

Surveillance system for the determinants of health in early childhood

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Summary of the results

Introduction

Early Childhood Development (ECD) has become the subject of increased attention, as strong scientific evidence supports the key role played by the antenatal period and the early years of life in creating the conditions for ensuring healthy child development and reducing socio-economic and health inequalities.

In light of the above, the Ministry of Health/National Centre for Disease Prevention and Control has launched and funded a centralized effort to establish a new Surveillance system for the determinants of health in early childhood promoted by the GenitoriPiù programme. The task of coordinating this surveillance was entrusted to the Istituto Superiore di Sanità, which coordinated also the previous pilot study ended in 2016.

The new Surveillance system was included in the list of surveillance systems and registries, identified by the 2017 Prime Ministerial Decree, that all Regions are expected to gradually join. The objective is to collect information on specific health determinants in children from before conception to 2 years of age (Figure 1) so as to produce indicators, partly required by the World Health Organization and/or National and Regional Prevention Plans, which allow geographical and intertemporal comparisons.

The following sections provide an overview of the methodology used and a description of key findings from the first edition of the survey. ■

Methodological overview and survey participation

The study population is mothers of children up to 2 years of age taken to Vaccination Centres (VCs) to receive immunizations.

The investigation is conducted in the form of a sample survey aimed at providing representative estimates at regional level and, for some Regions, also at the level of local health units. Data are collected through an anonymous questionnaire, available in several languages, completed by the mothers at VCs with assistance from the staff. The questionnaire is administered during the following immunization sessions: 1st, 2nd and 3rd doses of the hexavalent DTP vaccine and 1st dose of MMRV.

Training is provided to all professionals involved in the Surveillance on both the investigated topics and the more methodological aspects of the survey.

The Surveillance also involves distributing multilingual information material on the investigated health determinants, including a brochure for parents, which mothers receive after completing the questionnaire, and posters for VCs and primary care paediatricians (Figure 2).

During the first edition of the survey, between December 2018 and April 2019, data were collected from 29,492 mothers in the 11 Regions that have already joined the Surveillance: Piedmont, Valle d'Aosta, Autonomous Province (AP) of Trento, Marche, Lazio, Campania, Apulia, Calabria, Basilicata, Sicily and Sardinia. The response rate exceeded 95% across all Regions (Figure 3).

Key findings regarding the examined determinants are presented in the following sections. Some indicators include data from Region Tuscany, which take part in the Surveillance with the results of its ongoing maternity pathway survey, coordinated by the Management and Health Laboratory of the Pisa-based Sant'Anna School of Advanced Studies. ■

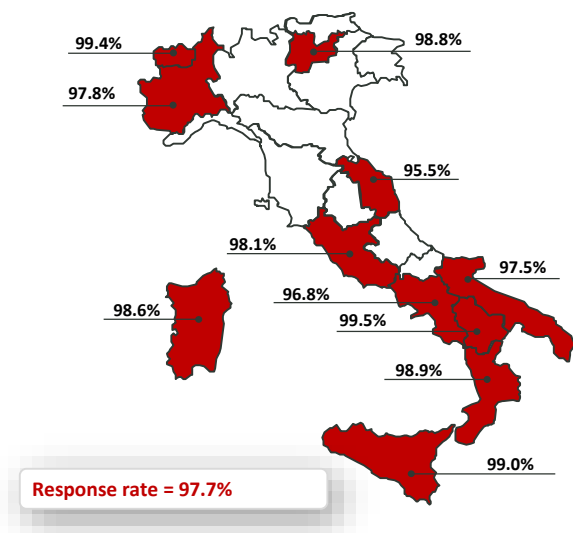
Figure 1 - Investigated determinants

- Folic acid intake
- Tobacco consumption
- Alcohol consumption
- Breastfeeding
- Reading aloud to young children
- Exposure to screens
- Position in the cot
- Vaccinations
- Accidents at home
- Use of the child car seat

Figure 2 – Information material



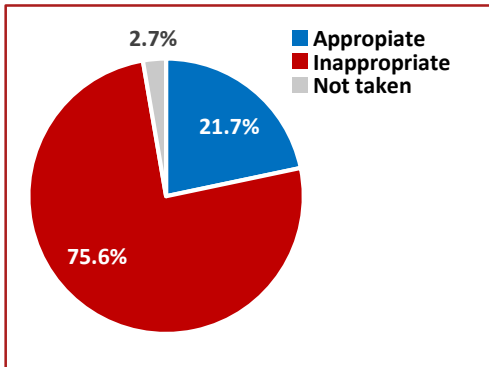
Figure 3 – Response rate by region



Folic acid intake

Child health and well-being also depend on the behaviour of parents during the periconceptional period. A daily intake of 0.4 mg of folic acid (vitamin B9), from the moment a couple start planning a pregnancy until the end of the third month of gestation, is known to prevent severe congenital malformations, such as neural tube defects (e.g. spina bifida, anencephaly).

