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Is What Scientists Say Always Best? Reflecting on the Role of Perinatal and Infant Experts' Knowledge in the Cultures, Policies and Practices of Parenthood

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Abstract. Reviewing recent literature on the topic, this article reflects from a sociological perspective on the influence that perinatal and infant experts' authority and scientific knowledge have on the cultures, policies and practices of parenthood in contemporary societies. Here the author refers mainly to the heterosexual parenthood and not also to the homogenitorial families that would require a separate discussion. The geographical and social context the author refers to is mainly Italy. After having illustrated the main characteristics of the "expert-led" model in perinatal and infant area and the reasons why it has become increasingly the hegemonic model in the parenting and childrearing cultures and practices, the article presents an overview of the Italian context illustrating data on pregnancy, childbirth, breastfeeding and vaccination. Then it questions about possible research developments in exploring the use that the policy makes of the experts' knowledge and scientific evidence and the implications of this use. Finally it reflects on the growing diffusion of anti-science movements in perinatal and infant area.

Keywords: scientific knowledge, perinatal and infant experts, parenting, childrearing, gender.

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INTRODUCTION

In the advanced societies, experts have become increasingly relevant in the process of social construction of children's wellbeing and of the parental roles, contributing to create an "expert-led", non-gender-neutral parenting cultural model.

One could hypothesize that the higher the level of social legitimacy, esteem, and validity the science and professional expertise have in establishing adequate behaviour patterns and lifestyles, the greater the pressure to conform to these standards. Nevertheless we observe also the increasing

propagation of anti-science movements and trends of parents refusing to vaccinate their children due to perceived fears, with alarming repercussions in terms of public health and safety.

Italy is one of the European countries with the major recent outbreaks of measles (ECDC 2018)[1] (a virus previously considered eliminated), a strengthening of anti-vaccination movements, and a heated public debate on these topics. For these reasons it is an interesting case to reflect on.

To date, there are no systematic and in-depth sociological studies exploring the role of perinatal and infant scientific knowledge and professional expertise in influencing cultures, policies, and practices of parenthood (and correlatively of childhood) in Italy. In this country the attitudes towards experts and scientists and the cultural model regarding children's wellbeing and parental roles they vehicle seem to be ambivalent: at the same time, on the one hand, they are crucial reference points, and on the other, they are in a situation of "sovereigns under siege", increasingly being the object of attacks in the everyday practices, in the public and political debate.

The article is structured as follows. After the Introduction, the second Section is devoted to illustrate the main characteristics of the "expert-led" model in perinatal and infant area, which experts and what knowledge come into play in the social construction of cultural beliefs and norms around the adequate parenting and children wellbeing, and the reasons why this model has become increasingly hegemonic in the parenting and childrearing cultures and practices; moreover its implications in terms of gender roles are discussed. The third Section analyzes some data from Istat (2017), Italian Ministry of Health (2019), and other sources concerning trends in pregnancy, childbirth, breastfeeding and infant vaccination in Italy. The fourth Section is about possible research developments in exploring the use that the policy makes of the perinatal and infant experts' knowledge and scientific evidence and the implications of this use. The fifth Section reflects on some possible reasons of the growing diffusion of anti-science movements in perinatal and infant area.

CHILDREN'S WELL-BEING, ADEQUATE PARENTING, AND GENDER: CHARACTERISTICS AND REASONS OF AN INCREASINGLY "EXPERT-LED" MODEL

Since the end of the nineteenth century, childhood has been object of an extraordinary social effort to improve its living conditions. Various theories of childhood, from the poet Giovanni Pascoli to the physician and educator Maria Montessori, outline a child without worries and without difficulty in his being and in his becoming (Becchi 1998). It is the science that provides the tools to build a happy world in which children can express themselves and be the main resource of the society of the future. Paediatrics in the first half of the twentieth century becomes a specific branch of medicine. But it is a global attention to not only the child's physical health, but also to his/her learning abilities, and to the way to contrast the forms of social maladjustment and delinquency. The birth of psychoanalysis and psychology has an essential role in this respect (Maida 2017).

There appear to be very few studies and reflections, but growing in the last years (e.g. Furedi 2002; Faircloth, Hoffman, Layne 2013; Favretto, Zaltron 2013; Macvarish *et alii* 2014; Martin 2014; Wolf 2010), on the role that in the "developed" contemporary societies the experts and scientists[2] have in the social construction of the parenting culturally considered adequate/appropriate for the roles of mother and father in the first years of the babies' life. Such (mainly sociological and anthropological) studies and reflections address questions like: who are a "good" mother and a "good" father according to the experts' dictates? How should she/he behave? Which are considered the consequences of the parents' behaviours on children's well-being? What is the role of perinatal and infant

[1] From 1 December 2016 to 30 November 2017, Italy was the second country with the highest number (4,985) of cases of measles, accounting for 35% of all cases reported by EU/EEA countries.

[2] Expert is a person who, through education or experience, has developed specific skills or knowledge in a particular subject that the non-expert does not possess (Giddens 1990). The figure of the expert often coincides with that of scientist even if they are different professional and social roles: the scientist is someone who has control over the subject matter and investigation questions; the expert is someone called to apply knowledge and ability to judge a problem that others pose to him and that is often not attributable to a specific disciplinary field (Pellizzoni 2020).

experts in shaping all this? What is their role in shaping the socially accepted standards and representations of adequate and ideal parenting? What the implications in terms of gender norms and roles?

As the abovementioned works show, experts and professionals of different disciplines from medical sciences (such as midwifes, gynaecologists, paediatricians) to psychology and psychoanalysis up to, more recently, the neurosciences, whom women and men directly and indirectly enter into relation with during the so-called first «*1000 days*» from pregnancy until two years of age of children are "significant others" in the process of social and cultural construction and reproduction of (gendered) parental roles.

