MEETING ABSTRACTS

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A1
The protection of the child: the role of the Italian ombudsperson for childhood and adolescence
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Oxygen therapy remains the first line intervention in acute hypoxic respiratory failure. The choice of a specific oxygen delivery device is based on the patient's oxygen requirements in terms of flow and desired oxygen concentration, as well as the type of device and its acceptance by the patient [1]. Several medical devices for oxygen therapy, which range from simple nasal cannula to non-rebreathing face masks, have been used in the management of acute hypoxic respiratory failure. Nasal cannula/prongs is inserted into the patient's anterior nares. The fractional concentration of inspired O2 (FiO2) varies with the patient's inspiratory flow. Benefit of this device is here the child can move, sit up, and eat, but there are some limitations also. Maximum flow rates through nasal prongs are 0.5–1 L/min for neonates, 1–2 L/min for infants, 1–4 L/min for older children and there is chance of unpredictable concentration of O2 with excessive mucus drainage.

An air-entrainment mask contains a jet orifice and air entrainment port which is designed to fit over the patient's nose and mouth. The mask contains Venturi valves which use the principle of jet mixing. This system delivers about 40 L/min of gas through the mask and here breathing pattern will not affect FiO2. The disadvantage is that high flows are noisy and create quite a burst that is cooling. The traditional oxygen therapy devices are constrained by flow limitation, with flows < 15 L/min, by sub-optimal humidity, by poor tolerance, and by inconstant and inconsistent FiO2. In patients with hypoxic respiratory failure the patient's inspiratory flow requirements are usually high and very often exceed the oxygen flow delivered by the traditional oxygen devices.

High-flow nasal cannula (HFNC) oxygen therapy represents a new alternative to conventional oxygen therapy [2]. In contrast to the traditional schemes for oxygen therapy, HFNC generates flows up to 60 L/min, yet using a nasal cannula as an interface to the patient. These high flows necessitate the optimal conditioning of the breathing gas in terms of humidification and heating to improve patient comfort.

An active form of humidification is generally used during HFNC to condition the high flow gas to optimal heat and humidity (37°C and 44 mg H2O/L). Also, an incorporated air-oxygen blender allows the delivery of consistent and accurate oxygen concentrations in the range of 21% to 100% to ensure efficient initial management of hypoxemia in patients with hypoxic respiratory failure.

References
1. Oxygen therapy for children. World Health Organization. 2016. Available in: http://apps.who.int/iris/bitstream/10665/204594/1/9789241549554_eng.pdf. Accessed in July 10 2017.
2. Dysart K, Miller TL, Wolfson MR, Shaffer TH. Research in high flow therapy: mechanisms of action. Respir Med. 2009; 103:1400-1405.

A2
Oxygen therapy low and high flow
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A3
Transitional care in respiratory illnesses
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The essential elements of “transition” are defined as a planned and intentional process to support teenage patients while they’re moving from child to adult health services.

Transition doesn’t begin at the same age for everyone and depends on the patient’s needs, the current laws and partly on what the patient/client or their family hold to be right [1].

Young adults might indeed slip away from the healthcare system if they get discouraged by the cure and care differences they notice between child and adult health services. This is one of the reasons why the process of moving from child to adult health services is considered to be particularly sensitive [2].

Although health care may be influenced by the training of care workers, teenage patients should be prepared to face transition to adult health services through support, education, orientation and the learning of specific skills allowing a responsible and effective self-management.

A lot of consensus documents [3] suggest the necessity of a transition program for teenage patients suffering from chronic diseases, although this kind of situations are not easy to evaluate and hence the transition process remains hard to manage.

Age, health condition, complex needs, availability of healthcare services (equivalent to those offered to adults) and the creation of a good relationship between teen patients and the team that is going to look after them [4] are key factors proven to have an impact on transition.

Sometimes transition can take place all of a sudden, sometimes teen patients choose to remain longer under child health services or they abandon, more or less voluntarily, the medical control program. When the healthcare system fails to meet the needs of teenage patients and their families during the transitional process, this can lead to patients’ health worsening or to moving away from healthcare, with lasting negative consequences. This has been specifically studied in cases of CF, cystic fibrosis, where children need long-term mechanical ventilation [5] and in cases of housing assistance, where patients’ health worsening or to moving away from healthcare, with lasting negative consequences.

The same complexity and the role played by social, ethnic, familiar and gender differences can also be observed in the studies concerning transitional care of teenage patients suffering from asthma. Here research has found out how the female gender and an inadequate adherence to therapy can have a negative effect leading to a persistent bronchial hyperreactivity [8].

References
1. Transition to adult care. Nurs Stand. 2016; 30: 17.
2. Sharma N, O’Hare K, Antonelli RC, Sawicki GS. Transition care: future directions in education, health policy, and outcomes research. Acad Pediatr. 2014; 14:120-7.
3. Acuña Mora M, Moons P, Sparud-Lundin C, Bratt EL, Goossens E. Assessing the level of evidence on transfer and transition in young people with chronic conditions: protocol of a scoping review. Syst Rev. 2016; 5:166.
4. Aldiss S, Cass H, Ellis J, Gibson F. “We Sometimes Hold on to Ours” - Professionals’ Views on Factors that Both Delay and Facilitate Transition to Adult Care. Front Pediatr. 2016 Nov 24;4:125.
5. Chau SK, Yung AW, Lee SL. Long-Term Management for Ventilator-Assisted Children in Hong Kong: 2 Decades’ Experience. Respir Care. 2017; 62:54-64.
6. Anderson DL, Flume PA, Hardy KK, Gray S. Transition programs in cystic fibrosis centers: perceptions of patients, Pediatr Pulmonol.2002;33:327-31.
7. Flume PA, Anderson DL, Hardy KK, Gray S.Transition programs in cystic fibrosis centers: perceptions of pediatric and adult program directors. Pediatr Pulmonol. 2001;31:443-50.
8. Yawn BP, Rank MA, Cabana MD, Wollan PC, Juhn YJ. Adherence to Asthma Guidelines in Children, Tweens, and Adults in Primary Care Settings: A Practice-Based Network Assessment. Mayo Clin Proc. 2016; 91:411-21.

Group B vitamin complex in pediatric age
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Group B vitamin complex includes eight water soluble substances considered essential nutrients playing a key role in cellular, metabolic and enzymatic functioning. Their deficiency has a pleiotropic manifestation, ranging from minor effects to very severe consequences like cardiopathy, encephalopathy, anemia, convulsions, cytopenia, etc. [1, 2, 3].

The reference values of B vitamins dose requirement are defined by LARNs, differing from pregnancy to breastfeeding and among different age group. According to scientific evidence, if a varied diet is followed, B vitamin supplementation is not indicated [4]. In the first six months of life the intake of B vitamins depends on the assumed milk. In case of breastfeeding the maternal dietary intake is important for pyridoxine, niacin, pantothenic acid and cobalamin [5, 6, 7, 8], that present a dynamic milk concentration after the first weeks of lactation (increase in pyridoxine and decrease in cobalamin amount). On the contrary milk thiamine level is not influenced by maternal diet [9], while folates one just only a little for the presence in mammary glands of protein uptaking from circulation [10]. The use and choice of hypoallergenic/hydrilate formulas, especially in not evidenced based diet exclusion, should be as accurate as possible, for the risk of biotin deficiency in case of inadequate product [11].

After six months of age or after weaning, food starts being the main source of B vitamin intake. A balanced diet is generally enough not to have B vitaminic deficiency, but there are some factors to consider besides age and ethnicity to identify risk categories with increased needed of B vitamin supplementation. Genetic polymorphisms of vitamin metabolism like mutation of the gene SCL19A3, coding tiamine type 2 transportant [12], chronic pathologies such as obesity, intestinal malabsorption and tumors [13], drugs (antituberculosis, lomiphen, pump inhibitors, anticonvulsants and antimalarial) and special not well supplemented dietary regimes as vegan diet [14, 15], may increase the risk of group complex B deficiency. Recurrent infections, frequent use of antibiotics, physical activity (that increases B2 requirements up to 20%) and methods of preparation/storage of food (thermolability of vitamin B2, B3, partially B12 and photosensitivity of B2, B6) also influence nutritional assessment. Finally, it is useful to remember the importance of microbiota, as commensal human bacteria are able to produce cobalamin, folates, thiamine, playing a critical role in energy metabolism of the host [16].

References
1. Scheda GP, Serra A. Wernerziehenscephalopatie: new clinical settings and recent advances in diagnosis and management. Lancet Neurol. 2007; 6:44255.
2. Smedts HP, Rakshandehroo M, Verkleij Hagoort AC, et al. Maternal intake of fat, riboflavin and nicotinamide and the risk of having offspring with congenital heart defects. Eur J Nutr. 2008; 47:35765.
3. Kliegman R, Stanton B, St. Gerne J, Schor N. Nelson Textbook of Pediatrics, 2 Volume Set, 20th Edition. Elsevier, 2015.
4. LARN–Livelli di Assunzione di Riferimento di Nutrienti ed energia per la popolazione italiana. IV Revisione 2014.
5. EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA). Scientific Opinion on Dietary Reference Values for niacin. EFSA Journal. 2014; 12:37599.
6. EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA). Scientific Opinion on Dietary Reference Values for cobalamin (vitamin B12). EFSA Journal. 2015; 13:14510.
7. EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA). Dietary Reference Values for vitamin B6. EFSA Journal. 2016; 14:4485.
fingolimod, teriflunomide, alemtuzumab) in the pediatric population. The fine safety and efficacy of newly available drugs for MS treatment (e.g. file (risk of leukaemia and cardiomyopathy) is discouraging [7].

High incidence of adverse events [6]. Mitoxantrone has shown a beneficial effect in 19 patients with highly active ped-MS, but the safety profile (risk of leukaemia and cardiomyopathy) is discouraging [7].

International randomised controlled studies are ongoing to better define safety and efficacy of newly available drugs for MS treatment (e.g. fingolimod, teriflunomide, alemtuzumab) in the pediatric population.

References
1. Waldman A, Ghezzi A, Bar-Or A, Mikaeloff Y, Tardieu M, Banwell B. Multiple sclerosis in children: an update on clinical diagnosis, therapeutic strategies, and research. Lancet Neurol. 2014; 13:936-48.
2. Ghezzi A, Banwell B, Boyko A, Amato MP, Anlar B, Blinkenberg M et al. The management of multiple sclerosis in children: a European view. Mult Scler. 2010; 16:1258-1267.
3. Chitnis T, Tenembaum S, Banwell B, Krupp L, Pohl D, Rostasy K et al. Consensus statement: evaluation of new and existing therapeutics for pediatric multiple sclerosis. Mult Scler. 2012; 18:116-127.
4. Ghezzi A, Moiola L, Pozzilli C, Brescia-Morra V, Gallo F, Grimaldi LM et al. Anti-JC virus antibody levels in serum or plasma further define risk of natalizumab-associated progressive multifocal leukoencephalopathy. Ann Neurol. 2014; 75:154.
5. Plavina T, Subramanyam M, Bloomsen G, Richman S, Pace A, Lee S et al. Anti-JC virus antibody levels in serum or plasma further define risk of natalizumab-associated progressive multifocal leukoencephalopathy. Ann Neurol. 2014; 75:154.
6. Makhani N, Gorman MP, Branson HM, Makhani N, Gorman MP, Branson HM. Cyclophosphamide therapy in pediatric multiple sclerosis. Neurology. 2009; 72:2076-82.
7. Etemadifar M, Afzali P, Abtahi SH, Ramagopalan SV, Nourian SM, Murray RT et al. Safety and efficacy of mitoxantrone in pediatric patients with aggressive multiple sclerosis. Eur J Paediatr Neurol. 2014; 18:119-25.
the Ministry of Health has supported preventive interventions for couples, women and new-borns (www.pensiamociprima.it), education and training for healthcare professionals and future parents (www.genitoriopiu.it) and communication campaigns on breastfeeding. In addition to promoting programs and actions, the Ministry of Health monitors their implementation with annual reports (birth pathway monitoring, essential levels of care monitoring) and their efficacy through specific surveillance systems on maternal mortality, perinatal mortality, “first years” - surveillance for children aged 0-2 years, Okkio for children school aged and HBSC for adolescents.

A7
Telemonitoring home program in patients with cystic fibrosis: our 15 years’ experience
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The natural history of Cystic Fibrosis (CF) is characterized by recurrent episodes of respiratory infection that causes a progressive pulmonary damage, with decay of long-term lung function leading to death. In CF patients, spirometry shows a 2% reduction every year of Forced Expiratory Volume in the first second (FEV1) over time. In case of pulmonary infection, an early antibiotic treatment helps to prevent more serious complications, limiting consequently the long-term pulmonary damage. Since 2001, in CF Centre of the Pediatric Hospital Bambino Gesù in Rome, we tested the possibility of using Telemedicine (TM) to facilitate the home follow-up of patients with CF. FEV1 was monitored at home, with a view to early recognition of pulmonary relapses. The study has involved 50 patients affected by CF, followed at our Unit with TM in addition to the usual therapeutic protocol, for a total period of 15 years. The balance of enrolment showed a drop-out of 36%, the main cause was poor adherence (68%). We used various and different equipment in this period, also following the progress of technology in this field. The trend of both quantitative and qualitative parameters of our work has been positive for all the equipment. The data are encouraging about the possible role of TM in the homecare organization of chronic diseases. In the current state, however, reliable data on the long-term direct effectiveness of the use of Telehomecare in CF are lacking. The major benefits of using telemedicine would seem to be indirect effects as a stronger and better doctor-patient relationship and an increase in the quality of life for the patient, which could ultimately contribute to an increase in life expectancy.

A8
Human milk fortifiers for preterm infants
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The standard fortification strategy has yielded inadequate protein intakes, resulting in slower growth as compared to preterm formulas. The main factor responsible for limited success is based on routine assumptions about the composition of HM: the common practice is to add a fixed amount of fortifier, assuming that HM has an average protein content and the infant has an average protein requirement. But the protein concentration of preterm milk is variable and decreases with the duration of lactation. Improvement of outcomes depends on new fortification strategies, considering the large variability of HM composition. Individualized fortification, either targeted or adjustable, has been shown to be effective and practical in attaining adequate protein intakes and growth [3]. The optimal qualitative composition of fortifiers is also a critical issue. Most commercially available multi-nutrient fortifiers and protein concentrates are derived from bovine milk (BM), which has a protein composition very different from that of HM. The use of BM proteins has been recently questioned for possible association with intestinal inflammation in VLBW infants. Recently, HM-based fortifiers were shown to be associated with lower necrotizing enterocolitis rates and lower mortality in extremely premature infants, compared to BM-based products. However, available data are limited, and its use is still debated [5]. Other milk sources are currently under evaluation: donkey and human milk diet integration was shown to be associated with a decrease of inflammatory status and with the improvement of lipid and glucose metabolism in a murine model, when compared to a diet integration with BM. The functional similarity of human and donkey milk is probably due to their closeness in quantitative and qualitative protein, glucidic and lipid fractions composition, that differ to that of BM.

Currently, a randomized, controlled, single-blind clinical trial, coordinated by the Neonatal Unit of the University of Turin is being carried out to evaluate the adequacy of new fortifiers derived from donkey milk for the nutrition of preterm infants.

References
1. Lucas A, Morley R, Isaacs E. Nutrition and mental development. Nutr Rev. 2001; 59:S24-32.
2. Ziegler EE. Breast-milk fortification. Acta Paediatr. 2001; 90:720-3.
3. Arslanoglu S, Moro GE, Ziegler EE. Preterm infants fed fortified human milk receive less protein than they need. J Perinatol. 2009; 29:489-92.
4. Moro GE, Arslanoglu S, Bertino E, Coniglao L, Montiroso R, Picaud JC, et al. Human milk in feeding premature infants: consensus statement. J Pediatr Gastroenterol Nutr. 2015; 61:S16-19.
5. Milmoun FB, Nathan N, Ziegler EE, Lubetzky R, Mandel D. The Use of Multinutrient Human Milk Fortifiers in Preterm Infants, A systematic Review of Unanswered Questions. Clin Perinatol. 2017; 44:173-178.

A9
Pediatric nurse: training programme and rules
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Recently in Italy we have attended to a very controversial debate about the need to change the course of Pediatric Nursing degree, transforming it in a postgraduate master of the General Nursing degree. This argument is yet well known in other european countries in which the importance of keeping the distinction of the two courses has been recognized.

Until 1997, the general nurse in Italy cared for patients of all ages, and although there was a 1 year post qualifying course for certification in children’s nursing it wasn’t required by law. In 1997, a government decree defined the profile of children’s nurse and in 2001, specific education for children’s nursing (3 years at university level) was started. Despite that currently there is still a large
overlap of the two positions and, while a Children Nurse cannot pro-
vide care to an adult, a General Nurse can legally be assigned to a 
Neonatal Intensive Care Unit without ever being trained in this 
assignment.
Currently over 10 million citizen in Italy are in pediatric age, they 
represent the 18% of the entire population, thus they constitute a 
priority in the landscape of Italian health planning.
The Paediatric Nursing Associations of Europe specifies that a course of 
study should prepare the pediatric nurse to be able to: deliver 
rights-based, holistic child and family-centred care, promotes physical 
and mental health and well-being, provide nursing care of infant, 
child and adolescent with acute/chronic/life threatening limiting 
physical and mental conditions, disability or impairment. 
The improvements in medical care has carry to increased survival 
and best prognosis in pediatrics departments, with a strong need of 
highly qualifying staff for the assistance of ill children. 
Italian general hospitals with pediatric departments almost always 
prefers to hire General Nurses rather than Children Nurses, because 
the former, albeit insufficiently prepared, make staff management 
easier for nursing directors. Italian Children Nurses are penalized by 
this situation, in addition, they must defend themselves from a part 
of the Italian nursing leadership, which periodically tries to eliminate 
the pediatric nursing profession.
The Paediatric Nursing Associations of Europe have recognized the 
need for maintenance of the pediatric nurse body and asked to the 
Parliament and Commission that children and their families can al-
ways been assisted by staff whose skills are guaranteed by a specific core 
curriculum.

A10
The adolescent with delay of puberty
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Delayed puberty (DP) is defined as the absence of breast develop-
ment by 13 years in girls and the lack of testicular enlargement by 
14 years in boys. Constitutional delay of growth and puberty (CDGP) 
is the most common cause of DP, mainly in boys, and is character-
ized by short stature and delayed skeletal maturation. A family his-
tory including pubertal onset of parents and a careful physical 
examination comprising height, weight, growth velocity and sexual 
maturity by Tanner staging may provide clues about the cause of DP. 
It is not a disease, but generally represents a common normal variant 
in pubertal timing, with good prognosis about final height and future 
reproductive capacity. In adolescents with CDGP a growth delay 
(slowing down) occurs until just before the start of puberty, then the 
growth rate rapidly increases (pubertal growth spurt). Bone age, that 
is a useful measurement allowing assessment of remaining growth 
potential, is delayed. CDGP is a diagnosis of exclusion, and alterna-
tive causes of DP need to be considered. Functional hypogonadotro-
pic hypogonadism may be observed in patients with transient delay 
in hypothalamic-pituitary-gonadal axis maturation due to associated 
conditions such as celiac disease, inflammatory bowel diseases, kid-
ney insufficiency and anorexia nervosa. Permanent hypogonadotro-
pic hypogonadism characterized by low testosterone or estradiol 
values and blunted FSH and LH levels can be caused by central ner-
vous system abnormalities and can be isolated such as in Kallmann 
syndrome, or associated with other hormone deficiencies such as 
hypergonadotropin hypogonadism (karyotype can reveal a chromo-
sonomal abnormality such as Turner syndrome in girls and Klinefelter 
syndrome in boys. If the adolescent with CDGP is experiencing 
psychological difficulties (particularly bullying) a treatment should be 
ofered. In boys more than 14 years of age without pubertal signs 
can be treated with low dose testosterone in tablets or i.m. injection 
over 6-9 month period to gently induce puberty. In females treat-
ment is not common, but in girls more than 13 years of age very 
small amount of estradiol (approximately one eight of adult dose) 
may be started as oral tablets or transdermal patches for up to 12 
months to induce breast development. Once puberty has started, 
treatment is stopped.

A11
Gastroesophageal reflux and cow’s milk allergy: treatment and feeding
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Gastroesophageal reflux disease (GERD) and cow’s milk allergy (CMA) 
are common conditions in pediatric patients, especially infants. They 
are difficult to diagnose, as there is a lack of a validated diagnostic 
test and they may be confused with many other conditions. The sim-
ultaneous treatment of both conditions often causes exaggerations, 
resulting in unnecessary pharmacological treatment or elimination 
diet. The purpose of this presentation is to establish the current sci-
entific evidence for the diagnosis and treatment of GERD secondary 
to CMA.
Several studies support the hypothesis that there is a causal relation-
ship between GERD and CMA, suggesting that there is a subgroup 
of infants in whom GERD is attributable to CMA. In 2009 the consensus 
of the NASPGHAN/ESPGHAN on GERD advises a therapeutic trial of 
two to four weeks with an extensively hydrolyzed (eHF) or aminoacid 
formula with proven efficacy [4]. In 2015, the NICE guide-
line on GERD evaluates the effectiveness and cost effectiveness of a 
trial of hydrolyzed formula in formula-fed infants with frequent re-
gurgitation associated with marked distress and concludes that hy-
drolyzed formula is more expensive than cows milk formula and 
there is no evidence on the clinical or cost effectiveness of this 
approach [2]. On the other hand, the most practical test in routine 
practice when there is the suspicion of GERD secondary to CMA is a 
trial of cow’s milk protein elimination diet [1]. A good practice could be to do this test only in the subgroups of patients, in 
general infants < 6 months with GERD, in whom there is a high index 
of suspicion for CMA: infants with other atopic conditions, infants 
with a strong family history of atopy and finally infants who have not 
responded to the initial management of GERD with conservative 
treatment and atginates. A randomised controlled trial is required to 
explore this question. If there is a clear response to the elimination 
diet and the oral food challenge confirms the diagnosis of CMA, the 
infant should be maintained on an elimination diet using a thera-
peutic formula for at least 6 months or until 9 to 12 months of age. 
Infants should grow and thrive normally when treated with either 
eHF or AAF formula with proven efficacy [4].
The relationship between GERD and CMA remains unclear and there 
are exaggerations in the diagnosis and treatment, which need to be 
corrected [5].

References
1. Vandenplas Y, Rudolph CD, Di Lorenzo C, Hassall E, Liptak G, Mazur L, 
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recommendations of the North American Society for Pediatric 

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The advantages of expanded NBS are that it allows a large number of presumptory diagnosis presenting severe disability for some and offers a genetic counseling for the couple of parents; it also decreases the risk of delayed diagnosis, quite always associated to disabilities, of relatively treatable diseases. Recently (October 2016) a law has been approved by the Italian Government. This includes a fixed panel of 36 inborn errors of metabolism and the time course of the entire process. Notably, the law defined withdrawal, testing and processing time that the screening center has to operate. Briefly, expanded neonatal screening in Italy includes the following disorders: Amino acid disorders and urea cycle defects (argininemia, Argininosuccinic aciduria Citrullinemia I and II; Homocystinuria and Cobalamine deficiency, MSUD, phenylketonuria Biotinper cofactor biosynthesis defect, Biotper cofactor regeneration defect Tyrosinemia I and II; Organic acidemia Beta-ketothiolase deficiency Multiple carboxylase deficiency HMG-CoA lyase deficiency 3-methylcrotonyl-CoA carboxylase deficiency Glutaric acidemia Type I Isovaleric acidemia Malonic acidemia Methylmalonic acidemia Propionic Acidemia; Fatty acid oxidation defects Carnitine uptake deficiency, Carnitine Palmitoyl-transfere type I and II deficiency, MCAD, VLCAD, LCHAD, glutaric aciduria type II).

All these disorders are diagnosed by tandem mass spectrometry. Moreover, galactosemia and biotinidase have been included in the panel but they need different analytical techniques. Future directions of expanded neonatal screening will include lysosomal disorders (LSD) and peroxisomal defects. Recently, LSDs have become strong candidates for inclusion in future mandatory screening panels due to new effective therapeutic options available and to the development of new analytical methods to test enzyme activity on DBS specimens. These conditions include Pompe disease, Niemann-Pick type A/B disease, Fabry disease, Krabbe disease, Mucopolysaccharides type I, and Gaucher disease. An additional argument for inclusion of LSDs in NBS programs is the relative prevalence of these conditions. Neonatal screening for LSDs needs some ethical considerations including pre-symptomatic individuals with positive screening results, about the best way to inform parents of the potential outcomes of the affected individual and risks for future pregnancies.

A14
The Editorial Process: behind the scenes
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Through adolescence every teenager continuously swings from one to another of four worlds: the family, within which the teenager always finds support and rescue; the adults, by whom the teenager continually strives to be accepted and recognized; his/her psychological reality, the individual world in which the adolescent takes refuge when confronted with conflicting emotions; and the peer group, in which the young man/woman finds a group support [1]. Unfortunately, the oscillations back and forth between these four worlds are very limited for young people with disabilities, because they tend never to leave their family; consequently, other realities - the other "worlds" - can become unattainable [2,3,4]. On the other hand, parents tend not to give a teenage child with a rare disability the opportunity to assert his will on the outside world and make sense of the reality surrounding him/her, as they are always ready to step in and make choices for the child at times in his/her life when making these choices would be fundamental for building an independent self [5]. It is important for a parent to know the degree of acceptance that the teenager has achieved with regard to his condition and how the teenager recognizes and manages the emotional aspects of life, because a teenager with rare illness always has a past characterized by hospitalizations, learning, nutritional or language disorders or psychomotor development issues [6], which surely led him/her to devise his/her own ways of dealing with each situation. In addition to having to deal with a specific clinical field that will test the teenager's ability to accept his/her condition as a rare disease patient, in the school context the adolescent will be faced with the evidence of his/her diversity, revealed by the presence of a special education teacher at his/her side. When involved in social, sports and recreational activities the teenager will have to come to terms with the peculiar physical features determined by his/her rare illness, which, if s/he is not adequately supported, might lead to a high degree of insecurity and which might jeopardize his/her relationships with the world. Parents need to think of their child with a rare illness as a person who is growing and changing, and who will play a role in his/her own future. It is crucial that parents maintain the ability to plan for their child's future, but they must look for and work with other adults - from mental and physical health professionals to family associations - who are able to dream a future for children with disabilities, to invest in their potential and to help them conceive their own life projects [7].

