Background Viral bronchiolitis is a common lower respiratory infection during infancy. 50% of infants with acute Bronchiolitis develop Post bronchiolitis wheezing (PBW) that may cause childhood asthma. Vitamin A deficiency impairs epithelial integrity, systemic immunity and increases the severity of childhood respiratory infections such as RSV. In this study the effect of vitamin A in improving PBW has been evaluated.

Methods This was a double blind pilot trial on 84 patients aged 2 to 12 months old who were admitted in Emam Sajad Hospital in Yasuj (Iran) from October 2012 to October 2013. The patients were diagnosed by history, physical examination and chest x-ray by a paediatrician. The 84 individuals were put in case and control groups (42 in each group). The case group received 5000 IU/kg Vitamine A intramuscularly, plus cold and wet oxygen, and beta 2 agonist (ventolin) by nebulizer, and the control group received the same except vitamin A. 1,2 and 3 weeks after treatment the patients were examined by the same paediatrician and were compared based on severity of wheezing, and response to the treatment (decrease in wheezing, distress and cough).

Findings The differences of demographic data and severity of wheezing were not significant between the groups before treatment. There were significant differences in response to treatment between two study groups after 1, 2 and 3 weeks following treatment ($p = 0.045$, $p = 0.001$ and $p = 0.001$ respectively). No side effects were seen during and after the course of treatment.

Conclusion Usual treatments together with Vitamin-e A have stronger effect on reducing post bronchiolitis wheezing, compared with usual treatments alone.

PO-1019 CLINICAL CHARACTERISTICS AND RISK FACTORS OF SEVERE RESPIRATORY SYNCYTIAL VIRUS-ASSOCIATED ACUTE LOWER RESPIRATORY TRACT INFECTIONS IN HOSPITALISED INFANTS

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Objective To investigate the clinical characteristics and analyse risk factors for severe respiratory syncytial virus (RSV) infection in hospitalised infants with acute lower respiratory tract infections (ALRIs).

Methods A retrospective review of the medical records of infants with RSV-associated ALRIs between March 1st, 2011 and February 29th, 2012 was done.

Results Among 913 RSV-associated ALRI infants, there were 288 severe infants (31.5%). The severe cases accounted for 4.2% of the hospitalised children and gave a hospital RSV mortality rate of 1.0%. The occurrence of severe RSV infection had a seasonal variation, with a peak in winter (45.6%). The proportions of cases with tachypnea, apnea, cyanosis, and fine rales were significantly higher in the severe ALRIs group (all $p < 0.001$). The incidences of bronchitis, pneumonia and readmission in the severe group were higher than those in the non-severe infants during the one-year follow-up (all $p < 0.001$). Multivariate logistic regression determined the factors increasing the risk of severe RSV infection were: low-birth-weight [1.698 (1.028~2.805)], under 3 months of age [3.385 (2.174~5.271)], congenital heart disease [1.667 (1.149~2.418)], bronchopulmonary dysplasia [8.505 (1.731~41.780)], and airway abnormalities [2.246 (1.008~5.005)].

Conclusions Severe RSV infection is associated with a high hospitalisation and mortality. Preventative measures should be targeted against high-risk hospitalised infants, especially those who are low-birth-weight, under 3 months of age, and with underlying diseases.

Keywords Respiratory syncytial virus, Acute lower respiratory tract infections, Risk factor

PO-1020 VALIDATION OF A NUTRITIONAL SCREENING TOOL FOR PATIENTS WITH CYSTIC FIBROSIS

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Background The study aim was to validate a specific nutritional risk screening tool for patients with cystic fibrosis (CF) based on clinical variables, anthropometric parameters, and dietary intake.

Methods Cross-sectional study compared present nutritional screening tool and two established nutritional assessment instruments. The kappa coefficient was used for between-group comparisons, and the sensitivity and specificity of the new instrument for diagnosis of nutritional risk were calculated.

Results 82 patients (51% female, mean age 6–18 years) were enrolled in the study. There was good agreement between the proposed screening tool and the McDonald tool ($k = 0.804$; 95% CI, $p < 0.001$) and a sensitivity and specificity of 85% and 95% respectively. Agreement with the CFF criteria was lower ($k = 0.418$, $p < 0.001$), and the sensitivity and specificity were both 72%.

Conclusion The proposed tool exhibited satisfactory agreement with the comparator instruments, and can be recommended for early identification of failure nutritional in patients with CF.