Scientific knowledge and professional expertise shape notions of "good," "adequate" parenthood and parenting (especially motherhood and mothering) to which individuals are required to conform and perform to some extent, and to which they comply or, on the contrary, resist, and which are not gender-neutral. Therefore experts and professionals are important agents of gender socialization and gender cultures for future and first-time parents.

Partly in response to people's subjective «need to intervene and regulate intimate life» (Faircloth, Hoffman, Layne 2013: 53)[3], supported by the so-called «scientific evidence», experts and professionals construct and reproduce dominant cultural norms and expectations about parenting roles, ideals of (good) mothering and fathering and children's well-being. This, directly, through their everyday practices and discourses in therapeutic interactions with the mothers-patients and with the parental couples, and indirectly, through the expanding market of parents' rescue manuals, and other cultural products of the mass media industries. In the Italian context, just like in other countries, there is an abundance of materials (books, magazines, movies, websites and TV programmes) which convey this so-called expert knowledge to the general public; for example, the reality TV programmes «*Supernanny*» («*Sos Tata*»), «*The Midwives*» («*Ostetriche*»), «*One Born Every Minute*» («*24 ore in sala parto*») and «*The Secret Lives of Children*» («*Il mondo segreto dei bambini*»).

In the frame of a growing importance of child-development experts and scientific claims, parenting (especially mothering) looks like a highly performative «activity in which adults are increasingly expected to be emotionally absorbed and become personally fulfilled» and child-rearing is interpreted as a «skill rather than as an integral feature of informal family relationships» (Faircloth, Hoffman, Layne 2013: xiv,) increasingly subject to *public scrutiny*.

How parents breastfeed or nurse their children, what time they put the children to sleep, what they read to them or how they play with them, what rules they give their children, whether and when to let them go out to play or leave them with grandparents or "other persons", all this has become an object of debate, as well as of precise (not always concordant) tips from expert knowledge (Naldini 2015).

Parents are expected to acquire skills and competences in the difficult 'job' of parenting, because their child's emotional, cognitive, physical development, increasingly put at the centre of society (Faircloth, Murray 2015), on the basis of the so-called «scientific evidences», is believed to depend on their preparation and skills. Even infant's brain development and neuroplasticity is described by the scientists as deterministically affected by parenting attachment, by how and how much parents, especially mothers, care the baby in the very first months and years of baby's life (Macvarish, Lee, Lowe 2014). In this regard, recently a neurobiological study (Shafai *et alii* 2018) analysing the influence of breastfeeding and of the infant's social environment on neuroplasticity and brain development in the first 1000 days – by connecting to and citing the theories on attachment parenting of the psychologist and physician John Bowlby (1958) and on mother-baby bonding of the neonatologist Marshall Klaus and of the paediatrician John Kennell (1976) – affirms:

> There is substantial evidence that breastfeeding and an enriched environment provide significant contributions to the infant's brain development. [...] There is clear and convincing evidence from a number of disciplines, neuroscience, genetics, animal experiments and magnetic imaging techniques that indicate breastfeeding results in optimal brain development and higher IQ in later life. [...] In this communication, we provide evidence that breastfeeding and an enriched environment result in accelerated developmental potentials in the first 1000 days last a life time. The first 1000 days last the rest of our lives (Shafai *et alii* 2018: 27).

[3] In this regard Nelson (2010) talks about «helicopter parents», «anxious parents», «hovercrafts», «PFHs» (Parents from Hell).

The new culture of parenthood requires «intensity» in providing care for the new-born baby, albeit in a differentiated way for mothers and fathers inside the heterosexual couples. For example, according to Hays (1996), «intensive mothering» (or «mysticism of maternity») is the salient and contradictory trait of the new maternity culture. A "good" mother is expected to «spend a tremendous amount of time, energy and money in raising their children» (1996: x). A good mother should always be active and open, like a self-service operation, literally 24 hours a day (Naldini 2016) a «total» mother (Wolf 2010). At the same time new fathers' attitudes emerge: scholars highlight the growing presence of «involved», «caring», «participating» fathers, «intimate» fatherhood (Dermott 2008; Miller 2011) (on the Italian case see for example Bosoni, Crespi, Ruspini 2016).

Douglas and Michaels (2004) argue that modern motherhood requires moms to:

> put on the doting, self-sacrificing mother mask and wear it at all times. With intensive mothering, everyone watches us, we watch ourselves, and we watch ourselves watching ourselves. Motherhood has become a psychological police state.

Following a Foucauldian framework (1975), other scholars (Henderson, Harmon, Houser 2010) underline that not only the media, or any given social institution perpetuates the pressure of perfection in mothering, but that there is also another powerful form of surveillance perpetuated on an individual and interpersonal level: mothers surveilling other mothers, also using these interactions to surveil themselves and their own decisions about parenting.

The ideology and practices of intensive mothering are becoming widespread internationally, but despite this, at the individual level, far from being considered as the sovereign domain of truth, the "dictates" of scientific knowledge and professional expertise are not replicated automatically and uncritically by the mothers and fathers.

Moreover, what this intensive parenting, and especially mothering, culture prescribes to the individuals – that means also to some extent what science and experts say and suggest – in the contemporary historical period seems to contrast with other social expectations and "imperatives". Surely, it is in tension with those coming from the labour market. Women are expected to be doing paid work and to reconcile work and family and both women and men are requested to conform to the unconditional «adult worker model» (Lewis 2006) making it harder for mothers and fathers to respond to the changing needs of their families and the demands of being parents (Gornick, Meyers 2003).

