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CHILD CARE NURSES AND THE FIGHT AGAINST MATERNAL AND CHILD MORBIDITY AND MORTALITY. VALENCIA BEFORE THE HEALTH TRANSITION

by **María Eugenia GALIANA-SÁNCHEZ**, **Rocío MARTÍNEZ-ZAPATA**,
and **Josep BERNABEU-MESTRE**

INTRODUCTION

In the late 19th and early 20th centuries, maternal and infant morbidity and mortality constituted one of the worst social and public health problems in Europe. Particularly during the inter-war period, this situation began to be viewed as socially unacceptable because many of the causes and determinants involved were considered avoidable, such as the poor hygiene, ignorance and poverty that beset families with the highest levels of morbidity and mortality (Pozzi, Fariñas, 2016).

The emergence of social medicine in the late 19th and early 20th centuries, based on State and international health organisation intervention, contributed to this perception that many health problems were socially intolerable and incompatible with the idea of progress. The effect of social medicine and public health was to improve standards of living by tempering the harshness of the capitalism that accompanied modernisation processes in Western societies (Bernabeu-Mestre, Perdiguero, Barona, 2007). Maternal and infant mortality was one of the problems that received most attention and several social policies

were devised to tackle it, including education, improvement of care, health monitoring, promotion of breastfeeding and healthy eating, infant health care and also a quest for new health technologies.

Within this conceptual framework, international agencies and organisations pledged their commitment to a health-care model based on improving public health, which addressed working class demands for social improvement. This goal entailed training health professionals and attempting to provide satisfactory training and working conditions in order to tackle public health problems. Nurses were among the professional groups that aroused most interest among health institutions and agencies because they slotted perfectly into the new healthcare model proposed by public health and social medicine, particularly as regards combatting maternal and infant morbidity and mortality (Apple, 2018; Thomson, Keeking, 2012).

Thus, public health nursing in Europe underwent professionalisation in the last third of the 19th century and first decades of the 20th century, a period that also witnessed the creation of

public health authorities in Europe, the development of public health driven by the Rockefeller Foundation and the League of Nations and the coordination of a collective effort led by experts (Galiana-Sánchez, 2017; Barona, 2019).

Here, we present a Spanish case study and in particular, the example of the School of Child Care in Valencia and other healthcare mechanisms launched in the same city, such as the Infant Nursery (*Asilo de Lactancia*) and the Infant Milk Depot (*Gota de Leche*), highlighting the role played by child care nurses in the campaign against maternal and infant mortality and morbidity.

To perform the case study, we conducted an analysis of secondary sources such as the daily press of the time and the professional journals *Puericultura Española* (“Spanish child care”) and *Visitadora sanitaria* (“Health visitor”). This latter was intended for health visitors, who included child care nurses, and published scientific articles and opinion pieces written by members as well as publicising events of interest to nurses such as congresses, scholarships, public examinations and study trips abroad. We also analysed the 1933 report on provincial health services in Valencia (Instituto Provincial de Higiene, 1935), which details the work carried out by child care nurses from the School of Child Care in Valencia.

In order to contextualise the tasks and responsibilities assumed by child care nurses in Valencian institutions, we shall examine the social and public health framework within which a series

of health policies and initiatives were devised that sought to end socially unacceptable maternal and infant mortality. As in Europe as a whole, albeit somewhat later, in the first half of the 20th century Spain passed child protection laws and regulations, introduced social insurance schemes such as that for maternity, and witnessed professionalisation processes that in the case of nurses and midwives proved crucial in the fight against maternal and infant morbidity and mortality (Pérez Moreda, Reher, Sanz Gimeno, 2015, 376-379). We shall also analyse the health campaigns implemented to tackle the principal social determinants of poor health, paying particular attention to the role played by child care. Lastly, we shall present a case study of the city of Valencia and the work of nurses in institutions such as the Infant Nursery, the Infant Milk Depot and the School of Child Care.

SPAIN’S SOCIAL AND HEALTH FRAMEWORK AND THE FIRST STEPS TOWARDS THE PROFESSIONALISATION OF NURSING

Demographic, health and epidemiological indicators in early 20th century Spain reflect the country’s pre-transitional stage and highlight its delay in modernising health care. Turn of the century Spain lagged far behind other Western European countries, and as was the case for Mediterranean Europe as a whole, the incidence of infant and child

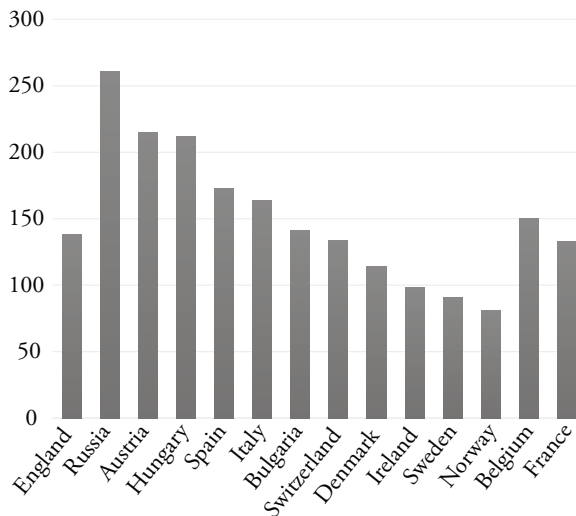
mortality in Spain was higher than in northwest Europe (Pozzi, Robles-González, 1997; Pérez Moreda, Reher, Sanz Gimeno, 2015, 164-165).

The demographic and epidemiological panorama in late 19th and early 20th century Spain was that of a traditional demographic structure with high rates of overall mortality, infant mortality (figure 1) and morbidity associated with the so-called social diseases (e.g. tuberculosis, cholera, syphilis, trachoma

and diphtheria). These already high levels of mortality were further compounded by recurrent epidemic crises that exacerbated the problem, such as the 19th century cholera, smallpox, measles and influenza epidemics. Up until the 1890s, approximately 50% of children died before the age of ten, and 80% of these deaths were caused by infectious diseases (Sanz Gimeno, Ramiro Fariñas, 2002).

However, the 1890s witnessed the

Fig. 1 *Mortality rate of children under one year per 1000 live births in 1909*



Source: by the authors, from the Salamanca infant mortality fact sheet (Prada, 1934).

beginnings of a decline in mortality and a slow but steady change in demography and health, in line with patterns and structures in other Western European countries (Blanes, 2007; Pérez Moreda, Reher, Sanz Gimeno, 2015). Despite lagging behind these countries, Spain nevertheless made significant advances, for example in the field of health legislation and child protection with the 1904 Law on Child Protection known as the Tolosa Latour Law, which to a large

extent was based on the 1874 Roussel Law in France (Ballester, 2016).

Nonetheless, as a consequence of social and political instability in Spain, such initiatives were delayed or never materialised (Álvarez, 2004). However, there was a widespread desire for modernisation in all areas, which in the health sector led to two important initiatives: numerous health campaigns aimed at combatting social diseases, and an outward-looking attitude embodied in

an agreement with the International Health Board of the Rockefeller Foundation that proved decisive for the development of public health and the provision of grants to train health professionals (Farley, 2004; Barona, Bernabeu-Mestre, 2008; Birn, Fee, 2013).

In 1931, the Spanish government signed an agreement with the Rockefeller Foundation aimed, among other objectives, at developing a postgraduate public health nursing programme abroad (Bernabeu-Mestre, Galiana, 2009). Prior to this, the Rockefeller Foundation had commissioned Frances Elisabeth Crowell, a nursing expert with the Foundation, to conduct an analysis of the status of nursing in Spain. Her findings were daunting: in general, nurse training was deficient at both theoretical and above all practical level, being essentially focused on surgery, with the exception of the training provided by the Provincial Institute of Public Health in Cáceres and the schools for health visitors. Crowell proposed a series of measures to improve nurse training, one of which was the provision of overseas training grants for a group of nurses who would subsequently join the teaching staff of the school for health visitors where future generations of nurses would receive their education. This proposal was implemented from 1931 to 1936, providing grants for 14 nurses to study for two years in the United States (Barona, Bernabeu-Mestre, 2008), because the role of expert in public health and nursing was essential as a

professional agent in the Rockefeller Foundation health action model.