References
1. Meltzer D, Harris M. Psicopatologia dell’adolescenza. In: Quaderni di psicoterapia Infantile Vol.1. Roma: Borla; 1993. p. 49-75.
2. Bowlby J. Attachment. In: Attachment and loss. Volume 1. London: Hogarth Press; 1969. (trad. It. Attaccamento e perdita. Volume 1. Torino: Bollati Boringhieri; 1971).
3. Bowlby J. Separation: anxiety and anger. In: Attachment and loss. Volume 2. London: Hogarth Press; 1973. (trad. It. Separazione dalla madre: ansietà e rabbia. Torino: Bollati Boringhieri; 1975).
4. Bowlby J. Loss: Sadness and Depression. In: Attachment and loss. Volume 3. London: Hogarth Press; 1980. (trad. It. La perdita della madre. Torino: Bollati Boringhieri; 1981).
5. Henninger NA. Family perspectives on a successful transition to adulthood for individuals with disabilities. Intellect Dev Disabil. 2014; 52:98-111.
6. Robertson J. Bambini in ospedale. Milano: Feltrinelli; 1973.
7. Montobbio E, Lepri C. Chi sarei se potessi essere. La condizione adulta del disabile mentale. Terreina: Edizioni del Cerro; 2000.

A16

Refusal of treatment in adolescents

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Adolescent is peculiar time of the life, characterized by deep change of the body and of the behavior. These problems are more evident in adolescent with chronic or rare disease [1]. Many studies reported that 50%-55% of adolescents with chronic disease drop the treatment [2]. The disease is perceived by an affected adolescent as a treat of the independence and increase the conflicts with the parents. Reasons given in the literature for refusal, noncompliance, and abandonment of treatment by the adolescent include also the patient’s physical discomfort, misunderstanding and uncertainty about the merits of medication [3]. Professional caregivers should acknowledge and respect adolescents’ emerging autonomy and values and should understand the reason of adolescent behavior if affected by a chronic illness [4]. The patient centered medicine can be used to avoid the refusal of the treatment [5]. In patient centered medicine the patient take active part of the treatment and he has the privilege to define his needs. The mainstream is the empathy. Sometimes adolescent patients are unable to realize the advantage of the treatment but on the contrary, they understand very well costs, failures and adverse effects [5]. It is very important during periodical medical checkup that the physician understand the main difficulties of the adolescent to maintain the correct treatment. In this way the pediatrician must try to reinforce the positive behavior when present [5]. To gain this goal the only way is a team approach: group of discussion and self-help both for affected children and parents. In this way is possible a psychological share of the problems to produce a less instinctual behavior [2]. The treatment of phenylketonuria is an example. In this metabolic disease, the treatment is only made by special foods, basically for the entire life. The normal foods are forbidden or heavily reduced. The food limitation is badly tolerated by adolescents, since group eating is part of the teenager parties. Even a patient in correct dietary treatment gradually or suddenly stop diet and start eat normal food. High blood levels of phenylalanine can determine irritability, bad feelings, losing of concentration and lack of memory. In pregnancy, the diet with low phenylalanine foods in fundamental to avoid the PhE embriopathy [6]. In this way, a main role is done by regional centers for diagnosis and treatment of chronic illness, where adolescents can find all the supportive skills to induce a correct medical compliance of adolescent patients.

References
1. Rapoff MA. Management of adherence and chronic rheumatic disease in children and adolescents. Best Pract Res Clin Rheumatol. 2006; 20:301-14.
2. Shaw JE, Chisholm DJ. Epidemiology and prevention of type 2 diabetes and the metabolic syndrome. Med J Aust. 2003; 179:379-83.
3. Pai AL, Drotar D. Treatment adherence impact: the systematic assessment and quantification of the impact of treatment adherence on pediatric medical and psychological outcomes. J Pediatr Psychol. 2010; 35:383-93.
4. Shemie E, Annunziato RA, Arnon R, Miloh T, Kerkar N. Adherence to medical recommendations and transition to adult services in pediatric transplant recipients. Curr Opin Organ Transplant. 2010; 15:288-92.
5. Barde CL. Defining “patient-centered medicine”. N Engl J Med. 2012; 366:782-3.
6. Van Spronsen FJ, van Wegberg AM, Ahring K, Bélanger-Quintana A, Blau N, Bosch AM, et al. Key European guidelines for the diagnosis and management of patients with phenylketonuria. Lancet Diabetes Endocrinol. 2017. DOI: 10.1016/S2213-8587(16)30320-5
The management of hypoglycemia
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In patients with diabetes mellitus hypoglycaemia is defined, "any episode where low plasma glucose levels are present, which may be harmful to the patient", thus underlining the high risk of these events at any age but especially during childhood. Despite the advances in insulin therapy and glycemic monitoring, hypoglycaemia remains the leading acute complication of type 1 diabetes [1] and causes anxiety and fear for both patients and their families [2], representing the main limiting factor in achieving good glycemic control [3,4]. The Group of Study on Diabetes of the Italian Society of Endocrinology and Pediatric Diabetes (GsD of ISPED) has therefore decided to draft the Recommendations on the Prevention and Treatment of Hypoglycemia in Type 1 Diabetes Pediatric Age [5]. To this end, a systematic review of the available scientific evidence has been made. Given the lack of recommendations or guidelines, it was decided to consult all members of the GsD and, through macro-regional meetings, during which the Metaplan methodology was used, the critical areas were identified, with the aim of these recommendations is therefore to achieve uniform behavior among all Italian pediatric diabetologists in prevention, and in the treatment of hypoglycaemia, with particular attention to the psycho-physical well-being of patients and their families. The work with Metaplan, involving more than one hundred diabetologists and pediatricians on the three thematic macro-areas, focused on: 1. the factors that most affect hypoglycaemia; 2. how to improve the prevention of hypoglycaemia; 3. the barriers to the treatment of hypoglycaemia.

The ISPAD guidelines [5] report the most accepted value for hypoglycaemia as 65 mg/dl (3.6 mmol/l), while recognizing the threshold of 70 mg/dl (3.9 mmol/L) as the one to start treatment in diabetic children, just to prevent the risk of a subsequent severe hypoglycaemia. The ADA working group detects threshold value in any subject with diabetes at 70 mg/dl (3.9 mmol/l), while recognizing the threshold of 70 mg/dl (3.9 mmol/L) [6]. In many diabetes manuals, hypoglycaemia is arbitrarily subdivided in mild if the blood glucose is between 60 and 70 mg/dl, moderate if between 50 and 60 mg/dl, and severe if less than 50 mg/dl. In fact, any blood glucose <70 mg/dl should be considered at risk for severe hypoglycaemia as the phenomenon is rapidly variable. Hypoglycemic crisis requiring third-party intervention for the resolution is severe in adults, whereas in the child the onset of seizures or coma is considered necessary for the severity of the hypoglycemia. In my report, I will try to emphasize the various physiopathological, clinical and therapeutic aspects of hypoglycaemia management, stressing how today’s continuous therapeutic education is required to prevent this phenomenon.

References
1. The Diabetes Control and Complications Trial Research Group, Nathan DM, Gevurtz S, Lachin J, Cleary P, Crofford O, et al. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. N Engl J Med. 1993;329:977-986.
2. Pramming S, Thorsteinsson B, Bendtson I, Binder C. Symptomatic hypoglycaemia in 411 type 1 diabetic patients. Diabet Med 1991; 8:217-222.
3. Seaquist ER, Anderson J, Childs B, Cryer P, Dagogo-Jack S, Fish L, et al. Hypoglycinemia and diabetes: a report of a workshop of the American Diabetes Association and the Endocrine Society. Diabetes Care 2013; 36:1384-95.
4. Cryer PE. Hypoglycemia: the limiting factor in the glycaemic management of Type I and Type II diabetes. Diabetologia. 2002; 45:937-948.
5. Ly TT, Maahs DM, Rewers A, Dungan D, Oduwole A, Jones TW. Assessment and management of hypoglycemia in children and adolescents with diabetes. Pediatr Diabetes. 2014; 15:180-192.
6. ADA, Standards of Medical Care in Diabetes 2017; Diabetes Care. 2017; 40:1-139.

Acute respiratory failure: upper airway obstruction
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Pediatric respiratory emergency is among the most common reason for hospital admission and result in a significant number of deaths. Acute respiratory failure is a significant mortality cause without an appropriate intervention [1]. Respiratory failure can be due to a variety of causes such as upper and lower airway obstruction, lung disease, impairment of ventilation or failure of NCS ventilation control. Major causes of upper lower airway obstruction (UAO) are croup, foreign body aspiration, epiglottitis, deep neck infection, angioedema and congenital abnormalities [2].

Croup is an inflammatory condition of subglottic airway that typically affects children under 3 year of age. It is typically caused by respiratory viruses with parainfluenza accounting for up to 80% of cases. Children with croup presents with hoarse voice, barking cough and variable degrees of stridor and respiratory distress [3]. Symptoms usually resolves in 48 hours but severe UAO can lead to respiratory failure [4]. The diagnosis should be made clinically and other investigation are only rarely required [5]. A simple treatment algorithm from the TOP guideline [6] based on assessment of severity of respiratory distress can be used to guide management of croup. There is clear evidence that corticosteroids benefit children with croup from mild to severe. Nebulized epinephrine provides rapid short term relief of severe respiratory distress [7]. Inhalation of foreign body (FBI) is a potentially life-threatening emergency [8]. Toys or food particles are responsible for accidental deaths in children especially under 4 years of age [9]. FBI may produce a wide range of clinical symptoms such as coughing, choking and acute dyspnea. Because of undiagnosed and retained FB injury may result in severe early and late complication including asphyxia, pneumonia, atelectasis and bronchiectasis. Timely removal maneuvers are mandatory to prevent complications [10].

Epiglottitis is an acute inflammation of the epiglottis that may lead to the rapid onset of life-threatening airway obstruction. Epiglottitis was most commonly caused by Hib and primarily reported in children aged 2 to 7 years. Introduction of Hib vaccine dramatically changes the epidemiology and today a variety of causative pathogens have been identified [3]. Signs and symptoms of epiglottitis include acute onset of fever, sore throat, dysphagia, drooling, dysphonia and respiratory distress (four Ds) [11]. All patient with epiglottitis should be admitted in ICU for observation and definitive treatment. Securing airway is the initial step in management associated with a broad spectrum antibiotic coverage [3]. Acute UAO from many cause can be life-threatening emergency and require stabilize airway, even if diagnosis is unclear.

References
1. Hammer J. Acute Respiratory Failure in Children. Pediatr Respir Rev. 2013;14:64-69.
2. Pfleger A, Eber E. Management of acute severe upper airway obstruction in children. Pediatr Respir Rev. 2013; 14: 70-77.
3. Sobol SE, Zapata S. Epiglottitis and croup. Otolaryngol Clin North Am. 2008; 41: 551-566.
4. Johnson DW. Croup. Systematic review 321. BMJ Clinical Evidence. 2008; 41: 551-566.
5. Johnson DW, Croup. Systematic review 321. BMJ Clinical Evidence. http://clinicalevidence.bmj.com/x/systematic-review/0321/overview.html. 2014 September. Accessed 21 June 2017.
6. Mazza D, Wilkinson F, Turner T, Harris C; Health for Kids Guideline Development Group. Evidence based guideline for the management of croup. Aust Fam Physician. 2008; 37:14-20.
7. Toward Optimized Practice (TOP) Working Group for Croup Guideline for the Diagnosis and Management of Croup Edmonton (AB): Toward Optimized Practice, 2003 (revised 2008).
Menstrual disorders in adolescents
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A19

A trend of reducing the age of menarche in all industrialized countries including Italy was observed from the late 1800s until the second half of 1900. Over the last decades, age of menarche has stabilized around 12-12.5 years [1,2]. A normal menstrual cycle represents the completion of the hypothalamus-hypophysis-ovary (HPO) axis pathway and requires the balance of a complex feedback system. From 1 to 3 years after menarche, about 50% of the menstrual cycles can be anovulatory. Therefore, the phenomenon of menstrual irregularities both as a number of cycles or as a menstrual flow entity is a common phenomenon in the adolescent girl and it is generally characterized by kindness [3]. However, it is important to correctly classify the different menstrual disorders and their main causes, so that pathological forms on the organic basis can be excluded. Currently, according to latest indications of the International Federation of Gynecology and Obstetrics (FIGO), the terminology to classify these disorders has been uniformed and simplified as follows [4]:

1) Absence of menses (primary or secondary amenorrhea)
2) Menses at irregular intervals (unpredictable intervals between episodes of menstrual bleeding)
3) Excessive menstrual bleeding (prolonged > 7 days or > 80 ml/cycle)
4) Intermenstrual bleeding.

It may be difficult to classify the menstrual disorder into a particular pattern for many reasons. The categories may overlap, quantification of menstrual flow can be difficult and the causative conditions may have more than one pattern [5]. The initial triage must include assessment of hemodinamic and hematologic stability in cases of excessive bleeding and the pregnancy status, if needed. History, physical examination and initial evaluation should be focused on identifying the predominant bleeding pattern and the clinical picture associated with the specific causes of abnormal bleeding. The diagnosis of anovulatory uterine bleeding that is the most common cause of menstrual disorder in the adolescents must be a diagnosis of exclusion.

References
1. Parents AS, Franssen D, Fudvoy J et al. Developmental variations in environmental influences including endocrine disruptors on pubertal timing and neuroendocrine control. Revision of human observations and mechanism insight from rodents. Frontiers Neuroendocrinol 2015; 36:12-36
2. Russo G, Brambilla P, De La Bella F et al. Early onset of puberty in young girls: an Italian cross-sectional study. J Endocrinol Invest 2012; 35:804-808.
3. Hillard PJA. Menstuation in adolescents: What do we know? And what do we do with the information? Pediatr Adolesc Gynecol 2014; 27:309-319.
4. Munro MCritchley HO, Broder MS et al. FIGO classification system for causes of abnormal uterine bleeding in nongravid women of reproductive age. Int J Gynaecol Obstet 2011; 113:3-13.
5. Mitan LA, Slap GB. Adolescent menstrual disorders. Update. Med Clin North Am 2000; 84:851.

Table 1 (abstract A19). Main causes of menstrual disorders in adolescents with their possible clinical manifestations

| Causes | Amenorrhea | Irregular bleeding | Excessive bleeding |
|--------|------------|--------------------|--------------------|
| HP AXIS DISORDERS |
| Delayed maturation | X | X | X |
| Disorders of weight or energy expenditure | X | X |
| CNS tumors | X | X |
| Hyperprolactinemia | X | X |
| Hypogonadism | X |
| OVARIAN DISORDERS |
| PCOS | X | X | X |
| Ovarian insufficiency (genetic, iatrogenic, autoimmune) | X |
| Ovarian tumors | X | X |
| BLEEDING DISORDERS |
| Miscellaneuous CONDITIONS |
| Pregnancy | X |
| IUD | X | X |
| Hypothyroidism | X | X |
| Uterine/Vaginal malformations | X |
| Androgen insensitivity syndrome | X |

A20

FED in DSM-5 and the role of the Family Pediatrician in the early diagnosis of Feeding and Eating Disorders in pediatric age

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The onset of disorders of feeding behaviour is starting more and more at an early age. DSM-5 [1] changed the nosography of food behaviour disorders here named “Feeding and Eating Disorders” (FED). FED are persistent disorders of the feeding or a behaviour that determine an adulterated food consumption or assimilation and that significantly threaten physical health or social behaviour. They are categorised as follow:

1. Pica
2. Rumination disorder
3. Avoidant/restrictive food intake disorder
4. Anorexia nervosa
5. Bulimia nervosa
6. Binge eating disorder
7. Feeding and nutrition disorder with specification
8. Feeding and nutrition disorder without specification
The first three categories are especially related to eating disorders in childhood. Pica and Rumination disorder are now considered as FED: according to this new criteria the age limit previously used to make the diagnosis has now been cancelled. It has been noted that the onset of Anorexia nervosa, Bulimia nervosa and Binge eating disorder, already included among eating disorders in DSM IV TR, is taking place earlier and earlier in children. FED are multifactorial diseases [2, 3], whose frequency is sharply increasing in adolescence [4, 5, 6], characterised by:

- Alteration of the feeding behavior
- Extreme concern for the physical fitness
- Wrong perception of the body appearance

There is a close correlation between these factors and the levels of self-esteem. Pathogenetis hypothesis of FED: there is often an instability of the symptomatic manifestation related to a trans diagnosis migration, therefore nowadays the conviction is that the various FED are the same entity with different symptomatic manifestations depending on the age and the clinic evolution. The diagnosis is complex, especially in early adolescence (8-12 years) [3, 7, 8, 9]. The Family Pediatrician usually knows the child since his/her birth and follows his/her growth, both physically and psychologically, and is, therefore, the first who can intercept, through simple diagnostic tests (such as EAT 26), the first signs of these conditions, and from this depends on the subsequent diagnosis, therapy and prognosis [10, 11, 12, 13, 14, 15, 16, 17, 18].

Subsequently, the role of the family pediatrician is:

- To evaluate the gravity of the disorder through a careful medical examination and eventually laboratory analyses. Blood test is not diagnostic but it is useful to define the gravity of the disease [19, 20, 21, 22].
- To evaluate the psychological situation, in order to identify the presence of high risk situations, such as severe depression, anxiety, self-mutilations, abuse of drugs or other substances.
- To make differential diagnosis with other organic diseases (endocrine, gastro-intestinal, neuropsychiatric, contagious)

It is important that the family Pediatrician recognize the necessity to send the patient to a second level structure, and in order to do this the diagnostic suspect is essential.

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. S. Washington: American Psychiatric Publishing; 2013. Feeding and Eating Disorders; p. 329–354. DSM-5.
2. Brooks SJ, Rask-Andersen M, Benedict C, Schiöth HB. A debate on current eating disorders diagnoses in light of neurobiological findings: is it time for a spectrum model? BMC Psychiatry. 2012. p. 12–76.
3. Dalla Ragione L. I disturbi del comportamento alimentare: un’epidemia della modernità. In: Presidenza del Consiglio dei Ministri, Dipartimento della Gioventù. Il coraggio di guardare: prospettive ed incontri per la prevenzione dei disturbi del comportamento alimentare. Eye 03 Roma. 2012. p. 19–34.
4. Powers PS, Santana CA. Eating disorders: a guide for the primary care physician. Prim Care. 2002. 2981–354. DSM-5.
5. Rocchi A, Careglio L, Tencori E, Bosello R, Santonastaso P. Time trends in age at onset of anorexia nervosa and bulimia nervosa. J Clin Psychiatry. 2009. 70:1715–21.
6. Dalle Grave R. Eating disorders: progress and challenges. Eur J Int Med. 2001; 22:193–60.
7. Lask B, Bryant-Waugh R, Wright F, Campbell M, Willoughby K, Weller G. Family physician consultation patterns indicate high risk for early-onset anorexia nervosa. Int J Eat Disord. 2005; 38:269–72.
8. Sigel E. Eating disorders. Adolesc Med. 2008; 19:547–72.
9. Centers for Disease Control and Prevention (CDC) Eaton DK, Kann L, Kinchen S, Shanklin Flint KH, Hawkins J, et al. Youth risk behavior surveillance - United States, 2011. MMWR Surveill Summ. 2012; 61:1–162.
hospital, is taken into greater consideration thanks to the Councils composed of both relatives and teenagers. In the last years the number of families supported by Social Services has enormously increased. The primary goal is to help families when they most need; also the hospital Counselors, specialized in supporting and listening to the family during difficult times, build relationships to help them. The protective circle around the patient and his family is concluded with the analysis and verification of the effectiveness of our system. Customer satisfaction is systematically measured through different tools: surveys, complaints, and daily Speak-Up visits.

Family Services are meant to take care of the child and his family for all the non-clinical aspects of assistance, whatever fundamental: a real “therapy of care”[1].

References
1. Celesti L. Family Centered Care: the “Accoglienza” Therapy. MEDIC 2015; 23:24-33.

A22 Fever management in children
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Despite efforts for reducing fever phobia among physicians and parents/tutors, the management of the febrile child is still a major issue [1,2]. The Italian guidelines for managing fever in children for health care providers and parents/caregivers drafted by the Italian Pediatric Society have been updated with the aim to review the recent literature looking for new scientific evidences about challenging topics [1]. The main messages are: in children younger than 4 weeks: axillary temperature measurement using a digital thermometer is recommended. In children older than 4 weeks, in the hospital or ambulatory care setting, axillary temperature measurement using a digital thermometer or an infrared thermometer ( tympanic or with or without skin contact) is recommended while at home axillary temperature measurement performed by tutors using a digital thermometer is recommended. Paracetamol and ibuprofen are the only antipyretic drugs recommended for use in children. Combined or alternate use of ibuprofen and paracetamol is not recommended. Ibuprofen should not be used in case of dehydration. Use of paracetamol or ibuprofen is not recommended to reduce the incidence of fever and local reactions in children undergoing vaccination. Preventive use of paracetamol or ibuprofen is not recommended for the prevention of febrile convulsions in children [1].

References
1. Chiappini E, Venturini E, Remaschi G, Principi N, Longhi R, Tovo PA, et al. Italian Pediatric Society Panel for the Management of Fever in Children. Update of the Italian Pediatric Society Guidelines for Management of fever in Children. J Pediatr 2017; 180:177-183.
2. Bertille N, Purssell E, Corrard F, Chiappini E, Chalumeau M. Fever phobia in Children. J Pediatr 2017; 180:177-183.

A23 New autoinflammatory diseases
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Autoinflammatory diseases were first defined in 1999 by Michael McDermott and Daniel Kastner as “conditions characterized by seemingly unprovoked episodes of inflammation, without high-titer of autoantibodies or antigen-specific T-cells” [1]. The concept of autoinflammatory diseases has evolved over the past years [2-4], with knowledge advancements on the pathogenic mechanisms underlying many autoinflammatory diseases and their genetic basis. The autoinflammatory syndromes are mainly monogenic diseases but also include some genetically complex disorders. Current knowledge underlines that autoinflammatory diseases comprise many disorders with high clinical variability and features of recurrent fever attacks, prevalence of innate immune system activation, in the absence of high titer of autoantibodies or antigen specific T cells. The classification of autoinflammatory diseases comprises: hereditary periodic fever syndromes (the most common and the most studied) and cryopyrinopathies, inflammasomopathies, NF-kB mediated disorders, interferonopathies, and others. Beside the best known FMF, HIDS, TRAPS, Muckle-Wells and CINCA, new entities have been recently discovered. These include STING associated vasculopathy with onset in infancy (SAVI), proteasome associated autoinflammatory syndromes (PRAS), deficiency of adenosine deaminase 2 (DADA 2) [5,6], PLCG2 associated antibody deficiency and immune dysregulation (PLAID), PLCG2-associated antibody deficiency and immune dysregulation (APLAID), haploinsufficiency of A20, Oulupenia [7], CANDLE, and autoinflammatory bone diseases eg CRMO and SAPHO syndrome [8]. Several of these disorders have features of immune deficiency associated with autoinflammation. Recent advances in the molecular and pathophysiological basis of autoinflammatory diseases have provided new treatment strategies. While most autoinflammatory disorders respond exceptionally well to IL-1 inhibition, exceptions exist such as anti-TNF for DADA2 and Jak inhibition for SAVI syndrome [9]. The field is advancing quickly and basic research is essential for elucidating the molecular basis and paving way for new treatments.

References
1. McDermott MF, Aksentijevich I, Galon J, McDermott EM, Ogunkolade BW, Centola M, et al. Germline mutations in the extracellular domains of the 55 kDa TNF receptor, TNFR1, define a family of dominantly inherited autoinflammatory syndromes. Cell 1996; 97:133–144.
2. Galon J, Aksentijevich I, McDermott MF, O’Shea JJ, Kastner DL. TNFRSF1A mutations and autoinflammatory syndromes. Curr Opin Immunol 2000; 12:479–486.
3. McGonagle D, McDermott MF. A proposed classification of the immunological diseases. PLoS Med 2006; 3:297.
4. Kastner DL, Aksentijevich I, Goldbach-Mansky R. Autoinflammatory disease reloaded: a clinical perspective. Cell 2010; 140:784–790.
5. Navon Elkan P, Pierce SB, Segel R, Walsh T, Barash J, Padeh S, et al. Mutant adenosine deaminase 2 in a polyarteritis nodosa vasculopathy. N Engl J Med 2014; 370:921-931.
6. Zhou Q, Yang D, Ombrello AK, Zavialov AV, Toro C, Zavialov AV, et al. Early-onset stroke and vasculopathy associated with mutations in ADA2. N Engl J Med 2014; 370:921-931.
7. Zhou Q, Yu X, Demirkaya E, Deutch N. Biallelic hypomorphic mutations in a linear deubiquitinase define otulipenia, an early-onset autoinflammatory disease. Proc Natl Acad Sci USA 2016; 113:10127-32.
8. Frémond ML, Rodero MP, Jeremiah N, Belot A, Jeziorski E, Duffy D, et al. Efficacy of the Janus kinase 1/2 inhibitor ruxolitinib in the treatment of vasculopathy associated with TMEM173-activating mutations in 3 children. J All Clin Immunol 2016; 138:1752-1755.

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In the second half of the nineteenth century nascent pediatrics in Italy is marked by the figure of Luigi Somma (1836-1884), physician at the Foundling Hospital of the Annunziata Sacred House in Naples. A reading of his writings enables us to emphasize what makes him a pioneer of the discipline. Luigi Somma’s publications have been sought through the National Library System’s catalog. Two large monographs have been so identified: Treaty of Hygiene for Foundling Hospitals (1871) and Pediatric Clinic at the Annunziata Foundling Hospital (1875), both entirely examined. Also the first Italian edition
of the pediatric treaties by Roger (1873), Gerhardt (1880) and Stössl (1881) commented by Somma with several notes were examined. The research was completed by an exam of Archives of infant pathology, the first pediatric national journal founded in 1883 by Somma. Treaty of Hygiene consists of 8 chapters on microclimate, feeding, clothing, cleaning, sleep and physical activity suitable for children. Interestingly, the work is composed of hygienic issues associated with discussion on numerous infant diseases. Appendix II contains the first request to the Italian Government for setting up Clinics dedicated to children diseases, Pediatric Clinic consists of two parts: a Statistic one with 48 tabulated clinical cases and a second one consisting of Lectures starting from them and given in 1874 at the Pediatric Clinic just established at the Annunziata Foundling Hospital. The monograph is characterized by a practical approach to the sick infants and deals mainly with neonatal diseases, such as sclerema, trismus, jaundice. Both the works prove the author’s notable attention for an exact semiotics and an unequivocal nomenclature. Also his interest in pathophysiological mechanisms is evident together with consequent therapeutic options, such as warming of sclerematous newborns or milk administration by a small esophageal probe in infants with poor or absent sucking. The author’s discussion of literature always moves from a personal and skilful experience. Lastly, the Archive’s exam shows the support of Somma to vaccination. His article “On the infant splenic anemia” (1883) is remarkable and starts a very fruitful line of pediatric research in Italy. Luigi Somma deeply changed contemporary approach to the sick child. A proponent of an accurate semiotics and a supporter of pathophysiological studies, he was the first one to teach Pediatrics in Italy thus promoting the discipline in the country.