The emerging fields and experts' knowledge in child development define new codes of behaviour and the proper social norms that "good" parents should comply with. The results, however, are ambivalent: on the one hand, parents are seen as omnipotent, because the cognitive and intellectual development of the child depends on them, while on the other, they are seen as incompetent, in need of being trained and educated (Faircloth, Murray 2015). Mothers are especially concerned with this ambivalence: on the one hand, they are encouraged to be "natural", and on the other to follow the guidance of experts (Miller 2011).

Experts' and professionals' role is particularly important in the phase of individual's and couple's life course of the first transition to parenthood. The sociological international literature on gender roles, values, ideals and practices of motherhood and fatherhood in the transition to parenthood underlines the discrepancy between the increase in egalitarian values in terms of marital and family gender roles in advanced countries during the last decades of the XX century, on the one hand and on the other, the persistence of gendered behaviour patterns in the division of paid work and childcare (Lück 2006; Davis, Greenstein 2009) and the difficulties couples encounter when it comes to achieving gender equality in their daily lives (Hobson, Fahlén 2009). What are the reasons for the discrepancy between values and practices regarding the gendered division of paid and unpaid work in today's societies? Taking a life course perspective (Macmillan, Copher 2005; Mayer 2009), recent studies have underlined that it is during the transition to parenthood that a traditionalization of the division of paid work and childcare between women and men, mothers and fathers, occurs (Bühlmann, Elcheroth, Tettamanti 2010; Grunow, Evertsson 2016, 2019).

Most of the studies analyzing factors that influence the gender division of paid and unpaid work (both housework and caregiving) have explained this traditionalization in "macro" terms by looking at the different levels and types of support for working mothers and fathers provided by different welfare state regimes in different countries

or groups of countries (Fuwa, Cohen 2007; Hobson, Fahlen 2009; Saraceno, Keck 2011), or, on the other hand, in "micro" terms by looking at women's (mothers') and men's (fathers') individual preferences (Hakim 2000) and the role of values and norms concerning childcare (Pfau-Effinger 2012; Lück 2006). But there is a general lack of studies investigating the role that perinatal and infant professionals have in producing and reproducing gender ideologies that shape the behaviour patterns related to the division of paid and unpaid work between women and men. A few studies explore parenting ideals and roles as being not only ascribed to fathers and mothers by the state and its policies, the labour market and the family, but also shaped by the healthcare and family professionals they interact with (e.g. Veltkamp, Grunow 2012 for The Netherlands). For the Italian context a study (Musumeci, Naldini 2017) analyzed the narratives of a group of 44 Italian mothers and fathers living as couples and in transition to parenthood and their beliefs on the most "appropriate" parental behaviour and roles, and found the following: first of all, the mother's presence is considered, from the parents' perspective, the "best for the child," especially since the couples believe in breastfeeding the child as long as possible, very much in line with the intensive mothering model. «As long as the baby is breastfed, he/she "belongs" mainly to the mother»[4] (Naldini and Torrioni 2015: 209). In many couples there is the idea that the father begins to play a greater role in childcare generally at the end of breastfeeding, when the mother leaves a space that the father can cover (Naldini 2015). Secondly, contrary to the findings of studies on other countries (Grunow, Evertsson 2016), in Italy, fathers are not seen to be, in the interviewed parents' words, either essential, or indispensable. In both these two main findings, parents' compliance with expert-led models plays a crucial role. It is valid to say that among the interviewees, in the cultural and social construction of gender during transition to parenthood, there is an active role played by women. This study shows that overall, it is the mothers (and mothers-to-be) who read, search in the Internet and become the main source of ("more or less scientific") knowledge also for the fathers. Women activate themselves much more than men to more frequently use experts' knowledge or institutional health recommendations, to argue, and to justify their plan and their practices on baby care and in the work-care arrangement.

Within the expert-led model of children's health and well-being and parental responsibility an important aspect is represented by the promotion of the use of vaccines to protect children against disease. The vaccination goals are defined at international level by the *Global Vaccine Action Plan 2011-2020* (GVAP) (WHO 2013), approved by the 194 World Health Organization member states in May 2012, at European level by the *European Vaccine Action Plan 2015-2020* (EVAP) which represents the contextualization of the *Global Vaccine Action Plan 2011-2020* in the European Region, and at Italian level by the *National Vaccine Prevention Plan* 2017-2019 (PNPV)[5]. As we will see better in the fifth Section, in recent years there has been the proliferation of «no-vax» movements abroad and also in Italy. For the medical institutions this occurred in part because web-based content is not regulated and the spread of erroneous and misleading information on vaccines cannot be monitored or limited (Ministero della Salute 2017). For this reason, organizations like WHO and EU have launched information campaigns, using such vehicles as the «World Immunization Week»[6] – during the same week, every year, in every country – to raise public awareness that vaccines work and save lives, increase conscious adhesion to vaccinations in the general population, restore confidence in science. In this frame, in Italy «the Italian Society of Hygiene and Preventive Medicine (SItI) endorsed the «VaccinarSì» project in order to disseminate evidence-based, solid, comprehensive, understandable, and updated information about vaccines, counterbalancing the misleading and erroneous information circulating on the web on the topic, to raise awareness among health authorities and institutions on the use of new media to disseminate health-related information and to promote immunization programs» (Ministero della Salute 2017: 143) collaborating with a number of Italian scientific societies involved in immunization programmes and policies, like the Italian Federation of Pediatricians (FIMP), the Italian Society of

[4] Author's translation.

[5] «Intesa 19 gennaio 2017, 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 sul documento recante *Piano nazionale prevenzione vaccinale 2017-2019* (Rep. atti n. 10/CSR) (17A01195) (G.U. Serie Generale, n. 41 del 18 febbraio 2017)» URL: https://www.gazzettaufficiale.it/eli/gu/2017/02/18/41/sg/pdf.