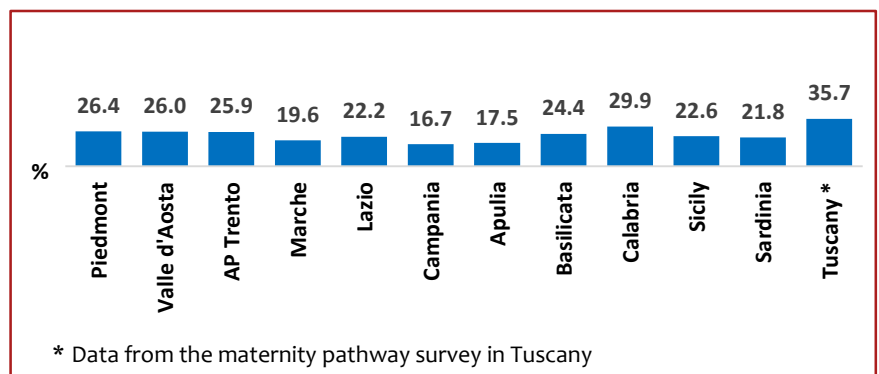
Folic acid intake (%)



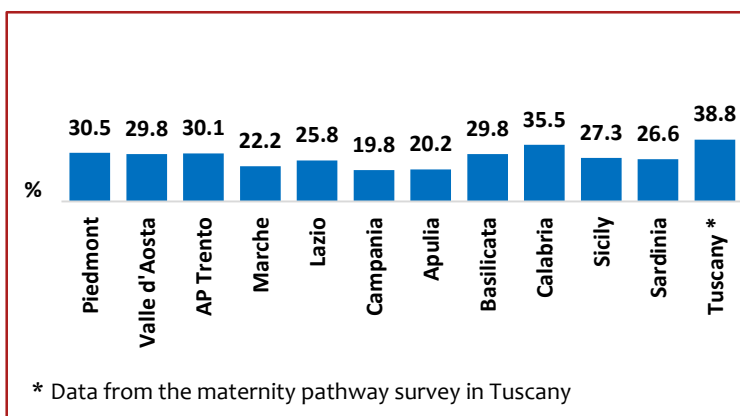
Almost all mothers (over 97%) were taking folic acid during pregnancy, but just over a fifth of them (21.7%) did so appropriately to prevent congenital malformations. The vast majority (75.6%) were taking folic acid inappropriately, mainly when their pregnancy had already started, thus nullifying its preventive effect. Folic acid was not taken by 2.7% of the mothers. The percentage of mothers who reported appropriate perinatal intake of folic acid varied across the regions taking part in the Surveillance, ranging from 16.7% in Campania to 29.9% in Calabria. The prevalence was 35.7% in Tuscany, according to data from its maternity pathway survey.

Appropriate intake of folic acid (%)

These results confirm the urgent need to inform women of reproductive age about the importance of appropriate periconceptional intake of folic acid. General practitioners, gynaecologists and obstetricians can have a prominent role in this preventive action.



Appropriate intake of folic acid (%) – Only pregnancies that were planned or not avoided



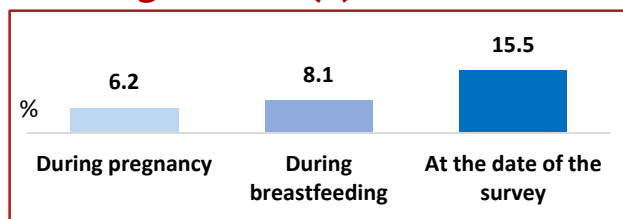
When only mothers who reported planning or not avoiding a pregnancy are considered (70%-84%), the prevalence of appropriate folic acid intake was slightly higher, ranging from 19.8% (Campania) to 35.5% (Calabria). The prevalence was 38.8% in Tuscany.

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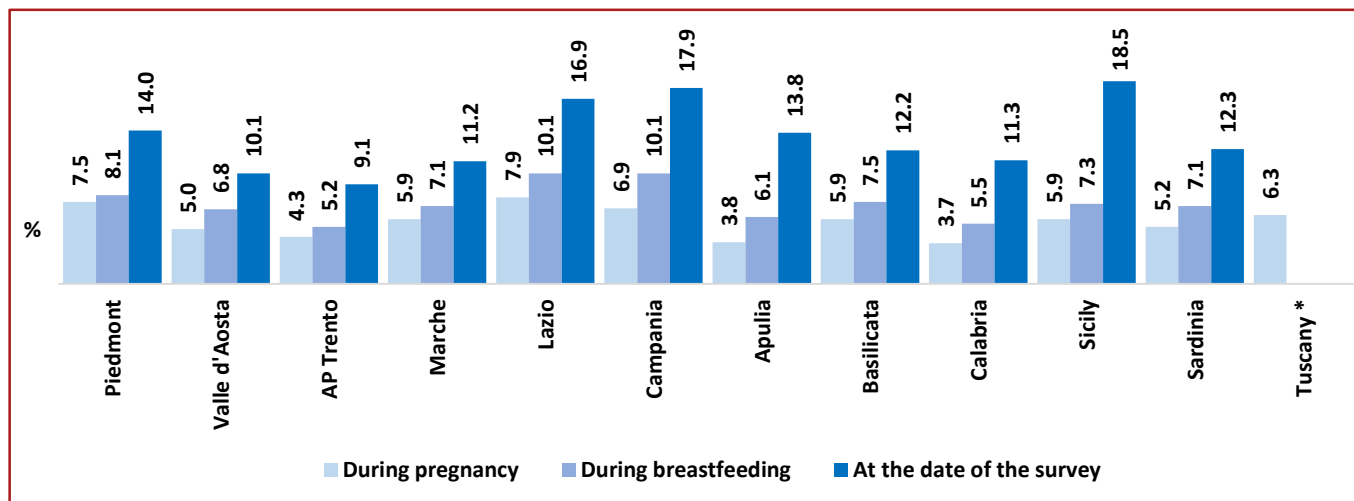
Tobacco consumption

Smoking during pregnancy increases the risk of low birth weight, preterm birth, perinatal mortality, sudden infant death syndrome (SIDS), bronchopulmonary diseases, mental and behavioural disorders. Children exposed to passive smoking are at higher risk of lower respiratory disease and asthma attacks.