Health visitors in general and child care nurses and midwives in particular became fundamental elements of the new public health model being developed in Spain in the first third of the 20th century. Their work was highly important precisely because, as elsewhere in Europe, it was aimed at directly tackling the social determinants of health. One example of this was the community-based work carried out in late 19th century rural Ireland, an impoverished and remote region with a very high rate of infant mortality. This was significantly reduced by employing trained nurses who lived in the community and worked autonomously (Breathnach, 2018). In the case of Spain, the lack of professionalisation of public health nursing posed a major obstacle. In Spain, nurses had always been strongly associated with hospital settings and it was not until 1920 that the first qualified health visitors, trained thanks to Red Cross programmes, began to appear in Spain, much later than in neighbouring countries (Galiana-Sánchez, 2019).

However, it was unquestionably the creation of the National School of Health within the framework of the agreements with the Rockefeller Foundation and its public health education project (Barona, 2015, 20; Barona, 2019, 101-149) and the National and Provincial Schools of Child Care (Barona, Bernabeu-Mestre, 2008; Colmenar, 2008; Bernabeu-Mestre, 2010) that contributed most to the

development of maternal and infant health care and the professionalisation of public health nursing in Spain. These two elements proved crucial in tackling challenges such as those posed by maternal and infant morbidity and mortality, as evidenced by the examples described below.

THE DETERMINANTS OF MATERNAL AND INFANT MORBIDITY AND MORTALITY AND THE ROLE OF CHILD CARE AND HEALTH CAMPAIGNS

“Without question, the most widely discussed problem in modern health is that of infant mortality; its deep roots are closely associated with other problems of a political, economic and social nature, endowing it with such a variety of facets that it necessarily constitutes a serious concern for any civilised nation (Martín, Huertas, 1933).”

The words cited above appeared in an article on infant mortality in rural areas published in 1933 in the “Journal of health and public health” (*Revista de sanidad e higiene pública*), issued by the Spanish Directorate-General for Health. They provide an ideal introduction to the conceptual and methodological framework of our analysis of the factors that determined the reduction in infant mortality and the role played by nurses in combatting maternal and infant morbidity and mortality.

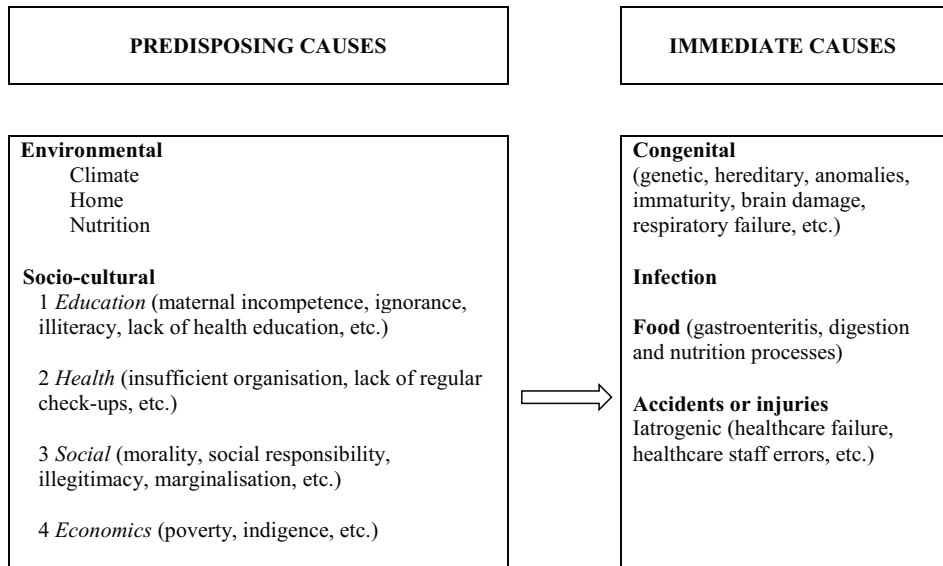
In general, this reduction was influenced by multiple factors acting in synergy, and numerous resources were

required to achieve the considerable reduction in infant mortality after 1930 (Ramiro Fariñas, Sanz Gimeno, 1999). Even so, it was not until the post-war 1940s that this trend became significant and irreversible (Echeverri-Dávila, 2001). According to Pérez Moreda, Reher and Sanz Gimeno (2015), economic growth in the early 20th century precipitated political, social and cultural changes that contributed to this reduction in mortality. One important factor within families was the downwards trend in Spain’s birth rate, making it possible to provide better care for existing children and increase their chances of survival. Another fundamental factor was State investment in health measures, especially health promotion and education. Prior to the widespread availability and use of curative therapies, health professionals devoted much of their time to providing a basic health education to the general public, and made a decisive contribution to health policies and scientific discoveries related to vaccines and antibiotics (Pérez Moreda, Reher, Sanz Gimeno, 2015). With respect to these latter medical advances, it should be noted that vaccines and antibiotics do not seem to have played a crucial role at first in this reduction in mortality because they were not discovered or made widely available until well into the 20th century, when infant mortality was already presenting a marked downwards trend. It is more probable that public health and hygiene measures, investment in health infrastructures and changes in the population’s health

behaviour were the factors responsible for initiating the reduction in infant mortality (Sanz Gimeno, Ramiro Fariñas, 2002). This change in the health paradigm is reflected in the differences between infant mortality rates in urban and rural areas. In the early 20th century, infant mortality was higher in cities because of unhealthy housing and poor living and working conditions. However, the increasing presence of hospitals and orphanages in the 1930s steadily reduced these rates, whereas infant mortality remained high in rural areas due to lack of these resources (Ramiro Fariñas, Sanz Gimeno, 1999).

Thus, the problem of infant mortality had to be addressed from various angles. The conceptual schemas of infant health experts in the mid-20th century included a wide diversity of factors that influenced infant mortality. When these experts analysed the factors involved in the high infant and child mortality rate, they found that in line with what the League of Nations Hygiene Committee had been arguing since its meeting in May 1926, it was necessary to look beyond immediate causes of death to analyse social, economic and hygiene determinants that could be contributory factors in order to determine if such deaths were avoidable and how they could be combatted (Bravo Frías, 1934) (fig. 2).

Fig. 2. *Determinants of infant mortality*



Source: Arbelo Curbelo, Arbelo López de Letona (1975, 385-387), cited by Bernabeu-Mestre et al. (2007).

The immediate causes were basically grouped into what was known as congenital risk, nutritional risk and infection risk, establishing classifications such as that by Debré (Arbelo Curbelo, 1954).

This distinguished three levels of infant mortality prevalence depending on which group of causes predominated: (a) very high and high prevalence, involving causes of mortality that were primarily

attributed to nutritional risk (especially diarrhoea and enteritis) (figure 3), followed by infection risk and thirdly congenital risk; (b) moderate prevalence, involving causes of mortality that were primarily attributed to infection risk, followed by nutritional risk and thirdly congenital risk; and (c) low prevalence, involving causes of mortality that were primarily attributed to congenital risk, followed by infection risk and thirdly nutritional risk.

