

Barriers in the management of childhood asthma: what care giver thinks about long term controller medication?

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Abstracts

Introduction: Asthma is the most common, chronic lower respiratory disease in childhood. Despite of the several guidelines and/or consensus documents available to support medical decisions to paediatric asthma; there are little updates available on the barriers' to childhood asthma care among communities. **Objectives:** We aimed to determine social barriers to the management of childhood asthma. **Methods:** This was a qualitative, cross-sectional hospital based study in children aged between 1-15 years. **Results:** total 423 children with asthma were recruited from July 2014 to July 2016. out of them 126(29.78%) had mild intermittent, 190(44.91%) had mild persistent, 73(17.25%) had moderate persistent and 32(7.56%) had severe persistent asthma. In all persistent asthma cases long term controller medication was prescribed in which only 186(62.62%) accepted long term controller, while 111(37.37%) patients did not. Reasons for non-acceptance of long term controller medication in new cases were of financial constraints 25(22.52%), fear of dependency of controller medication 23(20.72%), fear of side effect 17(15.31%), social stigma of inhalational device 15(13.51%), more preference to cough syrup 31(27.97%). **Conclusion:** A large numbers of barriers existed in the management of childhood asthma which has a bad impact on the patients and their families.

Keywords: Paediatric Asthma, Barriers, Management, Controller Medication

Introduction

Asthma is the most common chronic condition among children under the age of 18, affecting 6.3 million [1]. Asthma most often starts early in life and has variable clinical courses, which may progress or remit over time. It is more prevalent in children with a family history of atopy, symptoms and exacerbations are frequently provoked by a wide range of triggers including viral infections, indoor and outdoor allergens, exercise, tobacco smoke and poor air quality. The prevalence of childhood asthma has grown dramatically in most western countries of the world [2-4]. Various studies from India have been reported, prevalence ranging from 3.5% up to 29.5% [5]. Childhood asthma presents as a substantial burden to the

patient, their family and society. High frequencies of sleep disturbances due to asthma (up to 34%), absence from school (23–51%) and limitation of activities (47%) have been reported [6-8].

Pharmacotherapy for childhood asthma has been described in general asthma guidelines, including the recently updated Global Initiative for Asthma (GINA) guidelines [9]. Despite of the international consensus on management of Asthma in childhood, many barriers exist, which may alter the course of the disease and adversely affect quality of life of the caregivers and their families.

So, in established disease, control can be achieved and maintained only with appropriate treatment, education, and monitoring, as well as removal of barriers in most of the children.

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Methods

This was a cross-sectional hospital based study in which caregivers of asthmatic children aged 1-15 years attending paediatric out door department in Career Institute of Medical Sciences Lucknow, India aged were administered a self-designed questionnaire in the academic years July'2014-July'2016.

Sampling methods and sample collection- There were 423 participants enrolled in the study that have been diagnosed with asthma. Prior permission from the caregivers was taken. The study was approved by the local independent ethics committee.

The caregivers of asthmatic children were administered a self-designed questionnaire. Study followed GINA guideline 2002 to classify severity. All persistent asthma cases were followed and data analysed at six months follow up.

Exclusion and inclusion criteria- Study included all patients aged 1-15 years diagnosed with bronchial asthma as per GINA guideline 2002. Study excluded patients with congenital malformation, genetic defects, and chronic neurological disorder with feeding difficulty

Statistical analysis- Data were analysed using SPSS statistical software version 20. mean and SD were calculated for categorical variable.

Results

Table-1: Baseline demographic and clinical characteristics of patients with childhood asthma (N=423)

Characteristics	N (%)
Male	252(59.57%)
female	171(42.42%)
Wt(kg)(mean \pm SD)	19.36 \pm 11.43
Ht(cm)(mean \pm SD)	102.26 \pm 2.76
Socioeconomic Status	
Upper	275(65%)
Lower	126(34.98%)
Urban	314(74.23%)
Rural	109(25.76%)
Asthma Severity	
Mild intermittent	126(29.78%)
Mild persistent	190(44.91%)
Moderate persistent	73(17.25%)
Severe persistent	32(7.56%)
Well controlled	81(19.14%)
Not well controlled	211(49.88%)
Poorly controlled	131(30.96%)
Prior Use Of Long Term Controller	
Never Received	233(55%)
Received but stopped duration of use(months) mean \pm SD(2.66 \pm 1.48)	147(34.75%)
On controller medication duration of use(months) mean \pm SD(9.5 \pm 5.5)	43(10.16%)
Counselled for long term controller at CIMS & H (all persistent asthma cases)	
Did not accept	111(37.37%)
Accepted	186(62.62%)

Patients characteristics- This study conducted among 423 children diagnosed with bronchial asthma attending the pediatric outpatient department of Career Institute of Medical Sciences Lucknow between July' 2014 and July' 2016. Out of them, 252(59.57%) were male and 171(40.42%) were female. Amongst 423 children with asthma, 126(29.78%) had mild intermittent, 190(44.91%) had mild persistent, 73(17.2%) had moderate persistent, and 32(7.56%) had severe persistent asthma.

Out of 423 children 233(55%) never received controller medication, 147(34%) received but stopped after few months (mean±SD, (1.62±0.74) and 43(10.16%) were on regular controller medication. Asthma was controlled in 81(19.14%), not well controlled in 211(49.88%), poorly controlled in 131(30.96%). All persistent asthma cases (70.21%) were counselled for controller medication; only 62.62% had accepted controller medication, while 37.37% did not accepted.

Barriers to long term controller in new cases- Table 2 depicts barriers for long term controller medication in new cases in which controller was counselled were of financial constraints 25(22.52%), fear of dependency of controller medication 23(20.72%), fear of side effect 17(15.31%), social stigma of inhalational device 15(13.51%), more preference to cough syrup 31(27.92%).