A25
New Italians: citizenship and everyday multiculturalism among adolescent children of immigrants
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The growing presence of children of immigrants suggests a structural change in host societies. After 40 years of immigration, the children of immigrants – born and raised in Italy – constitute a significant share of ‘new Italians’. It is not helpful to our understanding of the phenomenon to look at these young teenagers as ‘immigrants’. They are an important and innovative part of a new generation of young people fully involved in the transformations created by globalization processes. Based on multi-year research data on the subject, my presentation focuses on identification processes and the idea of belonging and citizenship of young children of immigrants attending high schools in Lombardy. These young people, in large part, share the same daily experiences with their autochthonous companions, the same patterns of consumption, and the same expectations for the future. They consider the possibility of obtaining Italian citizenship a fundamental prerequisite to have equal opportunities and to play their own cards well. They consider the current Italian citizenship law – rigidly based on a principle of jus sanguinis – to be unjustifiably restrictive and discriminatory because it does not recognize them the right to participate in social and political life. Adolescent children of immigrant – at least those among them who have high social and cultural capital and actively invest in their professional education – seem to represent a more widespread generational condition. They face the everyday experience of living the complexity and ambivalence of social contexts in which recognizing others’ difference, being able to translate from one language to another, finding mediations for avoiding exclusion, and relativizing rules, value and codes become necessary skills. In this way, they learn to manage ambivalence, multiplicity and change and are committed to finding new solutions to address the experience of growing globalization.

A26
Humanization of the pediatric care: the experience of Campania Region
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Humanization of the care has been shown to improve care quality, parental satisfaction level, and healthcare costs [1]. In a number of Italian Regions, difficult economic contexts have hitherto prevented: 1) the implementation of organic programs able to strengthen the chronically deficient and/or poorly distributed medical/nursing personnel and updated instrumental resources; 2) humanization of care policies, particularly in pediatric facilities. These shortcomings are contributing also to increase the extra-regional health migration, as we have recently highlighted [2]. In order to overcome these disparities, in 2013 the State-Region Agreement issued a call for Regional Programs focusing on the “Development of Humanization Processes in Care Pathways” (Section 8th), to reduce the variability between Regions and different Structures in the same Region, through the elaboration and adoption of national criteria. In this context, the Campania Region started a Project in the pediatric field, namely called: “Analysis and Implementation of the Process of Humanization of the Care Pathways in the Pediatric Hospital Structures of the Campania Region”. In its pilot stage, the project involves a limited number of pediatric wards of the 7 main regional Hospitals, and is dealing with a number of actions (Figure 1) such as: - assessment and monitoring of the degree of humanization of the pediatric care, by means of several measurement tools (AGENAS, LPCP tool, HPH-CA Health Promoting Hospitals & Health Services (HPH)-Child and Adolescents); - creation and diffusion of medical and nursing staff training courses (eg pain, humanization, …), - improvement of care strategies in hospital (eg, “born to read” sub-project, Child-friendly signage); - creation of a dedicated web site (http://pediannetcampania.it/) and a web based platform, reciprocally interfacing pediatric wards with general pediatricians and patients’ families; - implementation of a common teleconference/tele-consultation system; - The different phases of the Regional Project are supposed to be able: * To identify the improvable areas of welcome, hospitalization and discharge of the little patients; * To plan and produce measurable strategies of action through staff training; * To verify the effectiveness of short-, medium- and long-term measures. Generally, this project had the ambition to change structurally the pediatric staff duties, to produce durable virtuous changes and serve as an exportable and reproducible model for future actions in pediatric humanization of care.

References
1. Aragon SJ, McGuinn L, Bavin SA, Gesell S. Does pediatric patient-centeredness affect family trust? J Healthc Qual. 2010; 32:23-31.
2. Vajro P, Paolella G, Celentano E, Longo S, Sacchelli T, Pinto C, et al. Characterization and burden of Campania children health migration across Italian regions during years 2006-2010: chance and/or necessity? Ital J Pediatr. 2012; 38:58.

A27
Being born in Italy today
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Background
The analysis of demographic changes in a country is really important to provide more adequate maternal and child care.

References
1. Aragon SJ, McGuinn L, Bavin SA, Gesell S. Does pediatric patient-centeredness affect family trust? J Healthc Qual. 2010; 32:23-31.
2. Vajro P, Paolella G, Celentano E, Longo S, Sacchelli T, Pinto C, et al. Characterization and burden of Campania children health migration across Italian regions during years 2006-2010: chance and/or necessity? Ital J Pediatr. 2012; 38:58.
Materials and methods
The data of the National Institute for Statistics (ISTAT), Certificate of attendance at birth (CeDAP) and Public Health Institute (ISS) were retrieved and analysed.

Results
In 2016 there were about 474,000 births, about 100,000 less than in 2008. Newborns born to foreign women were about 92,000 (19.4% of all births). Of these, 61,000 had a foreign father and 31,000 an Italian father. Foreign mothers who give birth in Italy come more frequently from Romania, Morocco, Albania, Ukraine and Poland. In recent years, there has been a significant increase in births from multiple pregnancies, which now account for about 3% of all births. The most recent data on infant mortality (deaths in the first year of life/1000 live births) shows in 2014 a value of 2.8 per 1000. Despite the satisfactory statistics on average, in Italy there is a significant disparity in mortality between northern and southern regions. The worst prognosis, recorded in southern regions (infant mortality rate is on average 30% higher than in central and northern regions) has not changed in the last 65 years. Equally, some diagnostic tests at birth, such as the expanded newborn screening with tandem mass spectrometry (MS/MS), are performed today only on about half of Italian newborns. The decrease in birth rate is driven by many factors, but economic considerations, related to the increase in poverty and youth unemployment, undoubtedly plays an important role. Linked to this aspect and also to the different role of women in the workforce and society, the last decades have seen an increase in the age of women at childbirth. Today more than a third of Italian women has her first child at an average age of 35 years and more than 8% over the age of 40. This phenomenon, associated with the increasing use of assisted reproductive technologies, has led to an increase in multiple pregnancies and preterm births. Despite the significant reduction in infant and child mortality rates, there are significant regional differences.

Conclusions
In Italy, perinatal organization needs to be improved in southern regions. It is essential to ensure that all women and their children have absolutely equal access to medical services during pregnancy and childbirth, with equal dignity and safety, with no differences in ethnicity and social status.

A28
Investigation on the premonitory symptoms of FED in a school population (8-10 years old)
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Background
Feed and Eating Disorders (FED) are an expanding “social epidemic” [1]. The literature highlights a decrease in the onset of symptoms at 8 to 12 years [2]. A delay in diagnosis can worsen the prognosis of these disorders [3]. An investigation was conducted on the perception of the body’s own image and on the use of low calorie diets in the first adolescence by providing a questionnaire with 4 questions extracted from diagnostic tests (EAT 26), usable by the Pediatrician to “alert” the FED [3]. On the other hand, the alarming rise in weight gain in evolutionary age leads to low-calorie diets, as therapeutic intervention, at an age where the onset of pathological behaviors can be favored in predetermined subjects.

Materials and methods
The survey was conducted on 783 pupils (397F-386M) of the fourth and fifth class of primary school, aged 8-10. The administration of the questionnaire (1. Do you feel dissatisfied with your body? 2. Does weight influence the idea that you have of yourself? 3. Do you think you should be dieting? 4. How many diets did you start in the last year?) was supported by the pediatrician along with the teacher, in a written and anonymous form, simplifying the questions but avoiding influencing the answers.

Results
The answers of the sample were in percentage: 35.50% declare dissatisfaction with their body weight, 36.65% declare that weight affects the idea of themselves, 33.71% believe they have to diet, 23.49% say they have started one or more diets over the past year. By analyzing the answers by age, no significant differences were observed for all four questions among the children of the fourth and fifth class of primary school, while observing percentages of slightly higher positive responses in the fifth class children (Fig. 1). Unlike expectations, there are no real differences between male and female responses at this age (Fig. 2).

Conclusions
FED are particularly insidious at a time when contrast against weight excess can lead to the emphasis on less productive and often counterproductive therapeutic interventions. The school’s survey can guide children’s eating habits and perception of their own body image in early adolescence, which, if they are altered, can represent a premonition to FED.

References
1. Maestro S, Baroncelli GI, Ghione S, Bertelloni S. I disturbi del comportamento alimentare in adolescenza. Prospettive in pediatria. 2013; 170:74-89.
2. American Academy of Pediatrics; Committee on Adolescence. Identification and management of eating disorders in children and adolescents. Pediatrics. 2010; 126:1240–53.
3. De Luca G, Napoletani M. Premonitory symptoms of feeding and eating disorders in pediatric age. Ital J Pediatr. 2015; 41 (Suppl 2): A25.
The history of Paediatrics at in Naples has its roots in the Greek-Roman teaching and a few centuries afterwards, in the figure of Frederick II who laid the foundations of the Medical School in Naples. The Holy Roman Emperor was the first to realise the strategic importance of Naples as well as its pivotal role in facilitating the cultural growth of bright young students and scholars so as to avoid unnecessary and expensive trips to other cities for study reasons [1]. After the end of the Frederick II Empire, childcare was neglected until 1874 when Santa Casa dell’Annunziata started playing a leading role in Italy. The History of Paediatrics at Naples reflects how several National Conferences took place in Naples, highlighting the intense cultural role played by the Naples Medical School. In conclusion, Paediatric Medical School in Naples has clearly played an influential role in Italy. The History of Paediatrics at Naples reflects how quickly infant mortality decreased since the 19th century and how different nowadays are the “new diseases” which paediatricians have to challenge like rare and chronic diseases.

References
1. De Renzi S, Napoli M. Stato della medicina nel resto d’Italia durante il periodo salernitano. In: Ripostes editor. Storia della medicina in Italia. la scuola di Salerno. 2nd edition. Naples; 2000. p.195-213.
2. Tinanoff N. Development and developmental anomalies of the teeth. In: Kliegman RM, editors. Nelson Textbook of Pediatrics. 19th edition. Philadelphia: Elsevier Saunders; 2011. p.125-251.
3. Auricchio L. L’Università per la difesa dell’infanzia. Annali dell’Università italiana. 1940; 1:1-15.

A30
The transition of patients with Inborn errors of metabolism (IEM) is a delicate matter; as the complexity of these disorders makes it difficult to identify a single specialist for the adult patient [1]. In Italy, the transitional pathways are mostly constructed on a voluntary basis and with various approaches: we wanted to identify one possible path for patients with IEM. Taking inspiration from the available literature, mainly related to Diabetes [2-3], 3 years ago AOU Federico II activated a transitional clinic with monthly appointments, involving 2 Metabolic Pediatricians, 1 Adult Physician and some support figures (nutritionist, psychologist, organizational figure). It started with a 13-month pilot project that involved only patients with hepatic glycogenosis, referring them to an internist expert of glucose metabolism disorders, with a paper and digital dossier summarizing the pathology and clinical history of the patient. 16 patients were involved (7M-9F, 3 in 14-17 years, 13> 18 years), 11 with GSD1a, 3 with GSD1b and 2 with GSDIIa. Through a guided interview and psychological support, we observed how the initial sense of mistrust and anxiety was reduced with incremental visits, while also improving autonomy. At the end of the project, 3 patients were followed in DH Clinical Medicine, 6 in joint surgery, 4 in pediatric outpatient clinics, and 3 patients <18 years old co-operated with joint DHD pediatric surgery. All showed stability/improvement of clinical parameters and a high degree of satisfaction. Based on this experience, it was decided to extend the project: in the last 18 months, 29 visits were made to 19 patients, all >18 years old(8M-11F), of which 10 with hepatic glycogenosis, 6 with accumulation diseases (Gaucher, mucopolysaccharidosis, mucolipidosis), 2 with neuromuscular diseases (GSDIIib, GSDV) and one OCT deficit. We concomitantly extended our network of consultants, now comprising: gastroenterologist, neurologist, rheumatologist, cardiologist and nephrologist. To date, 10 of these patients have been admitted to adult departments, 2 patients still hold periodic meetings in a joint outpatient clinic, 9 are still only in a joint outpatient clinic, although one patient has been admitted to the Medical Clinic. While for some IEM it is easier to find an adult patient specialist (e.g. a nephrologist for Fabry’s disease, etc.), in other cases, due to the complexity of events or individual and sociocultural features, this process needs greater support. We believe that the
joint outpatient clinic can be an excellent strategy to help these patients in acquiring full awareness and autonomy in managing their own pathologies and interacting with their attendant physician, and we propose to maintain and enhance this promising clinical structure by further enlarging the network of specialists while seeking greater involvement with doctors in the area.

References
1. Tran C, Babey F, Pitteloud N, Philippe J, Kern I, Bonafé L. Inborn errors of metabolism: transition from childhood to adulthood. Rev Med Suisse. 2015; 11:445-449.
2. Garvey KC, Markowitz JT, LaFell LM. Transition to adult care for youth with type 1 diabetes. Curr Diab Rep. 2012; 12:533–54.
3. Van Wallegem N, Macdonald CA, Dean HL. Evaluation of a systems navigator model for transition from pediatric to adult care for young adults with type 1 diabetes. Diabetes Care. 2008; 31:1529-30.

A31
PANDAS: tip of the iceberg
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Background
“Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections” (PANDAS) are conditions at pediatric acute onset characterized by obsessive compulsive disorder (OCD), tic disorders and cognitive manifestations following a group A beta-haemolytic streptococcal infection (GABHS). The term PANDAS was first used by Swedo et al in 1998. Pathogenesis is not clear; it is due to anti-neuronal autoantibodies against brain antigens induced by GABHS. Diagnostic criteria are: 1) presence of OCD and/or a tic disorder; 2) pediatric onset; 3) acute clinical onset and episodic course; 4) temporal association with GABHS; 5) association with neurological abnormalities (motor hyperactivity and choreiform movements). PANDAS have not been accepted as distinct disorder; there are not specific tests or diagnostic biomarkers. Recently it has been performed a revision of diagnostic criteria and it has been proposed a new clinical entity, the Pediatric Acute onset Neuropsychiatric Syndrome (PANS) to indicate a subtype of OCD with an acute and dramatic onset or exacerbation with multiple aetiologies. Therapy consist in use of antibiotics, anti-inflammatory, intra-venous immunoglobulin, plasma exchange, drugs for movement disorders and neuropsychiatric alterations, cognitive-behavioural therapies and tonsillectomy.

Materials and methods
To identify articles concerning PANDAS and PANS syndrome. The PubMed database was used to search and typed terms were as follow: PANDAS syndrome, PANS syndrome, PANS syndrome diagnosis, PANS syndrome diagnosis, PANDAS treatment, PANS treatment, pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections, pediatric acute onset neuropsychiatric syndrome, movement disorders associated to streptococcal infection.

Results
We found 160 articles. We selected only articles in English language concerning diagnosis and treatment. Case reports were 55. We selected randomized controlled trial (RCT), systematic reviews, reviews, observational studies, clinical studies. We found 38 reviews and 4 systematic reviews. Comparative studies were 6. We found 5 RCT, 3 about antibiotic therapy, 2 about cognitive-behavioural therapy. We didn’t find meta-analysis or guideline. We found a survey published in 2017 concerning PANS characteristic and course in 698 patients, but we didn’t consider it because authors included adult patients. We found an observational study concerning surgery. There isn’t widespread agreement on tonsillectomy. Singles cases are reported concerning the resolution of symptoms after surgery. In this study Pavone et al provided that surgery didn’t improve the course of the disease.

Conclusions
PANDAS are a very heterogeneous condition. Diagnosis and treatment are debated topics and literature data are controversial. Further studies are necessary to a better definition and management of this condition.

References
1. Williams KA, Swedo SE. Post-infectious autoimmune disorders: sydenham chorea, PANDAS and beyond. Brain Res. 2014; 1617:144-154.
2. Pavone P, Rapisarda V, Serra A, Nicita F, Spalice A, Parano E, et al. Pediatric autoimmune neuropsychiatric disorder associated with group A streptococcal infection: the role of surgical treatment. Int J Immunopathol Pharmacol. 2014; 27:371-8.

A32
Management of acute bronchiolitis in the pediatric ward
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Bronchiolitis is an acute inflammatory disease of the lower respiratory tract. It is characterized by acute inflammation, edema, and necrosis of epithelial cells lining small airways, increased mucus production, and bronchospasms. It is the most common lower respiratory tract infection in the first year of life. Bronchiolitis is the first cause of hospitalizations in infants less than 1 year of age. Respiratory syncytial virus (RSV) is the most common etiologic agent of bronchiolitis. The severity of RSV-related disease is worse than that of other viral infections.

Most infants who contract bronchiolitis recover without sequelae; instead, some infants require intensive care and respiratory support. Younger infants and those with pre-existing risk factors (prenatality, bronchopulmonary dysplasia, congenital heart diseases and immunodeficiency) are more likely to develop a severe form of respiratory disease.

Despite the high incidence of bronchiolitis, confusion and controversies still exist about its description and management. To date, there is no specific treatment for viral bronchiolitis, and the mainstay of therapy is supportive care. Typical bronchiolitis in infants is a self-limited disease that is little modified by treatment. Many clinical guidelines have shown that corticosteroids and bronchodilator have little or no effect on the clinical evolution of the disease. Nebulized adrenaline may be sometimes useful in the emergency room, but in the hospital setting do not change severity of disease or length of stay.

It is suggested that nebulized hypertonic saline may be useful in hospitalized bronchiolitis, making secretion less viscous and promoting their excretion. Antibiotics are not recommended unless clinical features or laboratory results indicate secondary bacterial infection.

The main points of the management of viral bronchiolitis are oxygen and rehydration support. Use of high-flow nasal cannula provides superior results to low flow oxygen delivery in moderate to severe bronchiolitis. High Flow Nasal Cannula (HFNC) therapy has emerged as a new method to provide humidified air flow to deliver a non-invasive form of positive pressure support. This treatment can be used in pediatric ward and reduces transferring of infants with bronchiolitis in intensive care unit. Some studies suggest that HFNC reduces the need of intubation and the rate of mortality.

References
1. Lalloo UD, Lieberthal AS, Meissner HC, Alverston BK, Bailey JE, Gadomski AM, et al. Clinical practice guideline the diagnosis, management, and prevention of bronchiolitis. Pediatrics. 2014; 134:1474-1502.
2. NICE guideline. Bronchiolitis in children: diagnosis and management. 2015. Available in https://www.nice.org.uk/guidance/ng9. Accessed in June 22, 2017.
3. Baraldi E, Lanati M, Manzonii P, Rossi GA, Vandini S, Rimini A, et al. Inter-society consensus document on treatment and prevention of bronchiolitis in newborns and infants. Ital J Pediatr. 2014; 24: 4065.

4. Cunningham S, Fernandes RM. High-flow oxygen therapy in acute bronchiolitis. Lancet. 2017; 4: 389-389e-89.

5. Wing R, James C, Maranda LS, Armitay CC. Use of the high-flow nasal cannula in the emergency department reduces the need for intubation in pediatric acute respiratory insufficiency. Pediatr Emergency Care. 2012; 28:1117-23.

A33 How to write a scientific article & tips of scientific English
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A33

Publishing in peer-reviewed journals is becoming increasingly competitive. Frequently, papers are rejected by journals because of poor data presentation. Consequently, it is now recognized that the formation of researchers and physicians should include specific training in how to write a biomedical article. This presentation focuses on the issues faced by non native English speakers when writing scientific articles for peer-reviewed journals. The presentation is divided into two main parts.

1) Structure: (a) The title and the abstract represent the “business card” of your article, and its most widely read parts. A good title and abstract will favorably impress the journal editor, the reviewer and readers. (b) The body of scientific articles typically follows the IMRAD structure (Introduction, Materials and Methods, Results, Discussion). The items to include (or most importantly, not to include) in each section will be briefly illustrated.

2) Language: Language may be a barrier to publication, especially for non native English speakers. The seminar will provide tips to help you to avoid the most common pitfalls and mistakes made by Italian investigators when writing in English.

A34 New communications systems for the therapeutic education of adolescents with type 1 diabetes: from chat lines to a mobile chat APP
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As the recent revolution of transformative communications technology now connects individuals to the entire world, remote communications are progressively replacing face-to-face meetings. The use of social media networks has not only become increasingly popular, but also been associated with the enhanced well-being and social support of individuals with chronic disease [1, 2]. As using mobile phones for telephone calls declines, using them as smartphones—low-cost devices with the potential for continuous Internet access—is on the rise. Today’s young people, almost always online, have adopted virtual means to sustain their interpersonal relationships. For adolescents facing physical and psychological changes, along with typical difficulties of peer integration, communications via SMS and chat platforms, which allow delayed responses, do not require face-to-face interaction, and permit them to present themselves differently from their real-life selves, have become a highly popular way to keep in touch with friends. In response to that trend and the specific challenges of adolescents with type 1 diabetes (T1DM) always waging personal battles against the disease’s restrictions, the Regional Center for Pediatric Diabetology “G. Stoppoloni” in Naples (Italy) adopted new communications systems for educational purposes in 2000 by opening a chat line for adolescent patients. Using the chat line, accessible by personal computer during certain hours every week, adolescents discussed their chief concerns regarding T1DM and shared aspects of their daily lives. Patients joined the virtual community by using aliases that allowed them to anonymously express their fears and problems. Participation improved patients’ adherence to treatment, their degree of metabolic control, and the autonomous management of T1DM [3, 4].

In 2016, to offer a more attractive opportunity of virtual contact, the Diabetology Centre proposed an updated version of the chat line downloadable as a smartphone app. Named “L'isola pancreatica che non c'è”, the virtual group affords adolescent patients with T1DM a space to chat and interact with friends using multimedia content (e.g., vocal messages, photos, stickers). Interestingly, participants no longer preferred to use aliases, but often use their real names, even when discussing personal issues. They are becoming protagonists in their life stories, even to the extent that they have recently proposed to start a blog to share their experiences and organize meetings with teachers and classmates at school to explain important problems related to their struggles with T1DM.

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References
1. Troncone A, Cascella C, Chiavese A, Iafusco D. Using computerized text analysis to assess communication within an Italian type 1 diabetes Facebook group. Health Psychol Open. 2015; 2:1-9.
2. Troncone A, Cascella C, Chiavese A, Iafusco D. What relatives and caregivers of children with type 1 diabetes talk about. Preliminary results from computerized text analysis of messages posted on the Italian Facebook diabetes group. In: Bassis S, Esposito A, Morabito F, Pasero E, editors. Neural Networks and Computational Intelligence for Information Communication Technologies. Cham: Springer International Publishing; 2016. p.235-242.
3. Iafusco D, Ingenito N, Prisco F. The chatline as a communication and educational tool in adolescents with insulin-dependent diabetes: preliminary observations. Diabetes Care. 2000; 23:1853.
4. Iafusco D, Galderisi A, Nocerino I, Caccia A, Zuccotti G, Prisco F, et al. Chat line for adolescents with type 1 diabetes: a useful tool to improve coping with diabetes: a 2-year follow-up study. Diabetes Technol Ther. 2011; 13:551-5.

A35 Vaccination coverage for Papillomavirus (HPV) in Italy: state of art and strategies to address vaccine hesitancy
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Since the licensures of anti-HPV quadrivalent (QIV) and bivalent vaccines in 2006, their indications have been progressively extended and the schedule indicated to pre-adolescents was modified [1,2]. In June 2015, the European Commission authorized the licensure of a nine-valent vaccine able to prevent 90% of malignancies HPV-related and almost 100% of condylomatosis [3]. In 2007, the Ministry of Health published the first national recommendations, identifying pre-adolescent females as primary target. All the Italian regions immediately adopted them [4]. The 2012-2014 National Immunization Prevention Plan (NIPP) [5] re-modulated the objective of vaccination coverage (VC) set for the birth cohort 2001 from ≥95% to ≥70%, introduced further objectives for the birth cohorts 2002 and 2003 (≥80% and ≥95%, respectively) and suggested a multi-cohort approach to female subjects, that was variously adopted
by the regions. The 2017-2019 NIPP [6] aligns the VC objectives at ≥95% for all the female birth cohorts and introduces the recommendations for pre-adolescent males and at risk subjects. Nevertheless, eight regions and two local health units previously introduced the recommendations for pre-adolescent males and four regions for at risk subjects.

The most recent data about national VC obtained in the primary target showed a decreasing trend from 71.5% for the birth cohort 1999 to 56.3% for the birth cohort 2003, being largely under the objectives set by the Ministry of Health [7]. At a regional level, a wide variability of VC was observed both in the primary and in the secondary target. The alarming decrease of VC have to be hindered through strategies that address the vaccine hesitancy (VH). Among the determinants of VH-acceptance the health care provider and parents’ recommendations, the doubts about need and safety of vaccines and organizational criticisms such as the dynamic evolution of recommendations and objectives play a crucial role [8]. The main interventions to address VH are listening to doubts and concerns of pre-adolescents and their parents, building trust in health care workers and institutions, the education of both target subjects and primary care physician and logistical interventions [9,10].

Available evidences demonstrate that licensed HPV-vaccines are efficacious and safe [1,2]. Nevertheless, the dynamic evolution of indications, schedule, and immunization strategies may have contributed to suboptimal VC obtained both in primary and secondary target. The implementation of interventions to address VH is crucial to reach the objectives set by the NIPP, in order to improve equity and accessibility in the prevention field.

References

1. European Medicines Agency website. Gardasil. Available at: http://www.ema.europa.eu/docs/it/IT/document_library/EPAR_-_Product_Information/human/000703/WC500021142.pdf. Accessed May 10, 2017.
2. European Medicines Agency website. Cervarix. Available at: http://www.ema.europa.eu/docs/it/IT/document_library/EPAR_-_Product_Information/human/000721/WC500024632.pdf. Accessed May 10, 2017.
3. European Medicines Agency website. Gardasil9. Available at: http://www.ema.europa.eu/docs/it_IT/document_library/EPAR_-_Product_Information/human/003852/human_med_001863.jsp?mid=W/C0b10ac058001d124. Accessed May 10, 2017.
4. Presidenza del Consiglio dei Ministri. Conferenza permanente per i rapporti tra lo stato, le regioni e le province autonome di Trento e Bolzano. Intesa, ai sensi dell’articolo 8, comma 6, della legge 5 giugno 2003, n. 131, tra il Governo, le Regioni e le Province autonome di Trento e Bolzano concernente “Strategia per l’offerta attiva del vaccino contro l’infezione da HPV in Italia”. Available at: http://www.statoregioni.it/Document/DOC_01696_264%20crsp.pdf. Accessed May 10, 2017.
5. Ministero della Salute. Piano Nazionale Prevenzione Vaccinale (PNPV) 2012-2014. Available at: http://www.salute.gov.it/imgs/C_17_pubblicazio ni_1721_allegato.pdf. Accessed May 10, 2017.
6. Ministero della Salute. Piano Nazionale Prevenzione Vaccinale (PNPV) 2017-2019. Available at: http://www.salute.gov.it/imgs/C_17_pubblicazio ni_2571_allegato.pdf. Accessed May 10, 2017.
7. Ministero della Salute. Copertura vaccinali al 31/12/2015 per HPV (Aggiornamento 13 febbraio 2017). Available at: http://www.salute.gov.it/ imgs/C_17_savole_27_allegati_items/allegati_0_file/allegati_0_file.pdf. Accessed May 10, 2017. Accessed May 10, 2017.
8. Bailey HH, Chuang LT, duPont NC, Eng C, Foxhall LE, Merrill JK et al. American Society of Clinical Oncology Statement: Human Papillomavirus Vaccination for Cancer Prevention. J Clin Oncol. 2016; 34:1803-12.
9. Bricic JS, Seyferth ER, Bocchini JA Jr. Update on barriers to human papillomavirus vaccination and effective strategies to promote vaccine acceptance. Curr Opin Pediatr. 2016; 28:607-12.
10. Jarrett C, Wilson R, O’Leary M, Eckerberger E, Larson HJ. SAGE Working Group on Vaccine Hesitancy. Strategies for addressing vaccine hesitancy - A systematic review. Vaccine. 2015; 33:4180-90.