Smoking mothers (%)

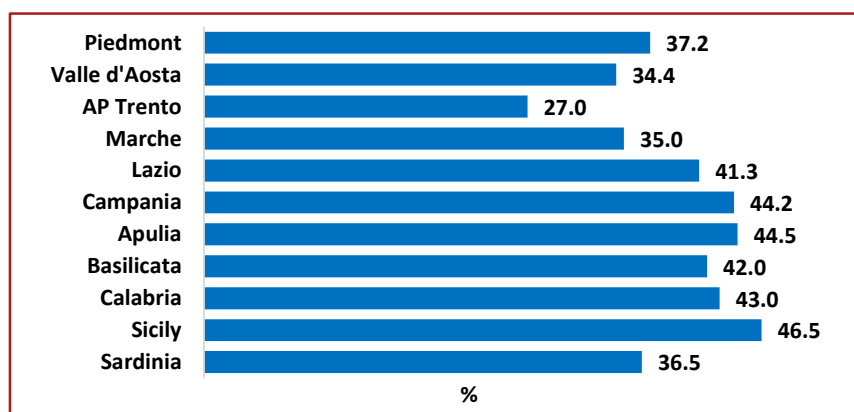


While 6.2% of mothers reported smoking during pregnancy, the proportion of smoking mothers at the date of the survey was 15.5%. For mothers who were breastfeeding, this percentage dropped to 8.1%.



By region, the prevalence of smoking during pregnancy ranged from 3.7% in Calabria to 7.9% in Lazio. Similar regional variability was observed in smoking prevalence at the date of the survey: from 9.1% in the AP of Trento to 18.5% in Sicily. Among breastfeeding mothers, the percentages were lower across all regions, and roughly comparable to those recorded during pregnancy. Breastfeeding is therefore a protective factor against tobacco use after childbirth.

Children living with at least one smoking parent and/or another smoker at the date of the survey (%)

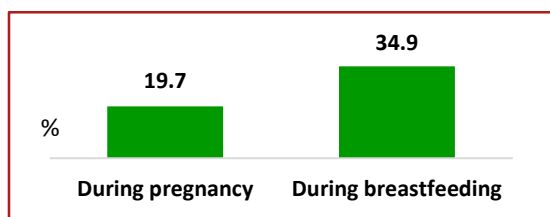


The percentage of children living with at least one smoking parent and/or another smoker at the date of the survey ranged from 27.0% in the AP of Trento to 46.5% in Sicily, which shows that potential exposure to passive smoking tends to be higher in the southern regions.

These results confirm the need to continue educating women on the risks involved with smoking during pregnancy and breastfeeding, and raising awareness among the public of the threat to children posed by passive smoking.

Alcohol consumption

Risks associated with alcohol consumption during pregnancy and breastfeeding include: foetal alcohol spectrum disorders (FASDs), miscarriage, preterm delivery, low birth weight, congenital malformations, sudden infant death syndrome (SIDS) and cognitive and social problems in the child.

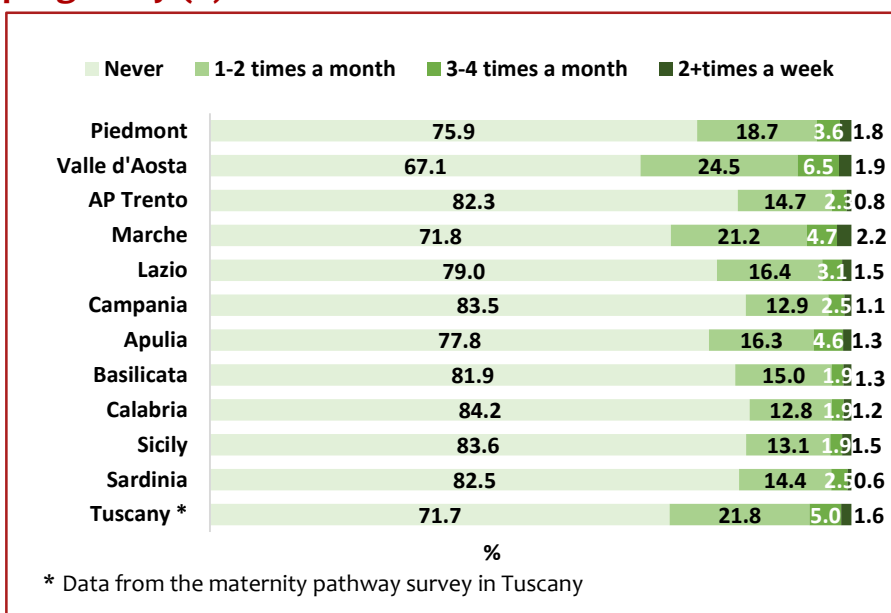


Mothers who were drinking alcohol at least 1-2 times a month (%)

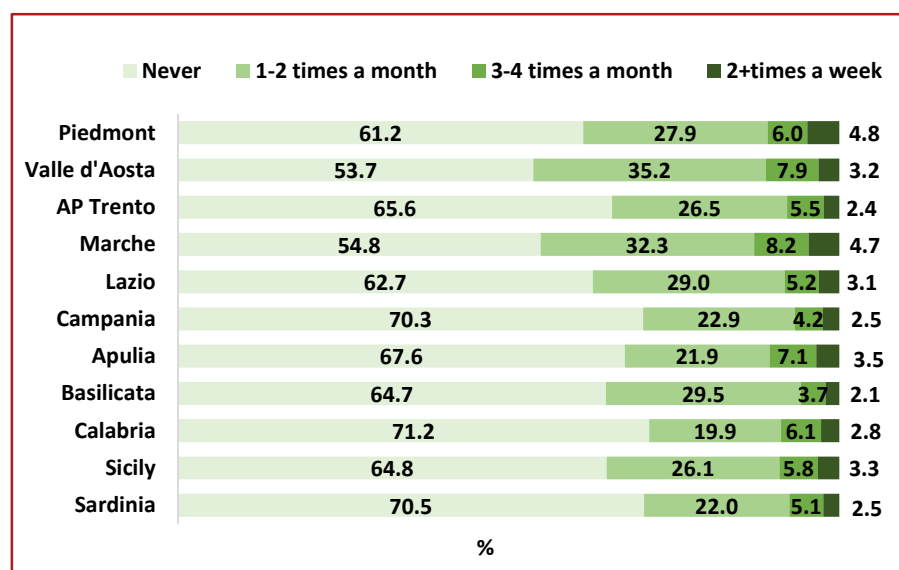
Of the surveyed mothers, 19.7% reported drinking alcohol at least 1-2 times a month during pregnancy, and 34.9% during breastfeeding.

