

# Factors Associated with Oléen amongst the Madura Tribe in Indonesia

**Qurnia Andayani<sup>a\*</sup>, Toetik Koesbardiati<sup>b\*\*</sup>, Windhu Purnomo<sup>c</sup>, Rika Soebarniati<sup>d</sup>, Febi Dwirahmadi<sup>e</sup>,** <sup>a,c</sup>Faculty of Public Health Universitas Airlangga, Surabaya, Indonesia, <sup>b</sup>Faculty of Social and Political Science, Universitas Airlangga, Surabaya, Indonesia, <sup>c</sup>Medical Faculty, Universitas Wijaya Kusuma, Surabaya, Indonesia, <sup>d</sup>School of Medicine, Griffith University, Gold Coast, Queensland, Email: <sup>a\*</sup>[qurnia.andayani-2016@fkm.unair.ac.id](mailto:qurnia.andayani-2016@fkm.unair.ac.id), <sup>b\*\*</sup>[toetik.koesbardiati@fisip.unair.ac.id](mailto:toetik.koesbardiati@fisip.unair.ac.id)

This is the first research study about oléen that is known as a condition of children characterised by growth and developmental problems in Madura. It aims to explore the factors associated with oléen in the Madura tribe. Participants included shamans, health professionals, personal figures, and the mothers of oléen. The phenomenology approach was used to explore participants' thinking process. Data collection consisted of in-depth interviews, FGD and observation by capturing videos, pictures and audios, as well as demographic and health profiles. Data was then triangulated. Qualitative data was analysed using Nvivo12 pro. The results show that most oléen received treatment from shamans due to the Madurese belief that oléen is not a medical but cultural-spiritual issue. Future focus should be on improving knowledge for mothers on child growth and development as well as rearing practice. In addition, there needs to be improvement of health staff skills to provide child growth-development services for those affected by oléen.

**Keywords:** *Oléen, Madura, child, growth and development, phenomenology.*

## Introduction

The early child period is considered to be the most important developmental phase throughout one's lifespan. Child growth and development of neonates and young children are important milestones to future optimal physical and psycho-social well-being (de Onis, 2017). Child growth is internationally recognised as the best global indicator of physical

well-being in children and several international goals such as the World Health Assembly global targets for 2025 include growth-related targets for being stunted, wasted or overweight amongst children below 5 years of age.

The consequences of poor child growth and development in terms of mortality, morbidity, and impaired cognitive developments are severe and far-reaching. They provide strong evidence that investment in early childhood is the most powerful asset both nationally and globally (UNICEF/WHO/World Bank Group, 2019).

Currently millions of children worldwide experience nutritional problems. Growth barriers including malnutrition have a high influence on aspects of development. In 2018, more than half of all stunted children under 5 lived in Asia and more than one third lived in Africa, more than two-thirds of all wasted children under 5 lived in Asia and more than a quarter lived in Africa. Almost half of all overweight children under 5 lived in Asia and a quarter lived in Africa (UNICEF/WHO/World Bank Group, 2019). The number of children globally who are failing to reach their developmental potential remains extensive (McCoy et. al., 2016). Low and middle-income countries across the world show that 250 million children under five are at risk of not reaching their developmental potential due to poverty and stunting (UNICEF/WHO/World Bank Group, 2019).

The number of growth and development issues of Indonesian children, especially severe wasting was 3.9%, wasting was 13.8%, severe stunting was 11.5% and stunting was 19.3%. Surprisingly, problems with child growth and development in East Java increased including (weight/age) 3.3% severely malnourished, 13.4% malnourished and 3.4% overweight, 12,9% severely stunted and 19,9% stunted (Indonesia MOH, 2018).

Madura Island, where the Madura tribe lives, contributed three of four regencies such as Sampang, Pamekasan and Bangkalan for the top three highest stunting contributors in East Java. From a 2013 research, Bangkalan was the eighth highest contributor of stunting, but in a 2018 study, Bangkalan was shown to be the highest. Meanwhile, IT was still the highest contributor to severe waste in East Java Province (Indonesia MOH, 2013; 2018).

Various ethnicities create local knowledge through generations. One of these is *oleen*. *Oleen* is a condition causing lack of vitality assumed to be inherent in the child rather than as a result of protein-calorie deficiency. Jordaan (1947) and Pawitra (2009) maintain that *olèen* refers to a small child who frequently gets sick or *celomes* (having low immune system).