A36
Italian Guideline on the acute asthma attack in children

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Italian Journal of Pediatrics 2017, 43(Suppl 2):A36

Background

Acute asthma attack is a frequent condition in children. It is one of the most common reasons for emergency department (ED) visit and hospitalization. Appropriate care is fundamental, considering both the high prevalence of asthma in children, and its life-threatening risks.

The multidisciplinary panel of Italian Society of Pediatrics (ISP) recently issued a new guideline on the management of acute asthma attack in children over age 2, in ambulatory and emergency department settings.

Materials and methods

The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) methodology was adopted. A literature search was performed using the Cochrane Library and Medline/PubMed databases, retrieving studies in English or Italian and including children over age 2 year.

Results

Inhaled ß2 agonists are the first line drugs for acute asthma attack in children. Ipratropium bromide should be added in moderate/severe attacks. Early use of steroids is associated with reduced risk of ED visits and hospitalization. A 3-5 day course of oral prednisolone is preferable in children able to retain drugs orally. Leukotriene receptor antagonists should not be used. Aminophylline use should be avoided in mild/moderate attacks. Weak evidence supports its use in life-threatening attacks. Intravenous (iv) magnesium sulphate could be used in children with severe attacks and/or forced expiratory volume 1 (FEV1) lower than 60% predicted, unresponsive to initial inhaled therapy. Heliox could be administered in life-threatening attacks despite previous treatment.

Conclusions

This Guideline is expected to be a useful resource in managing acute asthma attacks in children over age 2.

Acknowledgments

Italian Panel for the management of acute asthma attack in children: Bernardini Roberto (Empoli), Capristo Carlo (Naples), Cardinale Fabio (Bari), Cazzato Salvatore (Ancona), Chiamenti Giampiero (Verona), Chinellato Iolanda (Taranto), Corsello Giovanni (Palermo), Cutrera Renato (Rome), Da Dalt Liviana (Padova), Duse Marzia (Rome), Festini Filippo (Florence), Freitacci Sandra (Rome), Minasi Domenico (Polistena-Reggio Calabria), Novelli Andrea (Florence), Piacentini Giorgio (Verona), Scoppici Pietro (Spoleto-Perugia), Tappi Eleonora (Turin).

A37
Methods and tools for the participatory assessment of the level of patient centeredness in health facilities

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The Unified Conference between the State, the Regions and the Autonomous Provinces of September 20th 2007 assigned to Agenas a twofold mandate. On the one hand, promoting citizens, patients,
professionals, organization and community empowerment within the regional healthcare services [2]. On the other hand, monitoring quality, equity and efficiency of the healthcare system. Further background documents are:

- The Patto per la Salute (Pact for Health) 2014-2016, which highlights patient centeredness as a key element to ensure the care provided takes into account a person’s physical, psychological and social entirety.
- Two State-Regions Conference Agreements (December 20th 2012 and February 2nd 2015), which defines patient centeredness as one of the 8 requirements for the new National Accreditation System.

Agenas has been promoting since 2011 a program aimed at improving quality of healthcare through the participatory assessment of patient centeredness in hospital facilities, carried out in cooperation with the Active Citizenship Network and the Italian Regions [2]. The method used - drawing on the experience of the Civic Audit [2] and based on the principles of external evaluation of quality - provides for the active participation of citizens in all the steps of the assessment process: from definition/development of the items included in the checklist to data collection (carried out by equipes composed of both citizens and professionals from the hospital facility) and finally to analysis of the results achieved and definition/implementation and monitoring of subsequent improvement actions.

The 4 areas assessed are [2]:
1. Person-oriented organizational and care processes
2. Physical accessibility livability and comfort of care facilities
3. Access to information, streamlining and transparency
4. Taking care of the relationship with the patient/citizen

The first participatory assessment, carried out in 2014, saw the voluntary participation of professionals from 287 hospital facilities and about 300 patient associations. A new edition is currently underway, with the aim of extending the assessment to all the hospital facilities. Of the 142 items included in the checklist, 16 are aimed at verifying the commitment of the health facilities on issues regarding patient centeredness of healthcare services for children and adolescents.

On this basis, within the Project “Analysis and implementation of patient centeredness processes in pediatric health facilities of the Campania Region”, an ad hoc checklist composed of 122 items, aimed at identifying elements considered as indicative of patient centeredness for pediatric patients and their families, 63 of which are specific for pediatrics.

References
1. Lamanna A, Tanese A, Metastasio R. Uno strumento per valutare il grado di umanizzazione delle strutture di ricovero. Monitor. 2013; 32:26-41.
2. Caracci G, Carzaniga S. Definizione, modello di analisi, strumenti ed esperienze significative di empowerment in sanità. I quadrerni di Monitor 2010; 6:10-17.

A38
The role of neonatologists in promoting vaccinations
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Vaccinations are worldwide recognized as the most effective large scale measure which has been playing a crucial role in dramatically reducing infants’ mortality [1]. However, even if safety concerns about vaccines are proven to be unreasonable and their efficacy has been widely confirmed, many children do not get vaccinated [2].

Moreover, lately social media have had purported role in spreading anti-vaccine attitude and advocate risk becoming a global phenomenon that could impact immunization [3]. Preterm infants are especially vulnerable to infectious diseases, but this population often experiences delays in vaccinations [4,5]. The successful implementation of vaccines depends on many factors. Giving parents information so that they can make informed decisions about their children’s health is an important part of this process. In relation to this aspect, neonatologists are directly involved, regardless they work with term babies or premature infants.

It has been proved that healthcare providers’ attitude towards vaccination are among the most important influences on the decision to vaccinate [6].

A recent survey conducted during November and December 2016 and promoted by Italian Neonatal Society among all neonatologist of Lombardy (Italy) revealed that the physicians’ adherence to recommendations needs to be improved, particularly regarding new vaccines such as rotavirus.

Since we found that more than 50% of the surveyed doctors are 30-50 years, we have speculated that this age target hasn’t experienced the effects of epidemic diseases, and this could contribute to a lower awareness of the danger related to the decrease of “herd immunity”.

Another relevant finding regards the physicians’ perception that there is paucity of updated and easily-available information regarding vaccines, which leads to a perceived lower level of knowledge in this field.

Hence, we believe that a close cooperation between scientific societies and pharmaceutical industries could fill this gap.

To conclude, the role of physicians seems to be crucial in providing a widespread vaccination educational campaign, and neonatologist are involved from birth. In addition, an adequate training for doctors should be provided periodically and with easy access.

There is an urgent need for future research on vaccinations in preterm infants to further reinforce the safety and efficacy of vaccines and for an effective policy to implement the adherence to vaccinations national program.

References
1. Bland J, Clements J. Protecting the world’s children: the story of WHO’s immunization programme. World Health Forum. 1998;19:162-73.
2. My C, Danchin M, Willaby HW, Pemberton S, Leask J. Parental attitudes, beliefs, behaviours and concerns towards childhood vaccinations in Australia: A national online survey. Aust Fam Physician. 2017;46:145-51.
3. Kata A. A postmodern Pandora’s box: anti-vaccination misinformation on the Internet. Vaccine. 2010;28:1709-16.
4. Cuna A, Winter L. Quality improvement project to reduce delayed vaccinations in preterm infants. Adv Neonatal Care. 2017. Apr 3. doi: 10.1097/ANC.0000000000000398. [Epub ahead of print].
5. Crawford NW, Yeo V, Hunt RW, Barfield C, Gelbart B, Batter J. Immunization practices in infants born prematurely: neonatologists’ survey and clinical audit. J Paediatri Child Health. 2009;45:602-9.
6. Doherty M, Schmidt-Ott R, Santos J, Stanberry LR, Hofstetter AM, Rosenthal SL, et al. Vaccination of special populations: Protecting the vulnerable. Vaccine. 2016;34:681-90.
Exercise enhances the hypoglycemic effects of insulin therapy, decreasing the daily insulin dosage, promoting blood pressure control, increasing glucose utilization, improving quality of life, prolonging life expectancy and psycho-physical well-being of the child and adolescent with T1D. It is important to make distinctions between what is meant by physical activity, sport, and exercise, because management is different. Physical activity is all about the body movement produced by the skeletal muscle contraction and which requires excess energy expenditure compared to the restive energy expenditure. For sports it is all about the programmed, structured and repeated body movement in order to improve one or more components in good physical shape. For sport, however, is meant everything that implies both fun and agonism. Physical exercise in a child/teenager with diabetes is related to health conditions but also to good personal and family participation. All management will be a constant balance dependent not only on the type of activity but not by agonistic or agonistic, whether aerobic or anaerobic, but also by many other factors such as the type of therapy the patient practices (eg multiinjective or microinfusion), the duration of physical activity and especially the type of diet that the patient follows. It is the team’s task to always give precise and safe messages and especially practical advice such as: a) never practising physical activity yourself; b) Always schedule physical activity whenever possible, considering the type and duration c) Always have sugar and glucagon available, d) Monitor blood glucose, and e) Always warn your friends and your own trainer about your health state.

Adolescents in international adoptions: complexity and specificity
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A40

The topic of adolescence in international adoptions has been dealt with in the past on a few specific occasions, but it emerges now strongly from the combination of over 50,000 adoptions realized from 2000 until today and from an average age of children adopted by now around 6 years old. We will highlight this topic with a triple visual look. First of all, a short overview of the training at national level for practitioners dealing with in the past on a few specific occasions, but it emerges now strongly from the combination of over 50,000 adoptions realized from 2000 until today and from an average age of children adopted by now around 6 years old. We will highlight this topic with a triple visual look. First of all, a short overview of the training at national level for practitioners dealing with international adoptions, in which specific issues related to adoptive adolescence have been developed [1]. The vast number of adopted children that have been entering the adolescence has progressively increased. Moreover, the need to get ready to build a balanced adulthood.

Secondly, we will go through some thoughts on the universal gestures of education (hospitality, care and promotion of his independence) and on the importance of resilience tutors, as adoptive parents or other significant persons that could help the adoptive teenagers in order to “browse the torrents” [2,3]. Finally, it will be briefly illustrated in its main results the most recent and extensive living survey – on European level - on the topic of adolescence and international adoptions [4]. More than 800 families engaged and around 700 teenagers interviewed in order to acknowledge diagnosed pathologies before and after the adoptive process, the relationship with the social context and with the school, the ethnic identity and the difference between “adopted” and “immigrant” teenagers, the psychological healthcare and the relationship with their own origins. The conclusion will be referred to the centrality of the adopted children and the importance of listening.

References
1. Macario G. L’adolescenza nelle adozioni internazionali: complessità e specificità. In: Macario G, editor. I percorsi formativi del 2009 nelle adozioni internazionali. 1st ed. Firenze: Istituto degli Innocenti; 2012. p. 101-180.
2. Cyrlunik B, Malaguti E. Costruire la resilienza. 1st ed. Trento: Erikson; 2005.
3. Cyrlunik B. I compagni, tutori di resilienza. In: Cyrlunik B, editor. Autobiografia di uno spaventapasseri. 1st ed. Milano: Raffaello Cortina Editore; 2009. p. 173-176.
4. Bianchi D, Di Gioia G. Adolescenti e adozioni internazionale. 1st ed. Firenze: Istituto degli Innocenti-Carocci Editore; 2016.

A41
CAM and Vaccinations
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Background
A complex situation has developed around vaccination practice in Italy in recent years. Stories of the possible harmful effects of vaccines have led to a trend towards abstention and a coverage of less than 95% for some types of vaccination, with the consequent re-emergence of diseases such as measles, which had almost disappeared. This trend has induced health institutions to take defensive measures, such as vaccination prior to registering for school, required in some regions, or sanctions for doctors who are against vaccinations. It is widely believed that the doctors who are most outspoken against vaccinations are those practicing complementary and alternative medicine (CAM), especially homeopathy. Homeopathic prophylaxis of infectious diseases is based on two different methods, homeoprophylaxis and isoprophylaxis (also known as isoteraphy), but neither of these has been confirmed as effective [1]. Investigation of these aspects in relation to the attitude of homeopathic doctors towards vaccination reveals some interesting information. Eizayaga and colleagues found, through use of an online survey, that 75.6% of homeopathic doctors believe vaccinations to be useful, effective and safe; this opinion is widespread above all in doctors working in public health and those who do not practice homeopathy as their sole professional specialism [2]. The present study aimed to assess the attitude towards vaccination of paediatricians using CAM.

Materials and methods
We distributed the questionnaire used by Eizayaga, partly modified to meet our needs, to a group of 30 paediatricians using CAM and a group of 160 family paediatricians who do not practice CAM. The questions were designed to establish their attitude towards vaccinations.

Results
Only 3.4% of CAM paediatricians were totally against vaccination. The remaining 96.6%, while not against it, had some concerns in relation to the priority of the various vaccinations. 23% were in favour of all vaccinations in the Italian national programme, and 50% were in favour of a substantial part of them. No family paediatrician was against vaccination altogether, 75% were in favour of all vaccinations and 23% were in favour of a substantial part of them.

Conclusions
Only a small percentage of paediatricians practicing CAM are against vaccinations. The remainder are favourable, indicating a priority in line with the relevance of each infectious disease.
Preparing an effective oral presentation may represent a difficult and time-consuming challenge even for the most experienced speaker. One of the main aspects to take into account is that each presentation, even on the same topic, is different and deserves a careful and specific evaluation. First, it is important for a speaker to know his (or her) audience. A talk given to a team of experts in the field will obviously start at a more specialized level than a presentation conceived for a group of students, that will require a more general introductory background. Furthermore, in order to be regarded as someone who is not only competent, but also appealing to the audience, it is crucial to adequately prepare the talk and never give the impression that you don’t handle the topic you are presenting. Eye-contact with the audience and clear speech are among the main qualities of a good speaker, even though not exceeding the time scheduled for a talk, possibly keeping a few minutes for questions, is probably the most important.

Slides should be structured with the aim of capturing audience’s attention on relevant information avoiding useless distractions. Nevertheless, varying the visual look of the slides by mixing text, tables, and figures will avoid a bored audience and may turn a simple sequence of data in an attractive story. Criteria to build a successful poster mostly coincide with those used for an attractive scientific talk, even though a key issue in posters is mediation, simplifying access to health care, continued care, training course, school continuity plans, patient and family centered care programs. Noteworthy, the existing Humanization Degree is different from those perceived by the operators and the users, and -in the latter- between family and patient himself, with considerable distinction also by age.

References

1. Agenas-Agenzia Nazionale per i servizi sanitari Regionali. 2016. Available in http://www.agenas.it. Accessed in June 22, 2017.
2. Buffoli M, Bellini E, Bellagarda A, Di Noia M, Nickolova M, Capolongo S. Listening to people to cure people: the pCp tool, an instrument to evaluate hospital humanization. Annali Di Igiene: Medicina Preventiva E Di Comunità. 2014;26:447-455.

A42

How to organize a scientific talk and prepare a poster
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A42

Preparing an effective oral presentation may represent a difficult and time-consuming challenge even for the most experienced speaker. One of the main aspects to take into account is that each presentation, even on the same topic, is different and deserves a careful and specific evaluation. First, it is important for a speaker to know his (or her) audience. A talk given to a team of experts in the field will obviously start at a more specialized level than a presentation conceived for a group of students, that will require a more general introductory background. Furthermore, in order to be regarded as someone who is not only competent, but also appealing to the audience, it is crucial to adequately prepare the talk and never give the impression that you don’t handle the topic you are presenting. Eye-contact with the audience and clear speech are among the main qualities of a good speaker, even though not exceeding the time scheduled for a talk, possibly keeping a few minutes for questions, is probably the most important.

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References

1. Agenas-Agenzia Nazionale per i servizi sanitari Regionali. 2016. Available in http://www.agenas.it. Accessed in June 22, 2017.
2. Buffoli M, Bellini E, Bellagarda A, Di Noia M, Nickolova M, Capolongo S. Listening to people to cure people: the pCp tool, an instrument to evaluate hospital humanization. Annali Di Igiene: Medicina Preventiva E Di Comunità. 2014;26:447-455.

A43

Round Table on the humanization of pediatric care in hospital: a questionnaire for users and operators in Campania Region
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A43

The term “humanization of care” includes a wide range of aspects related to child hospitalization which are still poorly investigated. Analysis of humanization degree has a central role in targeting intervention strategies, for detecting lacking areas in hospital environment and planning effective initiatives. In pediatric setting, data on humanization degree assessment are scarce and based on different and often not comparable methodology. Examples of strategies for analysis of Humanization Degree are present in several countries (Fig. 1).

Figure 1: Examples of strategies for analysis of Humanization Degree

A44

The experience of Nati per Leggere
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A44

Nati per Leggere (NpL), website www.natiperleggere.it, is the national Italian program on reading promotion in primary paediatric care. It is implemented, since 1999, by ACP (Associazione Culturale Pediatri), AIAB (Associazione Italiana Biblioteche e CSB (Centro per la salute del Bambino). The aim of NpL is reading aloud promotion in families with children from birth to 5 years of age [1]. Primary care paediatrician, together with other primary care paediatric professionals (nurses) are trained to promote such intervention in their clinical practice, with specific regards to disadvantaged families [2]. Nati per Leggere is the last 20 years an active collaboration with Reach out and read, website www.reachoutandread.org, a national USA program on reading aloud promotion, considered by the American Academy of Pediatrics (AAP) a program endorsed by the academy and supported by many scientific evidences. AAP has
follow-up in the different risk classes. (adding the steroid therapy). Finally, we will reevaluate the times for patients (eg. changing the length and dosage of anti-inflammatory of different forms, new instrumental techniques (echocardiography, published in 2008. We will evaluate the differences in the definition reported by the results of blood and instrumental exams. This presentation aims to highlight news in guidelines than those

Kawasaki disease (KD) is an acute, systemic vasculitis [1,2]. According to the "Revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides" of 2012 [3], its target are small and medium diameter vessels in each organ and apparatus. KD is a self-limited disease with unknown, probably multi-factor, aetiology, which primarily affects infants and children under five years. Diagnosis of Kawasaki disease is clinical, based on diagnostic clinical criteria, supported by the results of blood and instrumental exams. This presentation aims to highlight news in guidelines than those published in 2008. We will evaluate the differences in the definition of different forms, new instrumental techniques (echocardiography, CT Angiography, MRA), updates in therapy both in responder-patients (eg. changing the length and dosage of anti-inflammatory therapy with ASA), and in non-responders, and in major risk patients (adding the steroid therapy). Finally, we will reevaluate the times for follow-up in the different risk classes.

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References
1. Tamburlini G. Lettura condivisa in famiglia e sviluppo del cervello nel bambino. Medico e Bambino. 2015; 8:505-510.
2. Manetti S, Panza C, Tamburlini G. Strumenti per i pediatri delle cure primarie. Medico e Bambino. 2011; 30:167-74.
3. National scientific council on the developing child. The science of early child development. Center for the Developing Child, Harvard University, 2007. Available in http://www.developingchild.net. Accessed on July 13, 2017.

References
1. Newburger JW, Takahashi M, Gerber MA, Gewitz MH, Tani LY, Burns JC et al. Diagnosis, treatment, and long-term management in Kawasaki 4 disease: a statement for health professionals from the committee on rheumatic fever, endocarditis and Kawasaki disease, council on cardiovascular disease in the young, American Heart Association. Pediatrics 2004; 114:1708-33.
2. Marchesi A, Pongiglione G, Rimini A, Longhi R, Villani A. Malattia di Kawasaki: Linee Guida italiane. Prospettive in Pediatria. 2015; 8:505-510.
3. Jennette JC, Falk RJ, Bacon PA, Berry G, Cid MC, Ferrario F, et al. 2012 Revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. Arthritis Rheum. 2013; 65:1-11.

References
1. Seligman ME, Csikszentmihalyi M. Positive psychology. An introduction. Am Psychol 2000; 55:5-14.
2. Masera G, Delle Fave A. La resilienza: una risorsa da valorizzare. Medico e Bambino 2015; 6:360-364.
3. Pany C, Chesler MA. Thematic evidence of psychosocial thriving in childhood cancer survivors. Qual Health Res 2005; 15:1055-73.
4. Masera G, Jankovic M. Noi ragazzi guariti. Milano; Ancora Editore; 2008.

References
1. Tamburlini G. Lettura condivisa in famiglia e sviluppo del cervello nel bambino. Medico e Bambino. 2015; 8:505-510.
2. Manetti S, Panza C, Tamburlini G. Strumenti per i pediatri delle cure primarie. Medico e Bambino. 2011; 30:167-74.
3. National scientific council on the developing child. The science of early child development. Center for the Developing Child, Harvard University, 2007. Available in http://www.developingchild.net. Accessed on July 13, 2017.

References
1. Newburger JW, Takahashi M, Gerber MA, Gewitz MH, Tani LY, Burns JC et al. Diagnosis, treatment, and long-term management in Kawasaki disease: a statement for health professionals from the committee on rheumatic fever, endocarditis and Kawasaki disease, council on cardiovascular disease in the young, American Heart Association. Pediatrics 2004; 114:1708-33.
2. Marchesi A, Pongiglione G, Rimini A, Longhi R, Villani A. Malattia di Kawasaki: Linee Guida italiane. Prospettive in Pediatria. 2008; 38:266-83.
3. Jennette JC, Falk RJ, Bacon PA, Basu N, Cid MC, Ferrario F, et al. 2012 Revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. Arthritis Rheum. 2013; 65:1-11.
Identity, self-image and ego development are affected by chronic diseases in a generic fashion [1], even when the disease leads to the use of devices. This is especially true when the illness is more severe and intelligence quotient is higher [2], because of a major sense of awareness. In fact a medical device can be read as sign of diversity that is in contrast with the need to look similar to one's peers or as a reason of rejection by the group. Because of this, adolescents can easily reject their diagnosis and the correct use of a device, determining the disease worsening. Body image and the development of a sense of sexuality may also be impaired using devices, which distort the physical body (e.g. special glasses, a corset, or orthopedic shoes). The need to appear as "normal", which is especially powerful during adolescence, may lead patients to abandon habits that they had previously accepted without much difficulty. The simplest and most efficient way to investigate these aspects is to ask patients about how well they manage to use the device and how they feel about it.

On the contrary, the choice of involving adolescents in using their device can be a chance to make them more responsible, explaining that having a device does not necessarily mean giving up any experiences (such as adolescents with diabetes, setting their insulin pumps during parties or school trips). If adolescents learn how to control their condition using devices, they progressively get a sense to be able to change positively or control their situation [3,4]. Furthermore, active participation in the negotiation of device use helps young people to get some ownership and control of the disease back from their parents. Adolescents represent a particularly vulnerable group which should understand their illness, especially the rationale for treatment and participation in the disease worsening.

Body image and the development of a sense of sexuality may also be impaired using devices, which distort the physical body either (e.g. special glasses, a corset, or orthopedic shoes). The need to appear as "normal", which is especially powerful during adolescence, may lead patients to abandon habits that they had previously accepted without much difficulty. The simplest and most efficient way to investigate these aspects is to ask patients about how well they manage to use the device and how they feel about it.

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Identity, self-image and ego development are affected by chronic diseases in a generic fashion [1], even when the disease leads to the use of devices. This is especially true when the illness is more severe and intelligence quotient is higher [2], because of a major sense of awareness. In fact a medical device can be read as sign of diversity that is in contrast with the need to look similar to one's peers or as a reason of rejection by the group. Because of this, adolescents can easily reject their diagnosis and the correct use of a device, determining the disease worsening. Body image and the development of a sense of sexuality may also be impaired using devices, which distort the physical body (e.g. special glasses, a corset, or orthopedic shoes). The need to appear as "normal", which is especially powerful during adolescence, may lead patients to abandon habits that they had previously accepted without much difficulty. The simplest and most efficient way to investigate these aspects is to ask patients about how well they manage to use the device and how they feel about it.

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Pediatric multiple sclerosis: clinical approach to differential diagnosis
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Pediatric multiple sclerosis (MS) is a rare disease, accounting for the 4-10% of all MS patients (with children <10y being the 17% of all pediatric patients), and it is probably not enough considered. A child at his first demyelinating episode is probably more easily diagnosed as having ADEM/ADEM (acute demyelinating encephalomyelopathy/encephalomyelopathy) even when diagnostic criteria, mostly presence of encephalopathy, are not fulfilled. Clinical and paraclinical features pointing to MS may help but are not absolute, since an ADEM-like onset occurs in 10% of pediatric MS. Strict clinical and radiological follow-up is recommended. Neuromyelitis optica spectrum disorders (NMOSD) are to be considered when optic neuritis, mostly if bilateral and with poor recovery and/or extense transverse myelitis occur, and/or when peculiar radiological involvement (dorsal brainstem, area postrema, diencephalon, periependymal region of third and fourth ventricle) is seen. Anti-aquaporin 4 antibodies may be detected or not (in the last case adjunctive, more strict radiological and clinical criteria are requested). Tumefactive demyelinating lesions may mimic clinically and radiologically a space occupying lesion and may prompt useless brain biopsy. Open-ring enhancement of the lesion is a distinctive feature. MR spectroscopy and PET-TC may be support the diagnosis. Apart from atypical demyelinating disease, the differential diagnosis of pediatric MS is broad including infections, reumathologic diseases, CNS vasculitis, neurosarcoidosis, macrophage activation syndrome (MAS), mitochondrial diseases et al. An exaustive diagnostic evaluation must therefore be performed [1], to be able to recognize the so-called red flags, which are clinical, imaging or other laboratory features suggesting alternative diagnosis [1, 2, 3, 4]. In details this diagnostic workup should include: a) brain and spine MRI (with orbital study when visual deficit is present); b) VEP, BAEP, SSEP; c) Screening for infectious diseases (blood count, ESR,CRP, serology for HSV 1-2, HZV, EBV, Mycoplasma + VDRL, Borrella,cystercerosis and HTLV tests when clinically or anamnestically supported); d) CSF analysis (including cell count, glucose, lactate, protein, intrathegal IgG synthesis bacteriascopy, colture and CSF PCR pane; e) Screening for NMOSD (Aquaporin-4 and anti-MOG antibodies); f) Screening for MAS ( ferritin and tryglicerides); g) Endocrine screening (IT4, TSH and antiTPO antibodies, when an Hashimoto encephalopathy is Suspected); h) Screening for rheumatologic disease (ANA, anti ds-DNA, ENA, LAC, ACA, anti beta2glycoprotein); i) screening for mitochondrial disease ( serum and CSF pyruvate and lactate); i) screening for nutritional disease (vitamin B12 and vitamin D).