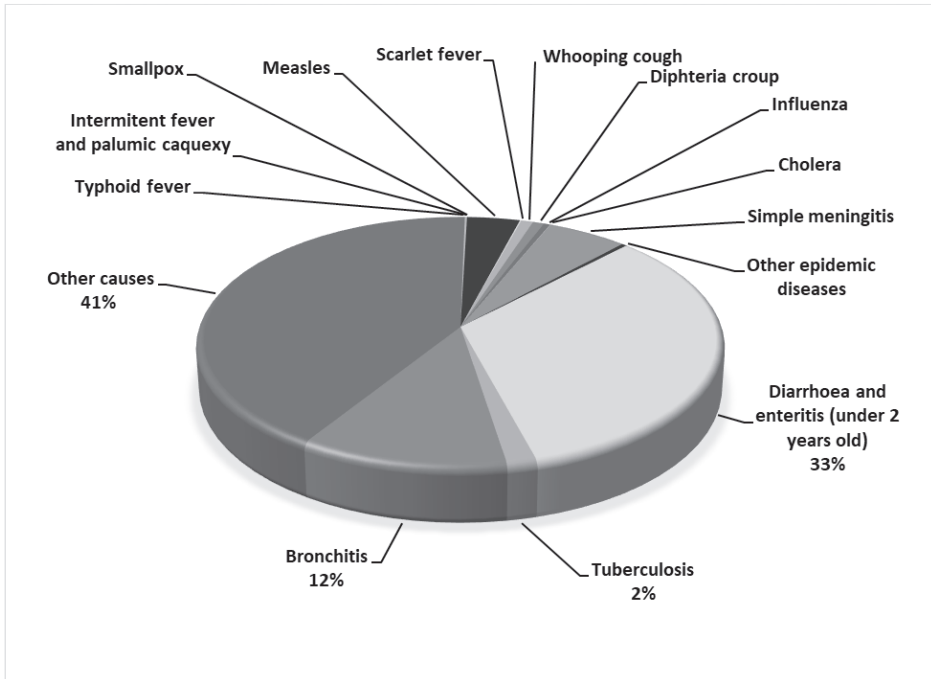
Underlying these immediate causes were the predisposing – or basic and structural – factors. As indicated by the secretary of the school of child care in Valencia (García-Brustenga, 1930), these included causes related to the separation of mothers and children (ranging from wet nurses to the problem of orphanages, children’s homes, infant nurseries and hospitalisation of children); the withdrawal of breastfeeding and errors in weaning and complementary feeding; the influence of the social environment and living conditions (the mother’s work, the father’s occupation, the parents’ cultural level, the family’s economic status, housing, quantity and quality of food – particularly milk – and other risk factors, such as parental alcoholism); the influence of social care mechanisms, or rather their lack of influence insofar as they were unable to mitigate the effects of poverty and privation, unquestionably one of the major causes of infant mortality besides ignorance; the negative influence of diseases such as syphilis and tuberculosis, affecting gestation and early

infancy, respectively; and the influence of climate, especially as regards respiratory conditions.

In general, these factors could be summed up as ignorance and poverty. As indicated by the testimonies of contemporary authors, these factors “could be avoided in an appropriate social environment through the art of child care, deploying health education and promotion, infant information and scientifically formulated diets, according to the pathogenesis in each case” (Galiana-Sánchez, Bernabeu-Mestre, 2012).

The demographic and health discourse concerning the high infant mortality rate in Spain and how to tackle and reduce it proposed health education and promotion targeting mothers in particular, providing comprehensive information on suitable foods and the time and form in which they should be given (Bernabeu-Mestre, Barona, Galiana-Sánchez, 2007; Galiana-Sánchez, Bernabeu-Mestre, 2012). However, as the health professionals themselves recognised, the task of educating mothers was highly complex since it entailed changing their attitudes and behaviours. Nevertheless, the increasing educational level of the population in general and of women in particular endowed them with the tools necessary to better understand the issues affecting child health and the instructions they received from professionals, enabling them to cast aside traditional beliefs and practices (Echeverri-Dávila, 2001). The basic instruction proposed for women also had another objective: to teach them how to be good mothers capable of rearing and educating future men who would

Fig. 3 Specific mortality rate in children under 5 years in Spain in 1930



Source: by the authors based on the 1930 statistical yearbook (INE, n. d.) and historical statistics of Spain (Carreras, Tafunell, 2005).

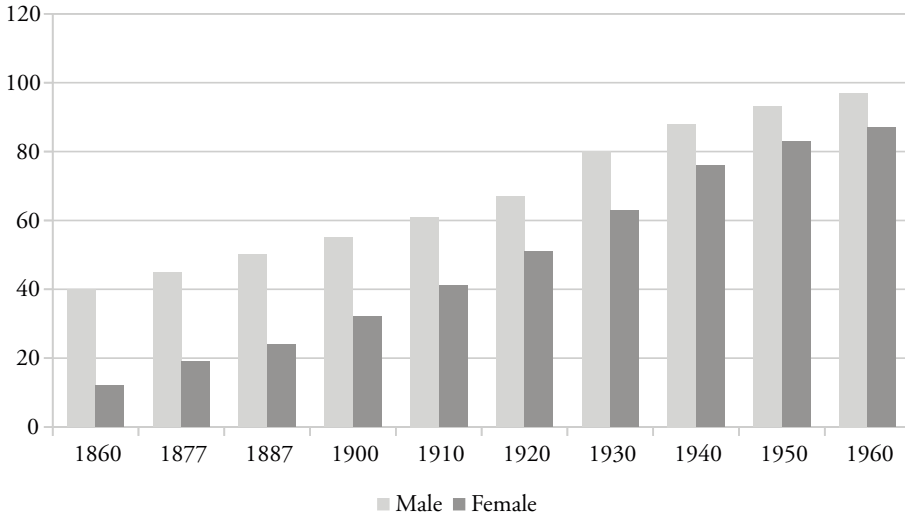
serve the nation. Thus, schools began to teach women to be mothers or mother-educators (Palacio, 2007; Carreño, Rabazas, 2010). As shown in figure 4, investment in education for both sexes had risen steadily since the late 19th century. Although the literacy rate remained higher among men than among women until the last quarter of the 20th century, the gap between both sexes narrowed over time.

When examining the decline in overall and especially infant and child mortality that accompanied demographic modernisation, the importance of factors such as the popularisation of scientific and medical knowledge, the spread of new child care practices and the adoption of hygiene practices based on modern bacteriology is

evidenced in sources such as the informative note on the health situation in Spain sent to the Rockefeller Foundation in 1919 (Bernabeu-Mestre, 1994): “In general, the public health conditions in Spain are very poor. Despite the healthy climate, the low population and the absence of industrial centres, the health and inspection systems are disorganised and the infant mortality rate is high [...] The biggest problem is poor child-rearing practices. The lives of many are lost each year due to maternal ignorance, superstition and neglect. Mothers do not know how to prepare suitable food or prevent contagion and infection.”

