affects the child's development or future. Or, the child may face with aging parents (thanks to technology you may have a baby even at age 60) who are unable to guarantee an appropriate physical and psychological avalaibility in his/her life and they make him/her ashamed of having granparents rather then parents. There is also an issue about foetal reduction (that is prohibited but possible for medical reason) that may lead guilt over eliminating one of the many coveted children.

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A52

Primary Ciliary Dyskinesia: a rare cause for Bronchiectasis in Childhood

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Primary Ciliary Dyskinesia (PCD) is a rare congenital, clinically and genetically heterogeneous disease caused by abnormal structure and/or function of respiratory cilia, with impaired mucociliary transport leading to recurrent respiratory infections and progressive loss of lung function. PCD diagnosis is not easy, since signs and symptoms of this condition are nonspecific and may vary according to the age of the patients. Moreover, diagnostic tests are complex, time consuming and expensive [1]. However, some pointers of the disease, such as laterality defects, daily wet cough and persistent rhinorrhea, may be noticed in the perinatal period and should suggest to refer the patient to the specialist or at the reference center for PCD, in order to perform the diagnostic tests and start the related treatments as soon as possible [1]. In PCD, the recurrence of respiratory infections causes a continuous and exaggerated neutrophilic response in the bronchial mucosa, with consequent release of tissue-damaging enzymes that, in time, lead to progressive bronchial wall damage and dilatation, known as bronchiectasis. In bronchiectasis mucus is even more stuck, which make infections and inflammation more and more frequent and severe, causing worsening of the lesions and symptoms, with onset of sputum production and eventually bronchorrea. As a consequence, bronchiectasis severity correlates with worse pulmonary function [2]. Bronchiectasis is a consistent finding in adult PCD patients, but often appears in childhood [3] by 8 years of age in 50% of cases [4]. Bronchiectasis distribution in PCD has been shown to have a basal predilection: the most involved pulmonary lobes are the middle lobe, the lingula and the inferior lobes, while, unlike cystic fibrosis, upper lobes involvement can be found in most severe cases and later disease stage. [4]. In children, bronchiectasis involves firstly the middle lobe, since the middle lobe bronchus is the longest, narrowest and most horizontal of the lobar bronchi, facilitating mucus stagnation and plugging. High Resolution Chest Tomography is still the gold standard test to diagnose bronchiectasis and assess its extent and severity. Recently, some studies have shown that also chest Magnetic Resonance Imaging is an accurate and reliable method to evaluate bronchiectasis in PCD patients [5]. Treatment of bronchiectasis is mainly based on respiratory physiotherapy and airway clearance techniques, early administration of antibiotics on the occasion of respiratory infections and eradication or chronic treatment of Pseudomonas aeruginosa infection when present [6].

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A53

Lung microbiome and asthma in children

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Healthy lungs have been historically considered to be sterile based on the results of standard microbiological culture techniques. However, starting from the 2010s, next generation sequencing has been used on lower airways samples allowing the identification of low-density microbial communities in a culture-independent way [1]: the lung microbiome composition is now well known and described as to be characterized by the prevalence of bacteria belonging to phyla *Firmicutes* and *Bacteroidetes* (mostly Prevotella and Veilonella spp), reflecting the composition of the microbiome of the oropharynx, since bacteria arrive to the lungs mostly through micro-aspiration of secretions from the naso-oropharynx [2]. In the healthy subjects bacteria are rapidly eliminated from the lower airways, in a continuous and delicate balancing of immigration and elimination, which can be acutely altered during respiratory infections or be modified in chronic respiratory diseases, especially in advanced stages [3]. Asthma is the most common chronic disease in childhood: its pathogenesis is multifactorial and includes environmental factors interacting with susceptibility genes during pregnancy and in the first years of life. In asthma, as in other respiratory diseases, the lung microbiome composition changes: as a matter of fact, many studies have demonstrated that both in children and in adult asthmatics the lung microbiome is characterized by the prevalence of the phyla *Proteobacteria* (mostly Haemophilus, Moraxella, and Neisseria spp) and reduced biodiversity [4]. However, it is not clear whether this change is secondary to the underlying disease or plays a primary role in its development. Considering what is already known about the role of early atopy onset and early viral infections in the development of asthma, with RSV and rhinovirus as major risk factors, a primary role of the microbiome seems likely [5]. For example, in infancy, respiratory viral infections can induce the emergence of Proteobacteria, which are also known to be linked to a higher risk of asthma at 5 years in children born to asthmatic mothers. Moreover, the phylum Proteobacteria is linked to severity of asthma and bronchial hyperreactivity. The lung microbiome may also interact with the immune system, modulating inflammation. Antibiotics may alter the lung microbiome and possibly interfere with all these processes: as a consequence, they should be prescribed exclusively when necessary, especially in the first years of life. The potential role of probiotics and prebiotics on lung microbiome has not been yet evaluated.