[6] URL: https://www.who.int/news-room/events/detail/2020/04/24/default-calendar/world-immunization-week-2020

Paediatrics (SIP), and the Italian Federation of General Practitioners (FIMG). Anyway at the basis of the vaccination campaigns there are not only health and ethical motivations but also social and economic reasons. According to the Italian Ministry of Health: «some international organizations (WHO, OECD and EU) have stressed that the well-targeted investment in promoting health and preventing diseases is one of the most cost-effective tools for stimulating GDP growth and therefore positively influence the social and economic progress of a nation[7]» (Ministero della Salute 2017: 106). And the Italian *National Vaccine Prevention Plan* declare to adopt «a modern vision» centered on elements such as the affirmation of «the crucial role of promoting health and prevention as factors of development of society and sustainability of welfare in particular in light of the demographic dynamics that characterize it»[8] (p. 31).

PREGNANCY, CHILDBIRTH, BREASTFEEDING AND VACCINATION: AN OVERVIEW OF THE ITALIAN CONTEXT

As known Italy is a declining demographic context characterized by low fertility and birth rates[9] and by a growing population aging trend in comparative perspective. With 7.3 births per 1,000 people in 2018 Italy was one of the country with the lowest natality in the world[10]. In the same year 1.29 was its average fertility rate, 1.94 for immigrants and 1.21 for Italians[11]. The demographic structure and procreative behaviours have been historically characterized by an intra-national differentiation with the North having fertility rates and a percentage of children and young people out of the total population lower than in the South; but this gap has narrowed in recent decades and even, in the very last years, the fertility rate in the Southern Italy was lower than in the Northern Italy (in 2019 1.26 *vs* 1.36) (Istat[12]) probably due to the lower presence of immigrants who have on average higher fertility rates than the Italians.

Italy is also the country in Europe with the highest mother's age to the first child and in the last years the postponing of reproductive choices increased (31.9 years for women, over 35 for men); moreover motherhood (and fatherhood) is becoming an increasingly rare phenomenon since the number of women having no children has increased (Baratta 2018). However, it remains unchanged the expected/ideal number of children[13]: two in 2012, the same as found in 2005 (Istat 2017), with no significant differences according to gender and age (OECD[14]). From the analysis of the reasons given about the desire not to plan the birth of further children expressed at the interview by women with a only child emerge that the economic or age-related reasons are the two reasons most frequently reported by the interviewees behind the choice to stay with the only child family; only in third place the women interviewed have already reached the ideal number of children.

Following the World Health Organization (WHO)'s recommendations, in the Italian context, perinatal and maternal health policies in the last decades have been increasingly oriented to favor physiological birth and, in many hospitals, a more humanized model of birth has been introduced (including for example 24 hours rooming in, free position during labor or delivery, and the use of pools) (Quattrocchi 2014).

Despite of this, both pregnancy and childbirth are still treated as strongly medicalized events: medical examinations and checks are much more frequent than those required by the ministerial guidelines and are not always justified by pathological pregnancies. An indicator of how childbirth continue to be "over"-medicalized in the Italian context is the high overall caesarean delivery rate (although its decreasing trend) in cross-country comparative

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[7] Author's translation.
[8] Author's translation.
[9] The fertility rate refers to the number of births per woman, the birth rate to the number of births per 1,000 people.
[10] The World Bank Data, https://data.worldbank.org/indicator/SP.DYN.CBRT.IN?most_recent_year_desc=true
[11] Istat, http://dati.istat.it/Index.aspx?DataSetCode=DCIS_INDDEMOG1
[12] Istat, http://dati.istat.it/Index.aspx?DataSetCode=DCIS_FECONDITA1
[13] It refers to the number of children a couple decides to keep having, and then stop.
[14] OECD family database, ChartSF2.2.A. http://www.oecd.org/els/family/database.htm#structure

perspective. Italy (together Switzerland) is one of the countries with higher than average caesarean rates – around 35% (Euro-Peristat 2015).

Italy is characterised by a strong territorial divide in the perinatal and maternal health care assistance: medicalization of pregnancy and caesarean delivery are more diffused among women in South of Italy having a caesarean delivery rate near 50% in 2013. This outcome in part depend on the fact that, in the South, more people opt for private services outside the National Health Service that, on average, have higher caesarean delivery rates compared to the public hospitals[15] (Istat 2017).

On the other hand, mothers' behaviours during the post-partum are more marked than in the past by physiology and naturalness: the share of women who breastfeed their last sons has grown in the last 20 years of about 15 percentage points (from 70.3% in 1994 to 85.5% in 2013) (*ibidem*). The awareness of future mothers (especially those with high social status) of risks to pregnancy in adopting unhealthy lifestyles is also increasing more and more: for example, women who quit smoking after conception increase.

There are many factors that influence the probability to breastfeed. Logistic regression analysis on the above mentioned data (Istat 2017) show that the interviewed low educated mothers (with only the "licenza media") and medium educated ones (with "diploma di maturità") have a higher probability (respectively 50% and 30%) compared to high educated mothers of not breastfeeding. So a high educational level is a very important protective factor against the "risk" of not breastfeeding. Education is together indicator of social status, empowerment, competence and decision-making autonomy. In this last sense the variable relative to the woman's work condition before pregnancy is probably also to be interpreted: if she worked, she showed a lower risk of not breastfeeding.

Breastfeeding is not influenced only by individual (and family) characteristics of the mother and by her behaviours and choices (education, social status, health conditions, propensity to engage in healthy behaviours etc.). As stated and recommended by WHO and UNICEF (WHO, UNICEF, 1989; WHO, UNICEF, 2014) an important role is played by contextual factors also, namely by the maternity services and by the overall so-called birth pathway which starts during pregnancy, goes on with the childbirth and the first days of baby's life. The more this path is physiological, the more it will also be the nutrition of the newborn. In particular the very first hours of baby's life are considered crucial to determine his/her future feeding.