Alcohol consumption during pregnancy (%)

By region, the proportion of mothers who were drinking alcohol at least 1-2 times a month during pregnancy ranged from 15.8% in Calabria to 32.9% in Valle d'Aosta, and tended to be higher in the central and northern regions. When only more frequent consumption is considered, the percentages dropped significantly: between 0.6% and 2.2% of the mothers reported drinking alcohol at least twice a week.



Alcohol consumption during breastfeeding (%)

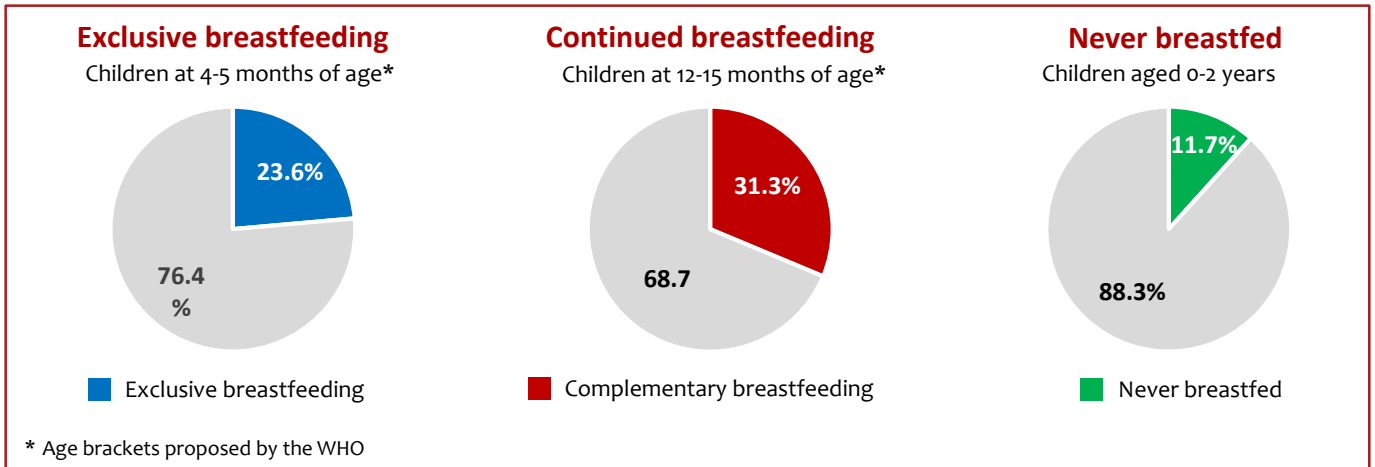


Alcohol consumption was found to be more widespread during breastfeeding than during pregnancy across all regions. Between 28.8% (Calabria) and 46.3% (Valle d'Aosta) of breastfeeding mothers reported drinking alcohol at least 1-2 times in the month preceding the survey, and percentages tended to be higher in the central and northern regions. Consumption was more widespread during breastfeeding also among mothers who were drinking more frequently (3-4 times a month and 2+ times a week).

These results confirm the need to continue educating women and their partners on the risks to child health involved with drinking alcohol during pregnancy and breastfeeding..

Breastfeeding

Evidence of the benefits of breastfeeding for both mother and child is widely documented. The WHO and UNICEF recommend that infants should be exclusively breastfed until 6 months of age and that breastfeeding should continue up to 2 years of age or beyond (if so desired by the mother and the child) while gradually introducing complementary foods.

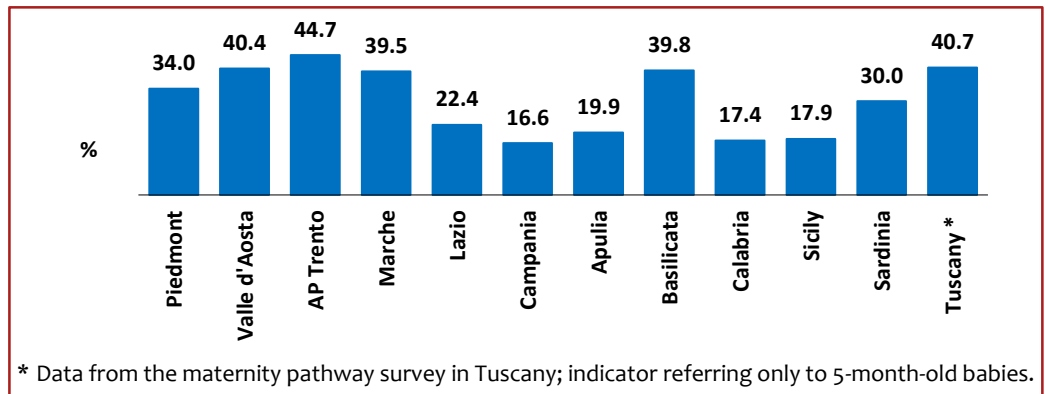


Less than one quarter (23.6%) of children at 4-5 months of age were exclusively breastfed. The prevalence of continued breastfeeding at 12-15 months was 31.3%. Finally, 11.7% of all children in the age group monitored by the Surveillance had not been breastfed.