This study explores the phenomenon of *oleen* which occurs in Madura tribe children using the HL Blum's (1974) theoretical approach so that the growth and development of *oleen*

children are influenced by environmental factors in the physical environment including home conditions, the availability of infrastructure to support childcare, the cultural environment which affects day-to-day parenting practices in children, and the social environment as social support that plays a role in the practice of maternal parenting, which is influenced by individual characteristics and maternal knowledge. Parenting behaviour includes *Asuh* which referring to physical-biomedical needs in the form of nutrition, basic care (immunisation, breast milk, first aid), proper housing, maternal hygiene, and environmental sanitation, clothing, recreation or physical health. *Asih* includes affection, security in the first year of a child's life, manifested by physical contact (eyes or skin) such as early breastfeeding as soon as possible after the child's birth. *Asah* is a stimulatory effort to support psychosocial mental development, independence, intelligence, skills, creativity, religion, personality, moral-ethics and productivity (Soetjiningsih, 1995). Hereditary factors can be congenital which is a basic biological provision inherent in children, while growth and development services obtained used by children include standardised modern medical services by local certified health workers and traditional health services performed by special *oleen* (shaman) for generations using knowledge, experience, and tools and materials that are believed to be symbols in their medical traditional practice. This study aims to explore factors associated with *oleen* in the Madura tribe.

## **Methods**

### ***Data Source***

The research participants consist of indigenous or first people such as *oleen* shaman, *oleens'* mothers, health staff, and religious or community figures in the Bangkalan regency.

### ***Procedure***

This research has been approved to be ethically appropriate by seven WHO 2011 standards referring to the 2016 CIOMS Guidelines by the Health Research Ethics Committee Faculty of Public Health, Universitas Airlangga no.05/EA/KEPK/2019. Each study participant was provided with written approval for their involvement in the study and the use of personal data.

### ***Data Analysis***

This is a qualitative study and the phenomenological approach was used to explore the thinking process from participants including 59 *oleen* shaman, 12 *oleen* children's mothers, 28 health staff, and 12 religious or community figures. Data collection consists of in-depth interviews, child growth and development assessment using WHO Anthro and Developmental Pre-Screening Questionnaire or KPSP, focus group discussions and

observation fields by capturing videos, pictures, and audios as primary data and medical records, as well as demographic and health status profile as secondary data. Data was then triangulated and analysed using NVIVO 12 pro software, which was designed to help researchers to organise, analyse, and find insights in unstructured, or qualitative data such as interviews, open-ended survey responses, journal articles, documents, social media and web content (QSR International, 2020).

### **Results**

This study identifies five important themes: (1) *oleen* children's characteristics (2) maternal parenting knowledge and behaviour (3) environment (4) health care (5) heredity.

#### ***Characteristics of Oleen Children***

In the Bangkalan regency, where the Madura tribe lives, the term *oleen* refers to a child with special problems. Most *oleen* children were from a poor family and their mothers have had a history of being a part of child marriage. Furthermore, few *oleen* children have low birth weight due to maternal history including chronic anti-natal calory deficiency. Moreover, there were no severe physiological problems during ante and post-pregnancy, however economic issues proved to be stress triggers.

Most *oleen* children have growth problems such as being wasted, however few were severely wasted. Furthermore, a few were stunted and one was severely stunted. Based on the developmental assessment, the children mostly have resulted as doubt, which provided an early warning for any developmental issues for them and requires further evaluation. Two participants were mothers of late *oleen* children who had growth and developmental problems. The cause of death was sudden death syndrome.

Head to toe assessment was completed through visual, auscultation and percussion. There was a suspicious condition related to craniosynostosis called *apiyat* through local knowledge with characteristics such as a hat line in the *oleen* child's head. One of the *oleen* children had breathing difficulties based on the observation of respiration rate and the existence of intercoastal attraction confirmed by the medical doctor as bronchitis.

Almost each *oleen* child had a multitude of medical issues such as diarrhea, convulsion and fever. Thus, they regularly needed to go to a midwife for syrup (antibiotic) and paracetamol. However, based on observation, there was a great deal of antibiotics left inside antibiotic bottles because the mothers stopped the medication after their child appeared to be better. Most mothers were not well educated in this regard.