Besides the problems stemming from ignorance and unsuitable care that education was intended to combat, infants and

Fig. 4 Literacy rate in Spain

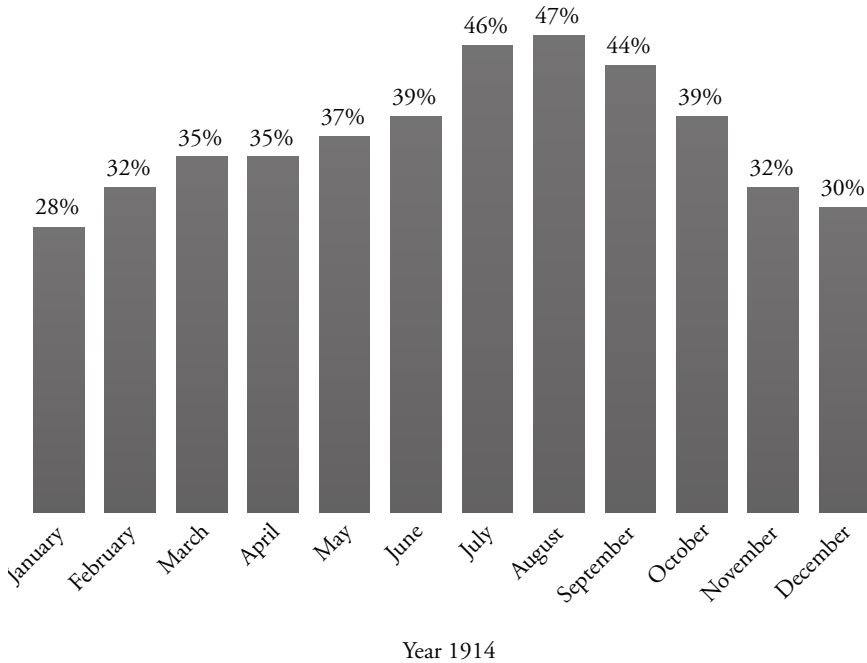


Source: by the authors based on historical statistics in Spain (Carreras, Tafunell, 2005).

children under two years of age were also afflicted by nutritional disorders caused by factors such as heat, flies and poor hygiene; in other words, causes of a social nature. The lack of drinking water, sanitation or paving played a major role in the spread of childhood diseases linked to parents' economic status, location, housing and access to quality food (Pérez Moreda, Reher, Sanz Gimeno, 2015). These parameters were considered so important that health visitors were expected to meticulously observe and record them for inclusion in the child's medical history. The highest number of deaths was usually recorded in the summer, when many of the risk factors noted above were heightened (figure 5). Mothers needed to be capable of recognising the benefits of appropriate care. Among the wide range of educational resources, "the spoken word" was especially important and effective. Standardised campaigns were complemented with

actions tailored to the particular circumstances and problems of each place (Galiana-Sánchez, Bernabeu-Mestre, 2012). The principal vehicles employed to reach urban and rural populations with a poor or non-existent knowledge of hygiene were health posters and fact sheets, gramophone records, films and radio programmes. Using simple language, these were aimed at transmitting basic hygiene concepts to mothers. Simultaneously, an intensive campaign was conducted to combat detrimental customs in the field of food and child care (Bernabeu-Mestre, Trescastro, Galiana-Sánchez, 2011; Comelles, Riccò, Terrón, Perdiguero, 2017; Terrón, Comelles, Perdiguero, 2017). To ensure that the message on hygiene reached those areas furthest from the provincial capitals, so-called "itinerant colleges" consisting of healthcare staff from health clinics or schools of child care were sent to villages where, with the help of the local councils,

Fig. 5 Proportion of deaths of children under 5 years of age with respect to total deaths in Spain



Source: by the authors based on "Infant mortality and demography in Spain" (Navarro, 1922).

teachers and other authorities, they gave talks on hygiene and child care to which all residents were invited, and distributed health fact sheets and information leaflets (Pérez Moreno, 2013; García Redondo, 2017).

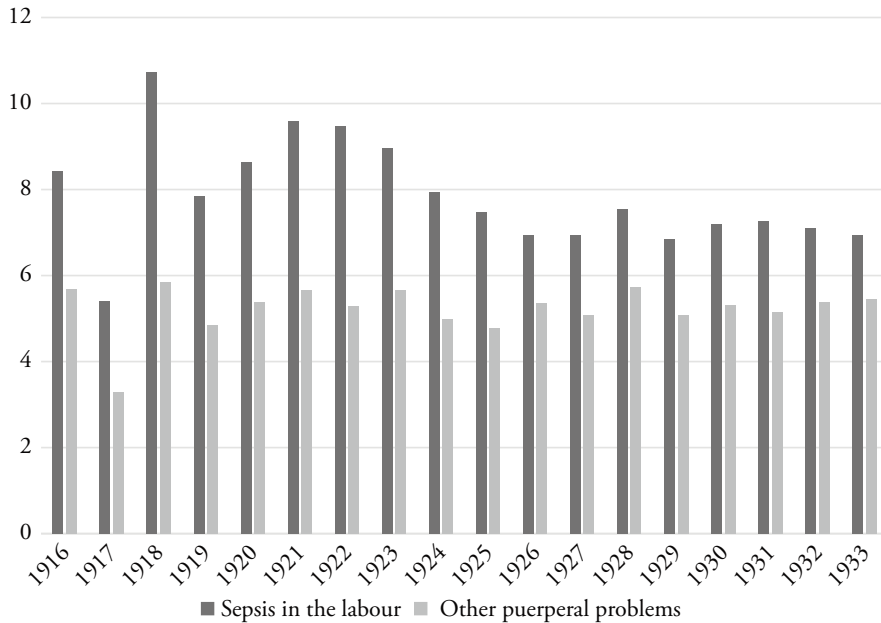
Meanwhile, congenital risk and maternal morbidity and mortality were tackled through actions carried out by nurses in collaboration with maternity, prenatal care and obstetric staff and by implementing eugenic policies (Bernabeu-Mestre, 2012). As can be seen in figure 6, complications in childbirth and the immediate postpartum period posed a higher risk to women's lives in the early 20th century than all other causes of death.

The increasing importance placed on maternal health in the first third of the 20th century is reflected in the legislation.

The Tolosa Latour Law of 1904 envisaged the creation of a national institute of maternity, which would include a school for nursemaids (Barona, 2004). Maternal and infant health was also promoted by local or regional entities such as the schools of child care, infant health clinics and infant milk depots, through the creation of specific sections (Perdiguero, Robles, 2004; Iruzibietta, Marín, 2018).

Obstetrics units, check-ups by midwives and child care health visitor services were launched to monitor pregnancies, detect high-risk pregnancies, monitor families' socio-economic status and deliver health education before and after childbirth. Health education was once again the most heavily promoted activity to improve hygiene practices in Spain. This was evidenced at the first

Fig. 6 Puerperal deaths per 1000 deaths of women in Spain



Source: by the authors based on statistical yearbooks (INE, n. d.).

national conference on health in 1934, convened to tackle the problem of organising health services (Bravo Frías, 1934), in which infant health education and promotion was considered as important as prophylaxis and preventive medicine. Other ideas included pre-marital appointments to perform prenuptial check-ups and provide education on eugenics and sexual health, and prenatal health clinics to provide future mothers with advice, an obstetric check-up and treatment for venereal diseases and tuberculosis. Maternal health care was extended to wet nurses, creating specific health monitoring units for them because they were considered responsible for transmitting diseases to the children they nursed as well as to their own children,

and they were sometimes even classified as slaves (Prada, 1934).

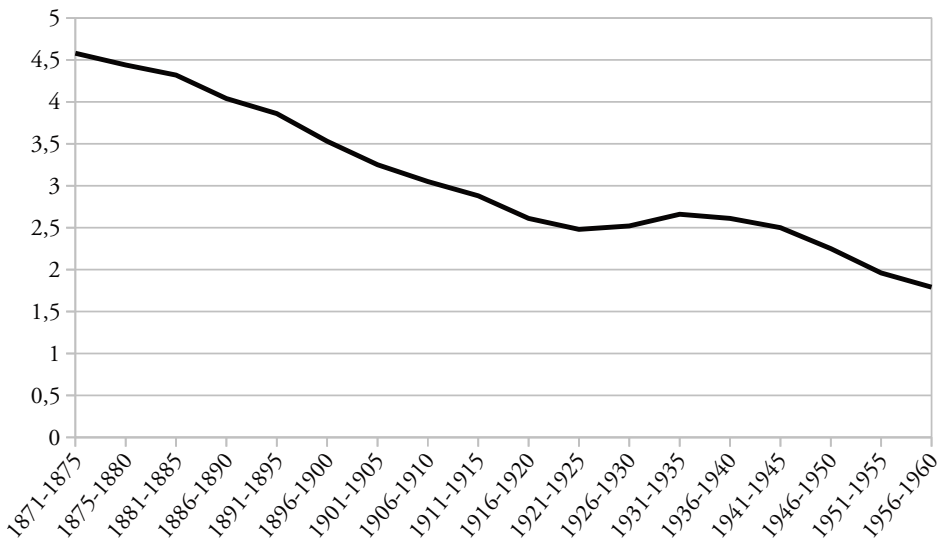
In addition, a growing awareness of the relationship between infant mortality and an excessive number of children prompted the idea that health clinics should provide information on contraceptive methods. The aim was “to provide unbiased information on the technical means available to practice birth control without any risk to health, bearing in mind that such advice could partially help avoid other, worse evils such as induced abortion” (Bravo Frías, 1934).