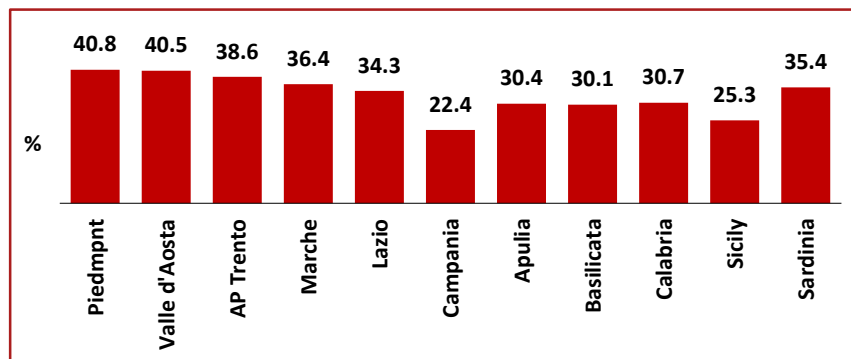
Exclusively breastfed children aged 4-5 months (%)

The percentage of exclusively breastfed children aged 4-5 months ranged from 16.6% in Campania to 44.7% in the AP of Trento.

A lower prevalence was observed in the southern regions.



Breastfed children aged 12-15 months (%)



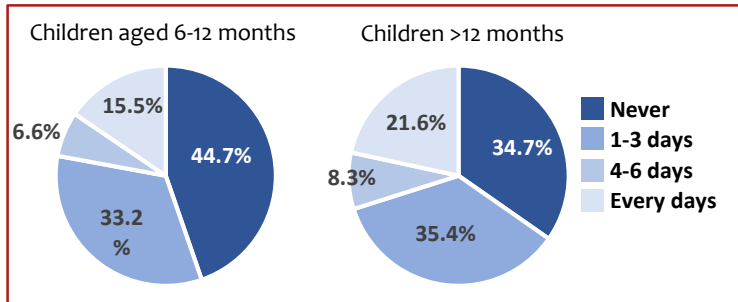
The prevalence of breastfeeding at 12-15 months varied from 22.4% in Campania to 40.8% in Piedmont, and tended to decrease from the northern to the central and southern regions. The proportion of children who had never been breastfed was higher than expected and tended to be higher in the southern regions, ranging from 5.0% in Marche to 18.4% in Sicily.

Despite scientific evidence and national and international recommendations on early, exclusive and continued breastfeeding, these results confirm the need for continued protection, promotion and support of breastfeeding before childbirth and during the first years of life. ■

Reading aloud to young children

Regularly reading aloud to children from the first months of life contributes to their cognitive, emotional and social development. It also contributes to fighting educational poverty and preventing social and cultural disadvantage.

Frequency with which books were read aloud to children over the last week (%)

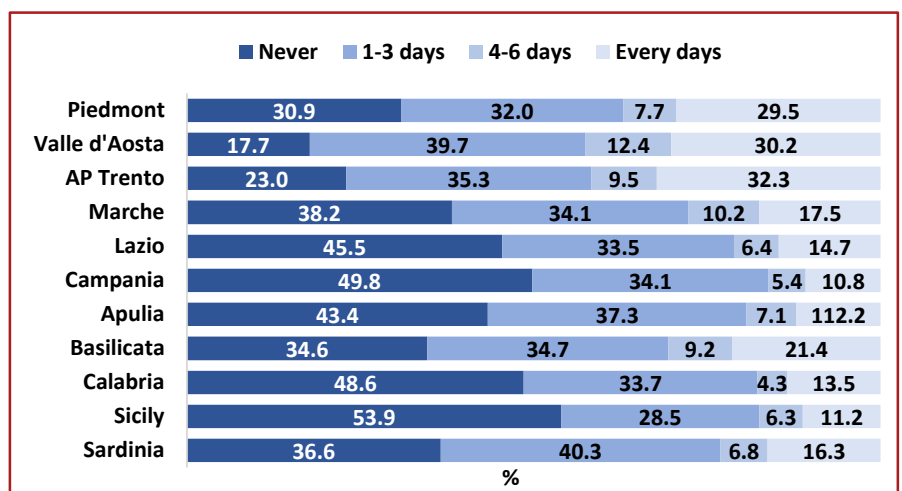


In the week preceding the survey, 44.7% of children aged 6-12 months and 34.7% of those over 12 months had no books read aloud to them. Books were read aloud every day to 15.5% of children aged 6-12 months and to 21.6% of those over 12 months.

Frequency with which books were read aloud to children over the last week (%)

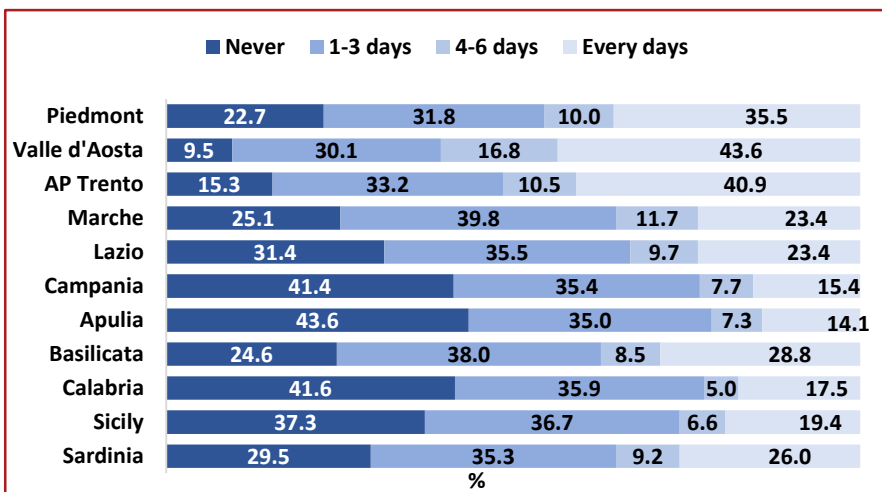
Children 6 - 12 months

The percentage of children aged 6-12 months who had no books read aloud to them ranged from 17.7% in Valle d'Aosta to 53.9% in Sicily, and was generally lower in the northern regions. The highest proportion of children who had books read aloud to them every day was also recorded in the northern regions (30%, compared to 10-20% in the South).