Most shamans identified *oleen* child by the characteristic of a wasted body, gloomy, weak, *apiyat* or existing of hat line through the head, small body, and a delay in developmental phases. A few also mentioned the appearance of a monkey or old man face. Some still discussed a supernatural sign based on magical beliefs like magical stones as amulet or a vision as a part of their vision from their ancestors. Therefore, they believed that the problem was not a medical issue.

### ***Maternal Parenting Knowledge and Behaviour***

Maternal parenting not providing early breastfeeding as they were taught that it was bad milk, and early solid feeding since it was common practice for mothers of *oleen* children to the baby on the first day of life. Furthermore, there was also a hygiene issue as mothers used only one diaper for each day and night, and a few *oleen* children got *tinea versicolor*, *scabies* and *erythema rubosum*.

Most mothers had never heard of or taught about exclusive breastfeeding for a baby until 6 months, how to stimulate their child's growth and development based on age, and how or where to obtain child's growth and developmental pre-screening assessments. Some mothers were illiterate, which made it challenging for them to read information books provided by midwives, as only a few understood what they read.

Most shamans highlighted many kinds of food taboos for mothers of *oleen* children such as Caridea, Brachyura, Clarias, Ariidae, Rhinodon typus, Euthynnus affinis, Katsuwonus pelamis, Scomberoides lysan, Moolgarda seheli, Cyprinus caprio, Bramidae, Engraulidae, Barbonymus gonionotus, Trichiurus lepturus, Oreocgromis mossambicus, Channa striata, Portunus pelagicus, teuthida, Dasyatidae, Anas domesticus, Bos Indicus, Capra aegagrus hircus, Oryza sativa linn. var. glutinosa, Oryza sativa glutinosa, Vigna unguiculata ssp. sesquipedalis, Oryza sativa, Malus domestica, Ananas comosus, Dimocarpus longan Artocarpus heterophyllus, Musa textilia, Lansium domesticum, Citrullus lanatus, Nephellium lappacium, Vitis vinera, Salacca zalacca, Cucumis melo, Durio zibethinus, Magnifera indica, Vitis, Manilkara zapota, Annona squamosa, Momordica charantia, Gnetum gnemon, Dioscorea hispida Dennst, Solanum lycopersicum, Cayote, Brassica oleracea, Ipomoea aquatica, Vigna radiata, Moringa, Brassica chinensis var. parachinensis, Vigna unguilata ssp. sesquipedalis, and almost all of shamans referred to the danger of rice as a death recital and marriage which were forbidden.

*“There are so many food taboos such as rice from death recitals, marriage.... yes, still so many taboos, such as salted fish, mackerel... they are also forbidden to eat ... moringa”*  
(Shaman AT).

*“Rice of death recital is forbidden as a food taboo ... don't eat it” (Shaman AW).*

*“I can't eat certain kinds of fish such as catfish, my favourite milkfish and rice from marriage and death recitals because it's forbidden as well as certain fruits and vegetables ... I'm afraid that my child will be sick again (fever and convulsion).” (Mother I)*

Maternal parenting knowledge and behaviour can lead to medical issues for the *oleen* child such as sufficient micro and macro nutrients and redundancy of infection.

### **Health Care**

The health care of *oleen* children is mostly provided by the traditional treatment of shamans. Some shamans stated that children became *oleen* because of two *bhejeng* evils that sat on the children's shoulders and were harmful. The *bhejeng* evil could be everywhere because it was evil due to intentional abortion. Another shaman said that *oleen* was a special disease given by God, while yet another maintained that there were taboos to be avoided by mothers such as crossing the tier of cow while pregnant, having sex before breastfeeding and forgetting to wash or purify her body. In addition, one shaman said that the cause could be attributed to parents who forgot to massage their child after taking a shower.

*“ ... two bhejeng evils that sit on the child's shoulders are harmful.... The bhejeng evil could appear anywhere because it is evil from intentional abortion ... they did not avoid taboos such as crossing the tier of a cow while pregnant and eating the taboo food” (Shaman A).*

*“ ... sorry, it is caused by the parent who has sex before breastfeeding and forgets to wash or purify the mother's body” (Personal Reference D).*

*“ “Parents that forget to massage their child ... after taking a shower” (Shaman C).*

*“ I don't know ... I don't know why they are oleen ... it is a disease that is given by God.” (Shaman AT).*

Most mothers believed that their *oleen* child should be brought to a shaman after they found out that their child was *oleen* based on personal statements. They felt that the best medication for their child was treatment by a shaman.