In this regard, an important variable influencing the probability of failing to start breastfeeding is linked with the post-natal practices in the hospital/birth point: giving glucose or artificial milk in the first three days of life involves a probability almost 9 times greater of not breastfeeding, and attaching the child after the first hour after the birth (ie not early) involves an increase of the same risk more than twice (Istat 2017).

At the territorial level, in the Southern regions women have a lower risk (-65%), compared to the North, of not breastfeeding, thus demonstrating that the lowest quota of women breastfeeding in the south is more the result of inappropriate hospital practices than of the mothers' subjective propensity. Immigrant women have a lower risk of not starting to breastfeed compared to women with Italian citizenship (*ibidem*).

Significant differences, and definitely inequalities, between North and South Italy on the one hand and Italians and foreigners on the other hand are observed also in relation to the infant mortality[16] with rates that are higher among the immigrants compared to the Italians (Mondo 2007; Lariccia *et alii* 2013) and among the residents in the Southern regions compared to the residents in North Italy (Istat 2017). Over the time the overall infant mortality rate is decreasing but not the gap between the rates observed inside the two abovementioned groups.

For immigrants the higher risk of perinatal mortality seems to be correlated to their tendency to attend less prenatal appointments (see Lariccia *et alii* 2013). According to data from Birth Care Records (CeDAP[17]) in both the public and private sectors, immigrant women attended fewer prenatal appointments than Italian women in 2016: while 1.4% of the latter attended no appointments, the figure for the former group was 2.0%. There is a

[15] In the South the proportion of caesarean deliveries in the private hospitals is very high, near 2/3 out of all the childbirths (Istat 2017).

[16] Infant mortality rate refers to the number of death of a live-born baby within the first year of life per 1,000 live-born babies (Istat 2017).

[17] "Certificati di assistenza al parto".

more significant gap between the two groups when it comes to the scheduling of the first prenatal appointment. The 11.2% of immigrant women had their first appointment after the first trimester of pregnancy, compared to 2.5% of Italian women (Ministero della Salute 2019). These outcomes suggest reflecting on the issue of integration and of the (official and unofficial) eventual difficulties and barriers immigrants encounter when accessing these services (Bollini et alii 2009), although virtually Italian legislation give to migrants (also undocumented) access to the same services as the native population (Mladovsky 2012; Davaki 2019). On the other hand, since childbirth is culturally grounded (Jordan 1992), this situation is also bound up with different cultural views of birth, meaning different beliefs about when and how many times to go to the doctor and the importance attributed to medical assistance; namely, birth may be culturally viewed as a physiological process not requiring medical intervention (for the Italian context e.g.: Colombo, Pizzini, Regalia 1987; Balsamo 1997; Todros, Vanara 2001; Vanara *et alii* 2004).

The North-South divide in maternal-child healthcare and therefore outcomes in part is due to the fact that the State determines the standards of healthcare but the 20 regions are responsible for organizing and administering the care (France, Taroni, Donatini 2005). Women and families in southern Italy opt more frequently than in the Northern for private healthcare services during pregnancy, birth and postpartum since they consider them of better quality than the local public services. In a territorial area less developed and poorer than the North as the South Italy is (Unioncamere[18]), these choices, if due to the inefficiency of the local public services, must make reflect on the inequity of this state of facts since people afford expenses, higher than in the public services, to ensure themselves an adequate assistance, thus eroding their own lower incomes. Moreover it would opportune to analyse what consequences this has in terms of level and type of differentiation of care pathways in the birth event in this part of Italy. In fact, on the one hand, private healthcare services could allow greater personalization of the care but, on the other hand, they could imply less standardization and therefore riskily more inequality of the care, in the case they comply weaker, in comparison to the public sector, with the implementation of public policies, health standards and maternal-child care practices promoted by national and international (WHO) guidelines.

Regarding vaccination, in Italy the Law decree 7 June 2017 n. 73, «*Disposizioni urgenti in materia di prevenzione vaccinale*», modified by the Law 31 July 2017 n. 119, has increased the number of mandatory (and free) vaccines for children from four to ten[19] and that of non-compulsory but recommended vaccines from zero to four[20]. The objective is to counteract the progressive decrease in vaccinations, both mandatory and recommended, observed in Italy since 2013. This trend has resulted in an average vaccination coverage in the country below 95%, that is the threshold recommended by the World Health Organization in order to protect – globally, across countries, and communities – against outbreaks of vaccine-preventable diseases[21]. According to the Italian Ministry of Health data in 2018 the average vaccination coverage of children and adolescents in Italy increased in 2018 compared to five years before (2013) but it is below the 95% thresholds recommended by the WHO for some vaccines and age groups, like for example MMR (Measles, Mumps, Rubella) in the cohort 2016 (Tab. 1).

EXPERTS' KNOWLEDGE, POLICY AND SOCIAL INEQUALITIES

Like in many other advanced countries, in part under the impulse of the recommendations and indications of supranational agencies such as WHO[22], the scientific evidence and experts' knowledge have plaid a crucial role in shaping policies and services in the past and recent history of children and maternal healthcare in Italy.

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[18] http://www.unioncamere.gov.it/In 2005 for example the per capita income in the south was about 70% of the average per capita income in Italy as a whole.

[19] Diphtheria, Tetanus, Pertussis (DTaP), Haemophilus influenzae type b, Hepatitis B (HepB), Measles, Mumps, Rubella (MMR), Polio, Varicella.

[20] Meningococcal B, Meningococcal C, Pneumococcal, Rotavirus.