Keywords Cystic fibrosis, nutritional assessment, nutritional status

PO-1021 PHENOTYPIC EXPRESSION OF BRONCHIAL ASTHMA IN INDIAN CHILDREN: PRELIMINARY RESULTS FROM THE CHILDHOOD ASTHMA PHENOTYPE (CAP) COHORT

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Background Clinical experience suggests that childhood asthma phenotype in developing countries may be different from developed countries where majority of asthma is atopic.

Objective To study the phenotypic expression of bronchial asthma in Indian children with special reference to symptoms, features of atopy, family history, and exacerbating/relieving factors.

Methods The study was conducted with Ethics clearance and children were enrolled with written informed parental consent. Childhood asthma phenotype (CAP) cohort comprises 600 consecutively enrolled children (<12y) with asthma defined by NAEPR-III Guidelines. Enrolled children underwent a standard questionnaire to elicit demographic features, presenting symptoms, atopic features, and parental perception of exacerbating/relieving factors. Older children (>8y) underwent spirometry.

Abstract PO-1021 Table 1 Symptom profile of children in the CAP cohort

Presenting symptoms	
History of episodic cough	594 (99%)
Presence of Dry cough	366 (61%)
Predominantly Night-time cough	407 (68%)
Predominantly Day-time cough	59 (10%)
No diurnal variation in cough	128 (21%)
History of episodic wheezing	468 (78%)
Predominantly Night-time wheezing	332 (71%)
Predominantly Day-time wheezing	46 (10%)
No diurnal variation in wheezing	90 (19%)
Limitation in activity/play	433 (72%)
Chest tightness (among 352 children >60mo)	38/352 (11%)
Associated symptoms suggesting atopy	359 (60%)
Nasal symptoms, n (%)	
Frequent episodes of runny nose	201 (79%)
Episodic sneezing	113 (45%)
Itchy nose	31 (12%)
Blocked nose	9 (4%)
Skin symptoms	
Current diagnosis of atopic dermatitis	23 (26%)
Previous diagnosis of atopic dermatitis	49 (54%)
Undiagnosed previous itchy skin lesions	18 (20%)
Eye symptoms	
Frequent eye watering and redness	29 (83%)
Itching in eyes	25 (71%)
Pain in eyes	6 (17%)
Other symptoms	
Gastro-intestinal symptoms, n (%)	
Symptoms suggesting reflux	73 (68%)
Vague abdominal pain	21 (19%)
Altered bowel habits	14 (13%)
Chest pain (non-specific)	25 (4%)
Family history of atopy (first degree relative)	382 (64%)
Asthma	154 (40%)
Allergic rhinitis	209 (55%)
Skin allergy	19 (5%)
Combination of any of the above	63 (16%)

Abstract PO-1021 Table 2 Parental perception of exacerbating and relieving factors in the CAP report

Parental perception of exacerbating factors	
Seasonal variation in symptoms	
Symptoms worse during winter	111 (24%)
Symptoms worse during summer	28 (6%)
Symptoms worse during monsoon	14 (3%)
Symptoms worse during change of season	308 (68%)
Suspected outdoor allergens	
Pollens	84 (15%)
Ventricular pollution	55 (12%)
Proximity to wheat fields (194 children)	101 (52%)
Exposure to wheat threshing (294 children)	208 (71%)
Exposure to farm animals (301 children)	21 (6%)
Parental occupational exposure to allergens (223 children)	13 (6%)
Suspected indoor allergens	
House dust	188 (30%)
Smoke from burning solid fuel (210 children)	151 (72%)
Smoke from cooking (94 children)	49 (52%)
Exposure to tobacco smoke (45 children)	37 (82%)
Exposure to household pets (91 children)	11 (12%)
Playing with soft toys (381 children)	12 (3%)
Use of cosmetics (290 children)	12 (4%)
Dampness on walls/ceiling (91 children)	38 (42%)
Dietary allergens	
Consumption of nuts (438 children)	0 (0%)
Consumption of egg (243 children)	3 (1%)
Consumption of fish (30 children)	0 (0%)
Consumption of milk (583 children)	10 (3%)
Consumption of fruits (399 children)	141 (35%)
Consumption of pulses/legumes (441 children)	5 (2%)
Consumption of 'cold' products (cold drinks, ice-cream, cold eatables) (441 children)	265 (60%)
Consumption of processed items viz potato chips, noodles, ketchup and mixtures (354 children)	188 (53%)
Intake of medications with potential for exacerbation (48 children)	0 (0%)
Unable to identify a single exacerbating factor	26 (4%)
Parental perception of relieving factors	
Spontaneous Medication	
Bronchodilator by nebulised route (445 children)	385 (87%)
Bronchodilator by oral route (432 children)	87 (20%)
Short course oral steroid therapy (111 children)	27 (24%)
Alteration in dietary pattern and/or concerns (390 children)	101 (26%)
Unable to identify any relieving factor(s)	114 (19%)

Classification of severity, treatment plan, follow-up protocol and monitoring of response were as per GINA Guideline.