In the first half of the 19th century, leading medical authorities in Spain such as Gregorio Maraón (1887-1960) (Ballester, 2013), an important author of the Spanish eugenics movement, had highlighted the direct relationship

between number of children in a family and infant mortality based on statistics from the general hospital of Madrid. He concluded that after the birth of the fifth child, the likelihood of all the children surviving fell significantly, and that after the birth of the thirteenth child, no family retained all of its children. Marañón believed that this was because women gave birth to weak children who they were then unable to raise healthily

due to lack of resources, and that this was compounded by the State's failure to provide the means to maintain them: "If Spanish women gave birth to half the children they do at present, in one hundred years the Spanish population would double" (Ferráiz, Lafuente, 1999). Figure 7 shows the reduction in the number of children per woman from the late 19th century to the mid-20th century.

Fig. 7 Average number of children per woman



Source: by the authors based on historical statistics in Spain (Carreras, Tafunell, 2005).

Women needed to attain an optimal level of health in order to have healthy pregnancies and prevent congenital disorders in future children caused by diseases such as tuberculosis, syphilis or malnutrition. This argument gave rise to debate on whether working throughout pregnancy might trigger congenital disorders in children, and women's work was even likened to a plague due to the number of conditions specific to women that such work caused (Bernabeu-Mestre, 2012).

Although this discourse was supported by numerous medical authorities, there were also voices that tempered this stance. For example, while agreeing that women's sole work should be motherhood and household care, Carmen Fernandez-Gago, the author of a monograph on the consequences of women's work (1943) also maintained that socio-economic circumstances often rendered women's work necessary to supplement the wages of the head of the family,

although this did not free them from their inalienable duty of motherhood. In itself, work was not incompatible with bearing and raising healthy children, but the type of work and the hours women spent outside the home could be, given that when women returned home they still had to fulfil their family obligations, thus doubling their total work load. It was therefore necessary to “increase child care education among working women” and provide occupational guidance to ensure that work did not exert negative consequences on future maternity; for example, women should avoid work that involved heavy lifting that could deform bones or affect the pelvis, as well as tasks that could expose them to harmful or abortive substances such as lead, phosphorus or nicotine.

On the 1st of October, 1931, Spain introduced compulsory maternity insurance, that protected working mothers. The insurance was born out of the Maternity Protection Convention adopted by the International Labour Organization in Washington in 1919, and its ratification by Spain in 1922. Its creation was based on eugenic arguments (the fight against infant mortality and the increase in birth rates), medical arguments (the professionalisation of obstetrics and childcare, the education of mothers) and driven by a logic of social causality according to which the risks to which working mothers were subjected were due to circumstances beyond the control of the women themselves, for which they were not responsible. This idea of motherhood as a social function opened the way for proposals to extend insurance to workers’

wives. Thus, it took up a transitional provision, which announced its extension to self-employed women and workers’ wives. It committed itself in the future to extend the insurance in this sense.

This initiative was aimed at ensuring medical care and mitigating the effects of continued work during the postpartum and breastfeeding period, enabling mothers to recover from childbirth, provide adequate child care and breastfeed. Workers and employers made monthly contributions to a savings, pensions or social security scheme which entitled women to an antenatal check-up by a physician or a midwife in the two months prior to childbirth. Subsequently, in the first six weeks after birth, they would receive special supervision by a health visitor, as established by art. 69 of the compulsory maternity insurance (*Seguro Obligatorio de Maternidad*):

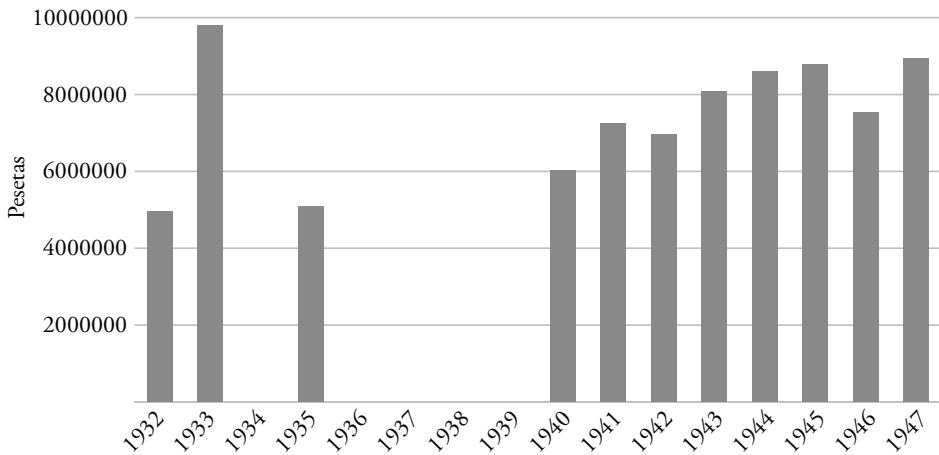
“Health visitors shall be responsible for supervising mother and child. Their work shall consist of advising mothers on hygiene and moral requirements and helping them to abandon customs dictated by ignorance and poverty, encouraging them to protect their infants during pregnancy and after childbirth alike, and to breastfeed them when the doctor does not consider this a danger to life or health. In sum, they shall provide guidance during the different stages in which the beneficiaries and their infants are covered by this insurance.”

The service provided by health visitors was warmly welcomed by the general population, gaining them access to homes as companions or friends giving advice.

However, there was serious lack of staff to care for insured women, especially in rural areas. This insurance also provided for compulsory paid leave for six weeks after childbirth, and women received a maintenance allowance for “the days when, for the

good of the mother and the species, women must rest”, which consisted of five pesetas per week and per child for ten weeks (Laffón, 1933). Figure 8 shows that maternity insurance contributions remained fairly stable during the first years it was in force.

Fig. 8 *Collection of maternity insurance*



Source: by the authors based on statistical yearbooks (INE, n. d.).

As noted earlier, nurses were considered essential by many of the institutions and campaigns involved in the promotion of maternal and infant care. For example, after training in their speciality, child care nurses' work in health clinics contributed to research on living conditions, emphasising social and hygiene factors, and as child care professionals they served as mediators between popular culture and healthcare culture. As we shall see below, suitably trained child care nurses in Valencia served as a link between poor women and health institutions, providing these women with access to medical or welfare services, explaining hygiene measures at clinics and in the family home and reiterating medical advice in simple, familiar terms, creating an atmosphere of

trust that promoted compliance with new health practices.

NURSING AND MATERNAL AND CHILD HEALTH CARE IN VALENCIA IN THE LATE 19TH AND EARLY 20TH CENTURIES. THE INFANT NURSERY, THE INFANT MILK DEPOT AND THE SCHOOL OF CHILD CARE

In this section, we shall analyse three institutional settings in the city of Valencia where child care nurses played a prominent role: the “Infant Nursery” (*Asilo de Lactancia*), the “Infant Milk Depot” (*Gota de Leche*) and the “School of Child Care” in Valencia in the late 19th century and first three decades of the 20th century.

