

# HISTORY OF PREGNANCY, PARENTING, USE OF ELECTRONIC MEDIA AND THEIR CORRELATIONS WITH DELAYED CHILD DEVELOPMENT

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## ABSTRACT

**Background:** One of the topics that become so important in parenting is our child's physical and cognitive development. One of the most critical time periods in child development and learning is from birth to five years old. The first five years of child development is crucial to their health, wellbeing, and the overall trajectory of their lives in variety of ways. This study aimed to investigate the roles of gestation history, parenting style, and use of electronic media on the occurrence of development delay in children.

**Subjects and Method:** This was an analytic qualitative study with phenomenology and ethnographic approaches. This study was conducted in Bogor, West Java in November 2019. Key informants in this study were mothers who had children with delayed development. The additional informants included other family members, neighbors, and health cadres, who were selected purposively. The data were collected by in-depth interview, unobtrusive observation, and document review. The data were analyzed descriptively.

**Results:** Mothers who had children with development delay experienced some biological and psychosocial problems during pregnancy, including excessive vomiting, bleeding, high blood pressure, exposure to cigarette smoking at home. Parents typically allowed children to watch the television and to use gadget almost all of the time, in order for children not to get bored at home. The gadget was used alternately with watching television or playing with friends. Most mothers did not realize that their children had some development problem.

**Conclusion:** Children with delayed development are associated with historical maternal biological and psychosocial problems during pregnancy. Most mothers do not realize that their children have some development problem. Most of the parents are not aware of their unfavorable parenting style.

**Keywords:** development, maternal pregnancy, biological, psychosocial, cigarette smoke exposure, children under five.

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## BACKGROUND

The beginning of life, from the womb to the age of toddlers (under five years) is an important period in children's growth and development that affects the next period. Children's brain cells continue to grow and develop until the nervous and brain networks are formed

in a complex manner (Noviyani et al., 2018). Where this is very influential on the performance of the brain, seen from the ability to learn to walk, recognize letters, as well as socialization. As a toddler, very rapid development occurs in language and speech skills, creativity, emotional social awareness and

intelligence. In addition, moral development and the basics of the child's personality are also formed. Failure to detect child developmental disorders that are not treated immediately will reduce the quality of human resources in the future (Ministry of Health, 2016; Sutjiningsih, 1995).

Growth and development consists of two interrelated states, namely growth and development. Growth is quantitative in terms of changes in size, size, number or dimensions at the cellular, organ or individual level. Development is an increase in the ability of the structure and function of the body to be more complex, involving the process of differentiation of cells, tissues, organs, and organ systems that develop in order to fulfill their functions (Soetjiningsih, 2014; Tanuwijaya, 2003). Development is systematic, that is, it is organized and continuous, it is also adaptive in life (Papalia et al., 2009).

Nutritional status and growth trends of children can be assessed by measuring weight and height and comparing them with anthropometric standards to determine whether children are in the category of good, insufficient or excess nutritional status (Ministry of Health, 2020).

In the early phase, children's development is divided into 4 aspects of functional abilities, namely: gross motor, fine motor and vision, speech and language, and social emotion and behavior. Deficiencies in one aspect will affect other aspects (Cameron, 2002; Chamidah, 2009). Growth and development is influenced and is the result of the interaction of internal factors

(internal) and external factors (external environment) (Chamidah, 2009).

The purpose of this study was to study conditions associated with developmental delays (history during pregnancy, mother's knowledge of development, exposure to cigarette smoke, use of cell phones and television) in children whose growth has been in the normal category at birth (based on indicators of weight and height).

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## **SUBJECTS AND METHOD**

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### **1. Study Design**

This research is an analytical qualitative research with interviews with key informants. Thus, they can obtain new information, free from the expectations set by the authors to learn about group and cultural norms and behaviors related to developmental delays.

This approach facilitates flexible expression of ideas by developing a structured interview format, repeating data questions, and using a question format that explores the perspectives of participants, making it impossible to use quantitative methods (Paramitha and Kristina, 2013; Afyanti, 2008; Indrazal, 2017).

This research was conducted in Bogor, West Java in November 2019. Primary Scale of Intelligence (WPPSI). Key informants were selected purposively, there were 6 people. The main informants are mothers and supporting informants are other family members, neighbors and cadres. Data is collected through in-depth interviews, then the data is classified and interpreted.

### **2. Study informants**

The selection of informants in this study used a purposive sampling tech-

nique, by determining the inclusion criteria in the sample:

1. Mothers who have children with developmental delays

2. Willing to be an informant

The number of informants in this study were 6 key informants. The main informants are mothers and the supporting informants are other family members, neighbors and cadres.

