused a big damage for asthma patients .Equally new triggers for asthma appeared by pollution resulting from weapons , and being in crowdies locations expose asthma patients to fumes and odors. However essential medicines : inhaled corticosteroids, LABA, LAMA, Leukotriens modifiers and relievers are still available, and offered for free to internally displaced people , and people in hot conflict areas .

15. Ad hoc Health points have been built up in these locations to continue primary care services and transport if life threatening emergency; World Health Organization country office and The Red Cross and Red Crescent are involved .
16. According to GARD Survey results, training sessions for the essential on asthma and COPD are needed for health workers at primary care level. This needs to adapt educational materials.

**Asthma management failure in other countries and regions:** [15,16,17]

In spite of the widespread dissemination of GINA Guidelines, asthma diagnosis, treatment and consequently control is still very poor in developed and developing countries as well. The following studies gave examples of this very critical worldwide situation:

- a. In Cape Verde, a developing country which achieved the same GARD-WHO survey, under-diagnosis of asthma was also a concern. [15]
- b. In Sudan, the problem was the non availability of ICS in public sector, although listed as essential drug by WHO [3,8]
- c. An article published in 2002 ,AIRE study (Asthma insights and reality in Europe) describing the standard of asthma control in Europe, conclude that asthma is poorly controlled, is undertreated and follow up is rare in children [16]
- d. The same conclusion was made for Tunisia, in young adults . [17]

**Conclusion**

In Syria, primary care is delivered for free at health centers, but also in emergency rooms and clinics of public hospitals. The first contact with asthma patient should be the occasion to prescribe inhaled corticosteroids in uncontrolled asthma, then a methodic follow up with record and educational sessions is feasible and help to achieve control in the majority of patients, even in deprived.

**Acknowledgement**

We acknowledge the assistance of Monica Fletcher OBE, Chief Executive Education for Health UK [www.educationforhealth.org](http://www.educationforhealth.org) for sharing her expertise in primary care and education, and for revising the manuscript before submission.

**Bibliography**

1. Lai CKW, et al. "Global variation in the prevalence and severity of asthma symptoms: Phase Three of the International Study of Asthma and Allergies in Childhood (ISAAC)". *Thorax* 2009; 64.6 (2009): 476-483.
2. Mohammad Y, et al. "Executive summary of the multicenter survey on the prevalence and risk factors of chronic respiratory diseases in patients presenting to primary care centers and emergency rooms in Syria". *Journal of Thoracic Disease* 4.2 (2012): 203-205.
3. Peter Burney, et al. "A multinational study of treatment failures in asthma management". *International Journal of Tuberculosis and Lung Disease* 12.1 (2008): 13-18.
4. Global Initiative for Asthma. Global Strategy for Asthma management and prevention
5. "Package of essential non communicable (PEN) disease interventions for primary health care in low-resource settings". *World Health Organization: c2010*.
6. Bousquet J, et al. "Global Alliance against Chronic Respiratory Diseases". *European Respiratory Journal* 29: (2007): 216-223.
7. "Practical approach to lung health. Manual on initiating PAL implementation". *World Health Organization* (2008).
8. Ait Khaled N, et al. "Implementation of asthma guidelines in health centers of several developing countries". *International Journal of Tuberculosis and Lung Disease* 10.1 (2006): 104-109.
9. Shahrour N and Bardan H. "Prevalence and risk factors of asthma in Damascus school children aged". *Revue des Maladies Respiratoires* 23.4 C2 (2006): 10-14.
10. <http://www.ginasthma.org/Mediterranean>
11. Youssef Mohammad, et al. "Assets and needs of respiratory patient organizations: differences between developed and developing countries". *Journal of Thoracic Disease* 5.6 (2013): 914-918.

12. AAAAI guidelines 2007: Section 3, component2, education for a partnership on asthma care, page 100-106
13. Ghazal dib, could spacer replace nebulizer for children in emergency room. Tishreen University Journal. 2004: Medical folder.
14. Charlton., *et al.* "Audit of the effect of a nurse run asthma clinic on workload and patient morbidity in a general practice". *British Journal of General* 41.347 (1991): 227-231.
15. Youssef Mohammad., *et al.* "Impact of active and passive smoking as risk factors for asthma and COPD in women presenting to primary care in Syria: first report by the WHO-GARD survey group". *International Journal of Chronic Obstructive Pulmonary Diseases* 8 (2013): 473-482.
16. Blanc FX., *et al.* "The AIRE Study: data analysis of 753 European children with asthma". *Revue des Maladies Respiratoires* 19.5 pt 1 (2002): 585-592.
17. Aissa I., *et al.* "Asthma control status in Tunisia". *La Tunisie médicale* 88.2 (2010): 97-101.

**Volume 1 Issue S1 December 2015**

**© All rights are reserved by Youssef Mohammad**