The aim of the Infant Nursery was to provide a safe place for women working in the various urban industries to leave their children while they were in the factories. In Valencia, the Infant Nursery provided for women working at the tobacco factory was especially important.

These women, who accounted for 4,000 workers in 1902, mainly drawn from around the port and the Vega (*Las provincias*, 1910), had previously formed a friendly society and had tried to rent or buy premises where they could leave their children, but without success due to lack of resources. Subsequently, an Infant Nursery was founded in 1871 (Teixidor, Hernández, 1998) thanks to a donation from the king, Amadeo de Saboya, who had visited the city in 1871 and according to newspaper reports of the time, had been dismayed to see the tobacco factory workers' children abandoned in the street while they worked. He donated 10,000 pesetas and the city council undertook to create an institution where the infants would be safe. The Infant Nursery was reopened in 1882 (Áncora, 1882) under the auspices of the municipal board (Ballester, n. d.) as a charitable organisation providing direct child care for 10 cents a day, delivered by four nuns from the Order of St. Francis of Mary Immaculate (Alcover, 1975). According to the press, in 1902 the Infant Nursery accommodated more than 100 children cared for by eight nuns (ECEBÉ, 1902). The Infant Nursery gained social prestige due to royal patronage and although it continued to experience major economic problems, it

was endowed with a children's clinic and an obstetrics clinic for mothers (*Las provincias*, 1910). A dining room was made available where the smallest children could be bottle-fed when the mothers could not breastfeed, and subsequently a meal service was created for all the children.

Over the course of the institution's long existence, a point came when the nuns' care proved insufficient and protest arose about incorrect treatment of the children by unqualified staff. As a result, in the late 1930s and coinciding with the first two years of the Provincial School of Child Care, the Infant Nursery was renamed and the municipal authorities prepared to "completely change the formulaic and utterly unscientific routine to which the infants are subjected, instead organising the children's time there in accordance with the principles of child care hygiene" (*La correspondencia*, 1930). The facilities were improved by providing an abundant supply of drinking water, heating in the children's bathroom, a bottle steriliser, a gas cooker and baby scales. In December of the same year, four qualified child care nurses were appointed for the nursery, responsible for 30 children, because employing unqualified people to run a nursery that was the responsibility of the council was considered deplorable.

The Infant Nursery underwent several evident stages in terms of the type of treatment the women workers' children received. At first, in the late 19th century, it merely aspired to provide a space to accommodate children during

the mothers' working day. Subsequently, the children were cared for by nuns with no specific training for this purpose, but services were expanded to provide food and a primary education. Towards the end, by the 1930s, several intakes of child care nurses had obtained their qualifications in the city and demands were raised for these to care for the children as a guarantee of quality of care.

The Infant Milk Depot was one of the first institutions to provide care in early infancy. The idea of such an institution initially emerged in late 19th century France, in principle as a local initiative, but it soon gained great popularity and spread throughout Europe (Ballester, 2016). The first Infant Milk Depot in France was the *Goutte de Lait* founded in Fécamp in 1898 with the primary objective of reducing infant mortality through instruction on infant feeding for mothers, promotion of breastfeeding, and where this was not feasible, the provision of treated milk to facilitate safe alternatives or mixed feeding (Rollet, 2004). In addition, these institutions measured the children's growth each week to monitor their progress (Perdiguero, Bernabeu-Mestre, 1999; Ballester, Perdiguero, 2000). Infant Milk Depots also became popular in Britain after 1899 and in Germany after 1902, where they were known as *Milchküchen*. In Spain, the first Infant Milk Depot opened its doors in 1903 in Barcelona (Muñoz-Pradas, 2016). In Valencia, the infant milk depot was a city council initiative, inaugurated on the 11th of December, 1910.

The Infant Milk Depot was opened in the street of Colón, on the former site of the women tobacco workers' infant nursery, when the tobacco factory was moved to a new location. As indicated in the newspaper *El pueblo. Diario republicano* of the 12th of December, 1910:

“The institution is intended to mitigate the deficiencies inherent to poverty-stricken mothers breastfeeding their children who because of poor nutrition have insufficient milk to feed them or whose milk does not meet the necessary conditions for good nutrition (*El pueblo*, 1910).”

As with all other Infant Milk Depots that emerged in Spain in the early 20th century, one of the aims of this institution was to advocate breastfeeding as the best form of nutrition, provided that the mother was capable and her milk was of sufficient quality. The goal was to dispense or sell (at very affordable prices) quality milk and infant food supplements in order to attract poor families, so that in addition to distributing food, their children's growth could be monitored and the mothers could receive health education (Ballester, 2016). Consequently, the Infant milk depot formed part of a larger centre called the Municipal Children's Clinic, which had a clinic for children and another to examine wet nurses in order to “test their milk, which is sometimes woefully deficient”. In the early years, mothers had to pay 10 cents for each feed, but this fee was subsequently waived when the city council undertook to fund costs. At first, few mothers

attended – in the first two days of operation, only fourteen children attended each day and a total of five litres of milk was dispensed – but the popularity of the Infant Milk Depot rapidly increased so that within a month the situation had changed dramatically, as reflected in the press release published in *El pueblo*, on the 25th of January, 1911:

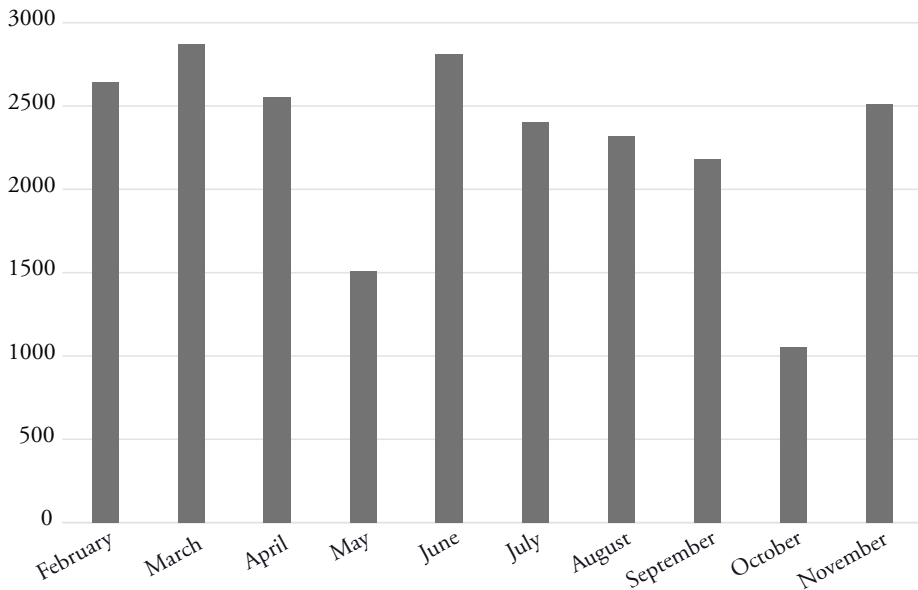
“It is not possible to provide regular medical services in the Infant Milk Depot due to the lack of human and material resources. In little more than five weeks of operation, the success of the centre has exceeded all expectations prior to its inauguration. 180 breast-feeding infants have been registered for child care and sterilised milk. This evidences the need for an Infant Milk Depot, the incalculable benefits to poor mothers and the wisdom of the council in creating this institution. [...] The physician in charge and his auxiliary work fifteen or sixteen hours a day, and are sorely pressed to meet demand due to lack of time, feeding bottles and another bottle steriliser. The centre opened with 500 bottles; bearing in mind that each sterilisation takes two to three hours and the physician barely has time to examine and weigh the children, it is evident that 500 bottles are not sufficient to dispense milk to the children with the necessary regularity nor can the staff endure the arduous task they carry out every day...”