Table-2: Barriers responsible for non-acceptance of controller medication new cases(N=111)

Barriers	N (%)
Fear of dependency of controller medication	23(20.72%)
Financial constraints	25(22.52%)
Fear of side effects	17(15.31%)
Social stigma of inhalational device	15(13.51%)
More preference oral medicine	31(27.92%)

Table-3: Characteristics of persistent childhood asthma, followed at six months (N=165)

Characteristics	N (%)
Stopped controller medication	71(43%)
Duration of use(months) (Mean±SD)	1.62±0.74
Lost follow up	27(16.36%)
Continued controller medication at six months	67(40.60%)
Good compliance	18(26.86%)
Poor compliance	49(73.13%)
Level of Control	
Controlled	31(22.46%)
Not well controlled	42(30.43%)
Poorly controlled	65(47.10%)

Barriers to long term controller in follow-up cases- Study followed upon children with persistent asthma in which controller was given and follow up data were obtained at six months. Table no 4 depicts barriers to controller medication in follow up cases. Out of 165 follow-up children who were on controller, 27(16.36%) were lost follow up, 71(43%) stopped controller medication after 1 or more follow up (duration of use (months), (mean ±SD, 1.62±0.74) and 67(40.60%) had continued controller.

Out of 67, who continued controller medication, 18(26.86%) had good compliance and 49(73.13%) had poor compliance. Reasons for cessation of controller medication were of short term improvement 13(18.18%), financial constraints 10(14.84%), summer season 8(11.26%), social stigma of inhalational device 7 (9.85%), fear of addiction of controller drugs 7 (9.85%) and fear of side effects 6(8.45%), use of alternative therapy(homeopathy and Ayurveda) 6(8.45%) and 14(19.71%) preferred oral medicine overinhaled controller.

Table-4: Barriers responsible for stoppage of the controller medication in persistent asthma, followed at six months (N=71)

Barriers	N (%)
Short term improvement	13(18.18%)
Fear of side effects	6(8.45%)
Financial constraints	10(14.84%)
Social stigma of inhalational device	7(9.85%)
Fear of addiction of controller	7(9.85%)
Use of alternative therapy including homeopathy and Ayurveda	6(8.45%)
Summer season	8(11.26%)
More preference to oral medication	14(19.71%)

Discussion

Outcome of management of chronic diseases especially, Bronchial asthma depends on how effectively the treatment guideline is implemented at the community level. A large gap exists between the latest treatment guidelines for many chronic diseases and the translation of these recommendations into everyday patient care [10-11]. Study from India by SS Salvi reported that only 36 % of asthmatic children used controller [12]. In our study, we assessed barriers responsible for poor acceptability of controller medication in persistent asthma cases.

The financial constraints were reported in new and follow up cases as 22.52% and 14.84% respectively. Study by A Lal et al reported, severe economic burden was experienced by the family in 25.9% cases [13]. In persistent cases in which controller has been prescribed, 43% patients had stopped therapy and 16.30% patients had lost follow-up and 40 % cases continued controller at six months follow up. Amy H.Y. Chan et al reported adherence of prescribed controller medication was 30 % [14]. In present study 31.3% in new cases & 15.3 % in follow up cases did not accept controller due to social stigma of inhalation devices. Study by Gaude Gajanan et al reported, 24.6% stigmatization of inhalation therapy in asthma management [15].

In our study in new cases out of all persistent, 23(20.72%) refused to accept controller medication due to fear of addiction and 17 (15.31%) refused to accept due to fear of side effects while in follow up cases 7(9.85%) stopped controller due to fear of addiction , and 6(8.45%) stopped controller due to fear of side effects .the study of Al- Jahdali et al

raises the importance of the education program of the patient involved in asthma care to discuss with them the role of asthma medications, particularly ICS, and to correct common fears and misconceptions. Among the most common fears hindering regular ICS use was their potential to lead to addiction (60%) and worry from steroid side effects 41%[16]. Our finding that 8(11.26%) follow up cases stopped controller medication in summer while finding of Cecil Vella et al reported 23 % care giver stopped controller medication in summer season [17]. In our study 31(27.97%) in new cases and 14(19.71%) in follow-up cases, care giver of asthmatic children denied long term controllers as they preferred short term oral medication especially cough syrup over long term inhalation therapy.

Study by Rola Zaraket et al reported that 67 % of parents preferred oral route over inhalational route [18].

According to guidelines, all such patients should take regular preventive therapy [19]. Thus; gross under-treatment appears to be a basic problem in management of asthma. Undertreated patients may develop permanent occlusive changes in the airways [20, 21].

The NAEPP Guidelines have emphasized the need for a partnership between clinician and patient to improve treatment adherence and disease outcome [22].

Conclusion

There were large numbers of barriers existed in the management of childhood asthma which has a bad impact on the patients and their families. On the basis of findings of our study we recommend

1. More awareness and education of parents are needed to remove myths related to inhalational devices in childhood asthma management.
2. More awareness of general physicians about childhood asthma management is needed, as they are covering bulk of patients in developing countries.
3. There should be restriction on sale of over the counter cough syrup by pharmacist.
4. There should be free availability of controller and rescue medication in government hospital, as financial constraints is one of the major obstacle in delivering health services to underprivileged population.

What this study add? Findings of present study can be used to inform and enhance the knowledge of the caregivers of asthmatic children in the management to remove barriers which may directly affect the prevalence as well as the positive outcome.

Contribution

- Dr. Jaigam Abbas- design of work and data collection
- Dr. Dinesh Chandra Pandey- data analysis and interpretation
- Dr. Ashish Verma – maintenance of records and drafting of article
- Dr. Samshul Huda Siddiqui- critical revision of article

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