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Asthmatic Patient Follow up PHCC Guidelines Insight of Physicians at West Bay Health Center in Qatar

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Abstract

Introduction

Asthma represents a major global health problem and is associated with significant morbidity. More than 300 million individuals are affected by asthma and asthma accounts for approximately 1 of every 250 deaths worldwide. Clinical encounters with a diagnosis of asthma is 8.5% of the total primary health care clinic work load in Qatar and more that 25% of those case had frequent visits for the same issue. Furthermore, steroid are underutilized for prevention of asthma in PHCC setting. Proper management and follow up of asthma patients are a crucial part of asthma control. Poorly controlled asthma contributes to avoidable emergency department visits and hospitalizations. PHCC guidelines for asthma management and a global strategy for asthma management and prevention, the Global Initiative for Asthma (2019) recommend that every asthma patient should receive a written asthma action plan appropriate for their level of asthma control and health literacy, so they know how to recognize and respond to worsening asthma. Peak Expiratory Flow measurement (PEF) also helps in monitoring of condition as a part of asthmatic patients' action plan; asthma severity and treatment effectiveness. It can be also used in diagnosing asthma only if spirometry is unavailable. The QASMA study done in Qatar exploring the burden of Asthma in Adults, it was found that 33 %, 41%, and 26% of patients had uncontrolled, controlled, and partly controlled asthma, respectively. Only 4.9% of patients had previously received a written asthma management plan Therefore, our aim is to assess the level of physician's awareness of PHCC asthma follow up key steps for Asthmatic patient.

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A brief anonymous Monkey survey distributed online via watts physicians group. Around 58 % of physicians find it difficult to provide the patients with asthma action plan due to lack of education, undocumented PEF, time constraints. Only 12% of our physicians provides their patient with asthma action plan. Around 60% of west bay physicians request PEF for their asthmatic patient. Thus enhancing awareness and educating staff regarding the effectiveness of empowering the asthmatic patients for self- management by providing them with asthma action plan are crucial and can lead to good asthma control.

Keywords: Asthma; Peak Expiratory Flow Meter; Action Plan.

1. Introduction

Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation, it is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness, and cough that vary over time and in intensity, together with variable expiratory airflow limitation [1]. Clinical encounters with a diagnosis of asthma is 8.5% of the total primary health care clinic work load in Qatar and more that 25% of those case had frequent visits for the same issue. Furthermore, steroid are underutilized for prevention of asthma in PHCC setting [2].Key steps of PHCC asthmatic patients follow-up are; Record the patient's treatment (ask about side- effects). Watch the patient using their inhaler, to check their technique, Educate patient on how to use peak flow meter, Review peak flow readings record, Have an open empathic discussion about adherence, Check that the patient has a written asthma action plan, Ask the patient about their attitudes and goals for their asthma [3].

1.1. Peak Expiratory Flow Meter

Small, hand-held device used to monitor a person's ability to breathe out air. It measures the airflow through the bronchi and thus the degree of obstruction in the airway. It depends on a patient's sex, age and height. It is classically reduced in obstructive lung disorders such as asthma peak flow meter measures the patient's maximum speed of expiration, or peak expiratory flow rate (PEFR or PEF). Peak flow readings are higher when patients are well, and lower when the airways are constricted. From changes in recorded values, patients and doctors may determine lung functionality, severity of asthma symptoms, and treatment options. The highest peak flow number during the 2 to 3 weeks is the personal best. Personal best can change over time as disease is controlled or when child grows up [4].

1.2. Traffic light system and Asthma Action plan

Green Zone: Peak expiratory flow rate (PEF 80-100% of personal best (. All systems "go." You are relatively symptom-free and can maintain your current asthma management program. If you are on continuous medication and your peak flow is constantly in the green zone with minimal variation, your physician may consider gradually decreasing your daily medication. Personal best PEFR *80 / 100 is lower limit of Green zone.

Yellow Zone: PEFR 50-80% of personal best. "Caution," as asthma is worsening. A temporary increase in asthma medication is indicated. If you are on chronic medications, maintenance therapy will probably need to be

increased. Contact your physician to fine-tune your therapy.