*“ if I bring my child to a doctor, he/she will say that my child is severely wasted and then only give me vitamin ... no my child is oleen and I can get proper treatment from shaman ... a doctor can't massage my child like a shaman can and provide herbal medicine (jamu) which is not harmful a for child” (Mother D).*

Twenty-two public health centres and regency health office were visited. Most still did not have facilities for pre-screening a child's growth and development, standardised referral systems and midwives as providers stated that there was a lack of competencies to standardise procedures. Another health staff maintained that it was caused by lack of time to complete standardised procedures, while half also believed that *oleen* children could be cured by shamans but few doubted that it could be cured by shamans or medical providers. The rest gave a statement that *oleen* was a medical issue that needed to receive serious medication from general doctors or a referral to a hospital as the provider of level I child growth and developmental intervention with the doctor of a child specialist.

### ***Environmental Factors***

The field survey showed that the physical environment of *oleen* children was mostly unhealthy. There was a shortage of water resources, no healthy toilet, use of asbestos, and blocked windows or doors which could be harmful. Moreover, there were a lot of pests inside the house such as mice, cockroaches, mosquitoes, ants, fleas and rodents. Most importantly, most *oleens'* fathers were smokers who always smoked inside the house.

The social environment in the village can be a social support for young mothers, especially those who have a history of child marriage. They tend to help mothers by providing information about traditional ways of maternal parenting, friendship support needed by mothers, as well as emotional and financial support which can be provided by extended family members.

Some cultural environments provide a great deal of support for young families such as *taneyan lanjhang* in the Madura tribe. It provides a close housing system and consists of extended families, and a lot of ceremonies as a support system for mothers during their pregnancies and birth such as praying together at 4 and 7 months of pregnancy, 7 as well as 7 and 40 days after the baby is born. In contrast, there are still many cultural practices that are harmful for mothers and babies such as taboo food practices during pregnancy and breastfeeding, stomach massage during pregnancy, delivering a baby with a shaman, and early feeding practices.

### ***Heredity Factors***

Additionally, one of the *oleen* children had polydactyly on both feet indicating a heredity as a factor.

## Discussion

In terms of rearing practice, more than half of mothers did not do early breastfeeding because they were taught that the milk was bad. This is in contrast with the findings of Karen (2007), according to whom early breastfeeding can reduce infection-specific neonatal mortality in infants, which is really useful for *oleen* children who have several diseases related to infection. Prolonged breastfeeding and delayed supplementation of infants with semi-solid foods emerged as a problem amongst very poor women (Lindsay, et.al. 2008). Lack of rearing practices from *oleen* children's mothers include feeding semi solid food (banana, coconut meat, and rice cake) and sugar water or honey for newborn babies. The attitude towards childcare and education is an important aspect of a child's psychosocial development. This shows that there is a statistically significant difference between traditional and modern rearing (Tocu, 2014).

According to data by Bangkalan Hospital on between August 2016 and July 2017, there are 20 cases with global development delays, 3 with speech delays and 2 with motoric delay (Andayani, 2019). Most *oleen* children have growth problems such as being wasted, but few are severely wasted. Furthermore, a few are stunted and one child is severely stunted. Based on the developmental assessment, the child mostly has resulted as doubt, so it gives an early warning for any developmental issues and needs to be further evaluated in the future after some stimulations. Mothers follow the suggestions from shamans according to whom certain rearing practices are harmful to children's growth and development. This is consistent with the results of a study according to which mothers who have higher education and better economic status have a lower tendency towards the implementation of risk and traditional care. As many as 81.5% of mothers press the child's head for aesthetics, 83% agree that amulets and spells can cure children's diseases and 86% believe that their babies are threatened with the presence of an evil/witch eye. Most mothers separate conventional health services for babies and toddlers traditionally undertaken in Pakistan (Asim et.al. 2016).

The Madura tribe exists in Indonesia and continues with most of its traditional practices. Koentjaraningrat (2009) described that a tribe is a human community tangled by cultural awareness and identity of cultural unity supported by local language. Madura culture is created by ideas, thinking processes of knowledge, belief in God, subsequently it creates cultural arts, norms, and social rules and laws.. *Oleen* is based on local knowledge from the Madura tribe that leads to a term of children around 0-2 years old or more that have growth and developmental problems. *Oleen* children are generally malnourished, likely to suffer from several kinds of chronic infection and poor dietary practice.