References
1. O’Mahony J, Shroff M, Banwell B. Mimics and rare presentations of multiple sclerosis; l) screening for ENA, LAC, ACA, anti beta2glycoprotein); i) screening for mithocondrial diseases bacterioscopy, colture and CSF PCR pane; e) Screening for sympathetic bacterioscopy, culture and CSF PCR pane; e) Screening for mithocondrial diseases et al. An exaustive diagnostic evaluation must therefore be performed [1], to be able to recognize the so-called red flags, which are clinical, imaging or other laboratory features suggesting alternative diagnosis [1, 2, 3, 4]. In details this diagnostic workup should include: a) brain and spine MRI (with orbital study when visual deficit is present); b) VEP, BAEP, SSEP; c) Screening for infectious diseases ( blood count, ESR,CRP, serology for HSV 1-2, HZV, EBV, Mycoplasma + VDRL, Borrella,cystercerosis and HTLV tests when clinically or anamnestically supported); d) CSF analysis (including cell count, glucose, lactate, protein, intrathegal IgG synthesis bacteriascopy, colture and CSF PCR pane; e) Screening for NMOSD (Aquaporin-4 and anti-MOG antibodies); f) Screening for MAS ( ferritin and tryglicerides); g) Endocrine screening (IT4, TSH and antiTPO antibodies, when an Hashimoto encephalopathy is Suspected); h) Screening for rheumatologic disease (ANA, anti ds-DNA, ENA, LAC, ACA, anti beta2glycoprotein); i) screening for mitochondrial disease ( serum and CSF pyruvate and lactate); i) screening for nutritional disease (vitamin B12 and vitamin D).

References
1. O’Mahony J, Shroff M, Banwell B. Mimics and rare presentations of pediatric demyelination. Neuroimaging Clin N Am. 2013; 23:321-36.
2. Tardeu M, Deva K. Rare inflammatory diseases of the white matter and mimics of multiple sclerosis and related disorders. Neuropediatrics. 2013; 44:302-8.
3. Tenenbaum SN. Pediatric multiple sclerosis: distinguishing clinical and MR imaging features. Neuroimaging. Clin N Am. 2017; 27:229-250.
4. Brownlee WJ, Hardy TA, Fazeekas F, Miller DH. Diagnosis of multiple sclerosis: progress and challenges. Lancet. 2017; 389:1336-1346.

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The obese adolescent
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In the past decades, the prevalence of childhood obesity has strongly increased, by heightening the risk to be obese even during adolescence. Recent data, in fact, indicate that in developed countries a third of the adolescents are overweight or obese. In children and adolescents, overweight and obesity are commonly defined by using the Body Mass Index (BMI; calculated as weight in kilograms divided by height in meters squared); given a BMI value at or above the gender-specific 85th or 95th percentile growth charts for overweight and obesity, respectively. Currently, the WHO (World Health Organization) and IOTF (International Obesity Task Force) systems are the most widely used growth charts in Europe, while the Italian references are addressed to Cacciari et al. on behalf of the Italian Society for Pediatric Endocrinology and Diabetology (ISPED). Considering the seriousness of pediatric obesity epidemic and related comorbidities, recent data suggest the use of WHO references as more sensitive for clinical practice and/or obesity screening [1]. Therefore, since obesity has been linked to an unfavorable both metabolic (Metabolic Syndrome, Insulin-resistance) and cardiac (cardiac remodeling, atherosclerosis) profile, adolescents have an increased cardiometabolic risk. Indeed, it has been now widely recognized a relationship between the BMI within adolescence and consequent cardiovascular mortality in adulthood. Findings from an Israeli-adolescent population-based study have shown that an increased BMI, although within the currently accepted normal range (50-74th), is strongly related to cardiovascular and all-cause mortality in young adulthood or midlife [2]. As expected, patients with BMI values above the 84th percentile showed a higher risk of death from stroke, sudden death, and total cardiovascular causes, with an increase more steeply among the extremely obese or cardiovascular-specific death [2]. More importantly, recent data showed that the severity of obesity might identify children and young adults at greater cardiometabolic risk, especially in male gender [3]. Particularly, young patients assigned to class III obesity (>120% to 140% of the 95 th percentile or BMI ≥35) showed an increased risk for abnormal levels of HDL cholesterol, systolic blood pressure and glucose, conversely subjects assigned to class III obesity (>140% of the 95 th percentile, or BMI≥40) seem to be at higher risk for hypertriglyceridemia, elevated levels of dia-stolic blood pressure and glycated hemoglobin [2]. Thus, the persistence of obesity from childhood into the young adulthood may anticipate the onset of serious obesity-related consequences, such as diabetes or hypertension, representing a rising concern of healthcare. Given that, it has been highlighted the key role of obesity prevention and treatment. Diet, physical activity and lifestyle modifications represent the mainstay of treatment of pediatric obesity [4]. However, recent studies evaluating the effectiveness of multidisciplinary weight management programs for obese adolescents have shown moderate results on weight loss as decreased BMI, at least in the short term [5]. Due to conflicting findings from lifestyle programs, weight loss surgery might be considered a valid option for selected young severe obese patient with significant comorbidities who failed medical treatment. To this purpose, recent evidence supports the effectiveness and safety of bariatric surgery, suggesting it as a possible valid option for the treatment of extremely severe obesity in adolescence [6]. A recent multicenter prospective study examined the weight-loss surgery (gastric bypass or sleeve gastrectomy) among adolescents through three follow-up years after the procedure, underscoring its positive effect not only on cardiometabolic health but also in weight-related quality of life in these subjects, although it was reported a specific micronutrient deficiency (e.g. iron and vitamin B 12) and the need for consequent abdominal procedures [6]. In light of this, therefore, an increasingly growing awareness of the future burden of cardiovascular and metabolic diseases is imperative in order to provide an adequate management of adolescent obesity in health care.

References
1. Valerio G, Balsamo A, Baroni MG, Bruñani C, Forzato C, Grugni G, et al. Childhood obesity classification systems and cardiometabolic risk factors: a comparison of the Italian, World Health Organization and International Obesity Task Force references. Ital J Pediatr. 2017; 43:19.
2. Twigg G, Yaniv G, Levine H, Leiba A, Goldberner N, Deraze E. Body-mass index in 2.3 million adolescents and cardiovascular death in adulthood. N Engl J Med. 2016; 374:2430-40.
Acute bronchiolitis is the main cause of respiratory illness requiring hospitalization in children under 2 years of age and the trend in hospitalization rate has been increasing in recent years [1]. Mainly due to Respiratory Syncytial Virus (RSV) infection, the disease leads to hospitalization in only 1% of the children. However, considering that virtually all children before the age of 2 years could be infected, the cost of the disease determined by hospital admissions is elevated. In the United States, it has been shown that the burden of the disease is considerable, having an annual cost of more than $500 million [2] and being responsible for 17% of all infant hospitalizations [2]. Even though immune prophylaxis with monoclonal antibodies (Palivizumab* has shown promising results in terms of reduction of the prevalence of the disease, this strategy cannot be applied to the whole population because of the high costs [3].

Considering therapeutic options, the mainstays for treatment are supplemental oxygen and hydration [3]. Other types of treatment remain controversial. Corticosteroid denied positive effect in wheezing and hospitalisation rate [3, 4]. The role of bronchodilators is debated; bronchiolitis is characterized as predominant pathological features, by airway edema and mucus plugging rather than bronchospam and adrenergic agents used did not assure univocal results [3, 5-7]. In bronchiolitis, viral infection causes peribronchial mononuclear infiltration and epithelial cell necrosis, submucosal edema, increased secretion of mucus and a relative dehydration of the airway surface liquid. Nebulized hypertonic saline solution (HS) may substantially contribute to airway rehydration, reducing edema, enhancing ciliary activity.

The use of HS was demonstrated to be effective to decrease symptoms [8, 9] and length of hospitalization in association to β-adrenergic drugs [9, 10]. In a pre-hospital setting, Al-Ansari et al. compared the effects of 5% vs 3% HS in addition to epinephrine, showing a better response to the more concentrated solution in term of clinical severity scores [11]. More recently, it has been shown that in the treatment of acute bronchiolitis in an emergency department setting, the use of nebulized 3% HS added to epinephrine did not improve clinical outcomes more than normal saline (NS) and epinephrine [12].

In an Italian study, Miraglia del Giudice M et al [13] have shown that, infants hospitalized for bronchiolitis treated with 3% hypertonic saline nebulization presented a more rapid decrease of respiratory symptoms and ameliorated the general condition compared to infants treated with 0.9% saline solution and epinephrine. The effect was already significant after the first 24 hours of therapy and was sustained through the third day of treatment, allowing to discharge the infants treated with 3% HS one day earlier than the NS treated group.

However, therapies that may contribute to the reduction in hospital stay could potentially greatly reduce health costs related to bronchiolitis [2].

References

1. Garcia CG, Bhore S, Soriano-allas F, Trost M, Chason R, Ramilo O, et al. Risk factors in children hospitalized with RSV bronchiolitis versus non-RSV bronchiolitis. Pediatrics. 2010; 126:1453-60.
2. Pelletier AJ, Mbanbach JM, Camargo CA. Direct medical costs of bronchiolitis hospitalizations in the United States. Pediatrics. 2006; 118:2418-23.
3. American Academy of Pediatrics. Subcommittee on Diagnosis and Management of Bronchiolitis. Pediatrics. 2006; 118:1774-93.
4. Corneli HM, Zorc JJ, Mahajan P, Shaw KN, Holubkov R, Reeves SD, et al. Bronchiolitis Study Group of the Pediatric Emergency Care Applied Research Network (PECARN). A multicenter, randomized, controlled trial of dexamethasone for bronchiolitis. N Engl J Med. 2007; 357:331-9.
5. Gadomski AM, Bhasale AL. Bronchodilators for bronchiolitis. Cochrane Database Syst Rev. 2006; (3):CD001266.
6. Wainwright C, Altamirano L, Cheney J, Barber S, Price D, et al. A multicenter, randomized, double-blind, controlled trial of nebulized epinephrine in infants with acute bronchiolitis. N Engl J Med. 2003; 349:27-35.
7. Florin TA, Flint AC, Zorc JJ. Viral bronchiolitis. Lancet. 2017; 389:211-224.
8. Sarrell EM, Tal G, Witzling M, Someck E, Houri S, Cohen HA, et al. Nebulized 3% hypertonic saline solution treatment in ambulatory children with viral bronchiolitis decreases symptoms. Chest. 2002; 122:2015-20.
9. Mandelberg A, Tal G, Witzling M, Someck E, Houri S, Balin A, et al. Nebulized 3% hypertonic saline solution treatment in hospitalized infants with viral bronchiolitis. Chest. 2003; 123:481-7.
10. Baron J, E-Chara G. Hypertonic saline for the treatment of bronchiolitis in infants and young children: a critical review of the literature. J Pediatr Pharmacol Ther. 2016; 21:7-26.
11. Al-Ansari K, Sakran M, Davidson BL, El Sayyed R, Mahjour B, Ibrahim K. Nebulized 3% or 3% hypertonic or 0.9% saline for treating acute bronchiolitis in infants. J Pediatr. 2010; 157:630-4.
12. Grewal S, Ali S, McConnell DW, Vandermeer B, Klassen TP. A randomized trial of nebulized 3% hypertonic saline with epinephrine in the treatment of acute bronchiolitis in the emergency department. Arch Pediatr Adolesc Med. 2009; 163:1007-12.
13. Miraglia Del Giudice M, Saitta F, Leonardi S, Capasso M, Niglio B, Cinellato I, et al. Effectiveness of nebulized hypertonic saline and epinephrine in hospitalized infants with bronchiolitis. Int J Immunopharmacol Pharmacol. 2012; 25:485-491.

A52 Primary immunodeficiencies: from newborn screening to personalized medicine

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Severe Combined Immune Deficiency (SCID) is inevitably fatal within the first years of life, unless treated by hematopoietic cell transplantation (HCT). The outcome of HCT for SCID is influenced by several factors: donor-recipient HLA matching, genetic type of SCID, transplant-related toxicity, infections, graft-versus-host disease, and quality of immune reconstitution. A few years ago, Dr. Buckley’s group reported that survival is superior in infants with SCID who receive HCT at <3.5 months of life than in those treated later in life [1]. More recent data from the Primary Immune Deficiency Treatment Consortium have shown that the clinical status of the patient at the time of transplant (lack or presence of active infections) is a better predictor of the outcome of transplant [2]. Overall, these data emphasize the importance of early diagnosis and treatment of SCID. Newborn screening for SCID is widely available in the United States. As a result of its implementation, the number of babies with SCID who go to transplant with active infection has dramatically decreased, and survival after HCT has significantly improved.
Characterization of the genetic and molecular pathophysiology of primary immune deficiencies (PIDs) may also open new therapeutic perspectives. For example, a group of patients with Autoimmune Lymphoproliferative Syndrome (ALPS) have been diagnosed to carry CTLA4 haploinsufficiency [3]. In these patients, who develop lymphocytic infiltrates in the brain, lungs, and gut, decreased expression of CTLA4 leads to uncontrolled T cell activation, and in particular increased signaling through the mTOR pathway. Administration of the chimeric molecule CTLA4-lg, possibly in combination with an mTOR inhibitor (sirolimus) has dramatically improved the clinical status of the patients [4].

Finally, leukocyte adhesion deficiency type 1 (LAD1) is characterized by inability of neutrophils to transmigrate and reach sites of infection/inflammation. These patients suffer from serious infections, cutaneous ulcers, and periodontopathy (leading to loss of teeth). Studies in patients and in animal models have shown that neutrophils that transmigrate to the oral mucosa inhibit macrophage activation by products of the microbial flora. In patients with LAD1, macrophage activation leads to increased release of IL-23 that acts upon Th17 cells favoring production of IL-17 which causes tissue damage. Administration of the monoclonal antibody ustekinumab (which inhibits IL-12/IL-23) leads to dramatic improvement of the periodontopathy in those patients [3].

Inhibitor (sirolimus) has dramatically improved the clinical status of the patients [4].

In patients with LRBA deficiency show CTLA4 loss of function (LOF) mutations in CTLA4. Science. 2014; 345:1623-7.

Autoimmune disease. Patients with LRBA deficiency show CTLA4 loss of function (LOF) mutations in CTLA4. Science. 2014; 345:1623-7.

Primary immunodeficiencies (PIDs) represent a diagnostic challenge for clinicians [1]. Beyond the classical spectrum phenotype of severe Combined Immunodeficiencies (SCID), atypical clinical manifestations including immune dysregulation often manifesting as autoimmunity, can make diagnosis difficult [2]. The introduction of next generation sequencing methodologies has revolutionized the field of immunogenetics and has led to the recent discovery of a large variety of single-gene abnormalities associated with PIDs [3]. This has allowed moving beyond the classical model of loss of function (LOF) mutation, identifying gain of function (GOF) mutations for the same genes already associated with immunodeficiency, such as those already known in STAT1 and STAT3 [4]. The exponential discovery of genetic defects in patients with previously undefined PIDs have contributed to improve our understanding of this group of disorders and has opened up the potential for targeted therapy directed at the specific disease-causing abnormality. The final aim is to establish a direct link between PID-specific genetic defects and the associated alteration in cellular signaling pathways in order to tailor targeted therapies. These therapeutic strategies include molecules that either block or enhance cellular pathways, based on the pathogenic mechanism. An interesting model of a targeted therapy focused on the specific GOF mutation is represented by the experimental use of PI3K catalytic subunit p110δ in patients with Activated PI3K Delta Syndrome (APDS). In our patient, the use of such molecule reduced the need of immune suppression, thus limiting the administration of IVIG and immunosuppressive drugs. Mechanism-based targeted therapies are currently applied in other selected PIDs such as X-MEN, SAVI syndrome, cytotoxic lymphocyte antigen 4 (CTLA4) haploinsufficiency representing a real opportunity to improve the quality of life and survival of the patients and to reach novel insights of these diseases [5]. In line with this personalized strategies, a multi-disciplinary team of specialists together with the availability of registries and international network are crucial elements that help health care providers to optimize patient-tailored interventions and to select therapies that are more precise, efficient and safe. A similar approach is required in the field of vaccination for immunocompromised children. In this population, validated correlates of protection to identify risk of incomplete or waning immunity are currently lacking and a personalized schedule is required to provide effective and long-term protection [6,7]. Together these approaches, driven by steady progress in the immunopathogenesis, define the basis for treating PIDs in the age of precision medicine (Fig. 1).

References

1. Myers LA, Patel DD, Puck JM, Buckley RH. Hematopoietic stem cell transplantation for severe combined immunodeficiency in the neonatal period leads to superior thymic output and improved survival. Blood. 2002; 99:872-8.
2. Pai SY, Logan BR, Griffith LM, Buckley RH, Parrott RE, Dvorak CC, et al. Transplantation outcomes for severe combined immunodeficiency, 2000-2009. N Engl J Med. 2014; 371:434-46.
3. Kuehn HS, Ouyang W, Lo B, Deenick EK, Niemela JE, Avery DT, et al. Immune dysregulation in human subjects with heterozygous germine mutations in CTLA4. Science. 2014; 345:1623-7.
4. Bo L, Zhang K, Lu W, Zheng L, Zhang Q, Kanellopoulou C, et al. Autoimmune disease. Patients with LRBA deficiency show CTLA4 loss and immune dysregulation responsive to abatacept therapy. Science. 2015; 349:436-40.
5. Moutopoulos NM, Zeber CS, Wild T, Dutzan N, Brenchley L, DiPasquale G, et al. Interleukin-12 and interleukin-23 blockade in leukocyte adhesion deficiency type 1. N Engl J Med. 2017; 376:1141-1146.

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The application of precision medicine in primary immunodeficiencies (PIDs): from “different therapeutic approach for each disease” to “different approach for each patient”

Targeting strategies for primary immunodeficiencies (PIDs): models of precision medicine. Toward personalized treatment strategies in primary immunodeficiencies (PIDs)

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Primary immunodeficiencies (PIDs) represent a diagnostic challenge for clinicians [1]. Beyond the classical spectrum phenotype of severe Combined Immunodeficiencies (SCID), atypical clinical manifestations including immune dysregulation often manifesting as autoimmunity, can make diagnosis difficult [2]. The introduction of next generation sequencing methodologies has revolutionized the field of immunogenetics and has led to the recent discovery of a large variety of single-gene abnormalities associated with PIDs [3]. This has allowed moving beyond the classical model of loss of function (LOF) mutation, identifying gain of function (GOF) mutations for the same genes already associated with immunodeficiency, such as those already known in STAT1 and STAT3 [4]. The exponential discovery of genetic defects in patients with previously undefined PIDs have contributed to improve our understanding of this group of disorders and has opened up the potential for targeted therapy directed at the specific disease-causing abnormality. The final aim is to establish a direct link between PID-specific genetic defects and the associated alteration in cellular signaling pathways in order to tailor targeted therapies. These therapeutic strategies include molecules that either block or enhance cellular pathways, based on the pathogenic mechanism. An interesting model of a targeted therapy focused on the specific GOF mutation is represented by the experimental use of PI3K catalytic subunit p110δ in patients with Activated PI3K Delta Syndrome (APDS). In our patient, the use of such molecule reduced the need of immune suppression, thus limiting the administration of IVIG and immunosuppressive drugs. Mechanism-based targeted therapies are currently applied in other selected PIDs such as X-MEN, SAVI syndrome, cytotoxic lymphocyte antigen 4 (CTLA4) haploinsufficiency representing a real opportunity to improve the quality of life and survival of the patients and to reach novel insights of these diseases [5]. In line with this personalized strategies, a multi-disciplinary team of specialists together with the availability of registries and international network are crucial elements that help health care providers to optimize patient-tailored interventions and to select therapies that are more precise, efficient and safe. A similar approach is required in the field of vaccination for immunocompromised children. In this population, validated correlates of protection to identify risk of incomplete or waning immunity are currently lacking and a personalized schedule is required to provide effective and long-term protection [6,7]. Together these approaches, driven by steady progress in the immunopathogenesis, define the basis for treating PIDs in the age of precision medicine (Fig. 1).

References

1. Picard C, Al-Herz W, Bousifia A, Casanova JL, Chatilla T, Conley ME, et al. Primary immunodeficiency diseases: an update on the classification from the International Union of Immunological Societies Expert Committee for Primary Immunodeficiency 2015. J Clin Immunol. 2015; 35:969-726.
2. Giardino G, Gallo V, Prencipe R, Gaudino G, Romano R, De Cataldis M, et al. Unbalanced Immune System: Immunodeficiencies and Autoimmunity. Front Pediatr. 2016; 4: 107.
3. Gallo V, Dotta L, Giardino G, Cirillo E, Lougardis V, D’Assante R et al. Diagnostics of primary immunodeficiencies through next-generation sequencing. Front Immunol. 2016; 7:466.
4. Milner JD, Vogel TP, Forbes L, Ma CA, Stray-Pedersen A, Niemela JE, et al. Early-onset lymphoproliferation and autoimmunity caused by germline STAT3 gain-of-function mutations. Blood. 2015; 125:591–599.
5. Notarangelo LD, Fleisher TA. Targeted strategies directed at the molecular defect: Toward precision medicine for select primary immunodeficiency disorders. J Allergy Clin Immunol.2017; 139:715-23.
6. Cagigi A, Cotugno N, Rinaldi S, Santilli V, Rossi P, Palma P. Downfall of the current antibody correlates of influenza vaccine response in yearly vaccinated subjects: Toward qualitative rather than quantitative assays. Pediatr Allergy Immunol. 2016; 27:22-7.
7. Cagigi A, Cotugno N, Giaquinto C, Nicolosi L, Bernardi S, Rossi P, et al. Immune reconstitution and vaccination outcome in HIV-1 infected children: present knowledge and future directions. Hum Vaccin Immunother. 2012; 8:1784-94.
Neonatal stabilization before transport

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Neonates who require care that cannot be provided in the referral center need to be transferred to the most appropriate location for their clinical conditions. An interfacility transport may bring additional risks to an already critically ill neonate [1]; thus, it should be performed, where available, by a Neonatal Emergency Transport Service (NETS) who has the resources to reduce these risks [2]. Proper patient stabilization before transport is essential to reduce adverse events and to prevent clinical deterioration that may occur during transport [3,4]. Therefore, every center, regardless of its perinatal level, should be able to perform effective resuscitation and stabilization meanwhile awaiting for the transport team.

It has been shown how the lower level of care of the referring hospital, the lower gestational age and the medical reason for transport (compared to surgical) are among factors that increases the stabilization time required by the neonatal transport team at the referral center [5]. Perinatal history, severity and requirements of infant conditions should be appropriately assessed and reported to the transport coordinating center (or transport team), at the time of transfer request, in order to formulate an initial management and transport plan. The transport team will provide consultation and advice to the personnel at the referring center, when required. Stabilization should ensure that physiological parameters are satisfactory: airway, oxygenation, cardiovascular, metabolic and thermal stability should be obtained, maintained and monitored. Special conditions can be encountered and the personnel at the referral center should be trained and equipped to face also with the most challenging scenarios (e.g. pneumothorax, surgical conditions, congenital heart disease, persistent pulmonary hypertension of the newborn, hypoxic ischemic encephalopathy requiring hypothermia). Written consent to transport and other procedures (e.g. hypothermia) should be obtained by parents, who should also be updated about baby’s clinical conditions and encouraged to reach the receiving hospital as soon as it will be possible. On the arrival of the transport team a structured verbal hand-over should be provided together with the referral letter, results of investigations, images, and the other documentation available. A debriefing among personnel of the referral center should be considered after the management of critical cases. Guidelines for stabilization and resuscitation should be available in every referral centre. Outreach education programs regarding resuscitation and pre-transport stabilization should be periodically performed by the Hub centers or by the transport coordinating centers, also adopting the recent techniques of high-fidelity simulation.

References
1. Arora P, Bajaj M, Natarajan G, Autar NP, Kalra VK, Zidane M, et al. Impact of interhospital transport on the physiologic status of very low-birthweight infants. Am J Perinatol. 2014; 31:237-244.
2. Agostino R, Aufieri R, Gente M. Neonatal transport services. In: Buonocore G, Bracci R, Weindling, M. Neonatology: A practical approach to neonatal diseases. Cham (ZG Switzerland): Springer International Publishing; 2016.
3. Whitfield JM, Buser MK. Transport stabilization times for neonatal and pediatric patients prior to interfacility transfer. Pediatr Emerg Care. 1993; 9:69-71.
4. Goldsmith G, Rabasa C, Rodriguez S, Aguiche Y, Valdés M, Pretz D, et al. Risk factors associated to clinical deterioration during the transport of sick newborn infants. Arch Argent Pediatr. 2012; 110:304-309.
5. Gente M, Di Lallo D, Franco F, Aufieri R, Paolillo P, De Curtis M, et al. Stabilization of the critically ill neonate awaiting transport. Ital J of Pediatr. 2015; 41:A15

Adolescence is a time of significant changes. Developmental process among adolescents may include achieving independence from family, formulating values and self-concept, conforming to social norms of peer groups, minimizing differences from one’s peers, forming own identity, are all common developmental processes among adolescents. A chronic illness affects all of these issues. Diabetes is a complex disease that interferes with developing of personal identity and body image, affecting self-esteem, blocking the path towards autonomy, enhancing depressive and opposing features. Diabetes becomes the focus of conflicts [1]. The need to adhere to the habits of the peers and the behavioral patterns imposed, contrasts with good diabetes care practices, generating rebellion and disease negation, with omission of insulin dose, inadequate or at risk behaviors. Family system theory considers adolescents behavior as a function of the dynamic interactions between family members. Diabetes is a Family Condition [2]. Low levels of family conflict and stress, high levels of cohesion and organization, good communication skills, and appropriate involvement of both parents and children in diabetes management, have been associated with higher levels of regimen adherence. Recent studies also suggest that when the fathers are involved in diabetes management, the usual decline in treatment adherence in adolescence is less observed and quality of life is better [3]. The deterioration in glycemic control during adolescence has been widely documented. Females appear to have a higher level of mismanagement of diabetes than males, particularly those in late adolescence, with recurrent admissions for diabetic ketoacidosis. Glycemic failure is often used to lose body weight. Eating disorders such as anorexia, bulimia, binge eating, purging, excessive exercising, and food deprivation occur more often among adolescent girls with diabetes [4]. The Hvidore Study performed in 2,101 adolescents, aged 10-18 years, from 21 centres, who were evaluated through the Diabetes Quality of Life questionnaire, concluded that lower HbA1c was associated with lower impact, fewer worries, greater satisfaction and better health perception in adolescents and showed a direct relationship between general well-being and metabolic control. Diabetes is a risk factor for developing psychological problems in adolescence [5]. The SEARCH Study reported that 14% of youth were mildly depressed and 8.6% were moderately/severely depressed [6]. Diabetes-
related characteristics associated with depression in adolescents include poor adherence to treatment and duration of disease. Furthermore, a strong correlation with maternal depression has been described [7].