Personal best PEFR * 50/100 is the lower limit of yellow zone

Red Zone: PEFR below 50% of personal best. "Danger," your asthma management and treatment program is failing to control your symptoms. Use your inhaled bronchodilator. If peak flow readings do not return to at least the yellow zone, contact your allergist/immunologist, who will help you employ aggressive therapy. Maintenance therapy will have to be increased. Personal best PEFR * 50/100 is the highest limit of red zone

Asthma action plan: is a written document that provides instructions for the patient to follow at home [5]. It provides specific direction for daily management and for adjusting medication in response to increase in symptoms or decrease PEFR. Patient should instruct how to establish baseline measures of PEFR when feeling entirely well (personal best) usually after 3-6 month of treatment then used it to determine the normal PEFR range for the patient which is equal 80-100% of personal best [6,7].

2. Rational of study

Clinical encounters with a diagnosis of asthma is 8.5% of the total primary health care clinic work load in Qatar and more that 25% of those case had frequent visits for the same issue. Furthermore, steroid are underutilized for prevention of asthma in PHCC setting. Proper management and follow up of asthma patients are a crucial part of asthma control. Poorly controlled asthma contributes to avoidable emergency department visits and hospitalizations [5]. PHCC guidelines for asthma management and a global strategy for asthma management and prevention, the Global Initiative for Asthma (2019) recommend that every asthma patient should receive a written asthma action plan appropriate for their level of asthma control and health literacy, so they know how to recognize and respond to worsening asthma[6,7].

3. Aim of study

To assess the level of physician's awareness of PHCC asthma follow up key steps for Asthmatic patient.

4. Study design

Cross sectional study via monkey survey from 13 to 16th of February 2020

5. Study setting

West bay health center Is a training health center for family medicine residents before allocating them to other health center a cross over Qatar after being certified with Arab Board of family medicine ,responsible for the delivery of primary health care services to population in Qatar. Tracing the resident's insight and training them on the proper way of following asthmatic patients could ultimately has magnitude on improving asthma control.

6. Study population

All physician works in west bay health center and dealing with asthmatic patients.

7. Results

Survey conducted on 13/2/2020 and last entry was on 16th of February with 54 (100%) completed responses. Around 58 % find it difficult to provide the patients with asthma action plan due to lack of education, undocumented PEF, time constraints. Only 12% of our physicians provides their patient with asthma action plan. Around 60% of west bay physicians request PEF for their asthmatic patient. Table 1 showed that only 38.89% of physicians find it is easy to provide their patient with asthma action plan, however 57.41% of our physicians find it difficult furthermore 5.56% not sure about it. Table 2 illustrated that 61.11% request peak flow meter for their asthmatic patients, however 38.89% not. Table 3 showed that 12.96% of west Bay physicians providing their asthmatic patients with a written asthma action plan each, on the contrary, 87.04% Not. Although around 39 % of physicians find it easy to provide their patient with asthma action plan only 12% do it Open responses for the cause of not providing asthmatic patients with asthma action plan (Q2) depict many causes like time constraints and not having printed copies of plan in their clinics with different languages and to be computerized on Cerner. Some physicians advised to have a dedicated clinic for asthmatic patient, more education about asthma action plan to physicians and to Provide PEF in each clinic.

Q1 is it easy to provide your asthmatic patients with an asthma action plan?