Frequency with which books were read aloud to children over the last week (%)

Children over 12 months



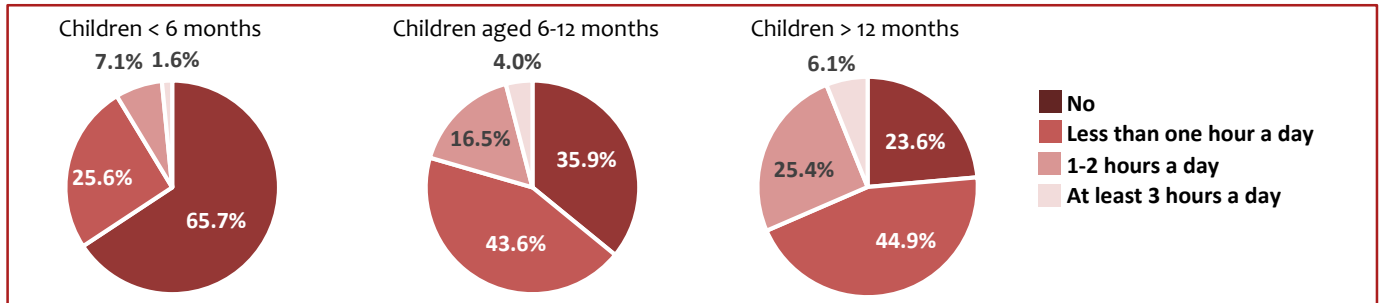
The percentage of children over 12 months who had no books read aloud to them in the week preceding the survey was lower across nearly all regions. Daily exposure to reading in this age bracket increased. Therefore the situation tended to improve, but only to a limited extent across all regions, especially in the South, where the percentage of children not exposed to reading sometimes exceeded 40%.

At every meeting with professionals, parents should be made aware of the importance of reading aloud from an early age as a way of helping improve the cognitive, emotional and social development of their children.

Exposure to screens

There is growing scientific evidence that excessive and/or improper use of audiovisual and digital technologies can have an impact on the physical and mental health of children, causing sleep, emotional and social disorders. It is recommended that these technologies be used in the presence of an adult and only by children who are at least 2 years of age.

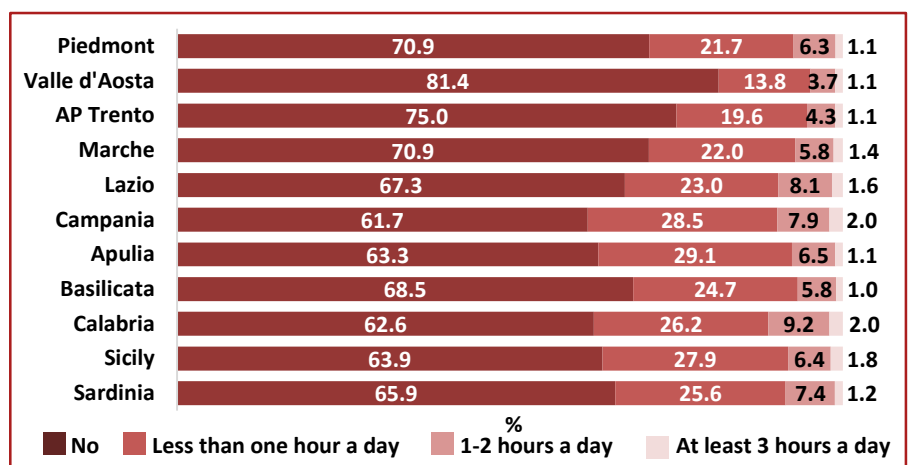
Frequency of screen exposure (television, computer, tablet or mobile phone)



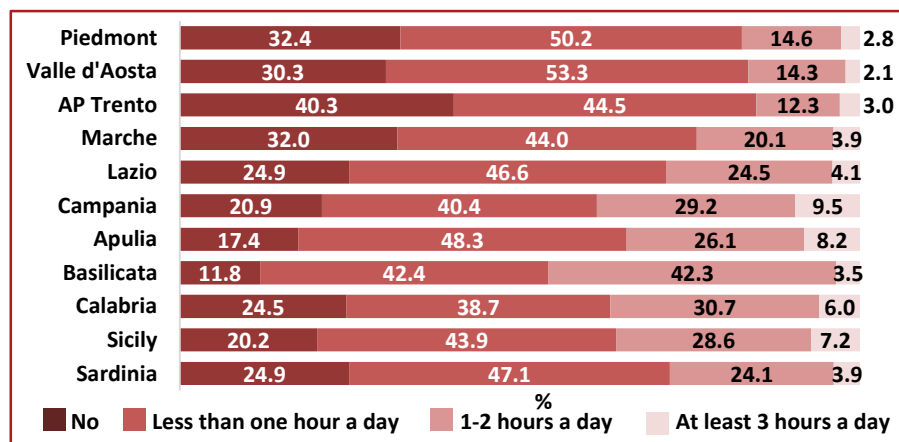
The survey showed that 34.3% of babies under 6 months, 64.1% of those aged 6-12 months and 76.4% of children over 1 year were spending some time in front of TV, tablets, mobile phones or computer screens. As age increased, so did exposure: although the majority of exposed children, across all age brackets, were spending less than one hour a day in front of a screen, the percentage of those doing so for at least 1-2 hours a day rose from 8.7% in the group under 6 months of age to 31.5% in the group over 12 months of age.