[21] Source: http://www.salute.gov.it/portale/vaccinazioni/dettaglioContenutiVaccinazioni.jsp?lingua=italiano&id=4824&area=vaccinazioni&menu=vuoto

[22] World Health Organization's recommendations can be find here: https://www.who.int/maternal_child_adolescent/guidelines/en/

Tab. 1. Proportion of vaccinated children per cohort and antigen, Italy, 2013 and 2018.

												MMR diff* 2013-2018		
		POL	DIF	TET	PER	EP B	HIB	MOR	PAR	ROS	VAR	Measles	Mumps	Rubella
2013	24 months (cohort 2011)	95,74	95,75	95,81	95,68	95,65	94,91	90,35	90,30	90,30	33,19			
	36 months (cohort 2010)	96,33	96,33	96,43	96,22	96,17	95,79	92,29	92,17	92,18	40,15			
	5/6 years old (cohort 2006)	90,94	90,69	91,13	90,84	..	..	83,51	83,05	83,11	23,75			
2018	24 months (cohort 2016)	95,09	95,08	95,10	95,07	94,91	94,26	93,22	93,17	93,21	74,23	+2,87	+2,87	+2,91
	36 months (cohort 2015)	96,09	96,09	96,14	96,07	95,85	95,61	95,19	95,12	95,16	50,24	+2,90	+2,95	+2,98
	5/6 years old (cohort 2011)	90,71	90,74	90,88	90,68	..	..	89,20	88,98	89,07	36,53	+5,69	+5,93	+5,96

Source: author's calculation on Italian Ministry of Health's data available at the URL : http://www.salute.gov.it/portale/documentazione/p6_2_8_3_1.jsp?lingua=italiano&id=20

* Percentage points.

Note: POL: Polio; DIF: Diphtheria; TET: Tetanus; PER: Pertussis (DTaP); EP B: Hepatitis B (HepB); HIB: Haemophilus influenzae type b; MOR: Measles; PAR: Mumps; ROS: Rubella; VAR: Varicella.

The list of international recommendations and national laws based on experts' knowledge and scientific evidence is too wide to be reported here and would require a separate work. Here I note as an example that in the last decades – as mentioned in the second Section – a shift has occurred away from a «medicalized» model – that nevertheless is the hegemonic model in contemporary society (Riessmann 1993) – towards a «de-medicalized» and more «humanized» model of assistance and care. It was at the end of 1960s with the DPR 128/1969[23] that the basis of the organization of the provision of obstetric assistance in Italy was posed; this law outlined an organizational framework with a hierarchy in which the care responsibilities seemed to be centred on the figure of the doctor. But it was in 2000 with the POMI («Progetto-Obiettivo materno-infantile») that the Italian state wanted to address those that it considered the main citizens' requests and needs inherent the birth event: an high level of life protection, of the integrity (not only physical) of the parturient and of the fetus-newborn, the need for humanization of perinatal and maternal care and respect for the person (Oleari, D'Ippolito, Ascone 2001).

In the «medicalized» model the woman is implicitly asked to rely on the experts, doctors and midwives, to comply with their directives and interventions, and to show a cooperative attitude toward these experts. The «humanized» is based on a holistic vision considering childbirth as a physiological process and more attentive to the needs and feelings of the mother and child. This model aims to encourage women to make their own decisions regarding their health and that of their babies in a perspective of «empowerment»: alongside the knowledge possessed by professionals, women have "innate" skills they should be encouraged to develop. But if the de-medicalized model allows women greater self-determination and empowerment, if conducted incorrectly or taken to extremes, from a gender point of view, it could actually support a traditional gender ideology with respect to childcare and its distribution between mothers and fathers, not leaving so much room for acting and promoting the co-parenting (which also a part of experts promote) from the very first stages of a child's life.

Following the fact that the role of scientific and experts' knowledge is evident in the development of infant and maternal healthcare policies and services, here below I report and discuss three research questions that could be interesting starting points for future research developments and that is not my ambition to exhaustively answer here.

First, what is the current political debate and politicians' attitudes on the link between scientific knowledge, perinatal care and parenting in Italy?

In recent years in Italy political parties and movements have had different attitudes toward the role of the scientific knowledge and experts' authority in perinatal healthcare. Their positions with regard to the issue of mandatory infant vaccinations and the related «Lorenzin's Law» n. 119/2017 (from the name of the then Ital-

[23] D.P.R. 27 marzo 1969, n. 128 *Ordinamento interno dei servizi ospedalieri*.

ian Ministry of Health), in occasion of the 2018 national elections, have been different with the major political movements in the last government in Italy, the so-called "Movimento 5 stelle" and "Lega Nord", favourable to the infant vaccinations but not to its obligation. This political position has provoked strong reactions by the Italian scientific medical community. Interestingly, on January 10, 2019 Beppe Grillo the co-founder and leader of "Movimento 5 stelle" signed the so-called «Pact in defence of the Science». This fact has provoked the critics of the «no vax» movement that previously viewed the "Movimento 5 stelle" as a political movement close to its position regarding vaccination.

Second, how the perinatal and infant scientific knowledge and its cultural dimensions about parenting and children's wellbeing in the first years of child's life orient policies concerning not only healthcare but more widely family, childcare and parents' (childcare and work) responsibilities? And how is it embedded in this policies and services?