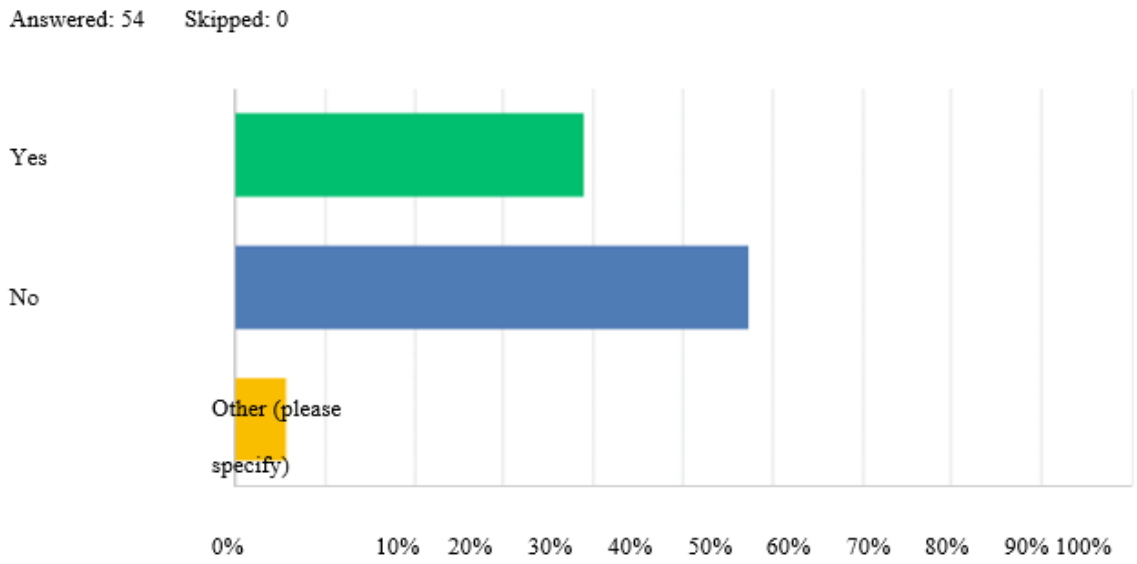

Figure 1

Table 1

ANSWER CHOICES	RESPONSES	
Yes	38.89%	21
No	57.41%	31
Other (please specify)	5.56%	3
Total Respondents: 54		

#	OTHER (PLEASE SPECIFY)	DATE
1	I don't know	2/16/2020 7:09 AM
2	Not always	2/16/2020 5:17 AM
3	Sometimes	2/15/2020 12:00 AM

Q2 what do you think that will facilitate the process of providing All asthma patients action plans?

Answered: 54 Skipped: 0

Table 2

Open responses categories	**Number for responses for the same**	**percentage**
Time	10	18%
Availability of printable copies of different languages of asthma action plan in the clinics (soft, hard copies).	20	37%
Education and awareness of the staff	16	29%
Specialized asthma clinic	3	5%
Availability of PEF in the clinics	2	3%
Documenting PEF	1	1%
Undetermined / insignificant responses to the question	2	3%

Q3 Do you request peak flow meter for your asthmatic patients?

Answered: 54 Skipped: 0

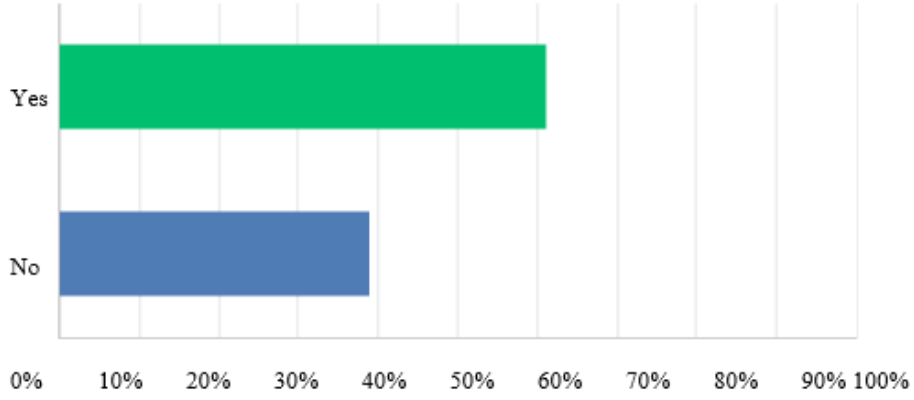

Figure 2

Table 3

ANSWER CHOICES	RESPONSES	
Yes	61.11%	33
No	38.89%	21
TOTAL		54

Q4 Do you provide your asthmatic patients with a written asthma action plan each?