### 3. Data Analysis

Data analysis in this study used content analysis. These themes can be identified, coded inductively (driven by data) from raw qualitative data (interview transcripts, biographies, video recordings, etc.) as well as deductively (theory driven) based on theory and previous research results. In this study, only one type of analysis is used, namely content analysis

The interviews were transcribed verbatim as a word document. All color transcripts were coded and labeled according to the information submitted. Similar codes are grouped into themes and subthemes. Content analysis was applied to identify emerging and recurring ring themes, and comparisons were made between and within groups of participants (Erling-sson and Brysiewicz, 2017; Hsieh and Shannon, 2005).

At this stage, the writer makes a list of emerging ideas, draws relationship diagrams and identifies keywords that are often used by respondents as important indicators of the theme. The second stage involves a coding focus where the writer removes, combines or divides the coding categories identified in the first step. Attention should be paid to iterative ideas and broader themes that link code. Content analysis

allows systematic coding of data by organizing information into categories to find patterns that are not detectable by simply listening to tapes or reading transcripts (Nyumba et al., 2018; Erlingsson and Brysiewicz, 2017)

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## RESULT

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Of the total maternal informants, 4 informants stated that they had problems in the pregnancy so that they needed to be treated and medical action was taken. Problems in pregnancy include excessive vomiting of the fetus, almost a miscarriage, hypertension and bleeding during late pregnancy, so a caesarean section must be performed. Here are excerpts of the interview:

*"I was 8 months pregnant, I was bleeding. Then I was ordered by Caesarean and referred to Ciawi".*

*"She was pregnant with vomiting... so I was treated..."*

*"Birth at Ciawi Hospital due to hypertension because the doctor asked ..."*

*"When pregnant, 2 times hospitalized and injected so it doesn't come out"*

Generally, the primary caregiver for a child from birth is the birth mother. In general, the father's contribution to parenting is not as big as the mother's. There was an informant who stated that her husband did not have enough time to take care of the children because he worked all day until the evening

*"Husband rides all day until night..."*

*Another reason is that my father rests at home after work. The*

*following is the informant's statement: '*

*"My husband doesn't interfere. My husband sells vegetables from morning until noon... after that he sleeps."*

Mothers generally feel that their children grow and develop normally by comparing their children with their playmates. Comparison with peers is seen from the ability to recognize letters, read, count, respond and answer questions, socialize, and children's daily behavior. The informants' statements are as follows:

*"Yes, from his knowledge. He can read even though it's spelled, (know) eg pigs are ugly. Socialization is good. whoever he wants." There is another informant who stated*

*"Yes.. yes.. judging from friends, if the toy responds. Still the same as the others. normal"*

Several informants stated that they had just learned from a psychologist that their child had a developmental delay. However, they still believe and say that their children are developing normally as children of their age. The following is the informant's statement:

*"(psychologists suggest) you have to be able to recognize letters... because you can't hold a pencil yet. Then he was directed to hold a pencil. He was slower than his friend, a bit slower indeed. Last year it was kindergarten, but I didn't want to help. if you're lazy, you don't want to (go). her son is a bit lazy. I want to go straight to elementary school. Most of his*

*friends are in elementary school. there is no preschool".*

Another said that at home their children like to talk but when they meet a psychologist for a developmental examination, their children are silent:

*"At that time, they were called to nutrition (a psychologist's examination). Thank God for his age. It's quiet here, it's crowded at home because you already know it. just play like that."*

Generally, mothers feel that the care has been carried out well according to their abilities, although some feel that it is not optimal. Mothers generally say they still need to learn a lot more. The following are excerpts of interviews with informants:

*"optimal." Some haven't. there is still a lot (need to) learn more. (because) naughty children like to be carried away by emotions".*

Mothers generally hope to get information on dealing with their children who have developmental delays and how to care for children. The information is about how to take care of children, how to prevent children from using mobile phones (HP). It is hoped that this information will be provided by cadres at the Posyandu during weighing.

*"I want to be able to take care of children, I want training from cadres to take care of children, at the Posyandu there is no explanation... at least just weigh it."*

Most mothers stated in the past. As for now there is smoking activity in the house. Smoking activity in the house by the husband/father of the toddler, other household members or guests. Only one husband does not smoke at all. Generally, the mother

does not forbid her husband's smoking habit. Mother usually only gently urges her husband and does not explicitly ask him to stop smoking. Here's the informant's comments:

*"(husband) smoked a pack of 17,000. not necessary (forbidden). I spent the money for it. just go here. just kidding.. afraid of being fired as his wife. I once told my husband. husband said he couldn't stop.*

*"Smoking. a pack more a day. magnum 20,000. from the beginning (acquaintances) smoked.. so it's hard to tell."*