Complexity of diabetes management in adolescence need a multidisciplinary team trained to support this process.

References
1. Weissberg-Benchell J, Nansel T, Holmbeck G, Chen R, Anderson B, Wysocki T, et al. Generic and diabetes-specific parent-child behaviors and quality of life among youth with type 1 diabetes. J Pediatr Psychol. 2009; 34:977–988.
2. Minuchin, P. Families and individual development: Provocations from the field of family therapy. Child Development. 1985; 56:289–302.
3. Wysocki T, Gavin L. Paternal involvement in the management of pediatric chronic diseases: Associations with adherence, quality of life, and health status. J Pediatr Psychol. 2006; 31:501–511.
4. Peveler RC, Bryden KS, Neil HAW, Fairburn CG, Mayou RA, Dunger DB, et al. The relationship of disordered eating habits and attitudes to clinical outcomes in young adult females with type 1 diabetes. Diabetes Care. 2005; 28:84–88.
5. Hoey H, Aarnoot HJ, Chiarelli F, Daneman D, Denne T, Dorchi H, et al. Good metabolic control is associated with better quality of life in 2:10 adolescents with type 1 diabetes. Diabetes Care. 2001; 24:1923–1928.
6. Lawrence JM, Staniford DA, Loots B, Klingensmith GJ, Williams DE, Ruggiero A, et al. Prevalence and correlates of depressed mood among youth with diabetes: The SEARCH for Diabetes in Youth Study. Pediatrics. 2006; 117:1348–1358.
7. Whittmore R, Kanner S, Singleton S, Hamrin V, Chiu J, Grey M. Correlates of depressive symptoms in adolescents with type 1 diabetes. Pediatr Diabetes. 2002; 3:135–143.

A56 Acute post-infectious glomerulonephritis: is it always so benign?
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Acute Post-Infectious Glomerulonephritis (PIGN) is a common disorder in children, caused by a reactive immunological process that develops following an infection, classically by a streptococcus. Circulating and/or in situ Immune Complexes are deposited and/or formed in the kidney, causing activation of the complement alternative pathway (CAP). The typical clinical presentation is gross hematuria, mild proteinuria, hypertension, edema and renal function impairment. The laboratory hallmark is the low C3 serum level due to the activation of CAP. Histologically PIGN is characterized by acute exsudative proliferation of glomeruli on Light Microscopy (LM) and C3 and Ig deposition on Immunofluorescence (IF). C3 Glomerulopathy (C3G), a recently described entity, is caused by dysregulation of CAP and is characterized by predominant C3 and scanty Ig deposits in glomeruli. It includes C3 Glomerulonephritis, characterized by specific distribution pattern of C3 deposits, and the Dense Deposit Disease characterized by electron-dense deposits in the glomerular basement membrane. The majority of cases of typical acute PIGN shows recovery within a few days to weeks. In a small percentage of patients, however, the glomerulonephritis takes longer to resolve resulting in persistent hematuria and proteinuria, or even progression to end-stage kidney disease. These patients with ‘atypical’ PIGN may have an underlying defect in the regulation of CAP. These defects include mutations in complement regulating proteins and antibodies to the C3 convertase known as C3 nephritic factors. Hence, the sequence is continuing glomerular deposition of complement factors with resultant inflammation and development of an ‘atypical’PIGN. In these cases it is recommended to perform kidney biopsy for the evaluation on LM, IF and EM and the molecular genetic analysis of C3 and factors regulating its activation. At Santobono children’s hospital in Naples, Unit of Nephrology, we observed, from 2001 to 2016, 194 children (120 M, 74 F; M/F: 1.7, mean age: 5.6 yrs) affected by PIGN. Among these patients 35/194 (18 %) exhibited an atypical PIGN and were submitted to renal biopsy. Sixteen (8%) had a morphological pattern of C3G with predominant C3 deposits. In 12 of them CAP was studied, in 5 we could find mutations in C3 and its regulatory factors. Conclusions: the diagnosis of PIGN in children remains globally excellent, but a major attention should be reserved to atypical forms due to the possibility of a worse renal prognosis and, mainly, to the chance to treat them with complement targeted drugs, as the Eculizumab, humanized monoclonal antibody which blocks C5 convertase and so production of C5b9, membrane attack complex [1].

Reference
1. Ghaithi B, Chanchlani R, Bield M, Thorner P, Licht C. C3 Glomerulopathy and post-infectious glomerulonephritis define a disease spectrum. Pediatr Nephrol. 2016; 31:2079-86.

A57 Systematic integrated national program for the management of asplenia in Italy
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Background
Asplenia is a condition due to spleen absence or dysfunction, which leads to high risk of infections and thrombotic events with significant chance of mortality and morbidity. A number of national and international recommended interventions in asplenic patients [1,2] has been published but adherence to recommendations was shown to be poor [3]. The cost to the health system of asplenia-related complications can be significant, and systematic approaches were demonstrated to be cost-effective [4]. In Italy no common policy of patient care has yet been developed, and management of asplenia is mainly carried out locally. The aim of this study was to investigate the feasibility of a national program for the management of asplenia and to create a national working group focused on asplenic patients.

Materials and methods
Centers of the Italian Association of Pediatric Hematology Oncology (AIEOP) and the Italian Society of Thalassemia and Hemoglobinopathies (SITE) were invited to participate in the Italian Network on Asplenia. The coordinating centre sent a registration form to all doctors who formally agreed to the proposal.

Results
Thirty-six care centers formally agreed to the project. Asplenic patients were registered in an electronic database in order to conduct a national census of asplenic patients. Data about reason and duration of asplenia, type of surgery and post-surgery complications for splenectomized patients, long term infectious and thrombotic complications, antibiotic and vaccine prophylaxis and causes of death were entered in an electronic case report forms. At the last update, the database included data from 1312 patients. Meetings of involved parties were held to discuss key points in the management of asplenic patients and to develop a consensus on recommendations for patient care. A national working group of experts developed an algorithm to instruct in the fast and appropriate management of infections in asplenic children.

Conclusions
This is the first systematic approach to the management of asplenia in Italy and the most recent program in Europe, as previous reports are long-standing [4]. Comprehensive national project is feasible in Italy. Till now the main concern for asplenic patients has been the high risk of overwhelming infections, but there is a growing body of knowledge on thrombotic risk in asplenic patients. The novelty of this project consists in collecting data regarding this issue, which has been neglected so far. Finally, this project has the potential for implementing research and public health purposes in this target population at a national level.
New treatments for asthma in children

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Most asthmatic patients can be controlled by stepwise approach described in current available guidelines with inhaled steroids, LABA and LTRA. However, new treatments are currently under evaluation to improve asthma control. In particular, interventions on the immune-pathogenesis of the disease, such as T-helper type 2 (Th2) inflammation, mediated by interleukin (IL)-4, IL-5, IL-9 and IL-13, which are involved in the pathway of allergic asthma [1], are actively evaluated.

Several different treatments have been proposed to prevent T-cell activation, to modulate Th1/Th2 differentiation, inhibit Th2 related cytokines and inhibit the mediators involved in the disease [2]. In children, the inhibition of the downstream mediators through the use of anti-IgE has been shown to represent a promising approach for the treatment of severe asthma [3].

Omalizumab, a monoclonal human antibody which can antagonize the role of IgE in the pathogenesis of the allergic asthma, is a currently available clinical option for the treatment of children with severe asthma [4]. A number of other antibodies have been evaluated in asthma, including anti-IL-5 (Mepolizumab), anti-IL-4 (Pascolizumab), anti-IL-13 (Lebrikizumab). Interleukin 5 (IL-5), in particular play a pivotal role in eosinophil activation and airway hyperresponsiveness [5]. It can act on the migration of eosinophils to the sites of inflammation as well as in promoting the survival of eosinophils by preventing apoptosis. A number of studies suggest a rationale for the modulation of eosinophil inflammation in asthma showing a potential emerging strategy with anti-IL-5 antibody (Mepolizumab) in the treatment of asthma [6]. Dupilumab is a recently developed monoclonal antibody targeting IL-4/IL-13 which has been evaluated in the treatment of asthma in adults and is under evaluation in children.

Further potential targets for new anti-asthma treatments targeting airway inflammation may include anti-TNFα, anti-CCR3, anti-CCR4 and anti-OX40L, but they still are under pre-clinical evaluation.

New strategies to improve asthma control have been proposed in the recent years and are currently under development and evaluation to the purpose of achieving a tailored approach to asthma treatment in children.
swat, weight loss, fatigue, petechiae or other hemorrhagic lesions; persistent hepatosplenomegaly; symptoms related to mediastinal and/or abdominal masses [6]. Moreover, the presence of lymph nodes with suspected pathological signs, associated with the increase of lactate-dehydrogenase levels (>600 IU/l), must be investigated by imaging techniques [1].

Conclusions
This systematic review lacks to identify any particular papers focusing on the LAP in adolescence. The management of LAP should follow pediatric guideline keeping in mind all differential diagnosis.

References
1. Yaris N, Calc M, Sozen E, Cobanoglu U. Analysis of children with peripheral lymphadenopathy. Clin Pediatr (Philadelphia). 2006; 45:544-9.
2. Citak EC, Koku N, Demirci M, Tanyeri B, Deniz H. A retrospective chart review of evaluation of the cervical lymphadenopathies in children. Auris Nasus Larynx. 2011; 38:618-21.
3. Sender L, Zabokrtsky KB. Adolescent and young adult patients with cancer: a milieu of unique features. Nat Rev Clin Oncol. 2015; 12:465-80.
4. NICE. Suspected cancer: recognition and referral. 2015. Available in https://www.nice.org.uk/guidance/ng12. Accessed in July 7 2017.
5. Group AW, CCM, Group AW. Italian cancer figures, report 2012: Cancer in children and adolescents. Epidemiol Prev. 2013; 37:1-225.
6. Chiappini E, Camaioni A, Benazzo M, Biondi A, Bottiro S, De Mas S, et al. Development of an algorithm for the management of cervical lymphadenopathy in children: consensus of the Italian Society of Preventive and Social Pediatrics, jointly with the Italian Society of Pediatric Infectious Diseases and the Italian Society of Pediatric Otorhinolaryngology. Expert Rev Anti Infect Ther. 2015; 13:1557-67.
7. Oguz A, Karadeniz C, Temel EA, Citak EC, Okur FV. Evaluation of peripheral lymphadenopathy in children. Pediatr Hematol Oncol. 2006; 23:549-61.
8. Kim JY, Lee H, Yun B. Ultrasonographic findings of Kikuchi cervical lymphadenopathy in children. Ultrasongraphy. 2017; 36:66-70.
9. Price S, Shaw PA, Setza J, Joshi G, Davis J, Niemela JE, et al. Natural history of autoimmune lymphoproliferative syndrome associated with FAS gene mutations. Blood. 2014; 123:1989-99.

A60 What is pediatric multiple sclerosis? What is special, what is new, what do we really need to know?
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Over the past two decades, pediatric multiple sclerosis (MS) has emerged from a denied and ignored disease to a well-recognized disorder, moving into the focus of international research efforts, but also attracting growing public attention. There has been an exponential increase in publications, with more than 300 peer-reviewed articles on pediatric MS over the past 10 years. With rising diagnostic awareness of pediatric MS, the paradigm of early treatment emerged as a consensus standard of care. However, early diagnosis and treatment of pediatric MS is being complicated by the fact that there is no single disease-defining diagnostic test, that there are MS mimics in childhood as compared to adult-onset MS, and that the results of the first pediatric MS therapeutic drug trials are still pending. This presentation will aim to summarize the most up-to-date, clinically relevant knowledge on pediatric MS, including epidemiology, pathophysiology, etiology, genetic and environmental risk factors, diagnostic criteria, biomarkers, prognostic factors and outcome. The other speakers in this symposium will additionally cover the crucial topics of differential diagnosis, therapeutic strategies, and Italian MS projects and networks.

Pediatric MS and other inflammatory CNS demyelinating diseases constitute a group of disorders with potentially devastating irreversible neurological consequences. I hope that this symposium will facilitate the best possible care for those young patients, by providing the knowledge basis and expert opinions required for informed decisions with regards to diagnostic and treatment strategies. Future research will hopefully elucidate preventative approaches, and provide more reliable information with regards to treatment risks and responses. In view of the relatively low incidence of pediatric demyelinating disorders, a collaborative, international approach is required.

A61 Hyperglycemia in the adolescent: from the pathogenesis to the therapy
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The term diabetes mellitus describes a complex metabolic disorder characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Diabetes usually presents with symptoms such as polyuria, polydipsia, nocturia/enuresis, and weight loss. In its most severe form, ketoacidosis may develop. If symptoms are present, urinary ‘‘dipstick’’ testing for glycosuria and ketonuria, or measurement of glucose and ketones using a glucometer, must be performed [1-2]. The etiology of diabetes is heterogeneous but most cases can be classified into two etiopathogenetic categories: type 1 diabetes (T1D; absolute deficiency of insulin secretion); type 2 diabetes (T2D; combination of resistance to insulin action and an inadequate compensatory insulin secretory response) [2]. T1D is characterized by chronic autoimmune destruction of pancreatic β-cells by CD4+ and CD8+ T-cells and macrophages infiltrating the islets. The etiology is multifactorial and the specific roles for genetic susceptibility, environmental factors, the immune system, and β-cells in the pathogenic processes underlying T1D remain unclear. All patients with T1D will require insulin therapy that must be started as soon as possible after diagnosis. Whatever insulin regimen is chosen, it must be supported by comprehensive education [2]. T2D is highly associated with a family history of diabetes, obesity and lack of exercise and most affected individuals exhibit visceral obesity. The two main pathological defects are impaired insulin secretion through a dysfunction of the pancreatic β-cell, and impaired insulin action through insulin resistance [1]. Unlike T1D, there is no identified autoimmune process leading to inadequate insulin secretion in T2D and inadequate insulin secretion appears to result from genetic, environmental, and metabolic causes that may differ between individuals [3]. Lifestyle change should be initiated at the time of diagnosis. Initial T2D treatment of youth is determined by symptoms, severity of hyperglycemia, and presence or absence of ketosis/ketoacidosis. Pharmacologic therapy should include metformin and insulin alone or in combination [4]. Finally, the maturity-onset diabetes of the young (MODY) is a familial form of mild and non-ketotic hyperglycemia diagnosed before twenty-five years. It results from dominantly acting heterozygous mutations in genes involved in the development or function of pancreatic β-cells. The early molecular diagnosis helps predict the expected clinical course and guide the most appropriate management, including pharmacological treatment [5]. In conclusion, there is considerable overlap in the presentation of T1D, T2D, and monogenic diabetes. The early differentiation between different forms of diabetes has important implications for both treatment and education.

References
1. American Diabetes Association. Classification and diagnosis of diabetes. Diabetes Care. 2015; 38: B1-16.
2. Craig ME, Jefferies C, Dabelea D, Balde N, Seth A, Donaghe KC. Definition, epidemiology, and classification of diabetes in children and adolescents. Pediatr Diabetes. 2014; 15:4–17.
3. Druet C, Tubiana-Ruel N, Chevonne D, Rigal O, Polak M, Levy-Marchal C. Characterization of insulin secretion and resistance in type 2 diabetes of adolescents. J Clin Endocrinol Metab. 2006; 91: 401–404.
4. Zeitler P, Fu J, Tandon N, Nadeau K, Utakami T, Bartlett T, Maahs D. Type 2 diabetes in the child and adolescent. Pediatr Diabetes. 2014; 15:26–46.
Diabetes ketoacidosis management in adolescents with type 1 diabetes: lights and shadows
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Diabetic ketoacidosis (DKA) is an acute emergency that occurs both in newly diagnosed patients and in those with known diabetes. In a recent longitudinal population-based study the frequency of DKA at the onset of type 1 diabetes in Italian children under 15 years of age, during 2004–2013, was 40.3% (95% CI: 39.3–41.4%), with 29.1% and 11.2% for mild/moderate and severe DKA, respectively. Severe DKA increased significantly during the period; younger-age children and children living in Southern Italy compared to Central Italy were at significantly higher risk of DKA and severe DKA [1]. The incidence of DKA in Italian children and adolescents with known diabetes is 2.4 events/100 patient-years and adolescence in female gender is one of the higher risk factor [2-3].

The primary goals of DKA therapy are to correct dehydration and electrolyte depletion and reverse ketoacidosis. It should be noted that all used guidelines are based on limited high-quality scientific evidence and much of the content is based on expert consensus. Nevertheless, it is important to have written recommendations to improve DKA management and increase the effectiveness and safety of clinical practice.

In Italy, pediatric diabetologists belonging the Diabetes Study Group of Italian Society of Endocrinology and Diabetology (ISPED) sought to write and implement recommendations for DKA management from an evidence-based pathway taking into account the last 2014 ISPED consensus guidelines and subsequent critical review articles in an attempt to reduce the considerable variability in management among pediatric centers and improve overall treatment of pediatric DKA [4]. Key points of Italian DKA management are summarized in Table 1. The goal of guidelines for DKA management is to improve the safety and effectiveness of patient care that should not be dependent on the patient’s location in a country or region. Practice variability and patient safety issues in DKA management prompted development and improvement in the Italian DKA clinical standard work, through the use of well-written and shared guidelines among all healthcare providers.

References
1. Cherubini V, Skrani E, Ferrito L, Zucchini S, Scaramuzza A, Bonfanti et al. High frequency of diabetic ketoacidosis at diagnosis of type 1 diabetes in Italian children: a nationwide longitudinal study, 2004-2013. Sci Rep. 2016; 6:38844.
2. Cherubini V, Pintaudi B, Rossi MC, Lucisano G, Pellegrini F, Chiurillo G et al. Severe hypoglycemia and ketoacidosis over one year in Italian pediatric population with type 1 diabetes mellitus: a multicenter retrospective observational study. Nutr Metab Cardiovasc Dis. 2014; 24:538-46.
3. Wolfordf, J, Glaser N, Sperling MA. Diabetic Ketoacidosis in Infants, Children, and Adolescents. A consensus statement from the American Diabetes Association. Diabetes Care. 2006; 29:1150-59.
4. Rabbone I, Bonfanti R, Cardella F, Buono P, Cauvin V, Cherubini V et al. Raccomandazioni per la gestione della chetoacidosi diabetica in età pediatrica - Gruppo di Studio di Diabetologia Pediatrica S.I.E.D.P. Acta Biomed. 2015; 86:4–25.

Table 1 (abstract A62). Key points of Italian DKA management

| Event                                                                 | Management Recommendations                                                                 |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| **Diagnosis**                                                       | Begin with an isotonic solution (0.9 % saline) at 5–10 mL/kg/h over 90–120 min (not exceeding 330 mL/h); do not use colloid. |
| **Hydration**                                                       | At the beginning of hydration if hypokalemia, but at the latest from the start of insulin therapy, add potassium (20 mmol/L before or 40 mmol/L from the start of insulin infusion) as 50 % potassium chloride and 50 % potassium phosphate. |
| **Insulin**                                                          | Start IV insulin infusion as human regular insulin not before 90–120 min and never give an insulin bolus. It is recommended to utilize an automated syringe for insulin delivery. |
| **Potassium**                                                       | The recommended insulin dosage is 0.05–0.1 U/kg/h according to patient’s age, but less insulin (0.025–0.05/kg/h) is better and safer. |
| **Phosphate**                                                       | Continue from the third hour with 0.3 % saline. |
| **Bicarbonate**                                                     | The rate of IV fluid should be calculated to rehydrate evenly over at least 48 h; be careful not to exceed 1.5 times the daily maintenance. |
| **Glucose**                                                         | When the blood glucose level drops to 250–300 mg/dl (14–17 mmol/L), or decreases faster than 100 mg/dl (6 mmol/L/h), add glucose 5–10 %, but the fluid replacement should continue to have a tonicity equal to or greater than 0.45 % saline. |
| **Use of Bicarbonate**                                              | The use of bicarbonate is not recommended. |

A63 Hospital care in the paediatric population: network between paediatrician, nurse and volunteers
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Cystic fibrosis (CF) is a severe genetic illness associated with high healthcare utilization and healthcare costs, even when compared to other chronic illnesses. Patients with CF are obligated to correctly take several medications for improving quality of life and survival. Age, gender and lung function may impact on medical adherence. Several studies showed that lower adherence and poorer medical outcomes are strongly associated with greater healthcare utilization, highlighting the importance of addressing the mental health needs of chronically ill patients. In this context non-physician providers including nurse practitioners are very important members of CF care teams that may improve adherence when care processes are shared in a continous standardized survey of CF programs. Setting of national organizations, involving families and friends of individuals with CF and other volunteers, has improved knowledge about CF among public health authorities, and general public and increased collaboration between groups and organizations (including pharmaceutical companies) at the national, regional, and international levels.

A64 Antipsychotic medication in children and adolescents
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Antipsychotics (APs) based on their mechanisms and effects, can be categorized into typical (first generation) and atypical (second generation) APs [1]; APs are frequently prescribed in the treatment of children and adolescents psychopathologies such as behavioural disorder, autism spectrum disorder, tic spectrum disorder, bipolar disorder, schizophrenia etc. Several adverse events (e.g. metabolic, cardiovascular and neurological) are associated with the administration of APs.
In recent years, APs have increasingly been used in pediatric populations, despite the fact that many of these drugs were approved based on clinical trials in adult patients only and that children are at higher risk for some adverse events like extra-pyramidal and metabolic side effects than adults [2]. It has been recently reported that pediatric patients presented a statistically significant increase of adverse events, compared to adult population [4]. Studies of pediatric outpatients have revealed several deficiencies in monitoring practices for adverse effects associated with APs. The majority of the young patients treated with APs show at least one adverse event, even if not serious [3].

Second-generation APs, especially risperidone and aripiprazole, are the most frequently used in children, with a good efficacy [5]. They could be associated, in genetic predispose patients, with weight gain [6], dyslipidemia [7], insulin resistance [8], blood pressure increases and QT prolongation [9,10,11] and extra-pyramidal side effects [12]. When choosing an antipsychotic treatment, patients and their families should be included in a careful risk-benefit assessment. Consideration of adverse effects, as well as dietary and lifestyle counseling, should be part of any antipsychotic treatment initiation and continuation. Routine, proactive monitoring of side effects is essential to optimize patient outcomes. In all treatment decisions, the benefits of improving often severe and debilitating symptomatology must be balanced against the varying risks of adverse effects associated with specific antipsychotic agents in child and adolescent patients [13]. Long term pharmacogenomics researches are suggested in order to identify gene signatures that can be used to predict children at risk of adverse events.

References

1. Preston JD, O’Neill JH, Talalaga MC. Handbook of clinical psychopharmacology for therapists. New Harbinger Publications, Oakland. 2013
2. Vitelli B, Correll C, van Zwieten-Boot B, Zuddas A, Farella M, Arango C. Antipsychotics in children and adolescents increasing use, evidence for efficacy and safety concerns. Eur Neuropsychopharmacol. 2009; 19: 629-635.
3. Rafaniello C, Pozzi M, Pisano S, Ferrajolo C, Bertella S, Sportiello L et al. Second generation antipsychotics in ‘real-life’ paediatric patients. Adverse drug reactions and clinical outcomes of drug switch. Expert Opin Drug Saf. 2016; 15:1-8.
4. Sagrejia H, Chen YR, Kumaarasamy NA, Poonruamsy K, Chen D, Das AK. Differences in Antipsychotic-Related Adverse Events in Adult, Pediatric, and Geriatric Populations. Cureus. 2017; 269.
5. Pozzi M, Pisano S, Bertella S, Capuano A, Rizzo R, Antoniazzi S et al. Persistence in Therapy With Risperidone and Aripiprazole in Pediatric Outpatients: A 2-Year Naturalistic Comparison. J Clin Psychiatry. 2016; 77: 1601-1609.
6. Yoon Y, Wink LK, Pedapati EV, Horn PS, Erickson CA. Weight Gain Effects of Second-Generation Antipsychotic Treatment in Autism Spectrum Disorder. J Child Adolesc Psychopharmacol. 2016; 26:822-827.
7. Rizzo R, Eddy CM, Cali P, Gulisano M, Cavanna AE. Metabolic effects of aripiprazole and pimozide in children with Tourette syndrome. Pediatr Neurol. 2012; 47:419-422.
8. Rojo LE, Gaspar PA, Silva H, Risco I, Arena P, Cubillos-Robles K et al. Metabolic syndrome and obesity among users of second generation antipsychotics: A global challenge for modern psychopharmacology. Pharmacol Res. 2015; 101:74-85.
9. Rizzo R, Gulisano M, Cali P, D’Inno A. Mandatory electrocardiographic monitoring in young patients treated with psychoactive drugs. Eur Child Adolesc Psychiatry. 2013; 22:577-579.
10. Gulisano M, Cali P, Cavanna AE, Eddy C, Richards H, Rizzo R. Cardiovascular safety of aripiprazole and pimozide in young patients with Tourette syndrome. Neurol Sci. 2011; 32:1213-1217.
11. Palanca-Maresca I, Ruiz-Antorán B, Centeno-Soto GA, Forti-Buratti MA, Siles A, Usano A et al. Prevalence and Risk Factors of Prolonged Corrected QT Interval Among Children and Adolescents Treated With Antipsychotic Medications: A Long-Term Follow-Up in a Real-World Population. J Clin Psychopharmacol. 2017; 37:78-83.