Experts and professionals can influence in different ways the delivery and the use of the (public and private) medical healthcare and welfare services (including *crèches*) in the perinatal and infant area and the pursuit of the related policy goals defined at the institutional level. Especially in a traditional social context regarding gender roles, at the "micro" level, individuals and family, in planning their own strategies of reconciliation between childcare-paid work, for example, could be further discouraged to enrol the child to the *kindergarden*, if science and experts suggest that the presence of the mother is the "best" for the child in the first years of his/her life, with the consequences to discourage the mother's return/participation to the labour market once becoming mother (Musumeci, Naldini 2017) in a labour market, such the Italian is, characterized by very low female employment rates in comparative perspective. On a policy level governments and policy makers could deduce that it is not a priority to invest in early childhood services, when they not use instrumentally this evidence to justify cuts to this sector. The so called «turn to parenting» (Knijn, Hopman 2015) in family policies of some countries with interventions in support of parenting aiming seems to be indicator of a public and political rhetoric that consider family, mother and father, the main (if not only) responsible for the childcare and more generally for the future development of their sons and daughters.

As Frank Furedi (2002) points out, in his work «*Paranoid Parenting*», the transformation of children's upbringing into a topic of growing attention both by experts and policy makers coincide not only with a new vision of childhood - which focuses on the one hand, on children as a subject, and on the other, highlights their vulnerability and the risks they may be exposed to during their development - but also with the definition of parental incompetence that ends up making parents feel constantly "under judgment" (Faircloth, Hoffman, Layne 2013). At the international level, the issue of parental control and hypernormality of experts has started to be the subject of wider reflection (Martin 2014; Knijn, Hopman 2015) much less in Italy.

If many examples could be done of experts' theories and scientific evidences embedded in policies, in some cases to be embedded in family policy are experts' knowledge and theory on which there is no shared consensus within the scientific community. This was for example in 2019 the case of the so-called «Pillon's Decree» (from the name of the then "Lega Nord" vice-president of the Childhood and Adolescence Committee in Italian Parliament), a draft law on child joint custody in cases of parents' separation or divorce (DDL n. 735). This draft law – at the time of writing archived – was object of a heated public debate and criticized, among other reasons, also for the reference to PAS «parental alienation syndrome» (theorized by the child psychiatrist Richard A. Gardner (1998) that has not been recognized by any international and Italian medical or professional association. PAS has been extensively criticized by scientists and jurists, who describe it as inadmissible in child custody (see for example, the Italian Court of Cassation's sentence n. 7041/13 of 6-20 March 2013). Exploring the role of expert and scientific knowledge and of its cultural dimensions in orienting family and childcare policies and services looks interesting and needed also in relation to the measures adopted by the Italian Governement (following experts' advice) in order to contain the Covid-19 pandemic, with the closure of the childcare services and schools for many months (more than in other countries).

A third research question that could be interesting to address is moreover what are the implications of the orientation and embedding of experts' knowledge into the family and childcare policies and services in terms of social

inequalities/inclusion/exclusion?

If the benefits and advantages of an expert-led parenting and childrearing model are unquestionable, however a reflection is needed on the potential risks of such model if taken to extremes or even involving eventually a distort "parental control".

As example, a recent debated case in Italy was inherent late motherhood and fatherhood where courts, following social norms and beliefs according to which the right time to become a parent is the youth, have removed parental rights, resulting in the adoption of the children (as happened in Turin, in northern Italy, in 2013).

But without looking at extreme cases such those cited before, a reflection is needed about the potential risks for some groups of parents and children to be labelled or stigmatized as deviant/dysfunctional family in the implementation of such policies. This could be the case, for example, of parents and children belonging to lower social classes not having the material, economic, educational, time and symbolic resources to perform the hegemonic expert-driven intensive cultural parenting model (that seems suitable and drawn down especially for prosperous and well-educated parents) or having different visions of parenting and children's well-being because they have been socialized in socio-cultural contexts where scientific and expert knowledge has a weaker role in shaping beliefs and values about parental roles and children's wellbeing (for example, such as the immigrant parents).

"SOVEREIGNS" UNDER SIEGE?

In contemporary Italy, as in other developed countries, the level of social legitimacy, esteem, and validity the perinatal and infant science and professional expertise have in establishing adequate behaviour patterns and lifestyles is high, and with it the pressure to conform to these standards. Nevertheless we observe at the same time the increasing propagation of anti-science movements and trends with alarming repercussions in terms of public health and safety. The case of «no vax» parents refusing to vaccinate their children is an example. Below I present some few reflections on characteristics and possible reasons of the growing diffusion of such movements.

The phenomenon of «no vax» is not a novelty in the history[24] and the literature on anti-vaccination movements, their development and interpretations is wide with the first works dating back to almost 60 years ago (Beck 1960; Kaufman 1967; Porter, Porter 1988; Arnup 1992; Swales 1992; Durbach 2000; Poland, Jacobson 2001; Spier 2001; Wolfe, Sharp 2002; Blume 2006; Salmon *et alii* 2006; Jacobson, Targonski, Poland 2007; Tafuri *et alii* 2011).

The growing diffusion of movements like «no vax» could be consequence, to some extent, of the same cultural imperative of the intensive and responsible parenting – described in the second Section – putting on the parents the moral duty to protect at any cost their children from all sorts of *risks* in a *risky society*.

In this sense, parents refusing to vaccinate their own children want (and think) to protect them by doing so just like the parents who decide to vaccinate theirs. It is the same sense of parental responsibility in protecting their children's health and safety that put some parents to vaccinate them and other not. This looks crazy and paradoxical at the same time – because, rather, «no vax» parents are seen by the society and by physicians how exposing both their sons and daughters and the other children to enormous health risks – without considering the transformation of the cultural approach to vaccination, in which the collective dimension is lost and individual choice becomes dominant (Censis 2014), and the role plaid, within this cultural frame, by the perceived fears of the parents.