Frequency of screen exposure - Children < 6 months

The percentage of children exposed to screens from the first months of life (up to 6 months of age) ranged from 18.6% in Valle d'Aosta to 38.3% in Campania, and tended to be higher in the southern regions. The majority of exposed children were spending less than one hour a day in front of a screen, but between 4.8% and 11.2% of them were doing so for at least 1-2 hours a day.



Frequency of screen exposure - Children over 12 months



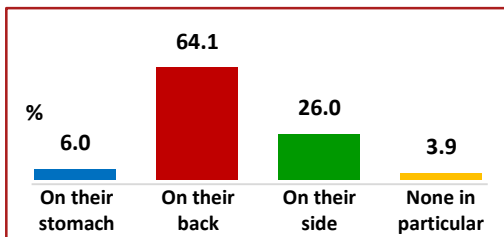
Exposure grew with increasing age across all regions. The proportion of children over 12 months of age who were spending at least 1-2 hours a day in front of a screen varied from 15.3% in the AP of Trento to 45.8% in Basilicata. Significantly higher prevalences of longer screen exposure were observed in the South.

These results highlight the need to raise awareness among parents and, more generally, all child carers of risks resulting from the use of audiovisual and digital technologies at an early age. Social and health workers and educators who have frequent contacts with parents can play an important role in this preventive action.

Position in the cot

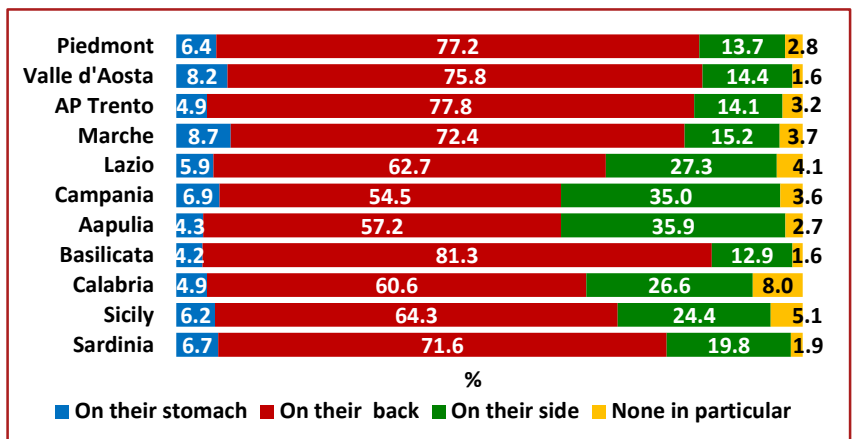
Recent estimates show that sudden infant death syndrome (SIDS) occurs with an incidence of 0.2 cases per 1000 live births, thus being one of the main causes of neonatal death. Scientific research has identified a number of simple and effective measures to reduce the risk of SIDS, including placing the child on their back to sleep.

Position in the cot (%) - Children under 6 months



By region, the percentage of mothers placing their babies to sleep in the correct position varied from 54.5% in Campania to 81.3% in Basilicata, and tended to be higher in the northern regions. In Lazio and the southern regions, babies were often laid to sleep on their side.

While the majority of mothers (64.1%) reported placing their babies on their back to sleep, children were frequently laid to sleep in positions other than the recommended one, with over one quarter of the mothers (26.0%) placing them on their side.

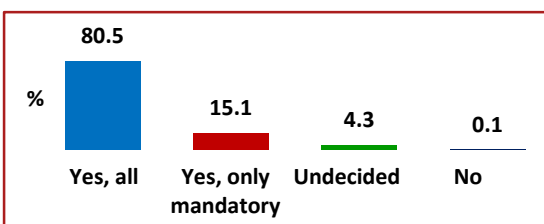


These results highlight the need to continue informing parents, taking care to allay unfounded fears about placing their child on their back to sleep.

Vaccinations

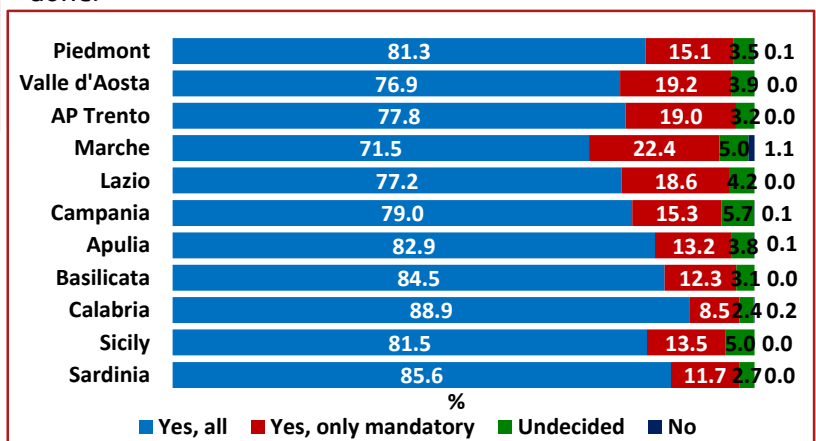
Vaccinations protect children from infectious diseases that can cause dangerous complications. The Surveillance records the intentions of mothers with regard to future immunization sessions for their children.