Gadgets, better known as cell-phones are used by all children. Mother stated that the cellphone used was usually the mother's cellphone or shared in the family, only one child used a special cellphone for that child. Informant statement:

*"Want to be circumcised. The condition for being circumcised is to buy a cellphone. (Want) like his friend has his own cellphone. "Cellphone is at stake. (if playing) cellphone is boring, play alone with (his sister)"*

*"In the afternoon, together with mom or dad watching cartoons"*

Mothers allow children to use cellphones generally with the reason of the child's request, so that the child feels at home and does not get bored at home. The informant stated

*"Use an Android cellphone, so that the child is calm at home..."*

Children usually use cellphones to play games or watch videos, cartoons and YouTube. Games are played alone or with other family members. The youtube channel that is opened is

usually about your favorite movie (in the form of a cartoon or other film). Informant statement:

*"Afternoon together with Teteh or Mr. watching cartoon videos from 4 to 5 o'clock..."*

Almost all children use gadgets regularly every day. The duration of cellphone use varies, the total use of a child's cellphone is 1-4 hours/day. Informant statement:

*"It can be 3-4 hours a day, die is strong. if not terminated haven't stopped yet."*

*"I don't play every day.. rarely." "Play on his cellphone from time to time. mostly play outside. (playing HP) at least 1 hour a day."*

*In general, the informants thought that using cellphones for a long time every day was not good for children.*

*"restricted. because it's not good for him either. make his eyes.."*

Mother tries to limit the use of the child's cellphone. There are different ways of limiting, generally through a ban or time limit. Restriction on the use of cellphone by limiting the filling of internet quota on cellphone.

*"I don't fill the quota too much." Another way of limiting is by diverting children from watching television.*

*"It's not evening (allowed to play cellphone). watch TV. so that every day does not depend on cellphone"*

Mothers often stop their children from using their cellphones.

*"He's strong.. if he hasn't been dismissed.. hasn't stopped.. now he rarely (plays HP). (now) 2*

*hours or 1 hour. It's limited because it's..." Another way to make children stop playing with their cellphones is to say that the cellphone's battery is low (lowbatt), such as: it's dead.. the battery is low".*

In addition to time restrictions, mothers also monitor the content that children open. One of the informants supervises and prohibits children from opening certain YouTube

*"I tell you. this cannot be downloaded. watchful mother. seen. until the big one, I'm an amateur." There are also mothers who circle their children's eyes by scribbling lipstick on, following the neighbors' advice, so that children don't play with their cellphones. Like "Let's not play HP. given lipstick. it's circled."*

The use of gadgets by children is not carried out continuously throughout the day, but alternates with time watching television, playing PS or playing. Television is generally turned on at all times in almost all the informants' residences. Watching television is done alone or with other family members. Generally, the programs that are watched are liked, such as Upin Ipin, Shiva, robots or other films. Informant statement:

*"Afternoon 1 to 2 o'clock. In the afternoon together with your friends or father watching cartoon videos from 4 to 5 o'clock at night (playing cellphone). watch TV. watch 7 hours of TV" another informant stated*

*"This morning, watch Upin Ipin. Go go Dino.. De Poli. 3 hours. evening play. watch TV. night watching TV. 7 hour TV. The TV is on all day long."*

The routine of using cellphones or watching television is different for each child. Interview

*"It's half past twelve playing cellphone until 1 o'clock, then at 1 I play PS for half an hour. after that play cellphone or watch TV until 3 o'clock 3 o'clock take a shower. Then at half past four for the Koran, he came home at half past six. half past six playing HP again until sunset then praying to the prayer room. Go home watching TV until 9 pm."*

*Another informant stated that "playing HP in the afternoon. 1 to 2 o'clock (continued to be told to his son) it died. low battery. Then in the afternoon, together with Teth or his father, watch cartoon videos, from 4 to 5 at night. watch TV."*

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## DISCUSSION

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All children showed good nutritional status at birth until the time of interview. Good growth shows that there is no lack of good nutrition in the past until now. The literature shows that malnutrition in the past and present will be short, thin or underweight (Supariasa, Bakri, Fajar, 2016).

Children who were born with normal nutritional status and subsequently normal growth turned out to have quite a lot of problems with delays in their developmental aspects. Delays vary from various aspects of develop-

ment (gross movement disorders, fine movements, speech and language or socialization and independence). This needs serious attention. The literature shows that development in childhood is continuous and continuous, aspects of development are interconnected with each other, if disturbed in one aspect it affects other aspects of development (Wang, Lekhal, Aaro, Holte, Schjolberg, 2014).