Among the motivations of the «no vax» parents there is a sort of *radically risk-averse attitude*; some of the slogans of the Italian «no vax» movement are for examples: *«Where there is risk, there can be no obligation»* (*«Dove c'è rischio, non può esserci obbligo»*), *«If there is a possibility of damage, I claim freedom of choice»* (*«Se c'è possibilità di danno, pretendo libertà di scelta»*). An important element that must be underlined is that the fear that vaccines could damage children's health is not fed by ignorance and/or by a *knowledge deficit* since studies show that everywhere (Constantine, Jerman 2007; Rosenthal *et alii* 2008; Ogilvie *et alii* 2010; Anderberg *et alii* 2011), Italy

[24] *No vax* movements make their first appearance in Victorian England (nineteenth century).

included (Censis 2014, 2015), there is an inverse correlation between the parents' educational level and their tendency to vaccinate their children[25].

Among the motivations for the growing presence of anti-vaccination movements, institutions like the Italian Ministry of Health and the results of some studies indicate those referable to the role of Internet. «No vax» parents would prefer a *social-mediated relationship* with the expertise, gathering information and looking for advices on Google, Twitter and Facebook rather than asking for support to the institutional structures or professionals available in the territory (Tipaldo 2019). Anyway Internet is a relevant source of information on vaccination and other issues concerning children's health and well-being for all the parents, not only for the «no vax» ones. What kind of information and news do parents find about vaccines on Internet? According to a Censis study (2014) about the 80%[26] of Italian parents up to 55 years with children from age 0 to 15 years interviewed in order to investigate their opinions and attitudes concerning vaccines declared to having found on Internet negative information on vaccines, while only the 45.6% positive and the 38.9% neutral. In 2011 a «large survey conducted by Regione Veneto reported that the Internet was the most used noninstitutional source of information consulted by parents that decided not to vaccinate their children and at that time 67% of vaccine related websites had an anti-vaccination approach; futhermore institutional websites providing – *positive and neutral* – information on vaccines had a low ranking in the Internet search engines and were not easy to access or even not updated» (Ministero della Salute 2017: 143).

In motivating the opinion that vaccinations are very dangerous for children's health, «no vax» parents tend to mobilize not only kinds of knowledge alternative to the official medical sciences and their accredited theories, up to the so-called «fake-news», «bufale» and «conspiracy theories», but in some cases they refer to views and opinions of experts and professionals of the "official" sciences, although considered as not supported by scientific evidences. This is for example, the case of Luc Montagnier, Nobel Prize for having discovered the HIV virus, who has become one of the main reference points of the «no vax» movement in the last years for having expressed doubts, without ever having published studies corroborating his thesis, about the safety for children's health of an intensive use of vaccinations defining the mandatory vaccinations a "medical and political error". Therefore the anti-science attitudes and behaviours which characterize the «no vax» movement appear *not necessarily anti-experts*[27].

Also a problem of trust, credibility and authority seems to be at the basis of «no vax» positions. As seen, at the origin of such positions there is not always a generic opposition and mistrust toward the expert knowledge tout court but toward what they consider the "official" and hegemonic science. This last is seen, not infrequently, as compromised together other "powers" in the pursuit of the economic profit or in the satisfaction of some other interests – included for example "secret" experimentation – to the detriment of defenceless individuals. Some of «no vax» parents' slogans are for example: *«Hands off the children!»* (*«Giù le mani dai bambini!»*), *«Vaccines, drugs, poison, business»* (*«Vaccini, farmaci, veleno, business»*). Cases of medical and scientific malpractice – like for example in the late 90s the Wakefield's fraud on the supposed relationship between MMR vaccination and autism (Ministero della Salute, 2017) – have played for sure a role in feeding such fears and visions and in general in the process of growing disaffection toward medicine, science and scientists.

But the issue is not only to understand why science and scientists are not authoritative in the eyes of some people – and we have seen this does not reside always in people's ignorance – but given that expert systems depend upon trust (Giddens 1990), also why they less and less trust in "certain" knowledge and experts. The mobilization of "alternative" experts' views operated by the «no vax» parents makes visible and reflects to some extent the internal conflicts and divisions in the contemporary scientific community. Conflicts and divisions that – especially when differences in points of view and opinions, disagreement and conflicts are between experts all equally author-

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[25] In Italy it does not seem to be correlation neither between no vax attitudes and scientific literacy (that is the knowledge and understanding of scientific concepts and processes). According to Eurobarometer (2005) for example the Italians' basic scientific knowledge is higher that the European average.

[26] Among young parents the percentage is 90%.

[27] In some cases the diffusion of «no vax» movement is influenced also by some political parties' positions as said in the fourth Section.

itative – make more difficult for the people to understand where the "truth" is, feeding further the fear to make the "wrong" choice when it comes to making health decisions – in this case children's health[28].

Although the expert-inexpert relationship (as well as doctor-patient) is inevitably marked by asymmetry since it is not a peer to peer relationship, perhaps further and/or new ways to promote actions aimed to renew and reinforce the trust relationship could be some corrective and "repairing" mechanisms.

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[28] If – contrary to the common vision that often sees science as the domain of the absolute truth – it is "normal" and "legitimate" to some extent the existence of different points of view and "theories" inside the scientific community, this could generate problems when it comes to making unequivocal decisions and quickly for the safety of a large number of people like for example the risk of a serious disease outbreak. For example, at the time of this writing Italy – like the great part of the World – has been heavily hit by the outbreak of Coronavirus disease (COVID-19) (URL: https://www.who.int/emergencies/diseases/novel-coronavirus-2019). In the very first phases of this outbreak experts' points of view on the nature and dangerousness of this new virus and therefore the recommended measures – to the individuals and to the Government – in order to contain its spread of the virus were very much divergent, resulting, in certain cases, in quarrels between authoritative virologists on the newspapers and in TV programmes. As well as the measures adopted by the Goverments of the countries in the world have been different. All this fed perceptions of uncertainty among people.

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