Intentions regarding future vaccinations



By region, the percentage of mothers who wanted their child to receive all vaccinations ranged from 71.5% (Marche) to 88.9% (Calabria). As this percentage declined, the proportion of mothers in favour of only the mandatory vaccinations rose (between 8.5% in Calabria and 22.4% in Marche). The percentage of undecided mothers varied from 2.4% (Calabria) to 5.7% (Campania).

Of the surveyed mothers, 80.5% expressed their intention to have all vaccinations (both mandatory and recommended) done.

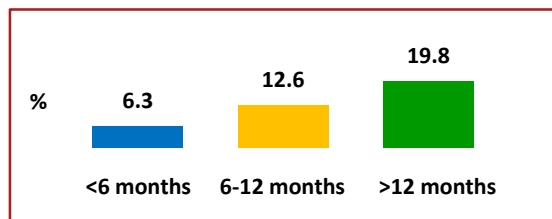


All parents should be made aware of the benefits and risks of vaccinations and the diseases they can prevent in order to facilitate appropriate and informed choices.

Accidents at home

Children are at high risk of being involved in accidents at home, especially those aged 5 years or younger. These accidents can be partly prevented by taking appropriate precautions.

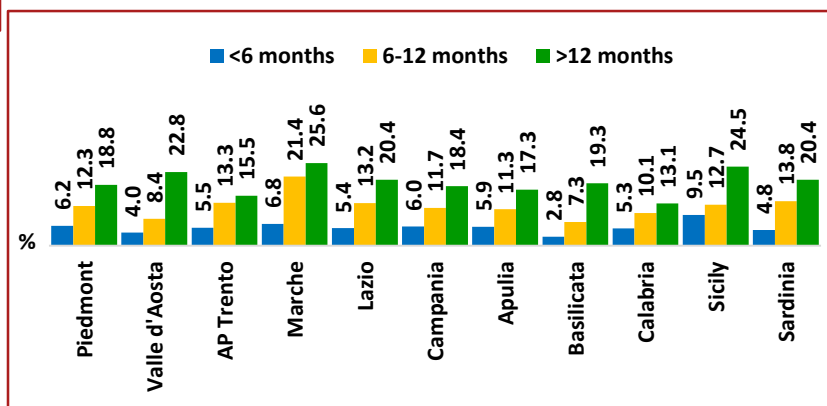
Mothers who reported a home accident involving their child to healthcare professionals (%)



As children became more independently mobile, the prevalence increased, reaching 19.8% among those over 1 year of age.

By region, the percentage of mothers with children under 6 months who reported a home accident involving their child to healthcare professionals ranged from 2.8% (Basilicata) to 9.5% (Sicily). The prevalence rose considerably with increasing age across all regions and, among children over 12 months, varied from 13.1% (Calabria) to 25.6% (Marche).

Overall, 6.3% of mothers with children aged under 6 months had reported a home accident involving their child (e.g. falls, injuries, burns, ingestion of harmful substances) to a doctor (paediatrician or other professional) and/or an emergency department.

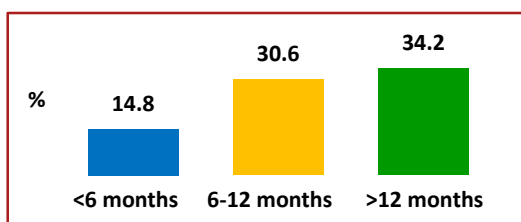


Parents and, more generally, all child carers should be made aware of the precautions required to ensure the safety of children (e.g. correct use of the changing table, attention to the bath water temperature) and should be advised to rearrange their homes, based on their child's development stage. ■

Use of child car seats

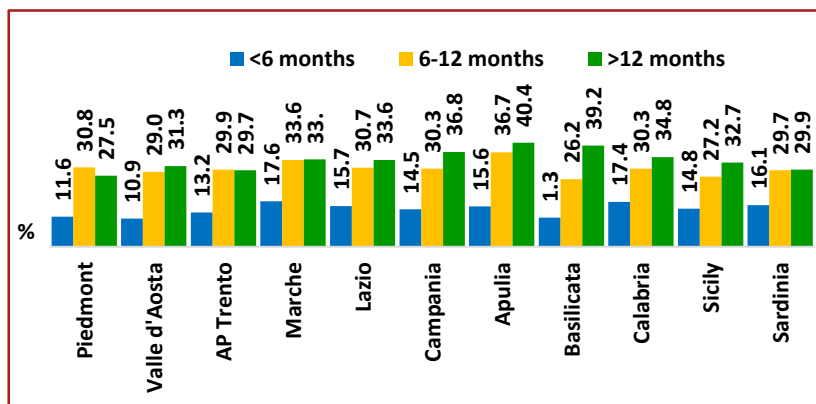
The correct use of car safety equipment when travelling with a child can significantly reduce the risk of injuries and death resulting from road traffic accidents.

Mothers who reported difficulties using the child car seat (%)



By region, the proportion of mothers with children under 6 months who reported difficulties using child car seats ranged from 10.9% (Valle d'Aosta) to 17.6% (Marche), and tended to be higher in the central and southern regions. The prevalence rose with increasing age across all regions and, among children over 12 months, varied from 27.5% (Piedmont) to 40.4% (Apulia).

Overall, 14.8% of mothers with children under 6 months reported struggling to get them seated and strapped into their car seats. The prevalence rose to 30.6% and 34.2% among mothers with children aged 6-12 months and over 12 months, respectively.



These results highlight the need to continue raising awareness among parents and, more generally, all child carers of the importance of using car safety equipment regularly and correctly, also for short journeys, to ensure the safety of children. ■

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For further information on the Surveillance of Children Aged 0- 2 Years

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