Furthermore, awareness of anti-microbial resistance as a global public health threat cannot be ignored and the fact that the danger continues to escalate. These bacteria are impacting all

populations; however, until more recently, the increasing trend of drug-resistant infections in infants and children has gone relatively unnoticed (Rachel and Logan, 2019). The misuse and overuse of antibiotics indicate that these medications are losing their power and the more they are used, the more chance for bacteria to become resistant (Clark, 2020). This leads to suspicious antibiotic resistance for *oleen* children due to the experience of most *oleen* children who are given antibiotic syrup while they only have symptoms of coughing or fever due to the misuse of antibiotics as a result of mothers who are not well educated about the use of antibiotics.

Costelloe et.al, (2007) explain that the short-term effect of amoxicillin prescribed in primary care is transitory in the individual child but sufficient to sustain a high level of antibiotic resistance in the population. Most the *oleen* mothers have low formal education due to the practice of child marriage. Those with lower levels of education were found to lack knowledge regarding antibiotics and misuse them (Agarwal, & Dharmapalan, 2015), as well as having more misconceptions about antibiotics (Widayati, et.al, 2011). Infections with antibiotic-resistant organisms are associated with significant morbidity and mortality (Rachel and Logan, 2019), while most *oleen* children have chronic diseases or symptoms that need a specific examination to ensure correct diagnosis.

Lack of housing and personal hygiene, as well as mothers and babies who are passive smokers are important issues that can worsen the condition. Passive smoking is related to an increased risk of paediatric diseases such as sudden death syndrome, acute respiratory diseases, etc. (Ortega, et.al, 2020).

Not only are paediatric growth and developmental services required but pre-screening also needs to be improved. Awareness of health staff becomes an issue for *oleen* children. Most health staff are still confused about *oleen* and they think that shamans could cure them as half of the health staff are also part of the culture of *oleen* mothers who brought their sick children to *oleen* shamans. Health staff as role models in the community provided an example to the community that their child could be cured by *oleen* shaman.

Efforts to increase growth and development through health services and balanced nutrition are important needs according to age and psycho-social stimulation aimed at pre-conception, pregnancy and up to five years of children's lives.

## Conclusions

Maternal parenting, health care and environmental factors can lead to the development of *oleen* children. The results show that most *oleen* children receive treatment from shamans because the majority of Madura tribes in villages believe that *oléen* is not a medical but a



cultural-spiritual issue. Knowledge and information of rearing practice including ante and post-pregnancy need to be provided to decrease the influence of cultural practices that can be harmful for infants and children. Importantly, the practice of child marriage needs to be prevented by education and community awareness, while training must be provided about smoking and the misuse of antibiotics in order to prevent an increase in maternal and paediatric problems in the future. The environment as an external system needs to be improved and strengthened by community planning and active participation. Hereditary issues also need further research. The focus should be on improving knowledge for mothers on child growth and development as well as rearing practices. In addition, there needs to be improvement of professional skills for health staff to provide developmental services for *oléen* children.

### **Acknowledgments**

The authors would like to thank the Directorate of Research and Community Service, Deputy for Research and Technology, Ministry of Research and Technology/National Research and Innovation Agency in Indonesia which provide financial support in the fields of research and publication for selected doctoral students in Indonesia.

### **Ethics and Consent**

This research is declared to be ethically appropriate in accordance with seven WHO 2011 standards referring to the 2016 CIOMS Guidelines by the Health Research Ethics Committee, Faculty of Public Health, Universitas Airlangga No. 05/EA/KEPK/2019.