Since its creation, the Infant Milk Depot was deployed as a political weapon by the various factions within the city council, due to its popularity among all segments of the population,

from the neediest who made use of this free service to the most privileged members of society. Together with the Infant Nursery, it was one of the institutions that benefited most from charitable events such as festivals (*La correspondencia de Valencia* 25.9.1931; *Las provincias* 2.2.1911) and raffles (*La correspondencia de Valencia* 8.7.1910) organised by Valencian high society to raise funds. Even so, throughout its existence there were numerous threats of closure, allegations of lack of resources and suspension of the milk supply due to lack of payment, which might explain the fluctuations in litres of milk dispensed over the year shown in figure 9. In the irregular evolution over the months, the problems of organizational continuity shown by the institution are evident. Despite these difficulties, and thanks to the hard work of its employees, especially Dr. Aguilar Jordán, its founder, the institution continued to grow and provide a service until finally being transformed into the Municipal Child Care Institute.

Another fundamental institution in the fight against infant mortality which was also decisive in the professionalisation of nursing in Spain was the National School of Child Care and the Provincial Schools of Child Care that began to be founded in 1923. Although the professionalization implies other elements, such as the incorporation to the institutions, or associations, among other factors, the Provincial Schools of Child Care had a relevant contribution. In the first decade of the 20th century, it became clear in Spain that there was a need to create centres to

Fig. 9 Liters of milk dispensed in 1913



Source: by the authors based on the municipal health bulletin of Valencia for the year 1913.

teach young women to become good mothers and housewives and provide specialised child care training for health professionals. As noted by R. Álvarez (2004), previous initiatives in other European countries were taken as an example, including the Institute of Child Care founded in Porchefontaine and the Institute of Child Care in the Paris faculty of medicine, in France, the Augusta Victoria Carlottenburg Institute of Child Care founded at the turn of the century in Germany and the Nipiology [neonatology] Institute founded by Ernesto Cacere in 1905 in Italy. It was this latter institution that the future Schools of Child Care in Spain most closely resembled, since it included an Infant Clinic, an Infant Milk Depot and a Maternity Care Unit. In addition, an important element of its work was health education, for which it had an itinerant college, and it provided a

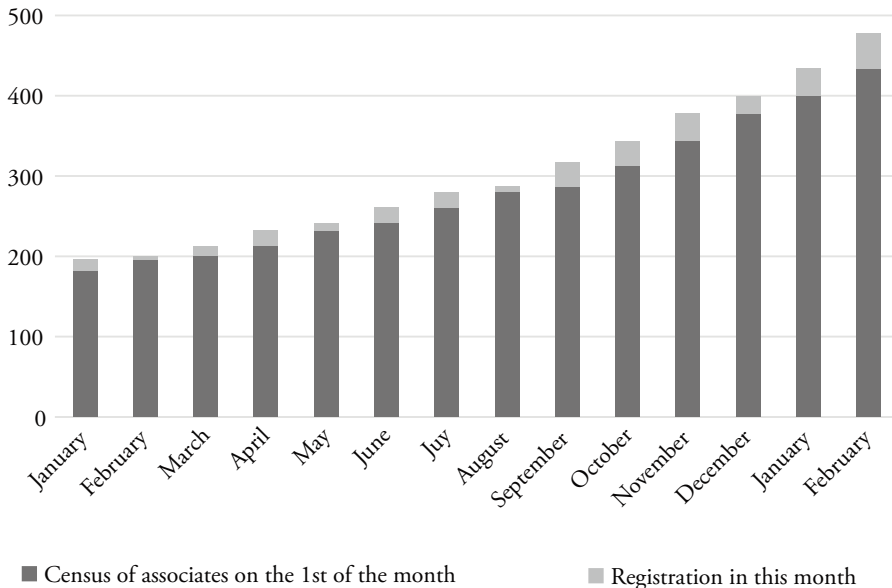
maternity fund for mothers. These institutions were equipped with laboratories to analyse milk and conduct “biological and hygiene studies of infants” (Álvarez, 2004).

The Spanish National School of Child Care was founded along similar lines, but it quickly became evident that it could not meet staff training and health care needs for the entire country due to logistical and budgetary constraints. Consequently, on the 17th of November, 1925, approval was given for the creation of Provincial Schools of Child Care accountable to the National School located in Madrid. One of the first Provincial Schools was that in Valencia, which was approved on the 22nd of July, 1927, and opened on the 1st of March, 1928. The school had a dual mission: to provide training and to provide health care.

As regards training, the institution offered short courses for various groups involved in child care, including teachers (separated by sex, with each receiving different instruction), midwives, breastfeeding mothers, pregnant women, childminders and child care health visitors. In addition, it offered special courses on child care and school hygiene aimed at breastfeeding mothers, young women, newly-wed women and physicians. Nurses could enrol in two successive courses, after which they could sit official final year examinations to obtain

a qualification that would give them preference for work in public child care institutions. The Infant Health Clinic was another of the school's activities, and one in which nurses were involved in all areas. In the antenatal section, nurses were responsible for promoting the still little-known maternity insurance and registering the women who decided to take out the insurance. The data for 1933 (figure 10) indicate that this insurance promotion was a success in Valencia, with a steady increase in the numbers of those insured.

Fig. 10 *Maternal insurance in Valencia, 1933-34*



Source: by the authors based on "Provincial report" of the Provincial Services for 1933 (Instituto Provincial de Higiene, 1935).

In this same section, the nurse assisted the physician as an auxiliary but also had an autonomous role in the education of future mothers, teaching them basic care. In the 1st, 2nd and 3rd infancy sections, nurses carried out technical tasks, such as measuring growth to detect "deviations from the norm" and

administering treatment (e.g. light therapy, hydrotherapy, vaccines), and also provided health education for mothers, including basic advice on how to boil milk to prevent the food-borne infections that caused so many deaths and how to prepare baby food. They also taught physical hygiene for children and

the need for baths and hand washing to prevent diseases.

An important part of the nurses' work in the infant health clinic where the School of Child Care staff worked was to detect sick children and decide whether to send them home again or refer them to a paediatric clinic. Nevertheless, it was repeatedly stressed that the clinic was intended for healthy rather than sick children, and considerable efforts were made to prevent infection between the two in the clinic facilities (Bravo Frías, 1934).

In the afternoons, the child care nurses performed their health visitor role, visiting the homes of the children they had seen in the clinic (Soler, 1935). On the first visit, often conducted after childbirth when the child had been registered with the clinic, the nurse would draw a sketch of the entire home indicating the layout of the rooms and their conditions (e.g. ventilation, damp, size). This document was kept in the child's medical history. During the visit, the nurse would also check that the mothers were following the recommendations and treatments prescribed by the physician that morning in the clinic, ensuring that they understood them and were able to put the advice into practice.

As regards education, the health visitors conducted a very intensive campaign in favour of breastfeeding as being cheaper and safer than bottle feeding. In the event that breastfeeding was not possible, the nurse gave the same instruction in the home as she did in the clinic on how to safely prepare infant food, be it milk, baby food or new food.

In the case of families – and especially breastfeeding mothers – infected with tuberculosis, the nurse could recommend to the clinic that the child be removed from the family home, at least temporarily, if she felt it presented a threat to the child's health, until the infection had been resolved. Such children would be put into foster care with healthy families preferably living in the country, or sent to dedicated institutions called child protection homes (Martín de Prado, 1938).

The nurse recorded this information and her detailed observations in the child's medical history for subsequent use by the physician, because she was expected to be “the physician's eyes and ears” outside the clinic and to serve as the link between families and the health services (Lestache, 1933). The nurse also served as a link with other child care professionals such as teachers, and with other institutions such as charities. For example, in Valencia, child care nurses worked with a local charitable organisation, the *Damas de Beneficencia*, to meet as far as possible the material needs of the most poverty-stricken families, to whom financial aid was provided when this was possible as well as material help such as cots, children's clothing, food and disinfectants for the home (Soler, 1935).