Functional gastrointestinal disorders in children
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Functional gastrointestinal disorders (FGIDs) are represented by age-dependent, chronic, or recurrent gastrointestinal symptoms, not explained by neither structural nor biochemical abnormalities [1,2], that reduce the quality of life of patients and families, and raise health care consultation and related costs. According to the revised diagnostic Rome IV criteria, childhood FGIDs can be distinguished in FGIDs of younger (neonate/toddler) and older children (child/adolescent) [1,2]. FGIDs in neonate and toddler (aged 2-3) include 7 clinical entities, such as infant regurgitation, infant rumination syndrome, cyclic vomiting syndrome, infant colic, functional diarrhea, infant dyschezia and functional constipation [1]. For children and adolescents, FGIDs are divided into three main groups: functional nausea and vomiting disorders, functional abdominal pain disorders (FAPDs), and functional defecation disorders [2]. Functional symptoms vary with age, and depend on the stage of the patient’s physiologic, affective and intellectual development [1]. During childhood, they sometimes attend the normal development (for example, infant regurgitation), or they can develop from maladaptive behavioral responses to internal or external stimuli (for example, fecal retention arising from an experience with painful defecation) [1]. Diagnosing FGIDs in infant and preschool child, is mainly based on parental report and clinician observation [1,3]. In older children, all FGIDs can be diagnosed only if an appropriate medical evaluation rule out another underlying medical condition [2]; therefore, patients with organic diseases, such as celiac disease or inflammatory bowel diseases (IBDs) can present “alarm symptoms” as fever, bleeding, vomiting and failure to thrive [3]. The prevalence of most FGIDs in childhood is unknown. The most common FGIDs are regurgitation and colic in infants, functional constipation and functional diarrhea in toddlers, and functional constipation and abdominal migraine in children and adolescents [4,5]. The most successful management of FGIDs in children involve behavioral therapy and counseling families. Psychological factors that can contribute to the severity of the problem should be addressed. Dietary modifications and pharmacological treatment can be useful [1,2]. A large proportion of children with FGIDs continue to satisfy the diagnostic criteria at long-term follow up [6,7]. It has been suggested that particularly FAPDs in childhood may be a precursor to FGIDs in adulthood. Childhood predictors of long-term outcomes could be the severity of gastrointestinal symptoms and the presence of extra-intestinal somatic and depressive symptoms [7]. Additionally, children with FAPDs carry higher risk for anxiety disorders in late adolescence and early adulthood, even if abdominal pain resolves [8].

References

1. Bennings MA, Fauce C, Hyman PE, St James Roberts I, Schechter NL, Nurko S. Childhood Functional Gastrointestinal Disorders: Neonate/ Toddler. Gastroenterology. 2016; 150: 1443–1455.
2. Hyams JS, Di Lorenzo C, Saps M, Shulman RJ, Staiano A, van Tilburg M. Childhood Functional Gastrointestinal Disorders: Child/Adolescent. Gastroenterology. 2016; 150: 1456–1468.
3. Koppen U, Nurko S, Saps M, Di Lorenzo C, Bennigga MA. The pediatric Rome IV criteria: what’s new? Expert Rev Gastroenterol Hepatol. 2017; 11:193-201.
for >6 months, 88% of patients receiving romiplostim maintained a therapeutic response. Efficacy and safety of romiplostim compared to placebo in children with chronic idiopathic thrombocytopenia: a randomized, double-blind, placebo-controlled, 12-month study. Br J Haematol. 2011; 154:151-61.

Miele E, Simeone D, Marino A, Greco L, Auricchio R, Novek SJ, et al. Functional gastrointestinal disorders in children: an Italian prospective survey. Pediatrics. 2004; 114:73-8.

Horst S, Shelby G, Anderson J, Acta S, Polk DB, Saville BR, et al. Predicting Persistence of Functional Abdominal Pain from Childhood into Young Adulthood. Clin Gastroenterol Hepatol. 2014; 12: 2026–2032.

Shelby GD, Shirkey KC, Sherman AL, Beck JE, Haman K, Shears AR, et al. Functional abdominal pain in childhood and long-term vulnerability to anxiety disorders. Pediatrics. 2013; 132:475-82.

A66 Chronic immune thrombocytopenia in children: new therapeutic options
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Immune thrombocytopenia (ITP) in children is defined as an autoimmune disorder characterized by isolated thrombocytopenia in the absence of other causes or disorders that are associated with thrombocytopenia. Newly diagnosed or "acute" ITP is defined as lasting <3 months, "persistent" lasting up to 12 months, and "chronic" lasting beyond 12 months in which a spontaneous remission is not achieved or in which patients do not achieve a response off therapy. Despite the vast majority of children with ITP will experience resolution, one-third of children will demonstrate thrombocytopenia at 12 months post-diagnosis consistent with chronic ITP. Currently available therapeutic agents may provide a transient increase in platelet counts. This may be associated with diminished bleeding in some children. Other collateral benefits may be seen in some families such as less parental anxiety and greater support for children to participate in social activities. Treatments for chronic ITP largely overlap with the therapeutic agents utilized for the treatment of acute ITP, including intravenous immunoglobulin, anti-D immunoglobulin, and corticosteroids. The list of agents also includes a variety of agents such as vincristine, danazol, mycophenolate mofetil, and dapsone utilized as monotherapy or in various combinations. Rituximab and splenectomy remain as options. However, many of these treatments are not ideal in children with chronic ITP. Platelet response rates and durability of platelet responses with rituximab treatment are variable and the risk of mortality secondary to sepsis and thromboembolic events with splenectomy is low but real. The thrombopoietin (TPO) is a lineage-specific cytokine that stimulates the production of megakaryocytes and platelets. Two TPO receptor agonists (TPO-RAs), romiplostim and eltrombopag, are currently Food and Drug Administration (FDA) approved for adults with chronic ITP. Eltrombopag is also approved for children >1 year. In a randomized phase I/II trial of pediatric patients with primary ITP for >6 months, 88% of patients receiving romiplostim maintained a platelet count >50 x 10^11/L for a median of 7 weeks compared to zero patients in the placebo group. Results from eltrombopag randomized clinical trials showed that approximately 40% of patients were able to achieve a platelet count >50 x 10^11/L for the majority of study visits compared to 0–3% of patients in the placebo group. Currently, TPO-RAs represent a new therapeutic option for children with chronic ITP. In the future, TPO-RAs may offer an important therapeutic option for other thrombocytopenias.

References
1. Rodighiero F, Stasi R, Gernsheimer T, Michel M, Provan D, Arnold DM et al. Standardization of terminology, criteria, and outcome criteria in immune thrombocytopenic purpura of adults and children: report from an international working group. Blood. 2009; 113: 2386–2393.
2. Terrell DR, Beebe LA, Vesely SK, Neas BR, Segal JB, George JN. The incidence of immune thrombocytopenic purpura in children and adults: a critical review of published reports. Am J Hematol. 2010, 85: 174–180.
3. Neurent CE, Buchanan GR, Imbach P, Bolton-Alagles PH, Bennett CM, Neufeld E et al. Intercellular Cooperative ITP Study Group Registry II Participants Bleeding manifestations and management of children with persistent and chronic immune thrombocytopenia: data from the Intercellular Cooperative ITP Study Group (ICIS). Blood. 2013; 121: 4457–4462.
4. The work of DJP Barker "The fetal and infant origins of adult disease. The womb may be more important than the home", there has been growing evidence of the role of the prenatal environment in the development of childhood respiratory disorders. One of the well-known risk factors implicated in the development of wheezing, asthma and diminished lung function is maternal smoking during pregnancy. In the last few years, however, the importance of other factors has been acknowledged. We provide an overview of selected conditions that are relatively prevalent among reproductive age women and for which there has been a relatively large literature in the last few years of a relationship with respiratory disorders in offspring.
For the selected conditions on which we provide an overview, specifically hypertensive disorders of pregnancy, overweight and obesity, infections and antibiotics use, maternal stress and cesarean section, we will discuss potential mechanisms, as well as mediators and confounding factors involved in associations. This is important, as any prevention strategy aimed at reducing the burden of childhood respiratory health must act upon risk factors that are in the usual chain.

Several birth cohort studies established in the past two decades and prospectively collecting data on pregnancy and perinatal exposures are precious sources of data on potential risk factors for the development of respiratory outcomes in childhood. Wheezing and asthma, which affect up to 30% of children, have been largely studied in cohort studies, but also less common respiratory problems and specifically bronchopulmonary dysplasia (BPD), a complication affecting up to 35% of infants born very preterm, will be the focus of the present review.

A68 Vaccination against ACWY meningococcal disease in Italy
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A68

Meningococcal disease is caused by Neisseria meningitidis, an encapsulated bacterium whose pathogenic strains are divided into serogroups based on components of the polysaccharide capsule. In Italy, in 2015, 196 cases of invasive meningococcal disease were reported, with an incidence of 0.32 cases per 100,000; the incidences are increasing compared to previous years (0.23 in 2012, 0.29 in 2013, and 0.27 in 2014). In most regions the trend is almost stable or presents small fluctuations in the period from 2011-2014. The exception is the region of Tuscany, where both the consolidated 2015 data and the preliminary 2016 data show a marked increase of cases of meningococcal type C in adults, which has led to the implementation of a major vaccination campaign by the region.

The incidence of invasive meningococcal disease in Italy is higher in the 0–4-year-old age group and especially in the first year of life, when the incidence exceeds 4 cases per 100,000. Nevertheless, the incidence remains high up to 15–24 years of age and decreases from the age of 25 and up.

In 2015 the number of Italian cases of invasive meningococcal disease divided by serogroup and the isolation percentage, serotype within the total number of reported cases, are 142 with the following distribution: serogroup A (n. 0 (0%)), serogroup B (n. 49 (36%)), serogroup C (n. 63 (44%)), serogroup W (n. 7 (5%)), serogroup Y (n. 23 (14%)) [1].

The number of reported infections for which information on the capsular serogroup isn’t available (approximately 30%) remains high. In Italy, for the prevention of meningococcal infections of serogroups A, C, W, and Y, the current National Immunization Prevention Plan 2017–2019 provides for a dose of the monovalent meningococcal C conjugate vaccine for the 13-15 month-old age group. For the 12-14 year-old age group, a dose of quadrivalent meningococcal conjugate vaccine MenACWY is recommended, both for those who have never had the childhood vaccination C or quadrivalent, and for those who have already received a dose, since the persistence of the protection is tied to a high bactericidal antibody titer, which tends to decrease over time [2].

As an alternative to the anti-meningococcal C vaccine, some Italian regions (for example: Emilia Romagna, Veneto, Campania, Sicily and Puglia), recommend the tetravalent A, C, Y, W135 vaccine for the 13-15 month-old age group. The aim is to give children greater protection for those strains of meningococci that, while still sporadic in the country, show a tendency to increase, mainly because of climate change, travel, and migration.

References
1. Surveillance data of invasive bacterial diseases updated on November 16, 2016. Istituto Superiore di Sanità Italiano (ISS) Available at: http://www.iss.it/binaries/cont/Report_MBL_20161116_v11.pdf. Accessed June 22, 2017. 
2. Piano Nazionale Prevenzione Vaccinale 2017-2019. Ministero della Salute Italiano. Available at: http://www.salute.gov.it/m左右/ C_17 pubblicazioni_2571_allegato.pdf. Accessed June 22, 2017.

A69 The new juridical framework for medical malpractice in Italy: main issues for the Italian insurance market
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Italian Journal of Pediatrics 2017, 43(Suppl 2):A69

A new law, legge 24/2017, bearing “Disposizioni in materia di sicurezza delle cure e della persona assistita, nonché in materia di responsabilità professionale degli esercenti le professioni sanitarie” known as “legge Gelli” – Federico Gelli being the main promoter of this law within Italian Parliament - concerning professional liability in the healthcare sector (both for hospitals and professional) was issued on march 8th 2017. The main features of the law can be summarized as follows: Health professionals, both freelancers and employees, either public or private, are compelled to purchase a professional liability or gross negligence insurance coverage. - Hospitals, either public or private, are compelled to purchase a third party liability insurance coverage or, as an alternative, they are allowed to retain the risk. This self-insured retention can be partial (applying deductibles – up to € 1.5 million each and every loss – on third party liability insurance policy) or even total. - Patients will be allowed to bring civil actions against health professionals’ insurers and hospitals’ insurers. The “Legge Gelli” won’t be entirely and immediately applicable until the “decreti attuativi” (expected to be issued by the Parliament within 120 days) will clarify many relevant parts of the law. As Italian insurance companies are largely unavailable to underwrite “medmal” risks, we shall try to understand the effects of the new law on Italian insurance market.

A70 Society relief and labor, “La Scarpetta” hospital, Pediatric museum
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In 1871 the City Hall of Rome created the “Society for the Reception Hall for the Children of Workers”, with the aim of helping the “honest and poor mothers” working in factories and workshops. In 1892 A.Celli, a member of the Relief Society and Labor (SRL), founded an outpatient clinic, named “La Scarpetta”. Noble and charitable ladies, whose purpose was to assist the poor children and families of Trastevere and the Ghetto, constituted the SRL. In 1894 L. Concetti, professor of Pediatrics at La Sapienza University, used the Scarpetta for his lessons; he opened a department of 6 beds that was increased in 1905 to 12 beds. The Scarpetta was adjoined to the S. Spirito Hospital, which hosted the Pediatrics Clinic of the University. L.Giordani was director from 1937 to 1961, than A.Seganti became director till 1987. Seganti renewed the SRL statute and restructured the building. In 1968 the hospital reopened with 60 beds. In 1975 La Scarpetta was ceded to public administration and was joined to the “New Queen Margherita”. Subsequently, Scarpetta became an outpatient clinic for visits, vaccinations and neuropsychiatric care. M.Assumma
and G.Dell’Uomo are now responsible. In 2012, a center for autism was created. In 2016, it became a center for children and adolescents with disorders of the developmental age, directed by Silvia Bracci.

**PEDIATRIC MUSEUM**

Seganti has always been collecting old instruments: electrocardiographs, microscopes, viennese wax images, photos of the hospital in the early 19th century, an infinity of objects that tell the story of SRL. A beautiful picture of the beginning of the century portrays Concetti from his assistants. In 1992 Seganti had the idea of making a pediatrics museum with an attached library, therefore he donated all his collected material. In 1997 the Museum was set up in the ace of the Scarpetta.

In 1976 the Scientific Committee and SRL organized the PUER: 4 evening conferences taking place at the beginning of the summer every year, till 2008 (32 editions). The Future: in agreement with the RM1, the objective is to open the museum to the public, to valorize its contents by involving the media, to promote and replicate the PUER meetings so that all the pediatricians still remember.

This is to relaunch a never forgotten structure of the old Rome, known by Romans as “the historic good living room of Roman pediatrics”.

**A71**

**To become adult with intellectual disability**

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The improvement of pediatric assistance of patients affected with complex diseases associated with intellectual disability (ID) considerably increased their survival. Bittles et al. (2002) stated that mean survival age depends from the severity of mental retardation, so patients with mild ID have a mean survival around 74 years, moderately increased their survival. Bittles et al. (2002) stated that mean survival age depends from the severity of mental retardation, so patients with mild ID have a mean survival around 74 years, moderately increased their survival.

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Moreover recently different research groups have published data related to adult cohorts of patients affected with various genetic syndromes like de Lange [2], Williams, Charge, Costello, Angelman and Prader Willi syndrome in order to define age-specific medical complications. Generally speaking two of the main challenges that caregivers have to face with are overweight and behavioural problems. For various reasons (increase psychiatric food intake, poor physical activity) the natural evolution of many patients affected with syndromic ID is toward overweight or obesity with the well-known consequences at cardiovascular and metabolic level. Again for various reasons (poor inclusion, scarce communicative skills) it’s also frequent the development of behavioural problems that can be very difficult to treat and to cope with. Two other important issues characterizing adolescents with ID are education to sexuality and to the more independent life possible. For both these situations the help that families usually receive from institutions is really very poor; in this landscape a great job is made from “parents support groups” which are able to organize targeted experiences in order to face with these challenges.

Finally adolescence should be the privileged moment in which transition from pediatric specialists to adult ones takes place. In USA a dedicated protocol suggested from AAP is available [3]. Unfortunately in our country we have no defined recommendations and it’s also very difficult to identify proper specialists to address these patients. So most of these families remain connected for a while to pediatric centers or are lost to follow-up. The definition of a national guideline related to transition of care for these patient is absolutely urgent and mandatory.

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**References**

1. Bittles AH, Petterson BA, Sullivan SG, Hussain R, Glasson EJ, Montgomery PD. The influence of intellectual disability on life expectancy. J Gerontol A Biol Sci Med Sci 2002; 57: M470-2.

2. Mariani M, Decimi V, Bettini L, Maizt S, Gervasini C, Masciardi M, et al. Adolescents and adults affected by Cornelia de Lange syndrome: A report of 73 Italian patients. Am J Med Genet C Semin Med Genet 2016; 172:206-13.

3. American Academy of Pediatrics, American Academy of Family Physicians, American College of Physicians, Transitions Clinical Report Authoring Group. Supporting the health care transition from adolescence to adulthood in the medical home. Pediatrics 2011; 128:182-200.

**A72**

**Only exceptional circumstances, only regenerative tissue**

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**Italian Journal of Pediatrics 2017, 43(Suppl 2):A72**

The respect for fundamental rights and human dignity entails the respect for personal integrity. This is why the case of organ and tissue removal from living donors has always been considered both as a shining example of solidarity and one of the most risky situations for the most vulnerable individuals to be exploited. According to the Oviedo Convention, “the human body and its parts shall not, as such, give rise to financial gain” (Art. 21) and three conditions are to be met: therapeutic benefit of the recipient; no suitable organ or tissue available from a deceased person and no other alternative therapeutic method of comparable effectiveness; free and informed consent (Art. 19). Therefore, no controversy should arise as to the protection of persons not able to consent (Art. 20), including children: prohibition is the obvious consequence. The only exception concerns “regenerative tissue” and was included, as it is made explicit in the Explanatory Report, to permit removal of bone marrow from a minor for the benefit of his or her brother or sister, provided that the potential donor does not object. This provision builds on two essential considerations, which are worth reflection in a broader perspective. First, life-saving potential for the recipient, which is also a necessary condition, has to be predicated on “acceptable” risk (ER 127). This balancing between the principle of mutual aid and the protection of personal integrity, given the lack of the “capacity” to consent, requires not only that the opinion of the minor be increasingly taken into consideration, but also setting in a very precautionary way the bar of acceptable risk. Research involving children and adolescents is confronted with a similar responsibility. According to the Ethical Guidelines published by CIOMS in 2016 (of course, the Helsinki Declaration is also to mention), for instance, a “minor increase above minimal risk” may be permitted when a “compelling social value is at stake (GL 17). Secondly, the strict limitation of brother/sister relationship should avoid “family and doctors going to extreme lengths to found a donor at any price” (ER 128). Against this background, Art. 15 of the Additional Protocol of 2002, by loosening the restrictions for “cell removal” which implies “minimal risk and minimal burden” for the donor (1), accepts that a quasi-zero risk allows considering other beneficiaries and has in mind future technical developments such as the reconstitution of tissues from a limited number of cells. New ethical challenges, also looking at the risk/benefit evaluation, are likely to arise.

1. Article 14 of the Protocol reaffirms the conditions set in Article 20 of the Convention for removal of regenerative tissue to be performed. Article 2 makes it clear that the provisions applicable to
tissues apply also to cells, including haematopoietic stem cells. The Protocol does not apply to reproductive organs and tissue, embryonic or foetal organs and tissues, blood and blood derivatives.

**A73**
Child abuse: talking about to fight it
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Child abuse, in all its various forms, is one of the most dramatically important causes of morbidity and mortality in children; the amount of cases reported by the literature (as well as from the media and the associations more dedicated to this subject) are impressive, especially considering the important underestimation of the cases themselves. A feeling of "lack of preparation and helplessness" is a consequence of the lack of this subject in medical education, although its occurrence is extremely and tremendously more frequent than thought. This gave rise to the need to implement our knowledge on the subject, in order to improve our ability to deal with child abuse, recognizing and reporting it. The aim is to provide the clinician with the awareness on the true epidemiology and the different types of child abuse; turning on the light on the problem we’ll start to think that, unfortunately, such a diagnosis is possible. The subsequent management, from reporting to the Judicial Authority, sending the patient to an hospital for a multidisciplinary management and diagnostic-instrumental study, must be part of the cultural baggage of every pediatrician, working in hospital or in the field. It must be remembered that the role of the pediatrician is purely to report the suspicion, leaving the judge the task of ascertaining the facts. Hence the collaboration of Division of Pediatrics of the Santobono-Pausilipon Hospital, the Cultural Association of Pediatricians (ACP) and the School of Specialization in Pediatrics of Naples to study child abuse through meetings and seminars, leading to the drafting of a practical protocol, derived from the most recent evidence of literature. We suggest to diffusse it in pediatric offices, in the Emergency Departments, in the pediatric wards and in the Schools of Specialization in Pediatrics.

**A74**
Cybersick!: risks and side effects of digital media use
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Digital information technology (IT) has become part of our everyday life. Drawing from studies in cognitive neuroscience, experimental psychology, education research as well as clinical research, I argue that there is a considerable negative impact of digital IT on mental functioning. Mechanisms include (1) “outsourcing” mental work from our brains into machines, (2) replacing face-to-face contact with digital contact, resulting in reduced empathy towards parents and peers, (3) distractions, such as multitasking and being online most of the time, resulting in dysfunctional attentional and thought processes, (4) giving away the control of our lives to gadgets, thereby increasing chronic stress, with its known negative impact on physical and mental functioning, (5) addiction and (6) lack of exercise and recreational outdoor activities, with its known detrimental physical and social effects. Furthermore, digital IT may cause short-sightedness (myopia), hypertension, diabetes, sleep disorders, depression, attention deficit disorder, and dementia. With special emphasis on brain development in young age, and cognitive decline in old age, I will present examples to illuminate these processes and mechanisms that cause concerns regarding the risks and side effects of the massive digital media use that is the norm in developed societies. In particular, I argue that these effects are long-term in nature and must be taken seriously now. Needless to say: I am not against the use of digital information technology per se. But I want to caution against the unrestricted and market-driven exposure of our most precious resource, the brains and minds of the next generation, on a large scale, to devices with strong risks and side effects which are either already known or are suggested by what we know about brain development and functioning.

**A75**
What twin studies can add
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For more than half a century twin studies have been a milestone in biomedical research. Indeed, they have quantified the relative contribution of genetics and environment not just to the occurrence of many diseases but, more in general, to the development of innumerable human traits, and have provided estimation of their “heritability”. In details, twin research allows to disentangle the effect of genetic sequences and environmental exposures on phenotype variability. Environment could be shared by the twins (e.g. maternal exposure in utero) or non-shared (e.g. factors specific to each fetus). This can be done through mathematical models based on the comparison of similarities and differences in monozygotic versus dizygotic twins. In the more recent epigenetic era, that studies mechanisms turning on and off DNA translation into proteins, the role of twin research is even more relevant. Discordant monozygotic twin design (discordant on phenotype or on exposure) is a robust design that allows to compare epigenetic features adjusting for genetic background, early life exposures, age, gender and cohort effects.

For all these reasons, the possibility of following twins from birth onwards has become a powerful tool for research in public health. Research activities in the pediatric field of the Italian Twin Registry (ITR) [1] will be presented. The ITR has enrolled, since 2001, about 28,000 twins of which about 4,000 are children below 12 years of age. The ITR, participates to the European network of birth cohorts with its newborn twin cohort MUCIBOS (MUltiple Birth COhortS). MUCIBOS is a multicenter birth cohort that has enrolled about 360 families and collected data at birth, 6,12, 18 and 36 months of age on different outcomes: growth, respiratory health and allergies, sleeping behavior and neurodevelopment. DNA has been collected for twins and their parents using saliva collection kits, and stored in the ITR Biobank. Part of the DNA from the twins has been used to determine twin zygoty, a necessary information to implement twin studies.

Reference
1. Brescianini S, Fagnani C, Toccatelli V, Medda E, Nistico L, D’ippolito C, et al. An update on the Italian Twin Register: advances in cohort recruitment, project building and network development. Twin Res Hum Genet. 2013; 16:190-6.

**A76**
Short-term and long-term effects of traffic air pollution on school children neurodevelopment
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Exposure to traffic related air pollutants (TRAPs) during pregnancy or infancy has been related to cognitive impairment and behavioral disorders in children preliminarily but there is no evidence on the role of TRAPs in schools on cognitive function and neuroimaging. Children (n=2897) aged 7 to 10 years from 39 high and low TRAPs schools, paired by socio-economic status, were tested via a series of
four computerized tests from January 2012 to March 2013 in Barcelona (Catalonia, Spain) to evaluate working memory development, executive attention, impulsivity, and selective attention. Behavioral problems (strengths and difficulties questionnaire) were reported by parents. Attention Deficit and Hyperactivity Disorder (ADHD DSM IV) was reported by teachers. MRI (T2, flair, and DTI) and fMRT were conducted in around 300 children. Air pollution (nitrogen dioxide (NO2), ultrafine particle number (UFP), and particulate matter (PM) < =0.25 μm (quasi-ultrafine), 0.25 to 2.5 μm (accumulation mode), 2.5 to 10 μm (coarse mode), < =2.5 μm (PM2.5) and organics (PAHs)) was measured during two, one week campaigns both inside the classroom and in the courtyard simultaneously in each school pair during 2012. The children performed 10,973 cognitive tests. Cognitive functions increased notably (around 10% per year) during primary school years. Children attending schools with higher TRAPS (largely diesel pollutants such as EC and UFP), had a smaller improvement with age in cognitive development (in all measured cognitive functions) [1]. Similarly, TRAPS were associated with more frequent behavioral problems [2]. Only fine particles generated from traffic (no from other origins) showed the association with brain development [3]. TRAPS were associated with lower functional integration and segregation in key brain networks using neuroimaging which indicates slower brain maturation [4]. These chronic relationships were independent of the acute effects, though the short-term exposures to TRAPS (the day before) were also associated with daily fluctuations in attention [5]. Furthermore, noise inside the classroom is related to attention deficit and hyperactivity disorder symptoms, but the effects of TRAPS were independent of noise. In addition, we proved that green space is beneficial for brain maturation (function and structure) and that moderate video-gaming is beneficial for brain functioning but at certain level is related to behavioral problems. Overall, school air is relevant for a healthy brain development. Results imply cost-benefit interventions in schools to endorse the protection of child brain maturation from traffic exhausts.