## REFERENCES

- Agarwal, S., Yewale, V. N., & Dharmapalan, D. (2015). Antibiotics use and misuse in children: a knowledge, attitude and practice survey of parents in India. *Journal of Clinical and Diagnostic Research: JCDR*, 9(11), SC21–SC24. <https://doi.org/10.7860/JCDR/2015/14933.6819>.
- Andayani, Q., Koesbardiati, T., & Purnomo, W. (2019). Implementation program of child under 5 years' growth and development problems in Bangkalan, Madura. *Indian Journal of Public Health Research & Development*, 10(9), 1257-1262.
- Asim, M., Yasin, G., Mahmood, B., & Abbass, N. (2016). Conventional rearing, caring practices of Infants in Faisalabad, Pakistan. *Rawal Medical Journal*, 41(4), 476-479.
- Blum, H. L. (1974). *Planning for health, development and application of social changes theory*. New York: Human Sciences Press.
- Costelloe, C. Metcalfe, C. Lovering, A. Mant, D. Hay, A. D. (2010). Effect of antibiotic prescribing in primary care on antimicrobial resistance in individual patients: systematic review and meta-analysis. *BMJ* 22, 2010; 340 doi: <https://doi.org/10.1136/bmj.c2096>.
- Clark, J. (2020). Antibiotic resistance: what you need to know, Infection Management and Prevention Services. Queensland Government. Accessed from <https://www.childrens.health.qld.gov.au/blog-antibiotic-resistance-what-you-need-to-know/>.
- De Onis, M. (2017). Child growth and development. In: de Pee S., Taren D., Bloem M. (Eds) (2017) *Nutrition and health in a developing world*. Nutrition and Health. Humana Press, Cham.
- Indonesia M. (2013). *Riset kesehatan dasar: Riskesdas 2013 (Basic Health Research)*. Jakarta.
- Indonesia M. (2018). *Riset kesehatan dasar: Riskesdas 2013 (Basic Health Research)*. Jakarta.
- Jordaan, Roy Edward. (1947). *Folk Medicine in Madura*. Jakarta.
- Koentjaraningrat, (2009). *Pengantar antropologi (Anthropology)*. Jakarta: Rineka Cipta.
- Lindsay, A. C., Machado, M. T., Sussner, K. M., Hardwick, C. K., & Peterson, K. E. (2008). Infant-feeding practices and beliefs about complementary feeding amongst low-income



- Brazilian mothers: A qualitative study. *Food and Nutrition Bulletin*, 29(1), 15–24. <https://doi.org/10.1177/156482650802900102>.
- McCoy DC, Peet ED, Ezzati M, Danaei G, Black MM, et. al. (2017). Early Childhood Developmental Status in Low- and Middle-Income Countries: National, Regional, and Global Prevalence Estimates Using Predictive Modelling. *PLOS Medicine* 14(1): e1002233.
- Ortega, G., Castella, C., MArtin-Cantera, Carlos., Ballve, Jose L., Diaz, Estela., Saez, MArc., Lozano, Juan., Rofes., Lourdes., Morera, Concepcio., Barcelo, Antonia., Cabezas, Carmen., Pascual, Jose A., Peres-Ortuno, Raul., Salto, Esteve., Valverde, Araceli., Jane, Mirela. (2010). Passive smoking in babies; The BIBE study. *BMC Public Health*, Volume 10, Issue 1, Pages 1-10, 2010. <http://doi.org/10.1186/1471-2458-10-772>.
- Pawitra, A. (2009). Kamus lengkap bahasa madura Indonesia (Dictionary of Madura - Indonesia). Jakarta: Dian Rakyat.
- QSR International, (2020). Learn about qualitative data analysis software. Available on <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/about/nvivo>.
- Rachel L. Medernach and Latania K. Logan (2019). The growing threat of antibiotic resistance in children. *Infect Dis Clin North Am*. 2018 Mar; 32(1):1–17. HHS Public Access. doi: 10.1016/j.idc.2017.11.001.
- Soetjningsih. (1995). Tumbuh Kembang Anak (Child Growth and Development). Jakarta: EGC.
- Tocu, R. (2014). Study on the parental beliefs and attitudes towards child rearing and Education. *Procedia - Social and Behavioural Sciences* 137, Pg. 153 – 157.
- WHO, (2019). Early Child Development, cited from [https://www.who.int/social\\_determinants/themes/earlychilddevelopment/en/](https://www.who.int/social_determinants/themes/earlychilddevelopment/en/).
- Widayati, A., Suryawati, S., de Crespigny, C., & Hiller, J. E. (2011). Self-medication with antibiotics in Yogyakarta City Indonesia: a cross sectional population-based survey. *BMC research notes*, 4, 491. <https://doi.org/10.1186/1756-0500-4-491>.
- World Bank, (2017). Early child development, cited from <https://www.worldbank.org/en/topic/earlychildhooddevelopment>.