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A54

Interventions for improving vaccine literacy in Neonatal Intensive Care Unit. A single centre experience and future perspective

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Background
Despite preterm infants are at high risk for infectious diseases and World Health Organization recommends that they receive immunization according to routine schedules for at term neonates, completeness and timeliness of vaccinations in this special population is worldwide still lower compared to general population.
Materials and methods
In our Neonatal Intensive Care Unit a specific program for parents of preterm infants has been implemented to improve their vaccine literacy, by in-hospital vaccine administration, outpatient follow-up vaccination counselling, vaccine-related information through social media. We have evaluated the efficacy of this program, by the analysis of coverage and timeliness of first two doses of vaccine (both Hexavalent and PCV13) in our patients (birth cohort 2016/17), comparing their data with data from general population of the same birth cohort extracted from the 2019 Apulian Regional Vaccination Register (GIAVA).
Results
We studied 170 preterm infants with average gestational age and weight of, respectively, 30.1±2.9 weeks (range: 23-33) and 1,456.0± 504.9 grams (range: 400-2,590).
Table 1 and 2 show coverage and timeless of vaccination.
Coverage resulted similar to general population. This result, confirming our previous study [1], highlights how our interventions are consistent with the purpose of overcoming vaccination hesitancy, especially in parents of infants who have experienced health problems. Furthermore, our results confirms the efficacy of the active vaccinations administration during hospitalization as a powerful tool to improve coverage.
In preterm infants, the average age of vaccinations is similar to data previously published [1] and significant delayed compare to the recommended timeline (Table 2).
The linear regression analysis shows no association between time delay with birth-weight and/or gestational age ($p>0.05$).
Conclusions
Our easy, inexpensive and highly reproducible interventions seem to increase vaccination coverage in preterm infants. Timeliness remains still inadequate and carries significant worry in this high-risk population for preventable infectious disease-related complications.
The "medical" use of web 2.0-based social networks, because of their widespread distribution, could be a very significant tool, if adequately monitored, to positively influence parents' decision making about vaccination and counteract vaccine hesitancy.

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Table 1 (abstract A54). Vaccine coverage (VC) in preterm newborns and general population. Birth cohort 2016-2017

Vaccine type	VC	Preterm	General population	z	p
	n	% (95%CI)	%		
DTaP-IPV-HBV-Hib 1 dose	169	99.4 (96.7-99.9)	99.0	0.5	0.601
DTaP-IPV-HBV-Hib 2 dose	164	96.5 (92.5-98.7)	94.8	1.0	0.319
PCV 1 dose	167	98.2 (94.9-99.6)	98.4	0.2	0.836
PCV 2 dose	161	94.7 (90.2-97.8)	94.1	0.3	0.740

Table 2 (abstract A54). Average age of vaccine administration (day: mean±SD) in preterm and general population. Birth cohort 2016-2017

Vaccine type	preterm	general population	t	p
DTaP-IPV-HBV-Hib 1 dose	119.3±81.9	61.0	9.3	0.000
DTaP-IPV-HBV-Hib 2 dose	214.6±105.0	121.0	11.6	0.000
PCV 1 dose	119.0±66.8	61.0	11.3	0.000
PCV 2 dose	209.8±81.8	121.0	14.2	0.000

A55

New therapeutic options in children with chronic intestinal pseudo-obstruction

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Chronic intestinal pseudo-obstruction (CIPO) is a rare and severe gastrointestinal motility disorder characterized by a severe impairment of gastrointestinal motility leading to intestinal obstruction symptoms in the absence of mechanical causes. Symptoms can be non-specific, and result in this condition being diagnosed incorrectly or too late with consequences for morbidity and even mortality. There is no single diagnostic test or pathognomonic finding of CIPO, thus the diagnosis is usually clinical and diagnostic work is usually aimed to rule out mechanical obstruction and to identify any underlying diseases. Treatment is challenging and requires a multidisciplinary effort with participation of appropriately experienced gastroenterologists, specialized dieticians, surgeons, psychologists, and other subspecialists based on the presence of comorbidities. Medical therapies are mainly aimed to avoid complications such as sepsis or intestinal bacterial overgrowth and restore intestinal propulsion. So far, only few prokinetics have proven some efficacy in restoring intestinal propulsion, thus nutritional support, fluid/electrolyte replacement, and antibiotics are the mainstay of treatment. Decompression of distended intestinal segments via intermittent nasogastric tube or endoscopy is an important therapeutic target. In some cases a