Answered: 54 Skipped: 0

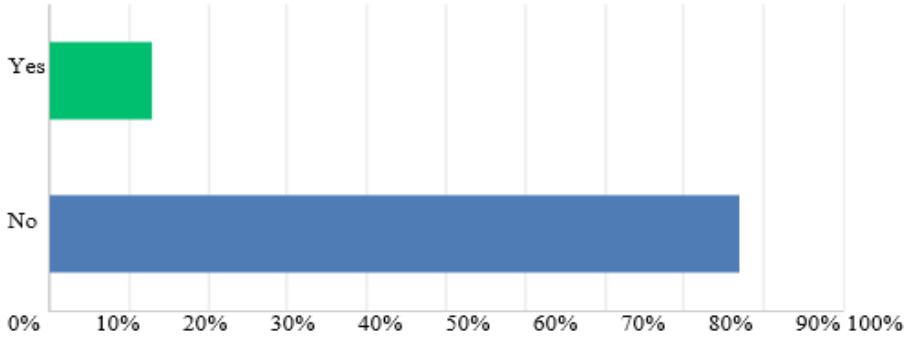

Figure 3

Table 3

ANSWER CHOICES	RESPONSES	
Yes	12.96%	7
No	87.04%	47
TOTAL		54

8. Discussion

Guideline for the diagnosis and management of asthma, the National Heart, Lung, and Blood Institute (2007) provides the following recommendations for the assessment of asthma severity in patients > 12 years of age: Level of Evidence B (i.e., recommendation is based on evidence from meta-analysis of randomized controlled trials, studies with a limited number of patients, or sub analysis or post-hoc analysis of randomized controlled trials, where the results may be inconsistent or the studies may have included patient populations that were different from the target population of the recommendation): which include The classification of asthma is based on assessment of the severity of the illness according to two main parameters; Current asthma impairment, its effects on Quality of life on an ongoing basis and Future risk such as the risk of adverse effects from medication, the likelihood of exacerbations of asthma, and effects in lung function such as reduced lung growth in children or ongoing decline in lung function in adults. Level of Evidence C (i.e., recommendation is based on evidence from nonrandomized, uncontrolled, or observational studies): encompasses Use spirometry to assess severity. Low predicted FEV1 indicates current obstruction (impairment) in adults [6,7]. However spirometry is not available in health center setting thus PHCC guidelines acknowledged Peak Expiratory Flow measurement (PEF) to be used in diagnosing asthma only if spirometry is unavailable also PEF helps in monitoring of condition as a part of asthmatic patients' action plan; asthma severity and treatment effectiveness[6,8] . In 2015, The burden of adult asthma in a high GDP per capita country: the QASMA study by Wanis and his colleagues concluded that The very high gross domestic product per capita in Qatar and the high health expenditure per capita do not seem to have led to better asthma care and control. A comprehensive national asthma service improvement program is much needed [3]. The secondary data analysis 2016–2017 done in Qatar showed that Slightly more than a quarter of Asthmatic cases visited the clinics more than 5 times during the two years period, which obviously exceed the recommended frequency of visits per year and places an added burden on the clinical staff workload. Some of these asthmatics had more than 10 consultations (clinical encounters) during the study period. In addition, those with a short average duration between successive visits (4 weeks or shorter) constituted more than a quarter (27.7%) of total registered cases with Asthma. Such a frequent visit and / or short duration between successive visits may be attributed to inadequate therapeutic control or preventive strategy for Asthma. Non adherence to recommended clinical practice guidelines by physicians or lack of