Results The mean age of enrolled children was 73.4 months (range 3–144) and mean age of symptom onset was 45.0 months (range 3.0–75.0). The age distribution was: <12 months (20, 3.3%), 12–60 months (228, 38.0%), 60–144 months (352, 58.7%). The male:female ratio was 2.7. Severity classification was: Mild intermittent-12.0%, Mild persistent-18.0%, Moderate-persistent-63%, Severe persistent-7%. Table 1 summarises the symptom profile and Table 2 shows parental perception of exacerbating/relieving factors.

Conclusion These observations suggest that childhood asthma phenotype in a developing country setting is distinct from developed countries.

PO-1022 CORRELATION OF PHENOTYPIC EXPRESSION WITH RESPONSE TO THERAPY IN INDIAN CHILDREN WITH BRONCHIAL ASTHMA

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Background Clinical experience suggests that asthmatic children in developing countries have a different phenotype and therapeutic response than in developed countries.

Objective To correlate therapeutic response in childhood asthma with phenotypic features.

Methods 180 children in the Childhood Asthma Phenotype (CAP) cohort (n = 600, age <12y, diagnosis based on NAEPR III Guidelines) underwent evaluation of phenotypic characteristics using a pre-tested semis-structured questionnaire. Classification of severity, treatment plan, follow-up protocol and monitoring of response were done as per GINA Guideline. Response to therapy was assessed 6 months after initiating treatment and modifying the drug/dose as required. Disease control was defined as per GINA.

Results The mean age of enrolled children was 81.4mo (range 3.0 to 144.0) with age distribution <12 months=9, 12–60

Abstract PO-1022 Table 1 Distribution of characteristics in children with uncontrolled versus controlled disease

Horizontal (Category) Axis		Disease Uncontrolled n=23	Disease Controlled n=127	Odds ratio (95% C.I.)
Gender	Male (n)	15 (13.40%)	97 (86.60%)	0.58 (0.22, 1.50)
	Female (n)	8 (21.05%)	30 (78.95%)	
Age	<1 year (n, %)	8 (22.2%)	28 (77.8%)	1.86 (0.66, 5.20)
	1-5 year (n, %)	10 (13.3%)	65 (86.7%)	
Cough duration	>12 months	19 (82.6%)	88 (69.8%)	2.11 (0.67, 6.60)
	<12 months	4 (17.4%)	39 (30.2%)	
Wheeze	>12 months	17 (73.9%)	59 (46.5%)	3.27 (1.20, 8.82)
	<12 months	6 (26.08%)	68 (53.5%)	
Night time symptoms	Present	12 (75%)	54 (42.5%)	33.55 (9.25-121.71)
	Absent	11 (8.2%)	89 (70.1%)	
History of atopy	Present	12 (52.17%)	65 (51.18%)	1.04 (0.42, 2.53)
	Absent	11 (47.83%)	62 (48.82%)	
Family history of asthma	Present	11 (47.8%)	73 (57.5%)	0.68 (0.28, 1.65)
	Absent	12 (52.2%)	54 (42.5%)	
Family history of atopy	Present	17 (17.0%)	83 (83.0%)	1.50 (0.55, 4.08)
	Absent	6 (12.0%)	44 (88.0%)	
Seasonal exacerbation	Present	18 (16.51%)	91 (83.49%)	1.42 (0.49, 4.12)
	Absent	5 (12.20%)	36 (87.80%)	
Exposure to outdoor allergens	Present	16 (16.50%)	81 (83.50%)	1.30 (0.50, 3.39)
	Absent	7 (13.21%)	46 (86.79%)	
Exposure to indoor allergens	Present	19 (82.6%)	89 (70.1%)	0.80 (0.31, 2.02)
	Absent	8 (19.0%)	34 (80.9%)	