All these activities were carried out under the auspices of the School of Child Care and the Infant Health Clinic in the capital, but as was the case in other contexts such as the rural health clinics (Bernabeu-Mestre et al., 2007), there were initial difficulties in persuading mothers to attend the institution with their children and in ensuring that health

education in hygiene and child care reached the urban population. Therefore, campaigns were launched to promote and disseminate the precepts of hygiene and child care through radio talks, leaflets, posters, fact sheets and the itinerant child care college.

Via the radio talks, paediatric physicians gave expert advice using simple language to render it comprehensible to all social classes. They specifically targeted mothers, whom they repeatedly blamed for the poor health or death of their children, and encouraged prevention and the acceptance of “expert advice” (Bernabeu-Mestre et al., 2011). In the case of Valencia, the titles of several of these talks indicate the goals pursued and the plain language used: “Children and domestic animals”, “Language in mortality figures”, “Sunbathing”, “Teething and teething powders”, “Wet nursing”, “Children must be vaccinated”, “Walking for health with children”, “Don’t scare the children!” “Dummies: the children’s enemy”, “Don’t kiss the children”, and “The dangers of the street” (Instituto Provincial de Higiene, 1935).

In addition, the Provincial School of Child Care convened contests for posters exalting motherhood and infancy and published easy to understand infant health leaflets and fact sheets illustrated with photographs and drawings. As indicated in one of the reports: “School of Child Care publications have spread the fundamental basics of infant health throughout the capital and the province, and thanks to them – a bold but true assertion – the term and meaning of child

care is now familiar to Valencian mothers (Instituto Provincial de Higiene, 1935).”

Lastly, the “itinerant college” was a resource that gained widespread acceptance among the target population. It consisted of a delegation of physicians and nurses from the School of Child Care in Valencia who gave educational talks in villages in the province, organised in collaboration with local councils and often teachers. In general, the talks were organised as follows: a few days before the event, posters and flyers announcing the talk were distributed in order to arouse interest, and invitations might be sent to the mayor and other authorities and also to women with children or future mothers to ensure that these were able to attend since they formed the principal target audience. The talk was divided into two parts: the first consisted of a few short, simple presentations by physicians and teachers to introduce the topic of parenting and early childhood education. Then there was a break during which leaflets and fact sheets were distributed among the mothers to arouse their interest and “pave the way” for the physicians and local teachers to continue the work of education. The second part usually consisted of a film about infancy. At the end of the session, the nurses took advantage of the occasion to administer mass vaccinations against diphtheria. Between December 1929 and February 1934, the itinerant college of the Provincial School of Child Care in Valencia gave 35 talks in the capital and villages in the province (Instituto Provincial de Higiene, 1935).

CONCLUSIONS

Spain's high rate of infant mortality in the late 19th and early 20th centuries was viewed by the health authorities as a major national problem, echoing European ideas on child protection. Consequently, this period witnessed the emergence of protectionist and health education measures and increased investment in existing institutions such as nurseries and Infant Milk Depots. Public health policies and health education campaigns comprised a fundamental strategy to reduce infant mortality in Spain, although they were not the only measures and initiatives involved. They were accompanied by educational policies, which included female literacy, and coincided with a time of economic expansion.

As these initiatives emerged, it became necessary to train specialised child care professionals. It was to this end that the Schools of Child Care were created, which served a dual function of caring for healthy mothers and children and teaching maternal and infant care while also training specialised child care professionals to carry out the work involved. In the case of Valencia, the creation of the School of Child Care in 1928 and the emergence of qualified child care professionals helped change obsolete traditional ideas and influenced the approach of institutions such as the infant nursery. The latter changed its name and was endowed with qualified nursing staff who worked in collaboration with the Municipal Children's Clinic, to which the Infant Milk Depot belonged. An analysis of the Research Project: "Past and present in the control of neglected poverty diseases. The historical example of Mediterranean Europe and the International health cooperation" of Ministry of Industry, Economy and Competitiveness, HAR2017-82366-C2-2-P.

history of these local institutions reveals the changes in social and health paradigms that occurred in maternal and infant health care in Spain.

In addition, an analysis of the professional work carried out by child care nurses in Valencian institutions indicates the extent to which child care nursing became institutionalised in Spain, in line with the rest of Europe, and the role played by these nurses in tackling many of the causes and factors involved in maternal and infant morbidity and mortality in Spain in general and Valencia in particular, taking into account the specific political, social and cultural characteristics of the region.

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NOTES

1. The Infant Milk Depot was installed in 1910 in the infant nursery (and probably shared the space for some time) when the latter was transferred to a new building erected in the neighbourhood of Real for a regional exhibition and the tobacco factory was moved to this new area of the city.
2. Between 1902 and 1912, 34 clinics or Infant Milk Depots were opened throughout Spain, the majority in provincial capitals, some of which had more than one institution of this nature. By way of comparison, in 1915, Germany already had 782 Infant Milk Depots (Rodríguez-Ocaña et al., 1985). In Spain, child care nurses began to form part of the team of workers in the Infant Milk Depots after 1926 (Ballester, 2016).
3. Other Provincial Schools of Child Care which opened over the course of the 20th century included those in Gijón (Chamizo, 1999), Seville, Bilbao, Valladolid, Zaragoza, Malaga and Barcelona (Villaga-Elizaga, 2017).
4. Between 1928 and 1934, 208 health visitor students were enrolled in the Provincial School of Child Care in Valencia, of whom 65 passed their final year examinations but only 29 obtained the official qualification (Instituto Provincial de Higiene, 1935).
5. The Infant Health Clinic in Valencia was created in May 1933, and was run by the School of Child Care, which was also responsible for the coordinated services to combat infant mortality created in 1934 (Varo, 1966).

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SUMMARY

Public health was a major problem in late 19th century Spain, and maternal and infant morbidity and mortality presented very high rates. At the turn of the century, health care began to undergo a transformation as a series of health policies and initiatives were proposed to end the socially unacceptable blight of maternal and infant mortality. Thus, child protection laws and regulations were enacted, maternity insurance was introduced and professionalisation processes occurred which in the case of nurses and midwives proved fundamental in

improving social and health indicators. Here, we report the results of a case study of the city of Valencia and the role played by nurses in institutions such as the infant nursery, the infant milk depot and the school of child care. Our analysis indicates the extent to which child care nursing became institutionalised in Spain, in line with the rest of Europe, and the role played by these nurses in tackling many of the causes and factors involved in maternal and infant morbidity and mortality in Spain in general and Valencia in particular.

RÉSUMÉ

La santé publique était un problème majeur dans l'Espagne de la fin du XIX^e siècle : la morbidité et la mortalité maternelles et infantiles présentaient des taux très élevés. Au tournant du siècle, les soins de santé ont commencé à se transformer, une série de politiques et d'initiatives sanitaires ayant été proposées pour mettre fin au fléau socialement inacceptable de la mortalité maternelle et infantile. Ainsi, des lois et des règlements sur la protection de l'enfance ont été adoptés, l'assurance maternité a été introduite et des processus de professionnalisation se sont développés, ce qui, dans le cas des infirmières et des sages-femmes, s'est avéré

fondamental pour améliorer les indicateurs sociaux et sanitaires. L'article présente ici les résultats d'une étude de cas sur la ville de Valence et le rôle joué par les infirmières dans des institutions telles que la crèche, la goutte de lait et l'école de puériculture. L'analyse montre dans quelle mesure les soins infirmiers aux enfants se sont institutionnalisés en Espagne comme dans le reste de l'Europe, et souligne le rôle joué par ces infirmières dans la lutte contre la multitude de causes et de facteurs impliqués dans la morbidité et la mortalité maternelles et infantiles en Espagne en général et à Valence en particulier.