References
1. Sunyer J, Esnaola M, Alvarez-Pedrerol M, Forns J, Rivas I, López-Vicente M, et al. Association between traffic-related air pollution in schools and cognitive development in primary school children: a prospective cohort study. PLoS Med. 2015; 12e1001792.
2. Forns J, Dadvand P, Foraster M, Alvarez-Pedrerol M, Rivas I, López-Vicente M, et al. Traffic-related air pollution, noise at school, and behavioral problems in Barcelona schoolchildren: a cross-sectional study. Environ Health Perspect. 2016; 124:529-35.
3. Basagaña X, Esnaola M, Rivas I, Amato F, Alvarez-Pedrerol M, Forns J, et al. Neurodevelopmental deceleration by urban fine particles from different emission sources: a longitudinal observational study. Environ Health Perspect. 2016; 124:1630-1636.
4. Pujo J, Martinez-Wilavela G, Macía D, Fenoll R, Alvarez-Pedrerol M, Rivas I, et al. Traffic pollution exposure is associated with altered brain connectivitv in school children. NeuroImage. 2016; 129:175-84.
5. Sunyer J, Suades-González E, García-Esteban R, Pujol J, Alvarez-Pedrerol M, et al. Traffic-related air pollution and attention in primary school children: short-term association. Epidemiology. 2017; 28:181-189.

A77
The Transitional Care: a national project

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Background
In recent years there has been a growing need to ensure the planning and the structure of care pathways that allow a gradual transition from the pediatric age to adulthood due to the gradual increase of patients with chronic diseases during adolescence. However, the medical importance of these diseases has not increased in line with the development of competences in the field of medicine for adults; therefore, these complex patients have difficulties to be inserted in the organizational structure of medicine for adults. As regards socio health care, the scientific literature demonstrates that the type of care offered within the pediatric area and the one addressed to adults is profoundly different. For these reasons, we note the existence of a considerable heterogeneity of treatment. Main goal of the project is to identify the “winning” characteristics of transition models (from pediatric to adulthood) in which the planning of transition and the involvement in all stages of transition of patients and the family are inalienable variables of the transitional care pathway.

Materials and Methods
The program of work consists of three main phases that run “in parallel”: modeling, trial, mapping of experiences. Modeling: a direction group provides the task of formulating working hypotheses and quality requirements of a “transition services” independent of the condition being treated. The working hypotheses are subjected to a critical evaluation of the Technical Advisory Committee to assess their feasibility and the theoretical efficiency. A preliminary document of Criteria for the definition of the transition project has been drawn and discussed in three consecutive meetings and with Delphi method. Trial: in this phase, the authors identify some regions in which institutional and university partners are made available both to design concrete organizational models and to define new training methods for the spread of the project. Mapping of the experiences: a specific questionnaire has been designed to be extensively handed out among interested personnel. The project implies the involvement of many partners, among which are considered priorities: institutions, University, Federations of Professional Orders, Scientific Societies, People, Patients and Families associations.

Conclusions
The “Transitional Care” is a multidisciplinary and multiprofessional project that consider the complexity of the transitional disease as an opportunity for the implementation and validation of innovative care models in which all protagonists work together for the improvement of health care delivery.

A78
Gender medicine in pediatrics

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Gender Medicine (GM) investigates different characteristics of diseases occurring in males and females taking into account both biological (sex-related) and sociocultural (gender-related) features. GM is finalized to improve the appropriateness of care: from diagnostics to the therapy effectiveness. While in adults gender differences have been highlighted in many pathologies (neurological, cardiovascular, immune and infectious diseases), in pediatric age gender disparity is still poorly investigated. Although, gender can influence the possibility to develop specific pathologies even from the fetal and early life stages. In the United States, the National Institute of Health (NIH) has recommended to study gender differences from cradle in all human diseases and several research groups are nowadays being involved in the study of gender-differences worldwide and in Italy too. Specific studies and meta-analysis highlighted that differences in the prevalence of some congenital pathologies can occur in pediatric age. For instance, heart diseases occur most frequently in females (51.3% vs 48.7%) in which they are associated with genetic syndromes and extra-cardiac malformations, whereas some neurological disorders, such as autism (ratio 4:1) and Attention Deficit / Hyperactivity Disorder (ADHD) are more common in males. For example, in the over-active/impulsive period (3-4 years) of ADHD, the ratio males/females observed is 10:1. In infancy, males also appear to be suffering from
respiratory distress syndrome, asthma, and lung disease significantly more than females. Females are predisposed to autoimmune pathologies such as childhood multiple sclerosis (2:1 F:M), celiac disease (2:1 F:M) and systemic lupus erythematosus (5-6:1 F:M; 9:1 in adults). For many infectious diseases the incidence is greater in males. For example, viral infections are more frequent in males, but the course of the disease is worse in females. Females have a greater antibody response to vaccines and, more generally, an immune response, both humoral and cell-mediated, more pronounced and prolonged than males. This protects them from infections, but exposes them to a greater risk of developing autoimmune and inflammatory pathologies, as well as adverse reactions. Even with regard to tumors, such as Hodgkin and non-Hodgkin lymphomas or some leukemic forms, the incidence is different (often higher in males). In conclusion, a re-evaluation of the gender issue in pediatric research could be crucial and contribute to the understanding of the pathogenetic mechanisms and the improvement of diagnostic and therapeutic strategies as well as to the improvement of the appropriateness of the cure.

**A79**

**What is meant by “Humanization of care”**

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Humanization of Care is the process that places the patient in his/her totality at the center of the care. In Pediatrics, humanization provides an assistance which is focused not only on the child as a patient, but on the whole family as well. The basics of the humanization of pediatric care have been laid with the first charter of the child’s rights in the hospital, drawn up in 1988 in Leiden (Holland) by the European Association for Children in Hospital [1]. Other associations have drawn up, over the years, other rights charters, adapting them to most recent necessities [2,3]. From the literature, the main humanization programs for hospital care have been developed in the American continent (Brazil and USA), and in Europe. In Brazil, the pediatric aspect is part of the National Humanization Policy that aims to create a transversal culture of humanization, improving the reception and care of the patient of all ages and social classes and their families [4]. In USA, the current reference model for pediatric care is the Patient and Family Centered Care that according to the American Academy of Pediatrics, is “an innovative approach to the planning, delivery, and evaluation of health care that is grounded in a mutually beneficial partnership among patients, families, and providers that recognize the importance of the family in the patient’s life” [5]. In Europe, in 2011, the Committee of Ministers of the Council of Europe adopted the guidelines for “Child-friendly health care” (CFHC), defined as a health policy focusing on children’s rights, needs, character-istics, activities and developmental skills, taking into account their views [6]. Still in Europe, in 2013 the “Think and Action Tank on the Child right to health” (TAT) was founded. It is supported by the European Pediatric Association with the objective of exploring theories, knowledge and experiences aiming at translating the principles of the rights of the child, social justice and equity into practice [7].

The large number of literature articles dealing with humanization issues have rarely measured the outcomes of the interventions carried out. Their real effectiveness for realizing health care programs tailored on the child and his/her family needs remains therefore often unproven. A pilot project recently started in Campania region (Italy), aims to improve aspects of reception, hospitalization and discharge of pediatric patients by networking families, hospitals and family pediatricians. All the actions have been planned after having measured baseline existing and perceived needs of all the players [8].

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**References**

1. EACH Charter. Available in https://www.each-for-sick-children.org/each-charter. Accessed in May 9 2017.
2. Aopi.it - Associazione Ospedali Pediatrici Italiani. Available in http://www.aopi.it/. Accessed in May 9 2017.
3. Fondazione ABIO Italia Onlus. Available in http://www.abio.org/. Accessed in May 9 2017.
4. Moreira MA, Lustosa AM, Dutra F, Barros Ede O, Batista JB, Duarte MC. Public humanization policies: integrative literature review. Cien Saúde Colet. 2015; 20:3231-42.
5. Committee on hospital care and institute for patient-and family-centered care: Patient- and Family-Centered Care and the Pediatrician’s Role. Pediatrics. 2012; 129:394-404.
6. Guidelines of the Committee of Ministers of the Council of Europe on child-friendly health care, 21ett 2011. Available in http://www.coe.int/en/web/children/child-friendly-healthcare. Accessed in 9 May 2017.
7. TAT, Think and Action Tank on the Child Right to Health. Available in http://ilariasimonelli79.wixsite.com/think-and-action. Accessed in May 9 2017.
8. Portale Umanizzazione Cure Pediatriche. Available in http://pedianetcampania.it/. Accessed in May 9 2017.

**A80**

**Celiac disease tomorrow**

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The concept of celiac disease (CD) has radically changed over the last decades. In fact, nowadays CD is no more considered just as an intestinal disease, but as an immune mediated systemic disorder elicited by gluten and related prolamins of barley and rye. It is characterized by a variable combination of gluten related clinical symptoms, CD specific antibodies, HLA DQ2 and/or DQ8 haplotype and enteropathy [1].

Recently, it has emerged that the histological presentation can also include cases of minimal intestinal damage (potential celiac disease), with important problems of diagnosis and management [2]. A great heterogeneity is also appreciated in the immunological mechanisms that underlie the disease, in particular the cytokines involved. Differences could be explained by different exogenous factors (e.g. viruses) that are involved in the development of the disease [3]. The recognition of this heterogeneity will probably lead in future to a better sub-phenotyping of patients and to personalized approaches of prevention and therapy.

The development of new therapeutic strategies represents another field of research [4]. It has been demonstrated that gluten, because of its high content in prolines, is very resistant to pancreatic and brush border enzymes digestion. Consequently, the use of bacterial and fungal proteases has been proposed to induce a complete gliadin degradation and to eliminate toxic epitopes. The identification of specific peptides able to induce both a T-cell and a non T-cell mediated response has allowed to start genetic engineer programs to produce grains without these peptides. The identification of toxic epitopes can also represent the target of new immune-modulatory therapies. Other promising therapeutic perspectives are founded on the blockade of the adaptive immune response through the inhibition of the HLA mediated antigen presentation or gliadin deamination by the tissue transglutaminase.
It is implied that any effort done to implement the development of humanization processes within the pathways of health care during a pediatric hospitalization and/or in outpatient activities should aim at creating an optimal health and social-medical context placing the patient at the very center. He/she should be considered in its entirety, taken by hand, and accompanied throughout the diagnostic-therapeutic path, by including of course his/her family as well [1, 2].

Ideally any project in this area should have the ambition to promote structural changes and improve cooperation/coordination among the major stakeholders involved in the care and hospital activities processes, also educating the behavior of all those who are revolving around the hospitalized child. Indeed, it is still unclear what a unique definition of the term “humanization of care” should be. This may in fact vary very much depending on the latitudes and the socio-economic contexts where it is used, sometimes with an approach of a true national policy (e.g. Brazil) or –rather- of recommendations only (e.g. USA, Europe) (Fig. 1). Involvement of the child and of his/her family, recognition of his/her right to stay during hospitalization in an appropriate environment, by limiting as far as possible the trauma of illness and pain, are in any case a must.

The actions taken in hospital are/should always be characterized by a minimum common denominator represented by the need to know by hand the baseline “where we are now” and “what needs to be done” information to improve the existing state of art in order to ensure accessibility and equality of care for all children, regardless of social class, nationality, and religion.

In this regard, a number of helpful specifically designed evaluation tools do exist to measure not only the existing but also the perceived humanization, sometimes revealing a number of surprising differences between the experience of the operators and the users, and -in the latter- between family and patient himself, with considerable distinction also by age, i.e. younger patients vs. teenagers. What can/should be done to improve the degree of healthcare humanization, starting from the hospital reception to the discharge phases, and ensuring finally a virtuous dialogue with his/her family pediatrician with precise, written indication? The literature is rich in examples of interventions implemented locally by exploiting the help that can come from structural adjustments and also from issues such as technology, better pain management, pet/clown therapy, loud reading, as well. The following summaries in this issue of UP will outline more on these specific aspects.

References
1. Husby S, Koletzko S, Korponay-Szabó IR, Meinir ML, Phillips A, Shamir R, et al. European Society for Pediatric Gastroenterology, Hepatology, and Nutrition Guidelines for the Diagnosis of Coeliac Disease. J Pediatr Gastroenterol Nutr. 2012; 54:136-160.
2. Autichio R, Tosco A, Piccolo E, Galatola M, Izzo V, Maglio M, et al. Potential celiac children: 9-year follow-up on a gluten-containing diet. Am J Gastroenterol. 2014; 109:913-921.
3. Kupfer SS, Jabri B. Pathophysiology of celiac disease. Gastrointest Endosc Clin N Am; 2012; 22:639-660.
4. Kaukinen K, Lindfors K, Mäki M. Advances in the treatment of coeliac disease: an immunopathogenic perspective. Nat Rev Gastroenterol Hepatol. 2014; 11:36-44.

A82

Arranged marriage and migration

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The matchmaking processes of arranged marriages in the migration context need to be clarified. It is important to recognize the shift from the “consensual” arranged marriages – as from the home country of the parents – to the “forced” arranged marriage, as from the Western migration country. In Western countries, all child marriages are considered forced marriages, as it is highlighted in several international documents (Council of Europe, European Parliament, UN). Generally speaking, it is considered a “consensual” arranged marriage when the family choose the spouse, but the offspring is free to accept or not. In such a marriage, frequent in many immigrant communities, family take the lead, but the ultimate choice to marry remains with the individual. In other words, an arranged married is not necessarily a forced marriage, since the offspring can recognize the traditional authority of the family and accept it. In immigration countries, the conflict between the home country culture and the process of acculturation very often set off a stiffening of the traditional cultural practices, usually due to the fear to lose the original cultural identity. Such a defensive hardiness pushes the husband to take control over wife and daughters, imposing traditional attitudes and behaviors. In this way, a cultural practice - accepted and shared in the home country - becomes a violence and an overwhelming obligation. The Natcen study [1] shows eating disorders and self-mutilation as major clinical consequences of forced marriage. Chandler [2], studying suicidal behaviour in migrant girls from South Asia countries, highlights forced marriage as one of the most relevant cause of suicide. A sensitive issue linked to psychological consequences of forced marriage is also the attitude of the specialist who get to know about such a situation regarding a patient. Research shows that specialists have to choose between two options: report the situation to the authority, starting an interethnic quarrel, or consider it as a “cultural practice” similar to others [3]. The phenomenon of forced marriage for the second generation in Europe reached relevant numbers in the last years and the trend is expected to get worst, because of the increase of the “native” second generation, without significant cultural bond with the parents’ home countries. In Italy, the phenomenon of forced marriages has grown exponentially mainly with the increasing
immigration of the families coming from Arabic countries and from the Indian subcontinent. For methodological reasons, it is difficult - if not impossible – to quantify this phenomenon. The victims represent a "hidden population," and very often they are reticent and refuse to talk about their private life. In particular, there is a strong resistance in forced marriage victims to denounce members of their family or community, contributing to maintain such phenomenon invisible. So far, in Italy there are no official statistics on forced arranged marriage. Data provided by Unicef (2013) about the percentage of children married before 15 and before 18 in different countries - if combined with the data provided by Istat and Ministry of Interior about non-EU residents in Italy - can help in estimating the population at risk. The communities most at risk in Italy are: Morocco, Albania, some South-East Asian countries (Bangladesh, Pakistan, India, Sri Lanka) and some African countries (Senegal, Ghana, Nigeria, Egypt).

References
1. Naceto Social Research, Forced marriage: Prevalence and service responses in United Kingdom, 2009. Available in http://nacetn.ac.uk/our-research/research/forced-marriage. Accessed June 22, 2017.
2. Chantler K. Recognition of and intervention in forced marriage as a form of violence and abuse. Trauma Violence Abuse. 2012; 13:176-183.
3. Batsleer J, Burman E, Chantler K, Pantling K, McIntosh H, Smailies S, et al. Culture as a barrier to service provision and delivery: domestic violence services for minority women. 2002; Manchester: Manchester University Press.

A83
N-3 polyunsaturated fatty acids: fish, functional foods or supplements
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Long chain n-3 polyunsaturated fatty acids (n-3 LCPUFAs) are essential for optimal neuronal development as they contribute to membrane fluidity and neuronal plasticity. As highlighted by the European Food Safety Authority (EFSA), brain accumulates large amounts of docosahexaenoic acid (C22:6 n-3, DHA) especially during the first two years of life, contributing to normal brain development [1]. Moreover, as DHA contributes also to the visual development of infants, an association between the intake of infant and follow-on formula supplemented with DHA (at least 0.3% of the total fatty acids (FA)) and visual function at 12 months has been observed [2]. Alpha-linolenic acid (C18:3 n-3, ALA), an essential dietary fatty acid, is the precursor of all n-3 LCPUFAs. Humans can convert ALA to eicosapentaenoic acid (C20:5, EPA) and DHA, but, since conversion efficiency is low, an adequate dietary intake is required [3]. Significant amounts of EPA and DHA characterize fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA amounts of EPA and DHA characterize fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tuna, mackerel, anchovy, and sardines, while ALA characterizes fish and derivative fish oil, especially salmon, tun
Caltanissetta) RVGE hospitalization rate reduction (Fig. 2). Moreover, intussusception hospitalization rate (2015-2016 Vs. 2009-2012) showed a trend not related to VC (Fig. 3), especially in the province of Messina, where to a low VC corresponded a relevant increase in intussusception hospitalization rate.

Conclusions
This study showed high impact of RV on RVGE rate reduction among Sicilian provinces with VC higher than 50%. Moreover, the trend of intussusception hospitalizations unrelated to VC by province but similar to before anti-RV Sicilian data allows us to confirm the security profile of available vaccine [2]. Furthermore the comparison between impact data before and after RV introduction will be useful to monitor safety and effectiveness of vaccine [5].

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References
1. Vitale F, Tramuto F, Amodio E, Restivo V, Costantino C. Results after one year of rotavirus universal mass vaccination in Sicily. Ital J Pediatr. 2015; 41:77.
2. Costantino C, Restivo V, Cuccia M, Furnari R, Amoodio E, Vitale F. Analysis of hospitalizations due to intussusception in Sicily in the pre-rotavirus vaccination era (2003-2012). Ital J Pediatr. 2015; 41:52.
3. Dubé E, Gilca V, Sauvageau C, Bradet R, Bettinger JA, Boullanne N, et al. Canadian paediatricians’ opinions on rotavirus vaccination. Vaccine. 2011; 29:3177-82.
4. European Centre for Disease Prevention and Control. Impact of rotavirus vaccination – Generic study protocol. Available at http://ecdc.europa.eu/en/publications/Publications/Rotavirus-impact-vaccination-April-2013.pdf. Accessed June 22, 2017.
5. Restivo V, Costantino C, Tramuto F, Vitale F. Hospitalization rates for intussusception in children aged 0-59 months from 2009 to 2014 in Italy. Hum Vaccin Immunother. 2017; 13:445-449.
Background
The survey aims at the necessity to encourage both paediatricians and teachers to apply an holistic vision during the practice of their role, promoting not only physical but also relational, emotional and social well-being of future adults.

Materials and methods
The leading project has been carried out in Tuscany first, and then broadened to the whole nation. The anonymous questionnaire handed out was a multiple answers’ test of 60 questions (likert 5) in digital format. The national surveyed sample consists of 9784 teenager individuals. The fields investigated are: vital and socio-demographic data of the sample, diet and sport, perception to attention paid, psycho-emotional distress, bullying and violence, sexuality, addictions, use of internet and social media, traditional family, divorces and same-sex parents.

Results
Fifty-one (51.2%) percent of the surveyed sample report a lack of attention from teachers to their problems outside of the educational setting. Fifty (50%) percent state of having experimented a strong psycho-emotional distress and 15.3% declare of self-inflicting physical injuries because of it. Fifty (50.9%) percent have felt the need of a psychological support but only 15.8% turned to a scholastic support service. Twenty-seven (27.9%) percent of teenagers see themselves overweight, more than 22% have not breakfast at home and 36.4% buy food at school, 52.5% practice some sport. On average, they receive their first smartphone at 11 years old. 24.9% of them prefer online social interactions to live ones. Seventy (79.2 %) percent state that the parents’ divorce is a negative influence on a teenager’s development. 72.4% think that divorce is preferable to a conflicting cohabitation. Sixty (60.1%) percent of divorced parents’ sons agree on feeling not listened to during the divorce. Sixty-six (66.7%) percent are favourable to families composed by same-sex parents. Thirty-three (33.3%) percent declare of being bullied at school, and 12.4% have been victim of cyber-bullying on social media at least once. Thirteen (13.9%) percent of the kids assert that there are aggressive behaviours within their families. Forty-three (43.7%) percent witness to arguments between parents regularly. Sixty-two (62.2%) percent of the surveyed sample declare of not having received any sexual education within the family. 34.1% do not use contraceptive methods during intercourse. Fourteen (14.6%) percent admit of having received sexual offers from adults through dating apps and 3.2% declare of having had intercourse for an economic profit.

Conclusions
declare of having had intercourse for an economic profit.

This study highlights some themes which deserve to be examined in subsequent research: parental divorce and its effects on children’s emotional and psychological health, internet and social media use, and sexual health education. The results of this study provide important insights for future research and interventions to improve the well-being of teenagers.

References
1. Documento di consenso Gruppo di Studio SIEDP- AMD-SID. Transizione dei giovani con diabete mellito verso l’età adulta. Passaggio dal pediatra al medico dell’adulto. Una proposta operativa nazionale. Il Giornale di AMD. 2010; 13:159-168.
2. Bryden KS, Dungar DB, Mayou RA, Peveler RC, Neil HA. Poor prognosis of young adults with type 1 diabetes: a longitudinal study. Diabetes Care. 2003; 26:1052–1057.
3. Cadario F, Prodam F, Bellone S, Trada M, Binotti M, Trada M, et al. Transition process of patients with type 1 diabetes (T1DM) from paediatric to the adult health care service: a hospital-based approach. Clin Endocrinol. 2009; 71:346–350.
4. Garvey KC, Telo GH, Needleman JS, Forbes P, Finkelstein JA, Laffel LM. Health care transition in young adults with type 1 diabetes: perspectives of adult endocrinologists in the U.S. Diabetes Care. 2016; 39:190-7.

A87
Meningococcal B vaccine
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In recent years Neisseria meningitidis serogroup (MenB) has been highlighted as the main cause of meningococcal invasive diseases not only in most temperate countries but in many parts of the world [1]. Many efforts were done to develop a safe and effective vaccine against this serogroup in the last century. Capsular polysaccharide and outer membrane vesicles (OMVs) vaccines were tested in clinical trials and during outbreaks however they were not introduced into routine immunization practice because of safety issues, protection largely restricted to the vaccine strain and limited efficacy in young children [2]. Due to the failure of a conventional approach to develop a universal vaccine against serogroup B, a new approach, termed reverse vaccinology and based on genomics, has been employed since 2000. This approach was used to identify novel antigens for the development of a new multicomponent vaccine (4CMenB) [3]. 4CMenB is composed by four antigenic components, two of which are presented as fusion proteins: Neisseria adhesin A (NadA), factor H-binding protein (fHbp) fused with GNA1030, Neisseria heparin-binding antigen (NHBA) fused with GNA2091 and Neisseria heparin-binding antigen (NHBA) fused with GNA1030 and OMVs from the New Zealand strain NZ98/254. Since 2013 4CMenB has been licensed in Europe, Australia, Canada and USA with different immunization schedules.

Clinical trials involving adults, adolescents, children and infants showed 4CMenB has a good immunogenicity and safety profile as [2]: previous studies have shown that physician continuity and intensive care coordination can help improve patient transition to adult care [3]. In the US leaving pediatric care is associated with a 2.5-fold increase in the odds of being in poor glycemic control at the follow-up visit compared with those who stay in pediatric care [4]. Young adults should be followed separately from the older patients with T2DM who may present clinical complications discouraging the young patients to follow-up. A questionnaire sent to all members of the SIEDP showed that the transition process is not homogeneous in the country. Although there is general consensus on the transition age, i.e. 18 years, the pediatric diabetologist may modulate the timing depending on the subject and on local practice of adult care. In view of the known difficulties, both pediatricians and diabetologists should agree on general principles of the process that must be properly announced, gradually carried out and shared by patients and care givers. The Italian Consensus has clearly defined how during the first 6 months both pediatrician and diabetologist should attend the clinics and monitor outcome. All phases of the process should take place in a collaborative climate with sufficient time to discuss all the aspects of the past and present disease. Telemedicine should be considered when the adult care is not in the same hospital. The challenge for the future will be the monitoring of all transition processes throughout the country in order to improve it and create shared strategies between pediatricians and diabetologists.

A86
Transition from pediatric to adult care for youth diagnosed with type 1 diabetes (T1DM): when and how
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The transition of adolescents and young adults with T1DM from the pediatric centre to the adult centre has been carefully described in the consensus statement of the 3 Italian Scientific Society dealing with subjects with T1DM, i.e. ISPED (Italian Society for Pediatric Endocrinology), ISD (Italian Society of Diabetology) and AMD (Association of Medical Diabetology) [1]. Both the Consensus and the National Programme on the Diabetic Disease agree on the fact that transition is a critical period in the life of the adolescents with T1DM with significant psychosocial issues and risks of poor outcome. The possibility of a poor adherence with the subsequent increased risk of bad metabolic control and future complications has been well documented
well as a good acceptability among parents and heath care workers [4,5]. Coverage estimates are similar to or better than other recently approved vaccines, ranging from 66% in Canada to 91% in Unites States. 4CMenB was also introduced during meningococcal outbreaks in USA [6,7]. Some points still remain to be clarified such as the best immunization strategy, the effect of 4CMenB on carriage, the long term persistence of protective bactericidal antibodies titers, long term safety outcomes, the possible emergence of N. meningitidis escape mutants and the vaccine cost effectiveness.

References
1. Jafri RZ, Ali A, Messonnier NE, Tevi-Benissan C, Durrheim D, Eskola J, et al. Global epidemiology of invasive meningococcal disease. Popul Health Metr. 2013; 11:17.
2. Sadarangani M, Pollard AJ. Serogroup B meningococcal vaccines-an unfinished story. Lancet Infect Dis. 2010; 10:112-124.
3. Mameli C, Galli E, Mantegazza C, Fabiano V, Zuccotti GV. The multicomponent meningococcal serogroup B vaccine (4CMenB): origin, composition, health impact and unknown aspects. Future Microbiol. 2015; 10:1579-98.
4. Gossger N, Snape MD, Yu LM, Finn A, Bona G, Esposito S, et al. Immunogenicity and tolerability of recombinant serogroup B meningococcal vaccine administered with or without routine infant vaccinations according to different immunization schedules: a randomized controlled trial. JAMA. 2012; 307:573-582.
5. Mameli C, Faccini M, Mazzoli C, Colella G, Duca PG, Zuccotti GV. Acceptability of meningococcal serogroup B vaccine among parents and health care workers in Italy: a survey. Hum Vaccin Immunother. 2014; 10:3004-3010.
6. Vogel U, Taha MK, Vazquez JA, Findlow J, Claus H, Stefanelli P et al. Predicted strain coverage of a meningococcal multicomponent vaccine (4CMenB) in Europe: a qualitative and quantitative assessment. Lancet Infect Dis. 2013; 13:416-425.
7. Medini D, Stella M, Wassil J. MATS: Global coverage estimates for 4CMenB, a novel multicomponent meningococcal B vaccine. Vaccine. 2015; 33:2629-2636.

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