compliance with prescribed medications from patients are probable causes behind these findings [5]. To reduce the burden of asthma the executive summary of the GINA Dissemination Committee Report, by Masoli and his colleagues Adapt international asthma guidelines for developing countries to ensure they are practical and realistic in terms of different health care systems. This includes dissemination strategies for their implementation, integrate the GINA guidelines with other global respiratory guidelines for children and adults. In this respect, there is a requirement to merge the key elements of the different respiratory guidelines into an algorithm for use at the first point of entry of a respiratory patient's contact with health services and to Promote cost- effective management approaches which have been proven to reduce morbidity and mortality, thereby ensuring optimal treatment is available to as many persons as possible with asthma worldwide [2]. For asthma management and a global strategy for asthma management and prevention, the Global Initiative for Asthma (2019) recommend that every asthma patient should receive a written asthma action plan appropriate for their level of asthma control and health literacy, so they know how to recognize and respond to worsening asthma[9]. Other important ungraded recommendations include; when a patient is first diagnosed with asthma, an assessment of the severity should be made as the severity of asthma is used to determine the type of asthma treatment, as well as the amount and timing of the treatment used. Assessment of asthma severity is more difficult in patients already on long-term therapy. Long-term management of asthma focuses on assessing clinical control of the asthma rather than severity alone. For population-based analysis of severity, for clinical trials, or once an optimal treatment regimen has been established, asthma severity can be graded on the basis of the lowest level of treatment required to maintain control[6,10]. In our study The distributed survey via online watts group was very brief that resulted in 100% response rate for all physicians were in shifts (morning and evening) from 13/2/2020 to 16th of February (4 days period) with 54 completed responses 100% Response.Table 1 showed that only 38.89% of physicians find it is easy to provide their patient with asthma action plan, however the majority of our physicians 57.41% find it difficult, furthermore 5.56% not sure about it, Which could support the need of training and monitoring PHCC physicians on the already available guideline to improve the outcome. Although the peak flow meter is the only tool available in primary care setting ,Table 2 illustrated that 61.11% request peak flow meter for their asthmatic patients, however 38.89% not, which can affect the asthmatic patients quality of care and follow up plans. In table 2 shows that the majority of physicians believe that availability of printable copies of asthma action plan or computerized forms on Cerner in their clinic along with the education and enhancing the awareness of staff will facilitate the process of providing asthma action plan to their patients with a percentages of 37% and 29% respectively. Time constraints was one of the obstacle for 18% of physician to provide their patient with an individualized asthma action plan. Fewer numbers of physicians think of other options like launching a specialized asthma clinic in our health center, availability of PEF in their clinics and documenting it in Cerner by a percentage of 5%, 3%, 1% respectively, would facilitate the process. Other physicians (3%) gave incoherent responses inconsistent with the question like (nice, OK) Table 3 showed that only 12.96% of west Bay physicians providing their asthmatic patients with a written asthma action plan each, on the contrary, the majority of 87.04% Not, though the PHCC guidelines for asthma management and a global strategy for asthma management and prevention, the Global Initiative for Asthma (2019) recommend that every asthma patient should receive a written asthma action plan appropriate for their level of asthma control and health literacy, so they know how to recognize and respond to worsening asthma.(4,6) and respectively it could explain the frequent visits encounters for the same cause due to

lack of empowering and educating patients to take part in their self-management strategy. Although around 39 % of physicians find it easy to provide their patient with asthma action plan only 12% do it Open responses for the cause of not providing asthmatic patients with asthma action plan.

9. Conclusion and implications

Our Examined key interventions was to assess the insight and what is done during asthmatic patient follow up in the light of primary health care policy that recommends empowering the asthmatic patient for self-management by providing them with asthma action plan and to check their peak expiratory flow meter to assess their status towards their personal best , however it was difficult for every patient in our practice due to lack of time , education , some related resources and communication between nurses and physician in this era. If we can improve the above mentioned barriers it could results in Improving doctor awareness of PHCC asthma management guidelines and the use of written asthma action plan for all asthmatic patients, improving the use of PEF and documenting the PEF in every visit and consequently, Improving patient compliance and follow up.

10. Constraints \limitations

Spirometry is not available in primary health care setting, hence diagnosis could be under or over estimated. The study done only in one health center thus the results could not be generalized. In addition, the calculation of use of peak expiratory flow meter rates may suffer from bias because most of physicians were residents not fully qualified physicians using the PHCC, GINA guidelines.as well as, the population at risk is not an accurate representation for catchment area and some of the Asthma cases prefer to receive care in hospitals.

11. Recommendation

Asthma Primary health care guideline should be applied and monitored and physician should be encouraged to use Asthma follow up strategies and the key steps including the use of written asthma action plan for all asthmatic patients, improving the use of PEF and documenting it in every visit. a dedicated clinic for asthmatic patient, more education about asthma action plan to physicians and to Provide PEF in each clinic. CERNER data can help in the continuity of care for Asthma cases guiding physicians in management of those with recurrent visits or those who are lost to follow up after a single visit.

12. Conflict of interest

The authors have no conflict of interest

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