Mother's knowledge of caring for children is based on advice from parents, family or experience. Only a small proportion of mothers received information on parenting procedures. In general, mothers do not know how to assess their child's development (normal or late). Mothers generally feel that their children are developing normally no different from their peers. Even if the mother finds out that her child has developmental delays, the mother tends to be defensive about saying her child is normal. Mothers often neglect their child's development. The literature states that developmental delays are often ignored by the community because the impact is invisible, even though the risks posed will continue into adulthood (Duhita, Rahmawati, 2019).

Almost all mothers are the main caregivers for their children. Fathers mostly take care of their children only during their holidays or free time, and state that environmental factors influence their child's development. One of the external factors is stimulation. Stimulation, especially in the form of the involvement of mothers and other family members, influences children to achieve optimal development. Apart from the mother, it is hoped that other

family members such as fathers can play a more active role in stimulating the development of their children. Schor and Menaghan's Model of the Social Context of Child Health explains that the environment and family function as the main determinants of character development and child development outcomes (Ball et al, 2007). The results of a developmental assessment study by Barros et al in Brazil showed that children who received stimulation showed better development even though their mothers had low education.

Parents' ignorance about how to monitor their child's development and how to stimulate their child's development needs to get the main attention. Developmental monitoring needs to be carried out early so that it can be immediately recognized and addressed if there are disturbances in the child's development. Wang (2014) stated that although children at an early age will continue to develop in various aspects, the delay in stimulation makes their development further and further behind.

All children use smartphones and television. Watching television and playing gadgets are generally done alternately with playing outside the home. Mothers turn on the television or provide gadgets so that children can play quietly in the house and mothers can do other household activities. This is in accordance with the results of research on mothers who do not work and spend their daily lives at home, providing gadgets as an effort to distract children so that they do not interfere with mothers in carrying out household chores (Husna, 2017).

Another study found that children spend most of their time on devices such as telephone, radio, TV, games, and others regardless of brightness and screen-to-eye distance, which can affect vision and health (Sundus, 2018).

Electronic media, in this case cellphones and television, are used every day by children. The duration of using the device is quite long, which is 1-4 hours every day. This is in line with the findings of Indriyani (2018) that cellphone use can reach 4 hours per day (Indriyani, Sofia, Anggraini, 2018). HP usage that reaches 1-4 hours per day exceeds the recommended limit. It is recommended that children 18 months avoid watching screens, 18-24 months of age have just been introduced to digital media, ages 2-5 years 1 hour/day, all of which are recommended with parental assistance when watching (American Academy of Pediatrics, 2016; Middlebrook, 2016).

Frequent and prolonged use of the device is at risk for addiction. The use of gadgets more than 3 times with a duration of use each time of 30-75 minutes can cause addiction (Sari and Mitsalia, 2016). Excessive use of gadgets has a negative impact on children's daily behavior. Continuous use of gadgets makes children very dependent so they have to use cell-phones regularly in their daily lives (Sandra et al, 2019). Radio frequency (RF) radiation in devices affects the developmental power, high levels of radiation can intensively damage brain tissue (Bhargavi et al 2013).

The negative impact of gadgets in development according to Hastuti (2012) and Hidayati (2020) include difficulty interacting and concentrating

in the real world. When children feel comfortable playing their favorite games on their devices, they are fun and happy to be alone, resulting in difficulty making friends and playing with peers. Addiction to using gadgets makes children easily bored, restless and angry when separated from their favorite device. Addiction also affects children's brain development, resulting in disruption of the function of the Pre Frontal Cortex so that it hinders development in terms of controlling oneself and emotions, responsibilities and moral values (Hidayati, 2019). Excessive use of devices affects the important elements of learning, namely physical activity, exploratory abilities, and face-to-face social interaction in the real world (American Academy of Pediatrics, 2016).

Generally, in children who experience developmental delays, it is identified that there are smokers in the house (family members, relatives or guests) so that the mother and child are passive smokers. Mothers during pregnancy exposed to cigarette smoke increase the risk of mental developmental delay in their children (measured by the Bayley Scales of Infant Development) (Lee et al, 2011).

Most mothers whose children experience developmental delays experience problems during pregnancy so that they need to be cared for and take medical action. Mother is the main caregiver for the child. Mothers generally do not know how to assess development and stimulate child development. Mother feels that her child is developing normally at the same age as other children. Most showed a history of smoking in the



house. Generally, toddlers spend a lot of time using smartphones and watching television every day. The use of gadgets ranges from 1-4 hours / day, the television is turned on throughout the day, its use alternates with playing.

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#### **AUTHOR CONTRIBUTION**

Budi Setyawati searched the literature, collected data, analyzed and concluded the research results. Noviati Fuada collects literature, analyzes and concludes research results. Salimar conducts interviews and collects literature.

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#### **CONFLICT OF INTEREST**

There is no conflict of interest in this study.

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